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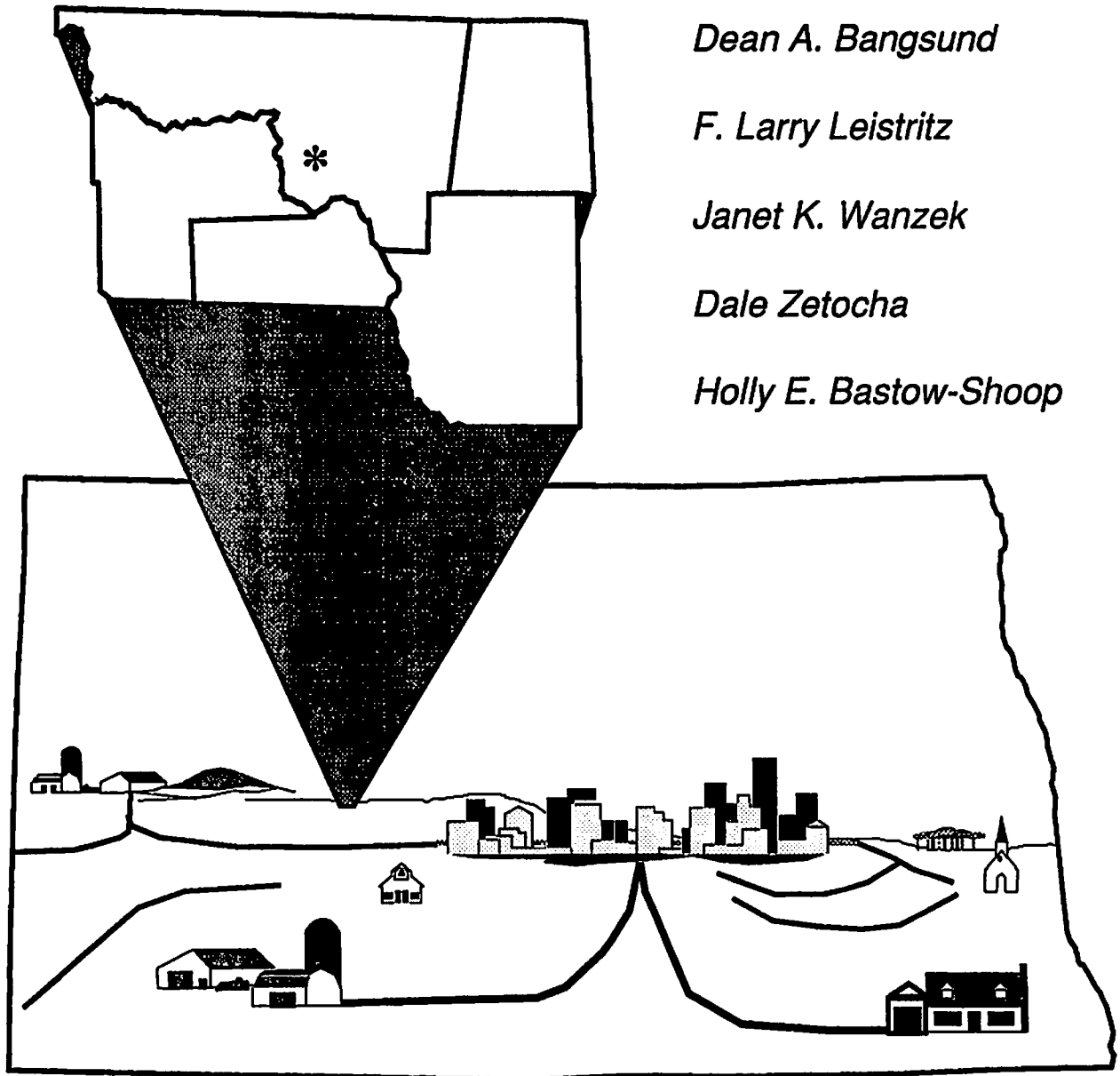
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# Retail Trade Area Analysis

## Washburn 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 Washburn, North Dakota. Specific analyses included determining Washburn's main and greater trade areas, identifying the demographic profile of Washburn shoppers, examining important and less important services for patron shoppers of Washburn, identifying neighboring cities that area shoppers patronize, determining distances area shoppers traveled to Washburn, and listing popular newspapers and radio stations among area residents.

Current trade area information for Washburn 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 Washburn population, retail sales, per capita income, pull factors, and McLean County population and employment were identified and discussed. Washburn's population, trade area population, retail sales, and pull factor, along with McLean County population and average annual employment have all decreased throughout the 1980s. Although most demographic and economic measurements have decreased, Washburn has fared as well as other North Dakota cities with similar population, and has fared favorably compared to smaller competing trade centers. The economic situation found in Washburn and McLean County are somewhat typical of the problems found in rural North Dakota communities in the 1980s.

Washburn'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. Washburn's MTA decreased in size by two townships, compared to MTA boundaries determined in 1969.

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, professional/technical, and craft/repair professions, and have resided in the area a large portion of their lives.

Main trade area residents traveled an average of 5.9 and 6.3 miles to Washburn to purchase selected convenience and specialty goods and services, respectively. Nearly half (42.2 percent) of the respondents who purchased 50 percent or more of convenience and specialty goods in Washburn traveled less than 10 miles to purchase the item.

