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# Retail Trade Area Analysis

## Bottineau North Dakota

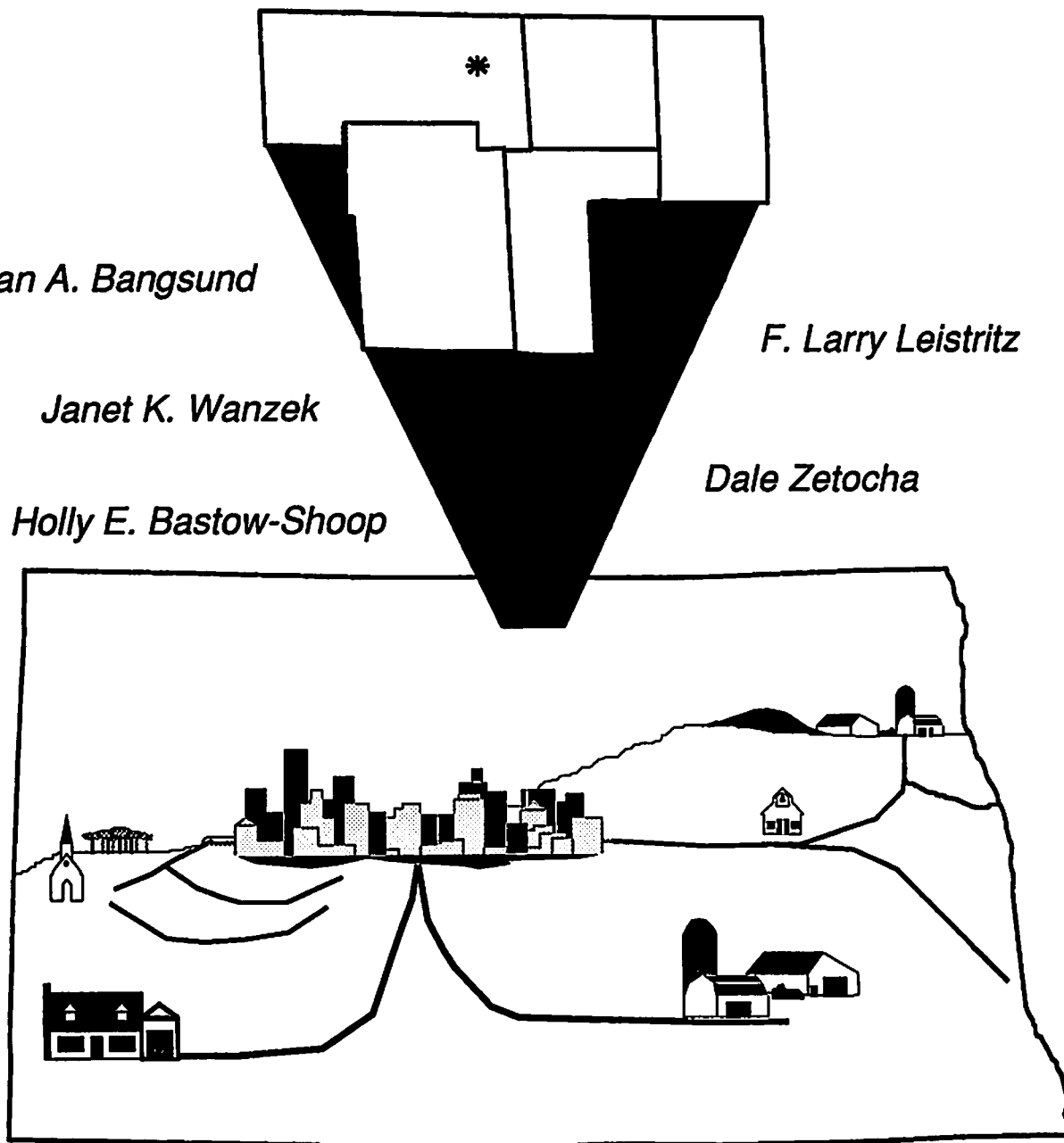
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## HIGHLIGHTS

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

Current trade area information for Bottineau 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 Bottineau population, retail sales, per capita income, and pull factors, and in Bottineau County population and employment were identified and discussed. Bottineau's population, trade area population, retail sales, and pull factors, along with Bottineau County population and average annual employment have all decreased throughout the 1980s. Although most demographic and economic measurements have decreased, Bottineau 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 Bottineau and Bottineau County are somewhat typical of the problems found in rural North Dakota communities in the 1980s.

Bottineau'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. Bottineau's MTA remained unchanged from the boundaries determined in 1970.

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 13.7 and 14.3 miles to Bottineau to purchase selected convenience and specialty goods and services, respectively. Many (28 percent) of the respondents who purchased 50 percent or more of convenience and specialty goods in Bottineau traveled over 25 miles to purchase the item.

Bottineau appears to be capturing much of the potential market for most goods and services on the survey questionnaire; however, Bottineau could capture more of the available market for nearly half of the goods and services listed on the survey, with clothing items having the lowest market capture.

