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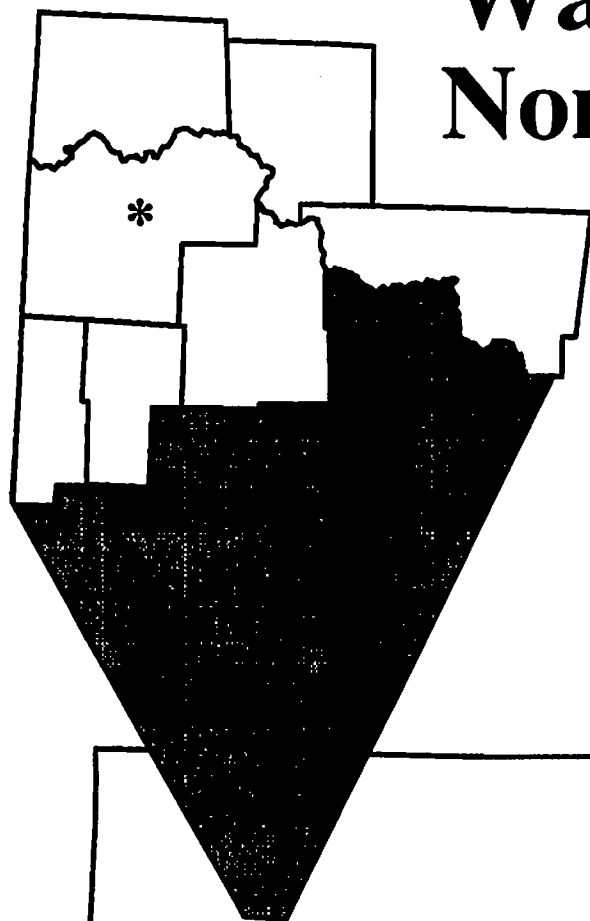
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# Retail Trade Area Analysis

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

Current trade area information for Watford City 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 Watford City population, retail sales, per capita income, and pull factors, and in McKenzie County population and employment were identified and discussed. Watford City's population, retail sales, and pull factors along with McKenzie County average annual employment and per capita income have all decreased throughout the 1980s. Watford City has fared about average compared to other North Dakota cities with similar populations, and has fared favorably compared to smaller competing trade centers. The economic situation found in Watford City and McKenzie County are somewhat typical of the problems found in western North Dakota communities in the 1980s.

Watford City'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. Watford City's MTA decreased in size by one township, compared to MTA boundaries determined in 1973. Watford City's MTA gained two townships from New Town's MTA; however, it lost three townships to Killdeer's MTA.

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 16.2 and 17.0 miles to Watford City to purchase selected convenience and specialty goods and services, respectively. Many (40 percent) of the respondents who purchased 50 percent or more of convenience and specialty goods in Watford City traveled over 25 miles to purchase the item.

Watford City appears to be capturing most of the potential market for most goods and services on the survey questionnaire; however, Watford City could capture more of the available market

for clothing items, electronic goods, furniture, jewelry, sporting goods, and some medical services.

Williston, Dickinson, and Minot were the most popular cities for the purchase of nonagricultural goods and services by Watford City MTA residents who did not purchase a majority of the good or service in Watford City. New Town, Killdeer, and Arnegard were popular for purchasing agricultural goods and services.

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

The Williston Daily Herald and the Minot Daily News were the most popular daily newspapers for both Watford City MTA and GTA residents. The McKenzie County Farmer and the New Town News were the most popular weekly newspapers for Watford City MTA and GTA residents. The most popular radio stations for Watford City MTA residents included KEYZ of Williston, KYYZ of Williston, KGCX of Sidney, Montana, and KFYZ of Bismarck.

Although economic times have been difficult, Watford City appears to have retained most of its past trade area and remains an important trade center in western North Dakota. Watford City has struggled economically during the 1980s, but is doing well considering the regional economy and its location between two regional trade centers, Williston and Dickinson.

## RETAIL TRADE AREA ANALYSIS: WATFORD CITY, 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 Watford City trade area.

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



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

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

### WATFORD CITY 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 Watford City population, retail sales, market share, per capita income, pull factors, and McKenzie 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.

Watford City's population declined about 6.1 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, the size category would have a negative 6.9 percent population growth. Watford City's trade area population increased about 5.4 percent from 1980 to 1988, the second largest increase for any town in the category. The population of Watford City's competing trade centers decreased, except for Tioga and Killdeer. Trade area populations for all competing cities increased, except for Killdeer and Stanley.