Washburn appears to be an important source of goods and services for those who shop in Washburn; however, Washburn could capture much more of the available market for two-thirds of the nonagricultural and about half of the agricultural goods and services included in the survey questionnaire.

Bismarck-Mandan, Center, Turtle Lake, and Underwood were the most popular cities for the purchase of nonagricultural goods and services by Washburn MTA residents who did not purchase a majority of the good or service in Washburn. Wilton, Falkirk, and Bismarck were popular for purchasing agricultural goods and services.

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

The Bismarck Tribune was the most popular daily newspaper for both Washburn MTA and GTA residents. The Washburn Leader and The McLean County Independent were the most popular weekly newspapers for Washburn MTA and GTA residents, respectively. The most popular radio stations for Washburn MTA residents included KFYZ of Bismarck, KBMR of Bismarck, and KQDY of Bismarck.

Although economic times have been difficult, Washburn has not lost as much of its retail sales as other cities of similar size; however, Washburn could improve the market capture for much of its available market. Washburn has retained most of its past trade areas and should remain an important trade center for residents in McLean County and the surrounding area.

## RETAIL TRADE AREA ANALYSIS: WASHBURN, NORTH DAKOTA

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### INTRODUCTION

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

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

### Purpose

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

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

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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.



## 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 Washburn trade area.

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

## WASHBURN 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 Washburn population, retail sales, market share, per capita income, pull factors, and McLean County population and employment.

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

Washburn's population declined about 1.5 percent from 1980 to 1988 (Table 1). Of the North Dakota cities in the population range 1,500 to 2,500, only five had population increases from 1980 to 1988. If Hazen, the population of which increased almost 42 percent, was removed from the group, population in the size category would have decreased almost 7 percent. Washburn's trade area population decreased about 3.5 percent from 1980 to 1988, the fourth smallest decrease of any town in the category. The population of most of Washburn's competing trade centers and their trade area populations also decreased. Bismarck-Mandan,

TABLE 1. CITY AND TRADE AREA POPULATION FOR WASHBURN 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							
Bismarck	Burleigh	44,485	47,740	7.32	55,317	60,798	9.91
Mandan	Morton	15,513	15,550	0.24	23,463	24,395	3.97
Group Total		253,628	274,280	8.14	--	--	--
Population 2,500 to 10,000							
Beulah	Mercer	2,908	5,520	89.82	4,720	7,525	59.43
Hazen	Mercer	2,365	3,350	41.65	4,598	5,893	28.16
Group Total		43,813	45,650	4.19	9,602	9,579	2.52
Population 1,500 to 2,500							
Garrison	McLean	1,830	1,740	-4.92	3,527	3,322	-5.81
Washburn	McLean	1,767	1,740	-1.53	2,129	2,055	-3.48
Group Total		39,095	37,540	-3.98	--	--	--
Population 1,000 to 1,500							
New Salem	Morton	1,081	1,050	-2.87	2,569	2,615	1.79
Underwood	McLean	1,329	1,250	-5.94	2,300	2,088	-9.22
Group Total		29,622	27,540	-7.03	--	--	--
Population 500 to 1,000							
Center	Oliver	900	970	7.78	1,623	1,696	4.50
McClusky	Sheridan	658	530	-19.45	1,367	1,158	-15.29
Stanton	Mercer	623	670	7.54	--	--	--
Turtle Lake	McLean	802	670	-16.46	1,892	1,685	-10.94
Wilton	McLean	950	880	-7.37	2,014	2,070	2.78
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.

Beulah, and Hazen experienced increases in both city and trade area populations.

Since Washburn's trade areas cover parts of counties other than McLean County, population, average annual employment, and per capita income have been identified for surrounding counties (Table 2). Population in McLean County decreased 4.7 percent from 1980 to 1988. Sheridan County was the only surrounding county to lose population during the same time period.

Average annual employment in McLean County decreased 17.1 percent from 1980 to 1989. Employment in most counties surrounding McLean declined, except in Burleigh and Oliver Counties. In addition to population and employment declines in McLean County, real per capita income (i.e., adjusted for inflation) also decreased (7.2 percent) from 1979 to 1987. Per capita income decreased in all of the surrounding counties. Washburn's deflated taxable sales (i.e., adjusted for inflation)