Minot, Rugby, Willow City, Newburn, and Westhope were the most popular cities for the purchase of nonagricultural goods and services by Bottineau MTA residents who did not purchase a majority of the good or service in Bottineau. Willow City, Souris, and Kramer were popular for purchasing agricultural goods and services.

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

The Minot Daily News was the most popular daily newspaper for both Bottineau MTA and GTA residents. The Bottineau Courant and The Turtle Mountain Star were the most popular weekly newspapers for Bottineau MTA and GTA residents, respectively. The most popular radio stations for Bottineau MTA residents included KBTO of Bottineau, followed by KCJB of Minot, and KIZZ of Minot.

Although economic times have been difficult, Bottineau has retained its past trade area and remains an important trade center in north central North Dakota.



## RETAIL TRADE AREA ANALYSIS: BOTTINEAU, 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 Bottineau trade area.

This report will describe Bottineau's main and greater trade areas, provide information on the demographic characteristics of

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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.

Bottineau area shoppers, and identify essential and nonessential services Bottineau 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 Bottineau trade area.

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

### BOTTINEAU 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 Bottineau population, retail sales, market share, per capita income, pull factors, and Bottineau 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.

Bottineau's population declined about 4.6 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 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. Bottineau's trade area

population decreased about 4 percent from 1980 to 1988, the third smallest decrease for any city in the category. The population of Bottineau's competing trade centers and their trade area populations (those cities with populations less than 2,500) also decreased, except for Dunseith and the Rolette and Dunseith trade areas.

Since Bottineau's trade areas cover parts of counties other than Bottineau County, population, average annual employment, and per capita income have been identified for surrounding counties (Table 2). Population in Bottineau County decreased about 5.8 percent from 1980 to 1988, which was the second smallest population decline in the area, except for Rolette County, which increased in population.

Average annual employment in Bottineau County decreased 15 percent from 1980 to 1988. Employment in most counties surrounding Bottineau declined substantially. Although population and employment declined in Bottineau County during 1980 to 1988, real per capita income (i.e., adjusted for inflation) actually increased from 1979 to 1987, while per capita income decreased in all but one of the surrounding counties.

TABLE 1. CITY AND TRADE AREA POPULATION FOR BOTTINEAU 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							
Group Total		253,628	274,280	8.14	--	--	--
Population 2,500 to 10,000							
Bottineau	Bottineau	2,829	2,700	-4.56	6,902	6,627	-3.98
Rugby	Pierce	3,335	3,020	-9.45	6,723	5,882	-12.51
Group Total		43,813	45,650	4.19	9,602	9,579	2.52
Population 1,500 to 2,500							
Rolla	Rolette	1,538	1,340	-12.87	3,829	3,546	-7.39
Group Total		39,095	37,540	-3.98	--	--	--
Population 1,000 to 1,500							
Group Total		29,622	27,540	-7.03	--	--	--
Population 500 to 1,000							
Dunseith	Rolette	625	740	18.40	2,749	2,846	3.53
Rolette	Rolette	667	610	-8.55	1,728	1,870	8.22
Westhope	Bottineau	741	610	-17.68	1,680	1,410	-16.07
Towner	McHenry	867	680	-21.57	1,885	1,750	-7.16
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.

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

County	1980	1982	1984	1986	1988	1989	Percent Change 1980-88/89	
----- Population -----								
Bottineau	9,239	9,300	9,300	8,800	8,700	---	-5.83	
Surrounding Counties								
McHenry	7,858	7,600	7,700	7,500	7,200	---	-8.37	
Pierce	6,166	6,100	6,000	5,600	5,400	---	-12.42	
Renville	3,608	3,600	3,700	3,500	3,400	---	-5.76	
Rolette	12,177	12,500	13,500	12,300	12,200	---	0.19	
North Dakota	652,717	672,000	687,000	679,000	667,000	---	2.19	
----- Average Annual Employment <sup>a</sup> -----								
Bottineau	3,788	3,999	3,653	3,512	3,310	3,221	-14.97	
Surrounding Counties								
McHenry	2,901	2,975	2,717	2,588	2,331	2,313	-20.27	
Pierce	2,847	2,885	2,585	2,525	2,470	2,448	-14.01	
Renville	1,516	1,512	1,369	1,300	1,177	1,165	-23.15	
Rolette	4,090	4,239	4,396	4,561	3,875	3,964	-3.08	
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>
Bottineau	\$9,020		\$9,101					0.9
Surrounding Counties								
McHenry	7,744		7,199					-7.0
Pierce	8,260		8,472					2.6
Renville	8,966		8,218					-8.3
Rolette	6,489		6,117					-5.7
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.