Since Watford City's trade area covers parts of counties other than McKenzie County, population, average annual employment, and per capita income have been identified for surrounding counties (Table 2). Population in McKenzie County increased about 8 percent from 1980 to 1988. Population in all but two surrounding counties decreased during the same time period.

TABLE 1. CITY AND TRADE AREA POPULATION FOR WATFORD CITY 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							
Williston	Williams	13,336	13,220	-0.87	19,728	20,476	3.79
Group Total		253,628	274,280	8.14	--	--	--
Population 2,500 to 10,000							
Group Total		43,813	45,650	4.19	9,602	9,579	2.52
Population 1,500 to 2,500							
Stanley	Mountrail	1,631	1,520	-6.81	4,368	4,275	-2.13
Tioga	Williams	1,597	1,780	11.46	2,615	2,900	10.90
Watford City	McKenzie	2,119	1,990	-6.09	4,492	4,733	5.37
Group Total		39,095	37,540	-3.98	--	--	--
Population 1,000 to 1,500							
New Town	Mountrail	1,335	1,310	-1.87	1,848	1,930	4.44
Group Total		29,622	27,540	-7.03	--	--	--
Population 500 to 1,000							
Killdeer	Dunn	790	810	2.53	1,714	1,711	-0.18
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 MCKENZIE AND SURROUNDING COUNTIES, NORTH DAKOTA, 1980 TO 1989

County	1980	1982	1984	1986	1988	1989	Percent Change 1980-88/89
----- Population -----							
McKenzie	7,132	9,000	8,700	8,400	7,700	---	7.96
Surrounding Counties							
Billings	1,138	1,300	1,300	1,300	1,300	---	14.24
Dunn	4,627	5,000	5,200	4,800	4,500	---	-2.74
Golden Valley	2,391	2,700	2,600	2,400	2,300	---	-3.81
Mountrail	7,679	7,900	8,200	7,900	7,600	---	-1.03
Williams	22,237	27,900	27,200	25,500	23,300	---	4.78
North Dakota	652,717	672,000	687,000	679,000	667,000	---	2.19
----- Average Annual Employment <sup>a</sup> -----							
McKenzie	3,738	4,297	3,902	3,080	2,828	2,764	-26.06
Surrounding Counties							
Billings	1,157	978	897	791	846	770	-33.45
Dunn	2,087	2,269	1,999	1,740	1,526	1,602	-23.24
Golden Valley	1,224	1,267	1,051	1,031	1,017	1,015	-17.08
Mountrail	3,363	3,425	3,124	3,142	3,050	3,086	-8.24
Williams	12,322	15,159	13,656	11,579	10,760	10,654	-13.54
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		
McKenzie	\$9,610		\$8,440		-12.2		
Surrounding Counties							
Billings	12,665		10,572		-16.5		
Dunn	8,841		7,724		-12.6		
Golden Valley	9,762		9,498		-2.7		
Mountrail	8,568		8,290		-3.2		
Williams	11,837		10,081		-14.8		
North Dakota	10,041		9,641		-4.0		

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

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

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

SOURCE: Leistritz et al. 1990.

Average annual employment in McKenzie County decreased 26 percent from 1980 to 1988. Employment in all counties surrounding McKenzie declined substantially. Along with declines in population and employment, real per capita income (i.e., adjusted for inflation) in McKenzie County decreased 12.2 percent from 1979 to 1987. Per capita income also decreased in all of the surrounding counties.

Watford City's deflated taxable sales (i.e., adjusted for inflation) decreased 45 and 7.5 percent from 1980 to 1989 and from 1987 to 1989, respectively (Table 3). Watford City's

from 1987 to 1989, respectively (Table 3). Watford City's decrease in taxable sales was nearly the same as the group average of 45.6 percent (1980 to 1988) and better than the group average for 1987 to 1989. Generally Watford City fared about the same as other cities in the same population category. 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 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.