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

County	1980	1982	1984	1986	1988	1989	Percent Change 1980-88/89
----- Population -----							
McLean	12,383	12,400	12,900	12,200	11,800	---	-4.71
Surrounding Counties							
Burleigh	54,811	56,600	59,000	60,500	60,400	---	10.20
Mercer	9,404	11,600	14,700	13,900	13,500	---	43.56
Morton	25,177	25,500	26,200	26,100	25,400	---	0.89
Oliver	2,495	2,600	2,700	2,700	2,600	---	4.21
Sheridan	2,819	3,000	2,700	2,600	2,600	---	-7.77
North Dakota	652,717	672,000	687,000	679,000	667,000	---	2.19
----- Average Annual Employment <sup>a</sup> -----							
McLean	5,035	5,051	4,550	4,267	4,232	4,175	-17.08
Surrounding Counties							
Burleigh	24,935	24,870	28,245	30,748	32,499	33,524	34.45
Mercer	5,393	6,910	7,823	5,370	5,395	5,322	-1.32
Morton	11,357	11,327	12,691	11,266	11,970	12,160	7.07
Oliver	1,134	1,108	1,040	1,047	1,053	1,004	-11.46
Sheridan	1,186	1,184	1,226	1,156	1,108	1,114	-6.07
North Dakota	288,002	297,002	310,953	313,001	316,000	317,000	10.07
----- Per Capita Income <sup>b</sup> -----							
	1979 <sup>c</sup>		1987		Percent Change 1979 to 1987		
McLean	\$9,495		\$8,815		-7.2		
Surrounding Counties							
Burleigh	12,665		11,503		-5.4		
Mercer	11,067		10,310		-6.8		
Morton	9,778		8,919		-8.8		
Oliver	9,363		9,155		-2.2		
Sheridan	7,723		7,425		-3.9		
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 about 32.2 and 17.4 percent from 1980 to 1989 and 1987 to 1989, respectively (Table 3). Washburn fared somewhat better than other cities in the same population category, even though average taxable sales for the group decreased 45.6 and 10.06 percent from 1980 to 1989 and 1987 to 1989, respectively. 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 greater than the purchasing power of its trade area, suggesting

TABLE 3. DEFLATED TAXABLE SALES AND PURCHASES FOR WASHBURN 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					
Bismarck	473,728,420	434,129,473	458,447,623	-3.23	5.60
Mandan	103,775,472	82,527,988	78,038,107	-24.80	-5.44
Group Total	2,578,781,160	2,337,648,605	2,396,999,678	-7.05	2.54
Population 2,500 to 10,000					
Beulah	21,109,496	13,690,513	13,789,391	-34.68	0.72
Hazen	15,750,869	11,771,841	10,495,380	-33.37	-10.84
Group Total	398,731,612	315,496,552	298,875,168	-25.04	-5.27
Population 1,500 to 2,500					
Garrison	15,231,714	9,777,949	8,063,061	-47.06	-17.54
Washburn	12,428,970	10,210,881	8,432,312	-32.16	-17.42
Group Total	415,612,668	251,583,986	226,276,758	-45.56	-10.06
Population 1,000 to 1,500					
New Salem	8,115,443	4,796,393	4,729,589	-41.72	-8.34
Underwood	7,915,982	4,657,858	3,092,794	-60.93	-33.60
Group Total	222,752,746	141,859,953	130,721,134	-41.32	-7.85
Population 500 to 1,000					
Center	2,235,947	1,563,768	1,602,142	-28.35	2.45
McClusky	3,568,692	1,855,757	1,231,726	-65.49	-33.63
Stanton	743,428	609,934	495,401	-33.36	-18.78
Turtle Lake	4,205,187	2,972,621	2,360,047	-43.88	-20.61
Wilton	1,404,168	890,459	776,372	-44.71	-12.81
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.

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.

Washburn's pull factor decreased almost 23 percent from 1980 to 1989 (Table 4). Only four cities in the population group 1,500 to 2,500 increased their pull factor from 1980 to 1989. Washburn'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. Pull factors for competing cities decreased substantially from 1980 to 1989, except Bismarck. Pull factors in 1989 for cities competing with Washburn were about half of Washburn's pull factor, suggesting Washburn does a better job of capturing its available market than do neighboring cities.

Population changes for competing cities were mixed in the geographic area near Washburn. All counties surrounding Washburn increased in population from 1980 to 1988, except Sheridan County. Deflated taxable sales and Washburn's pull factor have decreased in the 1980s. Real per capita income and average

TABLE 4. PULL FACTORS FOR WASHBURN 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						
Bismarck	1.15	1.21	1.81	5.12	57.26	49.60
Mandan	0.75	0.74	0.60	-0.58	-20.14	-19.68
Group Average	1.12	0.96	1.01	-14.20	-9.63	5.32
Population 2,500 to 10,000						
Beulah	0.63	0.33	0.39	-47.36	-37.67	18.41
Hazen	0.48	0.37	0.38	-23.05	-20.91	2.78
Group Average	0.79	0.73	0.64	-8.40	-19.82	-12.47
Population 1,500 to 2,500						
Garrison	0.72	0.61	0.45	-16.18	-38.36	-26.46
Washburn	0.98	1.05	0.76	7.32	-22.91	-28.17
Group Average	0.89	0.65	0.52	-26.93	-42.26	-20.99
Population 1,000 to 1,500						
New Salem	0.53	0.41	0.34	-20.18	-36.78	-20.80
Underwood	0.58	0.44	0.27	-24.05	-52.80	-37.85
Group Average	0.65	0.53	0.43	-18.35	-34.55	-19.84
Population 500 to 1,000						
Center	0.24	0.19	0.18	-19.24	-24.24	-6.19
McClusky	0.54	0.40	0.16	-25.24	-69.42	-59.09
Stanton	*	*	*	*	*	*
Turtle Lake	0.37	0.34	0.26	-1.64	-30.88	-29.73
Wilton	0.12	0.09	0.07	-20.63	-41.00	-25.66
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.

annual employment in McLean County also decreased in the 1980s. Changes in economic activity and population for Washburn have been similar to other North Dakota cities in the 1,500 to 2,500 population range, suggesting Washburn is no worse off than other cities of comparable size.