Bottineau's deflated taxable sales (i.e., adjusted for inflation) decreased from 1980 to 1989 and from 1987 to 1989 (Table 3). Bottineau had the third largest decrease (-10.7 percent) in taxable sales of any city in the population range 2,500 to 10,000 from 1987 to 1989. Bottineau's decrease in taxable sales was almost twice the group average (1987 to 1989). Competing cities also suffered large decreases in 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

TABLE 3. DEFLATED TAXABLE SALES AND PURCHASES FOR BOTTINEAU 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					
Bottineau	35,721,366	20,603,595	18,404,403	-48.48	-10.67
Rugby	30,349,378	22,029,173	23,437,887	-22.77	6.39
Group Total	398,731,612	315,496,552	298,875,168	-25.04	-5.27
Population 1,500 to 2,500					
Rolla	18,018,874	13,741,231	12,601,335	-30.07	-8.30
Group Total	415,612,668	251,583,986	226,276,758	-45.56	-10.06
Population 1,000 to 1,500					
Group Total	222,752,746	141,859,953	130,721,134	-41.32	-7.85
Population 500 to 1,000					
Dunseith	3,167,485	3,058,705	3,200,031	1.03	4.62
Rolette	5,668,616	2,579,671	2,271,592	-59.93	-11.94
Towner	4,358,028	2,527,078	2,446,935	-43.85	-3.17
Westhope	5,423,794	2,130,565	2,045,230	-62.29	-4.01
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.

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.

Bottineau's pull factor decreased 41 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. Bottineau's pull factor is below the group average, indicating the community captures less of its trade area purchasing power than most of the cities with similar population. Pull factors for competing cities decreased substantially from 1980 to 1989. Pull factors in 1989 for all but one of the cities competing with Bottineau were less than Bottineau's pull factor, suggesting Bottineau does a better job of capturing its available market than do neighboring cities.

Both city and county populations have declined in the geographic area near Bottineau. Only Rolette County's population increased from 1980 to 1988. Deflated taxable sales in Bottineau and average annual employment in Bottineau County have decreased substantially in the 1980s. Although real per capita income in Bottineau County increased from 1979 to 1987, Bottineau's pull factor has continued to decrease (1980 to 1989). Changes in

TABLE 4. PULL FACTORS FOR BOTTINEAU 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						
Bottineau	0.90	0.64	0.53	-28.78	-41.10	-17.31
Rugby	0.88	0.80	0.70	-9.32	-19.96	-11.73
Group Average	0.79	0.73	0.64	-8.40	-19.82	-12.47
Population 1,500 to 2,500						
Rolla	1.18	1.14	0.4	-3.22	-61.52	-60.24
Group Average	0.89	0.65	0.52	-26.93	-42.26	-20.99
Population 1,000 to 1,500 Group Average	0.65	0.53	0.43	-18.35	-34.55	-19.84
Population 500 to 1,000						
Dunseith	0.29	0.30	0.14	5.58	-50.27	-52.90
Rolette	0.82	0.46	0.16	-43.60	-81.13	-66.54
Towner	0.47	0.37	0.21	-21.14	-55.68	-43.79
Westhope	0.56	0.28	0.28	-49.40	-50.69	-2.55
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.

economic activity and population for Bottineau have been similar to other North Dakota cities in the 2,500 to 10,000 population range, suggesting Bottineau is no worse off than other cities of comparable size.

Although Bottineau 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 Bottineau 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 Bottineau and Bottineau 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 allocated to 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 areas; however, a brief synopsis is included of the trade area criteria used for Bottineau.

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.

Bottineau was classified as a partial 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  
Eating places  
Gas and diesel service

Groceries  
Hardware  
Prescription drugs

## Specialty Goods and Services

Auto repair  
 Beautician  
 Furniture  
 Hospital

Legal services  
 Men's clothing  
 Radios, TVs, VCRs  
 Sporting goods

## Agricultural Goods and Services

Farm machinery

Farm supplies

The main trade area for Bottineau 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 Bottineau. 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 Bottineau.

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.

Bottineau's MTA captures more townships to the south and west of the city than to the east or north (Figure 1). The Bottineau GTA has more influence on the townships located to the east and west of town. Bottineau's ability to attract customers from the south appears limited by competition from Minot.

## CHARACTERISTICS OF BOTTINEAU AREA RESIDENTS

Business people and community leaders usually are interested in the characteristics of local shoppers and shopping patterns. The characteristics of Bottineau shoppers were analyzed, using 269 survey responses from the Bottineau MTA. Other analyses included examination of important and less important services for patron shoppers of Bottineau, identification of neighboring cities area shoppers patronize, determination of distances area shoppers traveled to Bottineau, and listing popular newspapers and radio stations among area residents.

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

Demographic characteristics of the survey respondents for the Bottineau 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.