Watford City's pull factor decreased almost 46 percent from 1980 to 1989 (Table 4). Only four cities in the population group 1,500 to 2,500 increased their pull factors from 1980 to 1989. Watford City's pull factor, however, is slightly above the group average, indicating the community captures more of its trade area

TABLE 3. DEFLATED TAXABLE SALES AND PURCHASES FOR WATFORD CITY 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					
Williston	238,932,594	108,961,773	103,561,002	-56.66	-4.96
Group Total	2,578,781,160	2,337,648,605	2,396,999,678	-7.05	2.54
Population 2,500 to 10,000					
Group Total	398,731,612	315,496,552	298,875,168	-25.04	-5.27
Population 1,500 to 2,500					
Stanley	14,342,680	8,966,972	8,751,972	-38.98	-2.40
Tioga	90,503,213	20,193,427	13,025,277	-85.61	-35.50
Watford City	28,382,678	16,871,527	15,602,903	-45.03	-7.52
Group Total	415,612,668	251,583,986	226,276,758	-45.56	-10.06
Population 1,000 to 1,500					
New Town	4,145,557	3,262,502	2,629,201	-36.58	-19.41
Group Total	222,752,746	141,859,953	130,721,134	-41.32	-7.85
Population 500 to 1,000					
Killdeer	12,912,939	6,293,186	6,699,989	-48.11	6.46
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.

TABLE 4. PULL FACTORS FOR WATFORD CITY 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						
Williston	1.68	0.89	1.06	-46.77	-36.58	19.13
Group Average	1.12	0.96	1.01	-14.20	-9.63	5.32
Population 2,500 to 10,000						
Group Average	0.79	0.73	0.64	-8.40	-19.82	-12.47
Population 1,500 to 2,500						
Stanley	0.62	0.46	0.35	-26.19	-42.71	-22.39
Tioga	4.80	1.28	0.95	-73.21	-80.29	-26.43
Watford City	1.07	0.75	0.58	-30.52	-45.89	-22.11
Group Average	0.89	0.65	0.52	-26.93	-42.26	-20.99
Population 1,000 to 1,500						
New Town	0.42	0.38	0.24	-10.77	-44.20	-37.47
Group Average	0.65	0.53	0.43	-18.35	-34.55	-19.84
Population 500 to 1,000						
Killdeer	1.40	0.85	0.6	-39.60	-54.87	-25.28
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.

purchasing power than most cities with similar population. Pull factors for competing cities decreased substantially from 1980 to 1989. Pull factors in 1989 for cities competing with Watford City were similar to Watford City's pull factor, suggesting Watford City does an average job of capturing its available market when compared to neighboring cities.

Population in all but two competing cities declined in the geographic area near Watford City; however, population in McKenzie, Billings, and Williams Counties increased from 1980 to 1988. Deflated taxable sales and Watford City's pull factor have decreased substantially in the 1980s. Real per capita income and average annual employment in McKenzie County also decreased in the 1980s.

Changes in economic activity and population for Watford City have been similar, if not more severe, than for other North Dakota cities in the 1,500 to 2,500 population range, suggesting Watford City has been struggling economically during the 1980s.

Watford City suffers from decreased economic activity and population declines, but appears to fare only as well as its smaller competing cities. Smaller cities and towns competing with Watford City also face tough economic pressures. Economic pressures and population declines found in Watford City and McKenzie 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 on the trade area criteria used for Watford City.

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.

Watford City 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	Groceries
Eating places	Hardware
Gas and diesel service	Prescription drugs

#### Specialty Goods and Services

Auto repair	Legal services
Beautician	Men's clothing
Furniture	Radios, TVs, VCRs
Hospital	Sporting goods

#### Agricultural Goods and Services

Farm machinery	Farm supplies
----------------	---------------

The main trade area for Watford City 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 Watford City. 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 Watford City.

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.

Watford City's MTA captures a relatively even distribution of townships to the north, east, and south of the city; however, the GTA reflects the influences of Dickinson and Williston (Figure 1). The Watford City GTA has little influence beyond its MTA, due to two conditions. First, lack of responses in many of the townships around the MTA hindered determination of Watford City's GTA. Second, people located to the north (north of the Missouri River), east, south, and west of Watford City's MTA travel to Williston, Minot, Dickinson, and Sidney, Montana, respectively. Watford City's ability to attract customers from outside its MTA appears limited due to competition from other trade centers, primarily Williston, Dickinson, Minot, and Sidney, Montana.