Although Washburn 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 Washburn 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 Washburn and McLean County are somewhat typical of the economic problems found in western 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 Washburn.

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.

Washburn was classified as a full convenience 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  
Hardware

Groceries

## Specialty Goods and Services

Barber	Legal services
Doctor	Mortician
Florist	Plumber
Heating fuel and propane	

## Agricultural Goods and Services

Farm machinery	Farm supplies
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The main trade area for Washburn 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 Washburn. 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 Washburn.

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.

Washburn's MTA captures a relatively narrow distribution of townships around the city, with the MTA lying almost entirely to the east and west of the city. The GTA is relatively large compared to the size of the MTA and extends mostly to the north and southeast of the city (Figure 1). Washburn's ability to attract customers from the west and south appears limited due to competition from other trade centers.

## CHARACTERISTICS OF WASHBURN AREA RESIDENTS

Business people and community leaders usually are interested in the characteristics of local shoppers and shopping patterns. The characteristics of Washburn shoppers were analyzed, using 81 survey responses from the Washburn MTA. Other analyses included examination of important and less important services for patron shoppers of Washburn, identification of neighboring cities area shoppers patronize, determination of distances area shoppers traveled to Washburn, and listing popular newspapers and radio stations among area residents.

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

Demographic characteristics of the survey respondents for the Washburn MTA were identified (Table 5). The typical

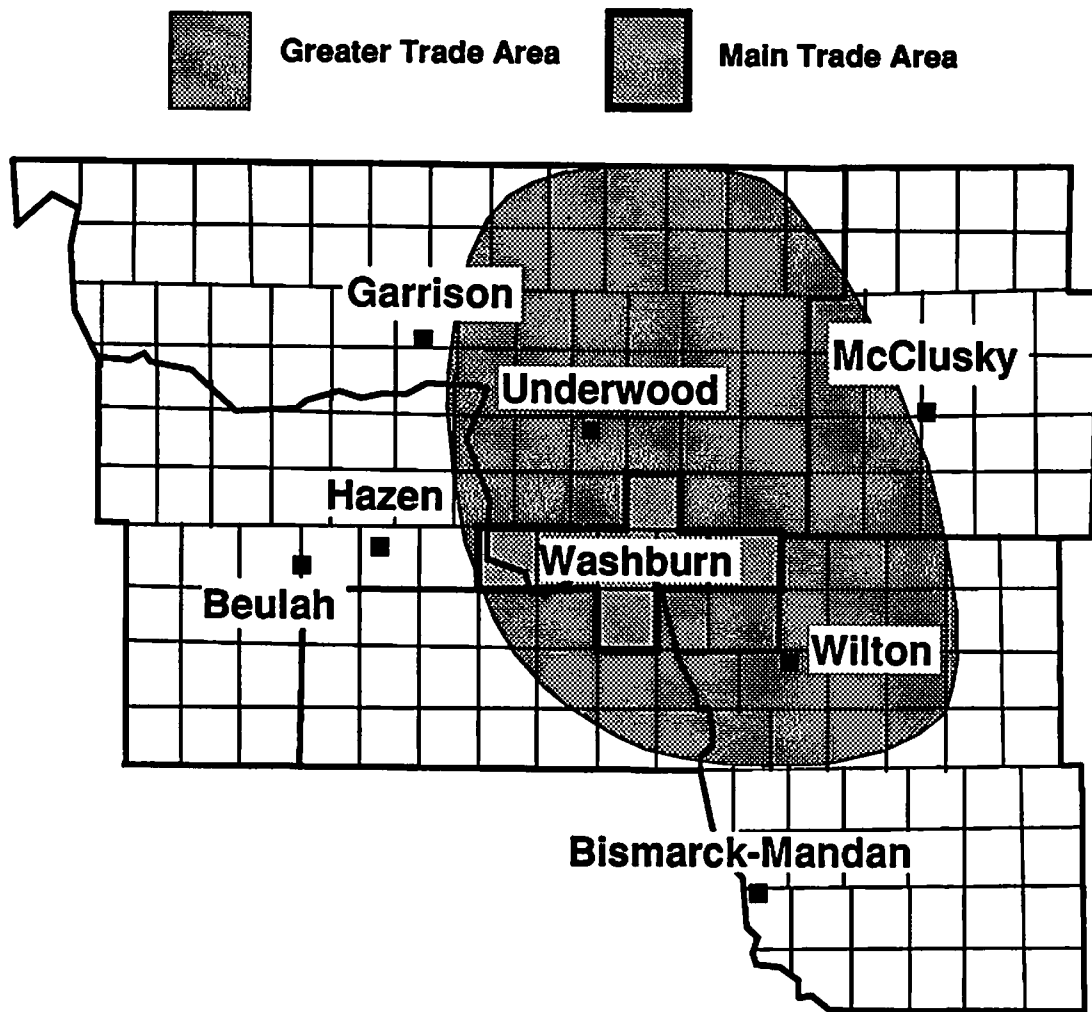


Figure 1. Main and Greater Trade Areas for Washburn, North Dakota, 1989



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

Demographic Characteristic	Average of Survey Responses	
Age (Years)	46.9	
Education (Years)	12.9	
Lived in County (Years)	27.5	
Household Size (People)	3.3	
Average Household Income	\$31,033	
Occupation	Respondent	Spouse
	---%---	---%---
Farming	25.7	13.8
Craft/Repair	18.9	7.7
Retired	13.5	12.3
Professional	9.5	23.1
Tech/Sales/Admin	9.5	23.1
Housewife	8.1	7.7
Service Jobs	6.8	7.7
Equipment Operator	6.8	1.5
Other	1.4	3.1
Martial Status	--- % ---	
Single	5.0	
Separated/Divorced	2.5	
Married	92.5	
Widowed	0.0	
Male	67.9	
Female	32.1	

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, professional/technical, and craft/repair professions, and have resided in the area a large portion of their lives.