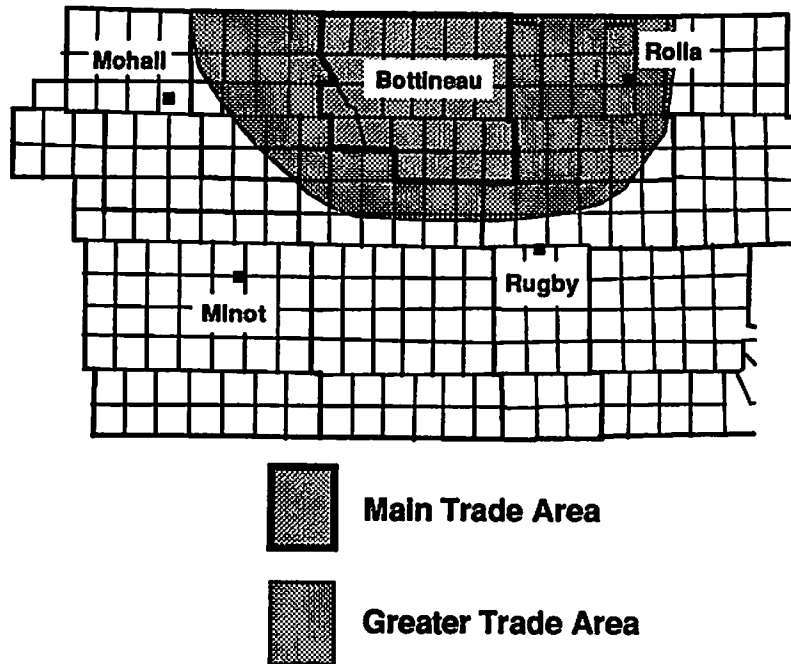


Figure 1. Main and Greater Trade Areas for Bottineau, North Dakota, 1989

TABLE 5. DEMOGRAPHIC PROFILE OF RESPONDENTS IN MAIN TRADE AREA, BOTTINEAU, NORTH DAKOTA, 1989

Demographic Characteristic	Average of Survey Responses	
Age (Years)	52.9	
Education (Years)	12.5	
Lived in County (Years)	39.7	
Household Size (People)	2.8	
Average Household Income	\$23,729	
Occupation	Respondent	Spouse
	--- % ---	--- % ---
Farming	25.4	16.0
Retired	22.9	17.7
Professional	15.8	16.0
Tech/Sales/Admin	13.3	18.9
Service Jobs	10.4	6.9
Craft/Repair	6.3	9.1
Housewife	1.7	8.6
Equipment Operator	0.8	3.4
Other	2.9	3.4
Martial Status	--- % ---	
Single	8.6	
Separated/Divorced	6.0	
Married	76.1	
Widowed	9.3	
Male	61.9	
Female	38.1	

Distance Traveled by Bottineau Area Shoppers

Average distances that area residents traveled to Bottineau were determined for each convenience and specialty good or service in the 16-item goods and services mix (Table 6). Distances were determined by averaging respondents' estimated miles between Bottineau and their home residence. Bottineau residents and any respondents who lived one mile or less from Bottineau 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 16 items in the service mix in Bottineau was multiplied by the average distance to determine total miles of travel for that township (for the specific good or service).

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

<u>All Respondents Purchasing 50 Percent or More of the Service in Bottineau</u>			
<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>
Gas & Diesel Stations	14.1	Auto Repair	16.0
Groceries	14.1	Beautician	15.3
Eating Places	14.4	Radios, TVs, VCRs	14.5
Banking and Savings	16.2	Sporting Goods	14.4
Hardware	14.2	Men's Clothing	15.7
Prescription Drugs	15.3	Hospital	17.4
		Legal Services	18.1
		Furniture	18.2
Average	14.8	Average	16.6
<u>MTA Respondents Only Who Purchase 50 Percent or More of the Service in Bottineau</u>			
<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>
Gas & Diesel Stations	12.3	Radios, TVs, VCRs	12.8
Eating Places	13.8	Auto Repair	14.1
Prescription Drugs	14.3	Furniture	14.9
Groceries	13.0	Beautician	13.6
Banking and Savings	15.0	Legal Services	15.6
Hardware	13.3	Hospital	15.4
		Men's Clothing	12.5
		Sporting Goods	13.3
Average	13.7	Average	14.3

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

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 Bottineau. 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 Bottineau.

The average distance traveled to Bottineau 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 Bottineau. For those respondents living in the MTA, the average distance traveled for both types of goods and services was very similar.

Distance traveled by type of good or service (convenience and specialty) was broken down into distance categories. Many of the (28 percent) respondents (regardless of residence location) who purchase 50 percent or more of a convenience and specialty good or service traveled over 25 miles to purchase the item in Bottineau (Table 7). For those living in the MTA, both the number of respondents per distance category and most common distance traveled were similar.