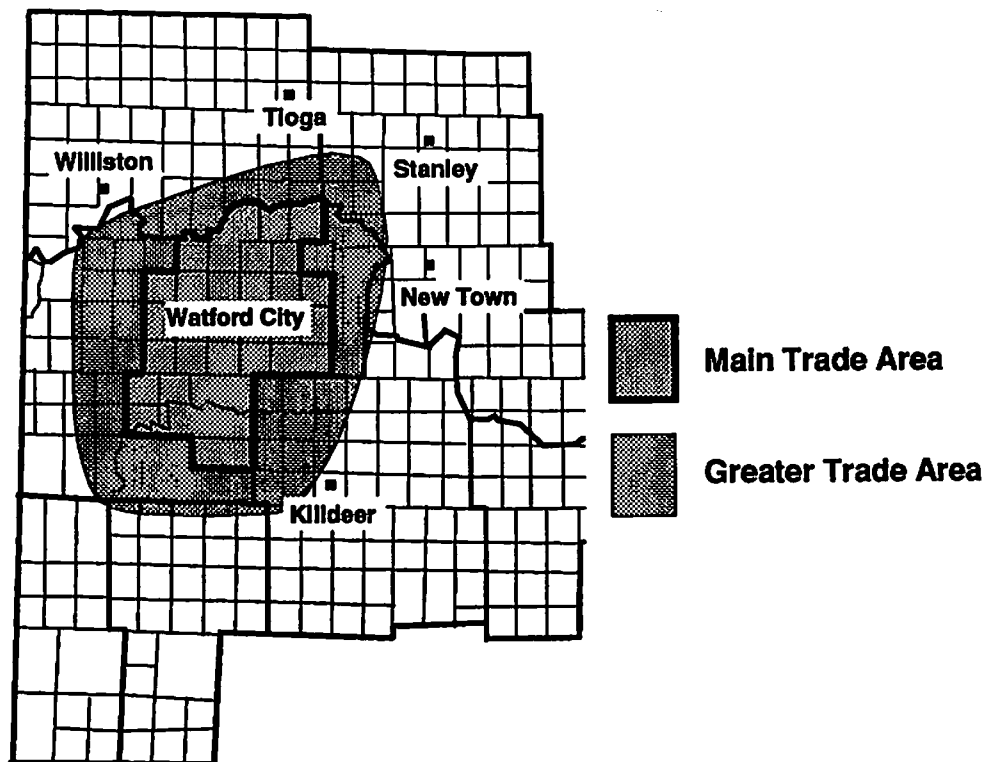


Figure 1. Main and Greater Trade Areas for Watford City, North Dakota, 1989.

#### CHARACTERISTICS OF WATFORD CITY AREA RESIDENTS

Business people and community leaders usually are interested in the characteristics of local shoppers and shopping patterns. The characteristics of Watford City shoppers were analyzed using 147 survey responses from the Watford City MTA. Other analyses included examination of important and less important services for patron shoppers of Watford City, identification of neighboring cities area shoppers patronize, determination of distances area shoppers traveled to Watford City, and listing popular newspapers and radio stations among area residents.

#### Demographic Profile of Shoppers in Watford City Main Trade Area

Demographic characteristics of the survey respondents for the Watford City 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



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

Demographic Characteristic	Average of Survey Responses	
Age (Years)	51.1	
Education (Years)	12.5	
Lived in County (Years)	38.0	
Household Size (People)	2.9	
Average Household Income	\$22,570	
Occupation	Respondent	Spouse
	---%---	---%---
Farming	30.0	30.9
Retired	15.0	10.6
Professional	12.9	16.0
Tech/Sales/Admin	12.1	19.1
Service Jobs	8.6	6.4
Equipment Operator	7.9	7.4
Craft/Repair	6.4	4.3
Housewife	1.4	4.3
Other	5.0	1.1
Martial Status	--- % ---	
Single	7.0	
Separated/Divorced	10.5	
Married	72.0	
Widowed	10.5	
Male	56.8	
Female	43.2	

at home, are primarily employed in agriculture and professional/technical professions, and have resided in the area a large portion of their lives.