#### Distance Traveled by Washburn Area Shoppers

Average distances that area residents traveled to Washburn were determined for each good or service in the 12-item goods and services mix (Table 6). Distances were determined by averaging respondents' estimated miles between Washburn and their home residence. Washburn residents and any respondents who lived one mile or less from Washburn 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 Washburn 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 WASHBURN, NORTH DAKOTA, 1989<sup>a</sup>

<u>All Respondents Purchasing 50 Percent or More of the Service in Washburn</u>			
<u>Convenience Items</u>		<u>Specialty Items</u>	
Goods and Services	Average Miles Traveled	Goods and Services	Average Miles Traveled
Groceries	7.8	Barber	13.3
Banking and Savings	8.6	Doctor	6.6
Hardware	10.9	Florist	7.6
		Heating Fuel	9.9
		Legal Services	14.0
		Mortician	11.3
		Plumber	12.7
Average	9.4	Average	11.5
<u>MTA Respondents Only Who Purchase 50 Percent or More of the Service in Washburn</u>			
<u>Convenience Items</u>		<u>Specialty Items</u>	
Goods and Services	Average Miles Traveled	Goods and Services	Average Miles Traveled
Groceries	5.8	Barber	6.1
Banking and Savings	5.8	Doctor	6.0
Hardware	6.0	Florist	6.7
		Heating Fuel	6.7
		Legal Services	6.7
		Mortician	6.1
		Plumber	2.0
Average	5.9	Average	6.3

<sup>a</sup>One-way distance to Washburn 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 Washburn. 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 Washburn.

The average distance traveled to Washburn 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 Washburn. For those

respondents living in the MTA, the average distance traveled for both types of goods and services was nearly identical.

Distance traveled by type of good or service (convenience and specialty) was broken down into distance categories. Many (42.2 percent) of the respondents (regardless of residence location) who purchase 50 percent or more of a convenience and specialty good or service traveled less than 10 miles to purchase the item in Washburn (Table 7). For those living in the MTA, over half of the respondents traveled less than 5 miles to purchase any item in Washburn.

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

<u>All Respondents Purchasing 50 Percent or More of a Service in Washburn</u>				
Distance (Miles) <sup>a</sup>	<u>Convenience Goods</u>		<u>Specialty Goods</u>	
	Number	Percent	Number	Percent
1 to 5	9	22.0	9	13.2
6 to 10	12	29.3	16	23.5
11 to 15	10	24.4	21	30.9
16 to 20	3	7.3	12	17.6
21 to 25	6	14.6	6	8.8
over 25	1	2.4	4	5.9
<u>MTA Respondents Only Who Purchase 50 Percent or More of a Service in Washburn</u>				
Distance (Miles) <sup>a</sup>	<u>Convenience Goods</u>		<u>Specialty Goods</u>	
	Number	Percent	Number	Percent
1 to 5	9	52.9	9	50.0
6 to 10	6	35.3	6	33.3
11 to 15	2	11.8	3	16.7
16 to 20	0	0.0	0	0.0
21 to 25	0	0.0	0	0.0
over 25	0	0.0	0	0.0

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

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

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

Goods and services that appear to be most utilized by those shopping in Washburn include mortician, barber, heating fuel and propane, gas and diesel service, optometrist, banking and savings, building supplies, legal services, and crop consultants (services where 90 percent of those buying the service in Washburn purchase a majority of the service in Washburn). Veterinarian (small animals), computers, and livestock marketing also met the criteria to be included in the list of goods and services most utilized by Washburn shoppers; however, the goods and services only had one response indicating a purchase of those items. The goods and services that people are less likely to purchase a majority of in Washburn include teenage clothing, women's clothing, men's clothing, shoes, jewelry, eating establishments, sporting goods, radios-TVs-VCRs, auto sales, family doctor, nursery (plants), major appliances, grain marketing, crop seeds, commercial feeds, and farm fuel and lubricants. No survey respondents purchased a majority of hospital, women's coats, chiropractor, and veterinary services in Washburn.

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

Goods and services for which Washburn is capturing a large amount of the potential market (80 percent or more) within the MTA include mortician, gas and diesel service, building supplies, groceries, hardware, other farm chemicals, farm machinery, and farm machinery repair and parts. Washburn captures little of the existing market (less than 60 percent) for almost two-thirds of the goods and services listed on the survey questionnaire.