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

<u>All Respondents Purchasing 50 Percent or More of a Service in Bottineau</u>				
Distance (Miles) <sup>a</sup>	<u>Convenience Goods</u>		<u>Specialty Goods</u>	
	Number	Percent	Number	Percent
1 to 5	21	11.0	21	9.0
6 to 10	29	15.2	27	11.5
11 to 15	25	13.1	25	10.7
16 to 20	48	25.1	56	23.9
21 to 25	23	12.0	31	13.2
over 25	45	23.6	74	31.6
<u>MTA Respondents Only Who Purchase 50 Percent or More of the Service in Bottineau</u>				
Distance (Miles) <sup>a</sup>	<u>Convenience Goods</u>		<u>Specialty Goods</u>	
	Number	Percent	Number	Percent
1 to 5	20	13.4	20	13.3
6 to 10	29	19.5	27	18.0
11 to 15	24	16.1	24	16.0
16 to 20	38	25.5	38	25.3
21 to 25	17	11.4	20	13.3
over 25	21	14.1	21	14.0

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

Area Shoppers' Utilization of Goods and Services Provided in Bottineau

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

Goods and services that appear to be most utilized by those shopping in Bottineau include mortician, accounting services, florist, chiropractor, heating fuel and propane, barber, optometrist, plumber, beautician, legal services, crop consultants, and livestock marketing (services where 95 percent of those buying the service in Bottineau purchase a majority of the service in Bottineau). The goods and services that people are less likely to purchase a majority of in Bottineau include teenage clothing, women's clothing and coats, men's clothing, shoes, and grain marketing.

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

Goods and services for which Bottineau is capturing a large amount of the potential market (85 percent or more) within the MTA include florist, mortician, accounting services, legal services, and banking and saving. Goods and services for which Bottineau does not capture much of the existing market (less than 60 percent) include shoes, women's coats and clothing, teenage clothing, sporting goods, computers, commercial feeds, crop services, other farm chemicals, fertilizer, farm fuel and lubrication, and grain marketing. Goods and services that are important to Bottineau shoppers and those for which Bottineau is capturing a large percent of the market include florist, mortician, accounting services, and legal services.

Most patrons are purchasing a majority of their goods and services in Bottineau; however, Bottineau could capture more of the potential market for these items, suggesting some trade center loyalty for those shopping in Bottineau, yet a good portion of the market is being lost to other trade centers. Most of the goods and services for which Bottineau is capturing much

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

Responses in Bottineau Main Trade Area						
Goods and Services	Purchase the Goods & Services Somewhere	Purchase Some of the Goods & Services in Bottineau	Purchase Majority of the Goods & Services in Bottineau	Measure of Market Capture		
		No. % <sup>a</sup>	No. % <sup>b</sup>	% <sup>c</sup>		
Mortician	179	160 89.4	159 99.4	88.8		
Accounting Services	205	182 88.8	180 98.9	87.8		
Florist	231	219 94.8	214 97.7	92.6		
Chiropractor	113	83 73.5	81 97.6	71.7		
Heating Fuel/Propane	209	141 67.5	137 97.2	65.6		
Barber	196	167 85.2	161 96.4	82.1		
Optometrist	262	209 79.8	201 96.2	76.7		
Plumber	200	169 84.5	161 95.3	80.5		
Beautician	213	164 77.0	156 95.1	73.2		
Legal Service	226	205 90.7	195 95.1	86.3		
Banking and Savings	265	241 90.9	227 94.2	85.7		
Dentist	247	189 76.5	177 93.7	71.7		
Appliance/Elec Repair	205	161 78.5	150 93.2	73.2		
Family Doctor	264	225 85.2	206 91.6	78.0		
Auto Sales	233	195 83.7	178 91.3	76.4		
Auto Repair	239	209 87.4	189 90.4	79.1		
Veterinarian (Sm Animals)	139	108 77.7	97 89.8	69.8		
Building Supplies	226	195 86.3	175 89.7	77.4		
Prescription Drugs	260	223 85.8	194 87.0	74.6		
Gas/Diesel Service	258	204 79.1	177 86.8	68.6		
Hardware	249	220 88.4	188 85.5	75.5		
Furniture	232	196 84.5	167 85.2	72.0		
Hospital	246	198 80.5	165 83.3	67.1		
Major Appliances	235	203 86.4	168 82.8	71.5		
Radios, TVs, VCRs	227	174 76.7	143 82.2	63.0		
Computers	54	33 61.1	27 81.8	50.0		
Nursery (Plants)	196	146 74.5	118 80.8	60.2		
Drinking Places	127	107 84.3	85 79.4	66.9		
Groceries	267	247 92.5	194 78.5	72.7		
Jewelry	167	143 85.6	112 78.3	67.1		
Eating Places	247	223 90.3	172 77.1	69.6		
Sporting Goods	184	142 77.2	100 70.4	54.3		
Shoes	255	194 76.1	132 68.0	51.8		
Women's Coats	204	111 54.4	69 62.2	33.8		
Men's Clothing	232	180 77.6	105 58.3	45.3		
Women's Clothing	237	193 81.4	111 57.5	46.8		
Teenage Clothing	87	69 79.3	34 49.3	39.1		
----- Agricultural Goods and Services -----						
Crop Consultants	22	14 63.6	14 100.0	63.6		
Livestock Marketing	39	1 2.6	1 100.0	2.6		
Farm Machinery	59	52 88.1	47 90.4	79.7		
Commercial Feeds	33	20 60.6	18 90.0	54.5		
Crop Seeds	60	31 51.7	26 83.9	43.3		
Veterinary Services	41	33 80.5	27 81.8	65.9		
Fertilizer	61	31 50.8	25 80.6	41.0		
Farm Mach Repair/Parts	69	62 89.9	50 80.6	72.5		
Other Farm Supplies	56	49 87.5	39 79.6	69.6		
Other Farm Chemicals	59	30 50.8	23 76.7	39.0		
Farm Fuel & Lubricant	71	39 54.9	29 74.4	40.8		
Grain Marketing	71	52 73.2	32 61.5	45.1		

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

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

of the potential market are also important to Bottineau shoppers, suggesting that most of the potential shoppers (within the MTA) feel Bottineau is an important source for most of their services.