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

Goods and Services	Responses in Washburn Main Trade Area					
	Purchase the Goods & Services Somewhere	Purchase Some of the Goods & Services in Washburn		Purchase Majority of the Goods & Services in Washburn		Measure of Market Capture
		No.	% <sup>a</sup>	No.	% <sup>b</sup>	% <sup>c</sup>
Mortician	48	46	95.8	46	100.0	95.8
Veterinarian (Sm Animals)	41	1	2.4	1	100.0	2.4
Computers	21	1	4.8	1	100.0	4.8
Barber	60	47	78.3	45	95.7	75.0
Heating Fuel/Propane	58	38	65.5	36	94.7	62.1
Gas/Diesel Service	81	75	92.6	71	94.7	87.7
Optometrist	80	46	57.5	42	91.3	52.5
Banking and Savings	81	65	80.2	59	90.8	72.8
Building Supplies	78	75	96.2	68	90.7	87.2
Legal Service	68	50	73.5	45	90.0	66.2
Accounting Services	58	29	50.0	26	89.7	44.8
Plumber	50	28	56.0	25	89.3	50.0
Hardware	79	75	94.9	66	88.0	83.5
Groceries	81	75	92.6	63	84.0	77.8
Furniture	76	18	23.7	15	83.3	19.7
Auto Repair	79	63	79.7	52	82.5	65.8
Florist	68	60	88.2	47	78.3	69.1
Drinking Places	44	41	93.2	32	78.0	72.7
Prescription Drugs	80	69	86.2	52	75.4	65.0
Beautician	74	59	79.7	44	74.6	59.5
Dentist	78	42	53.8	30	71.4	38.5
Appliance/Elec Repair	74	36	48.6	25	69.4	33.8
Major Appliances	77	47	61.0	31	66.0	40.3
Nursery (Plants)	72	44	61.1	28	63.6	38.9
Family Doctor	79	41	51.9	26	63.4	32.9
Auto Sales	72	24	33.3	15	62.5	20.8
Sporting Goods	71	44	62.0	22	50.0	31.0
Radios, TVs, VCRs	79	25	31.6	9	36.0	11.4
Eating Places	80	71	88.7	25	35.2	31.3
Jewelry	62	17	27.4	5	29.4	8.1
Teenage Clothing	40	4	10.0	1	25.0	2.5
Shoes	80	14	17.5	3	21.4	3.7
Men's Clothing	80	11	13.7	2	18.2	2.5
Women's Clothing	77	7	9.1	1	14.3	1.3
Hospital	80	0	0.0	0	0.0	0.0
Women's Coats	74	3	4.1	0	0.0	0.0
Chiropractor	42	0	0.0	0	0.0	0.0
----- Agricultural Goods and Services -----						
Livestock Marketing	12	1	8.3	1	100.0	8.3
Crop Consultants	8	6	75.0	6	100.0	75.0
Farm Mach Repair/Parts	21	19	90.5	17	89.5	81.0
Farm Machinery	20	19	95.0	17	89.5	85.0
Other Farm Chemicals	17	17	100.0	15	88.2	88.2
Fertilizer	20	16	80.0	14	87.5	70.0
Other Farm Supplies	19	17	89.5	14	82.4	73.7
Farm Fuel & Lubricant	21	16	76.2	11	68.8	52.4
Commercial Feeds	10	7	70.0	4	57.1	40.0
Crop Seeds	19	14	73.7	7	50.0	36.8
Grain Marketing	21	14	66.7	7	50.0	33.3
Veterinary Services	13	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 Washburn 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 Washburn.

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

Goods and services that are important to Washburn shoppers and those for which Washburn is capturing a large percentage of the market include mortician and gas and diesel service. Heating fuel and propane, optometrist, legal service, and accounting services are important to shoppers in Washburn, but few of the potential buyers purchase a majority of those goods and services in Washburn. This suggests some loyalty for those shopping in Washburn, yet a good portion of the market has not been captured.

Many patrons purchase a majority of their goods and services in Washburn; however, Washburn could capture much more of the potential market for these items. This phenomenon suggests some strong trade center loyalty exists for those shopping in Washburn. Washburn appears to be an important source of services for those shopping in Washburn, but Washburn could improve its market capture for about two-thirds of the convenience and specialty items, and about half of the agricultural items.

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

For most of the goods and services listed in the survey, some respondents did not purchase any of the good or service in Washburn or purchased more of the good or service in other cities. For people living in the Washburn MTA and not purchasing a majority of the services in Washburn, the cities where the majority of those services were purchased were identified (Table 9). Bismarck was the most popular choice for services purchased outside of the Washburn MTA. Other popular cities included Mandan, Center, Turtle Lake, and Underwood. Wilton, Falkirk, and Bismarck were popular for purchasing agricultural goods and services.

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

TABLE 9. MOST POPULAR CITIES FOR THE PURCHASE OF GOODS AND SERVICES BY WASHBURN MAIN TRADE AREA RESIDENTS WHO DID NOT PURCHASE A MAJORITY OF THE GOOD OR SERVICE IN WASHBURN, 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	Bismarck	16	73.4	Eating Places	Bismarck	54	69.4
Drinking Places	Bismarck	11	72.7	Men's Clothing	Bismarck	75	87.6
Women's Clothing	Bismarck	75	86.7	Teen Clothing	Bismarck	38	90.5
Women's Coats	Bismarck	70	90.9	Shoes	Bismarck	74	89.6
Jewelry	Bismarck	54	89.4	Radios, TVs, VCRs	Bismarck Underwood	62 5	87.6 81.0
Mjr Appliance Repair	Bismarck Underwood	40 7	88.5 61.1	Florist	Bismarck	18	80.8
Auto Sales	Bismarck Mandan	49 6	88.1 73.3	Gas Station	Bismarck Center	5 4	64.0 80.0
Furniture	Bismarck Minot	59 2	88.2 65.0	Plumber	Underwood Wilton Bismarck	14 4 4	87.1 87.5 75.0
Auto Repair	Bismarck Mandan	22 3	73.2 76.7	Nursery (Plants)	Bismarck Mandan	40 3	80.6 96.7
Heating Fuel/Propane	Bismarck Center Underwood Stanton	5 5 4 3	100.0 100.0 100.0 91.7	Legal Service	Bismarck Center	17 2	82.9 100.0
Beautician	Bismarck Hazen Golden Valley Wilton	26 4 3 3	83.3 87.5 86.7 100.0	Accounting Service	Bismarck Mandan	22 3	92.9 100.0
Optometrist	Bismarck Mandan	35 2	97.3 100.0	Barber	Bismarck Mandan	10 2	87.0 95.0
Computers	Bismarck	19	90.0	Family Doctor	Bismarck Mandan	46 3	89.6 88.3
Major Appliances	Bismarck Hazen Dickinson	54 5 5	79.3 82.0 66.0	Banking and Savings	Bismarck Wilton Underwood	7 3 3	94.3 88.3 83.3
Chiropractor	Bismarck Hazen	36 4	93.8 95.0	Building Supplies	Bismarck	8	67.5
Dentist	Bismarck Turtle Lake Mandan	26 16 3	91.9 89.4 70.0	Mortician	Two cities with one response		
Prescription Drugs	Bismarck	26	82.8	Hospital	Bismarck Mandan	77 2	98.5 75.0
Vet (Small Animals)	Turtle Lake Bismarck Mandan	24 6 5	91.9 91.7 90.0	Hardware	Bismarck	11	70.4
Sporting Goods	Bismarck Hazen	48 4	80.1 62.5	Farm Machinery	Three cities with one response		
Farm Mach. Repair	Underwood	3	53.3	Crop Consultant	Two cities with one response		
Farm Fuel/Lubrication	Center Falkirk	3 3	100.0 91.7	Fertilizer	Falkirk	4	73.7
Commercial Feed	Mandan Wilton	2 2	82.5 70.0	Crop Seeds	Falkirk Bismarck	6 2	70.8 100.0
Veterinary Services	Bismarck Mandan Beulah	6 4 2	87.5 87.5 70.0	Grain Marketing	Falkirk Underwood	10 2	80.0 62.5
				Farm Supplies	Bismarck	4	55.0
				Farm Chemicals	Two cities with one response		
				Livestock Marketing	Bismarck	5	82.0

### Analysis of Outshoppers in Washburn Main Trade Area

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

According to selected demographic characteristics, little difference exists between those who purchase a majority of their goods and services in Washburn 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 Washburn traveled substantially farther (for each of the services) than the group purchasing 50 percent or more of the same goods and services in Washburn.

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 Washburn MTA

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 WASHBURN, NORTH DAKOTA, 1989

Attribute	Group Purchasing 50 Percent or More of Goods in Washburn				Group Purchasing Less Than 50 Percent of Goods in Washburn			
	Prescrip. Drugs	Gas Station	Building Supplies	Radios TVs, VCRs	Prescrip. Drugs	Gas Station	Building Supplies	Radios TVs, VCRs
Age	45.1	47.1	46.5	48.5	30.4	45.7	42.8	46.1
Education	13.2	13.0	12.7	13.2	12.2	12.1	14.6	12.9
Years Lived In County	24.7	27.6	28.0	42.2	33.5	27.0	17.9	25.5
Number in Household	3.7	3.4	3.3	3.5	2.7	2.9	3.7	3.3
Number in Grade School	1.0	0.8	0.8	0.6	0.5	0.4	0.9	0.8
Number in High School	0.5	0.3	0.3	0.6	0.1	0.6	0.7	0.4
Average Miles Traveled <sup>a</sup>	5.6	6.1	6.8	12.0	31.5	22.4	23.0	37.4
Household Income	\$31,500	\$31,250	\$32,379	\$27,500	\$29,479	\$29,773	\$25,250	\$31,728

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



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 Washburn.