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

For most of the goods and services listed in the survey, some respondents did not purchase any of the good or service in Bottineau or purchased more of the good or service in other cities. For people living in the Bottineau MTA and not purchasing a majority of the services in Bottineau, the cities where the majority of those services were purchased were identified (Table 9). Minot was the most popular choice for services purchased outside of the Bottineau MTA. Other popular cities included Rugby, Willow City, Newburn, and Westhope. Willow City, Souris, and Kramer were popular for purchasing agricultural goods and services.

Bottineau will always lose some shoppers to surrounding cities and towns for several reasons. First, many shoppers in the Bottineau 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, Minot, 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 Minot 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 Bottineau Main Trade Area

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

According to selected demographic characteristics, little difference exists between those who purchase a majority of their goods and services in Bottineau and those who purchase a majority

TABLE 9. MOST POPULAR CITIES FOR THE PURCHASE OF GOODS AND SERVICES BY BOTTINEAU MAIN TRADE AREA RESIDENTS WHO DID NOT PURCHASE A MAJORITY OF THE GOOD OR SERVICE IN BOTTINEAU, 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	Minot	30	68.2	Eating Places	Minot	34	65.1
	Willow City	23	77.1		Willow City	16	55.5
	Newburn	9	68.6		Metigoshe	5	76.0
Drinking Places	Willow City	14	65.0	Men's Clothing	Minot	111	72.0
	Newburn	6	63.3		Catalog Sales	7	79.3
	Metigoshe	4	70.0	Teen Clothing	Minot	48	71.6
	Souris	4	66.3		Rugby	2	27.0
	Westhope	4	51.3		Shoes	Minot	104
Women's Clothing	Minot	108	69.0	Rugby		5	56.8
	Catalog Sales	4	71.3	Bismarck		4	76.3
	Bismarck	3	81.7	Radios, TVs, VCRs		Minot	62
	Fargo	3	45.0		Willow City	14	70.0
Woman's Coats	Minot	118	75.8	Florist	Minot	9	90.6
	Bismarck	5	70.0		Rugby	3	61.3
	Fargo	4	56.3	Gas Station	Willow City	31	86.4
	Rugby	4	29.8		Souris	14	76.8
Jewelry	Minot	41	75.2		Newburn	11	82.6
	Rugby	9	53.2		Minot	10	55.3
	Major Appliance Repair	Minot	29		93.3	Westhope	6
Willow City		13	80.8	Plumber	Willow City	17	83.8
Rugby		7	67.7		Souris	6	96.7
Auto Sales	Minot	33	77.3		Rolette	4	57.5
	Rugby	15	75.5		Nursery (Plants)	Minot	36
Furniture	Minot	58	80.7	Newburn		8	82.5
	Rugby	4	49.8	Rugby		8	76.8
Auto Repair	Willow City	14	85.0	Surrey		8	63.8
	Minot	10	74.5	Willow City		6	64.2
	Rugby	6	64.2	Legal Service	Minot	9	96.7
Heating Fuel/Propane	Willow City	27	95.7		Rugby	5	71.0
	Souris	11	100.0		Towner	4	85.0
	Newburn	11	95.5	Accounting Service	Minot	8	97.5
	Westhope	7	100.0		Bismarck	6	100.0
Beautician	Minot	15	71.7	Barber	Minot	12	92.9
	Willow City	14	80.1		Rugby	8	80.0
	Westhope	10	93.5		Willow City	6	83.3
	Metigoshe	6	96.7	Family Doctor	Minot	28	79.2
	Newburn	6	88.2		Rugby	25	87.2
Optometrist	Minot	47	92.3	Banking and Services	Westhope	8	90.0
	Rugby	9	94.4		Minot	7	79.3
Computers	Minot	26	89.6		Willow City	5	82.0
		Major Appliance	Minot	56	79.1	Building Supplies	Willow City
Willow City	4		81.3	Minot	16		79.7
Rugby	3		71.3	Metigoshe	5		80.0
Chiropractor	Minot	17	92.1	Mortician	Rugby	9	93.3
	Rugby	14	93.4		Minot	5	100.0
Dentist	Minot	28	90.6		Mohall	3	100.0
	Westhope	15	89.3	Hospital	Minot	54	81.8
	Rugby	12	79.6		Rugby	23	87.2
Prescription Drugs	Minot	34	79.0	Hardware	Willow City	26	81.3
	Catalog	15	84.0		Minot	12	74.2
	Rugby	5	80.6		Souris	7	71.4
Vet (Small Animal)	Towner	21	89.5		Westhope	4	62.5
	Minot	15	95.5	Farm Machinery	Rugby	7	47.9
Sporting Goods	Minot	69	78.0		Crop Consultant	Minot	2
	Willow City	6	73.3	Willow City		2	100.0
Farm Machinery Repair	Willow City	5	76.0	Newburn		2	80.0
	Rugby	5	64.0	Fertilizer	Willow City	11	90.0
	Minot	5	62.0		Souris	10	83.0
Farm Fuel	Willow City	11	83.6		Newburn	6	90.8
	Souris	10	96.0		Kramer	5	78.0
	Newburn	9	91.1	Crop Seeds	Willow City	12	90.4
	Overly	4	91.3		Newburn	10	78.5
Kramer	4	91.3	Kramer		6	81.7	
Commercial Feed	Willow City	8	85.0	Grain Marketing	Willow City	12	81.7
	Westhope	2	95.0		Kramer	12	77.1
	Rugby	2	75.0		Souris	5	76.0
Farm Chemical	Willow City	11	93.2		Newburn	4	67.5
	Souris	9	90.0	Farm Supplies	Willow City	7	92.1
	Kramer	7	69.3		Newburn	3	71.7
	Newburn	4	100.0		Minot	3	54.3
Veterinary Services	Towner	11	90.5				

of their goods and services elsewhere (Table 10). Also, little difference exists between groups and within each group for either convenience or specialty goods and services.

The group purchasing less than 50 percent or more of the goods and services in Bottineau appear to have resided in the county longer than those purchasing more than 50 percent of the same goods and services in Bottineau. The group purchasing less than 50 percent of the four goods and services in Bottineau traveled farther (for each of the services) than the group purchasing 50 percent or more of the same goods and services in Bottineau.

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 Bottineau 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 Bottineau.

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 BOTTINEAU, NORTH DAKOTA, 1989

Attribute	Group Purchasing 50 Percent or More of Goods in Bottineau				Group Purchasing Less Than 50 Percent of Goods in Bottineau			
	Groc- eries	Gas Station	Building Supplies	Major Appliances	Groc- eries	Gas Station	Building Supplies	Major Appliances
Age	52.7	51.2	51.5	52.2	52.7	53.6	50.4	51.8
Education	12.7	12.9	12.7	12.4	12.1	12.0	12.8	12.9
Years Lived In County	38.9	36.3	38.0	37.7	41.6	44.6	38.6	42.4
Number in Household	2.8	2.8	2.9	2.9	2.9	2.9	3.0	2.8
Number in Grade School	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.4
Number in High School	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.3
Average Miles Traveled <sup>a</sup>	12.6	12.3	14.5	13.4	25.0	16.9	26.5	40.0
Household Income	\$23,619	\$24,355	\$24,758	\$25,171	\$23,893	\$23,006	\$24,575	\$24,384

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



Newspaper Subscriptions of Bottineau Area Residents

Newspaper subscriptions of respondents in the Bottineau 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 Minot Daily News*. The most popular weekly papers for the main and greater trade areas were *The Bottineau Courant* and *Turtle Mountain Star*, respectively. Other popular weekly newspapers for respondents included *Westhope Standard* and *Pierce County Tribune*.

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

Main Trade Area			Greater Trade Area		
Newspaper	Numbers of Respondents	Percent	Newspaper	Number of Respondents	Percent
----- Daily Newspapers -----					
Minot Daily News	151	91.0	Minot Daily News	104	86.7
Fargo Forum	5	3.0	Fargo Forum	2	1.7
Grand Forks Herald	3	1.8	Grand Forks Herald	10	8.3
Devils Lake Journal	2	1.2	USA Today	2	1.7
USA Today	3	1.8	Others	2	1.7
Others	2	1.2			
	Total	166 <sup>a</sup>		Total	120 <sup>b</sup>
----- Weekly Newspapers -----					
Bottineau Courant	216	84.4	Turtle Mountain Star	79	35.3
Pierce County Tribune	7	2.7	Bottineau Courant	59	26.3
AGweek-Grand Forks	4	1.6	Standard-Westhope	37	16.5
Mouse River Farmers Press	6	2.3	Pierce County Tribune	11	4.9
Standard - Westhope	7	2.7	Mouse River Farm. Press	10	4.5
Chronicle - Cavalier	3	1.2	Renville County Farmer	10	4.5
Others	13	5.1	Agweek - Grand Forks	4	1.8
			Others <sup>c</sup>	14	6.2
	Total	256 <sup>d</sup>		Total	224 <sup>e</sup>

<sup>a</sup>160 respondents subscribe to a daily paper with 5 respondents subscribing to more than one paper.

<sup>b</sup>115 respondents subscribe to a daily paper with 19 respondents subscribing to more than one paper.