### Newspaper Subscriptions of Washburn Area Residents

Newspaper subscriptions of respondents in the Washburn 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 Bismarck Tribune*. The most popular weekly papers for the main and greater trade areas were *The Washburn Leader* and *The McLean*

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

Main Trade Area			Greater Trade Area		
Newspaper	Numbers of Respondents	Percent	Newspaper	Number of Respondents	Percent
----- Daily Newspapers -----					
Bismarck Tribune	63	92.6	Bismarck Tribune	120	81.1
Fargo Forum	2	2.9	Minot Daily News	23	15.5
Minot Daily News	2	2.9	Fargo Forum	2	1.4
USA Today	1	1.5	Others	3	2.0
Total	68 <sup>a</sup>		Total	148 <sup>b</sup>	
----- Weekly Newspapers -----					
Washburn Leader	70	72.1	McLean Co. Independent	51	20.6
Center Republican	7	7.2	McLean Co. Journal	48	19.4
Agweek-Grand Forks	5	5.2	Washburn Leader	48	19.4
McLean Co. Independent	3	3.1	Underwood News	47	19.0
Emmons County Record	3	3.1	Wilton News	13	5.2
Others	9	9.3	Center Republican	8	3.2
			AgWeek-Grand Forks	7	2.8
			Hazen Star	4	1.6
			Others <sup>c</sup>	22	8.8
Total	97 <sup>d</sup>		Total	248 <sup>e</sup>	

<sup>a</sup>64 respondents subscribe to a daily paper with 4 respondents subscribing to more than one paper.

<sup>b</sup>142 respondents subscribe to a daily paper with 6 respondents subscribing to more than one paper.

<sup>c</sup>Other weekly newspapers included Golden Valley News, Edmore Herald, Kenmare News, McClusky Gazette, New Rockford Transcript, Turtle Mountain Star, Mouse River Farmer's Press, McHenry County Journal, Prairie Flame, Oak Times, Sheldon Mail, and The Turtle Lake Journal.

<sup>d</sup>75 respondents subscribe to a weekly paper with 22 respondents subscribing to more than one paper.

<sup>e</sup>181 respondents subscribe to a weekly paper with 67 respondents subscribing to more than one paper.

*County Independent*, respectively. Other popular weekly newspapers for respondents included *Underwood News*, *The McLean County Journal*, and *Wilton News*.

### Radio Stations of Washburn Area Residents

The most popular radio stations that respondents in Washburn's main trade area listened to were KFYZ of Bismarck, followed by KBMR of Bismarck and KQDY of Bismarck (Table 12).

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

Owens and Vangness (1969) discussed general information on retail trade and identified both main and greater trade areas for Washburn. Information from the past Washburn 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 Washburn's main and greater trade areas. Although trade area delineation criteria used in the previous Washburn trade area report differ, enough similarity exists to make comparisons with the trade area boundaries determined in this report.

The main trade area for Washburn has changed some from 1969. Washburn lost three townships to Bismarck, but Washburn gained one township from Center. Washburn lost only two townships overall since the late 1960s. The greater trade area appears to have increased slightly to the east and south of Washburn with the GTA remaining unchanged elsewhere. Some of the differences in trade areas may be attributed to different trade area delineation criteria and to changes in the relative strength of the Bismarck-Mandan trade center.

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

Radio Station	Number of Respondents	Percent
KFYZ-Bismarck	34	51.5
KBMR-Bismarck	10	15.2
KQDY-Bismarck	8	12.1
KNDR-Mandan	3	4.5
KBYZ-Bismarck	2	3.0
KYYY-Bismarck	2	3.0
Others	7	10.7

## SUMMARY AND CONCLUSIONS

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

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

Washburn's main trade area appears to have decreased slightly since 1969. Washburn lost three townships to neighboring cities, but gained one township, for an overall reduction in MTA size of two townships. The greater trade area increased slightly to the east and south and remained unchanged elsewhere.

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

Bismarck-Mandan, Turtle Lake, Center, and Underwood provided most of the shopping locations for area residents who do not purchase the good or service in Washburn. 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 Washburn. Those purchasing 50 percent or more of one

or more convenience or specialty goods or services in Washburn traveled an average distance of about 10 miles.

Washburn's pull factor is higher than other cities of comparable size; however, according to recent analysis Washburn does not capture much of its available market. This phenomenon may be because Washburn's MTA falls within Bismarck-Mandan's MTA; thus, most of Washburn's MTA residents may only purchase limited amounts of some goods and services in Washburn when it is convenient. Washburn's MTA residents appear to be purchasing more of their specialty and high ticket items in Bismarck-Mandan; possibly because the residents of Washburn's MTA also lie within the MTA for Bismarck-Mandan.

Even though the 1980s have been difficult for rural North Dakota cities, Washburn appears to have fared as well as other cities of comparable size and somewhat better than smaller neighboring towns. Although Washburn is faced with slightly decreasing city and county population and decreasing county employment, it has been able to retain most of its past trade area and should remain an important trade center for residents of McLean County and the surrounding area.

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- Owens, Wayne W. and Elmer C. Vangsness. 1969. Retail Trade and Services Survey and Report: McLean County, North Dakota. North Dakota Agricultural Economics Extension Service Paper, North Dakota State University, Fargo.
- 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

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

**LOCATION OF RESIDENCE**

**Topic:**

**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...

- ☐ single, never married      ☐ separated or divorced  
☐ married                      ☐ 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

TOWN NAME	%	DO NOT WRITE IN THIS AREA

TOWN NAME	%	DO NOT WRITE IN THIS AREA

TOWN NAME	%	DO NOT WRITE IN THIS AREA

- 54. Crop consultants
- 55. Fertilizer
- 56. Other farm chemicals
- 57. Veterinary services
- 58. Other farm supplies

WHERE ARE YOUR FARM PRODUCTS MARKETED?

- 59. Grain
- 60. Livestock






*[Faint, illegible text from bleed-through]*

[illegible]