<sup>c</sup>Other weekly newspapers included Harvey Herald, Renville County Farmer, New Rockford Transcript, Walsh County Press, McHenry County Journal, Minot Daily News, Grafton Record, Oakes Times, Rocky Mountain News, Bowman County Pioneer, Towner County Record, Wibaux Press, Crosby Journal.

<sup>d</sup>225 respondents subscribe to a weekly paper with 35 respondents subscribing to more than one paper.

<sup>e</sup>149 respondents subscribe to a weekly paper with 125 respondents subscribing to more than one paper.

### Radio Stations of Bottineau Area Residents

The most popular radio stations that respondents in Bottineau's main trade area listened to were KBTO of Bottineau, followed by KCJB of Minot, and KIZZ of Minot (Table 12).

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

Owens and Vangsness (1970) discussed general information on retail trade and identified both main and greater trade areas for Bottineau. Information from the past Bottineau 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 Bottineau's main and greater trade areas. Although trade area delineation criteria used in the previous Bottineau trade area report differ, enough similarity exists to make comparisons with the trade area boundaries determined in this report.

The main trade area for Bottineau did not change from 1970. The greater trade area appears to have diminished slightly to the south and west of Bottineau; however, the GTA appears to have remained constant to the east of Bottineau. Very little of the differences in trade areas can be attributed to different trade area delineation criteria, with most of the changes resulting from increased pull from the Minot trade center, and to a lesser extent, pull from the Rugby trade center.

### SUMMARY AND CONCLUSIONS

Trade area analysis was conducted for Bottineau based on a statewide trade area survey which the Department of Agricultural

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

Radio Station	Number of Respondents	Percent
KBTO-Bottineau	182	74.0
KCJB-Minot	16	6.5
KIZZ-Minot	7	2.8
KHKT-Minot	6	2.5
KBQQ-Minot	5	2.0
KHIT-Minot	4	1.6
KZPR-Minot	4	1.6
KHHT-Minot	4	1.6
Others	18	7.4

Economics at North Dakota State University conducted in 1989. The demographic and economic profile for Bottineau was discussed. Bottineau has suffered in the 1980s from decreased population, reduced taxable sales, and lower pull factors. Changes in economic activity and population for Bottineau have been similar to other North Dakota cities in the 2,500 to 10,000 population range, suggesting Bottineau, during the 1980s, fared at least as well as other cities of comparable size. Although Bottineau suffers from decreased economic activity and population declines, the city is doing relatively better than its smaller competing cities. The depressed economic conditions Bottineau experienced in the 1980s were common to most cities in North Dakota.

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

Bottineau's main trade area has remained unchanged from 1970. The greater trade area decreased slightly to the west and south; however, pull from the east has remained unchanged. The shape of the greater trade area appears to reflect competition from Minot, and to a lesser extent, Rugby.

Bottineau appears to be doing a good job of capturing most of the available market (those respondents who purchase a majority of the service in Bottineau divided by the total number of respondents in the Bottineau main trade area who purchase the service) for most of the services listed on the survey questionnaire. Also, Bottineau appears to be an important source of services for those shopping in Bottineau (i.e., of those shopping in Bottineau, most individuals will purchase a majority of the item from Bottineau retailers). Bottineau could improve the market capture for a large cross section of the goods and services listed on the survey. Bottineau patrons appear to be purchasing a majority of their goods and services in Bottineau; however, considerable patronization of other trade centers exists with Bottineau's MTA residents.

Minot, Rugby, Willow City, Newburn, Westhope, and a few smaller towns provide most of the shopping locations for area residents who do not purchase the good or service in Bottineau. 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 Bottineau. Those purchasing 50 percent or more of one or more convenience or specialty goods or

services in Bottineau traveled an average distance of about 15 miles.

Even though the 1980s have been difficult for rural North Dakota cities, Bottineau appears to have fared as well as other cities of comparable size and somewhat better than smaller neighboring towns. Bottineau is faced with decreasing city and county population and decreasing county employment. Although economic times have been difficult, Bottineau appears to be doing a good job of retaining its past trade area and remaining an important trade center in north central North Dakota.

## REFERENCES

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- 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.
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- 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.
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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
- Groceries
- Eating places
- Drinking places (alcoholic)
- Men's clothing
- Women's clothing
- Women's coats
- Teenage clothing
- Shoes
- Jewelery
- Major appliances
- Radios, TVs, VCRs
- Appliance/electronic repair
- Florist
- Nursery (plants)
- Furniture
- Auto sales
- Auto repair
- Gas or diesel service sta.
- Heating fuel/propane
- Plumber
- Barber
- Beautician
- Legal services
- Accounting services
- Computers
- Eye doctor
- Family doctor
- Chiropractor
- Dentist
- Hospital
- 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):

- | Respon-<br>dent          | 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.

	TOWN NAME	%	DO NOT WRITE IN THIS AREA	TOWN NAME	%	DO NOT WRITE IN THIS AREA	TOWN NAME	%	DO NOT WRITE IN THIS AREA
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									
<b>WHERE ARE YOUR FARM PRODUCTS MARKETED?</b>									
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