#### Distance Traveled by Watford City Area Shoppers

Average distances that area residents traveled to Watford City were determined for each good or service in the 16-item goods and services mix (Table 6). Respondents (who purchased 50 percent or more, regardless of residence) traveled more miles to purchase specialty goods and services in Watford City than to purchase convenience goods and services. Respondents who were MTA residents and who purchased 50 percent or more traveled slightly farther (0.8 miles) to purchase specialty goods and services in Watford City than to purchase convenience goods and services. Distances were determined by averaging respondents' estimated miles between Watford City and their home residence. Watford City residents and any respondents who lived one mile or less from Watford City were not included in the analysis. Once

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

<u>All Respondents Purchasing 50 Percent or More of the Service in Watford City</u>			
<u>Convenience Items</u>		<u>Specialty Items</u>	
Goods and Services	Average Miles Traveled	Goods and Services	Average Miles Traveled
Gas & Diesel Stations	14.4	Auto Repair	15.8
Groceries	15.9	Beautician	14.4
Eating Places	14.5	Radios, TVs, VCRs	18.5
Banking and Savings	18.9	Sporting Goods	19.2
Hardware	16.4	Men's Clothing	18.2
Prescription Drugs	15.7	Hospital	16.5
		Legal Services	18.4
		Furniture	16.5
Average	16.2	Average	17.0
<u>MTA Respondents Only Who Purchase 50 Percent or More of the Service in Watford City</u>			
<u>Convenience Items</u>		<u>Specialty Items</u>	
Goods and Services	Average Miles Traveled	Goods and Services	Average Miles Traveled
Gas & Diesel Stations	13.7	Radios, TVs, VCRs	17.2
Eating Places	14.2	Auto Repair	14.0
Prescription Drugs	14.5	Furniture	17.2
Groceries	15.2	Beautician	13.4
Banking and Savings	15.3	Legal Services	16.5
Hardware	15.2	Hospital	14.3
		Men's Clothing	17.3
		Sporting Goods	18.2
Average	14.7	Average	15.5

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

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 Watford City was multiplied by the average distance to determine total miles of travel for that township (for the specific good or service).

Townships included in the distance analysis were not limited to those in the MTA; instead distances traveled were included for anyone (living in surrounding counties) who purchased 50 percent or more of the selected good or service in Watford City. 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 Watford City. The average distance traveled to Watford City 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 more than that traveled for specialty goods and services for respondents in the MTA who purchased 50 percent or more of the item in Watford City. 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 (40 percent) respondents (regardless of residence location) who purchase 50 percent or more of a convenience and specialty good or service travel over 25 miles to purchase the item in Watford City (Table 7). For those living in the MTA, the number of respondents traveling over 15 miles to purchase convenience or specialty items was less compared to anyone (regardless of residence location) purchasing 50 percent or more of the items.

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

<u>All Respondents Purchasing 50 Percent or More of a Service in Watford City</u>				
Distance (Miles) <sup>a</sup>	<u>Convenience Goods</u>		<u>Specialty Goods</u>	
	Number	Percent	Number	Percent
1 to 5	13	13.3	13	14.0
6 to 10	13	13.3	12	12.9
11 to 15	16	16.3	15	16.1
16 to 20	11	11.2	10	10.8
21 to 25	16	16.3	14	15.1
over 25	29	29.6	29	31.2
<u>MTA Respondents Only Who Purchase 50 Percent or More of the Service in Watford City</u>				
Distance (Miles) <sup>a</sup>	<u>Convenience Goods</u>		<u>Specialty Goods</u>	
	Number	Percent	Number	Percent
1 to 5	12	16.9	12	17.6
6 to 10	13	18.3	12	17.6
11 to 15	16	22.5	15	22.1
16 to 20	7	9.9	7	10.3
21 to 25	12	16.9	11	16.2
over 25	11	15.5	11	16.2

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

Area Shoppers' Utilization of Goods and Services Provided in Watford City

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

Goods and services that appear to be most utilized by those shopping in Watford City include plumber, mortician, veterinarian (small animals), drinking places, accounting, heating fuel and propane, florist, barber, hardware, crop consultants, veterinary (livestock), other farm chemicals, commercial feeds, and crop seed services (services where 95 percent of those buying the service in Watford City purchase a majority of the service in Watford City). The goods and services that people are less likely to purchase a majority of in Watford City include teenage clothing, shoes, women's clothing and coats, men's clothing, and furniture.

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

Goods and services for which Watford City is capturing a large amount of the potential market (90 percent or more) within the MTA include plumber, mortician, drinking places, florist, hardware, banking and savings, crop consultants, veterinary, and farm machinery repair and parts. Goods and services for which Watford City does not capture the existing market (less than 70 percent) include shoes, women's clothing and coats, computers, teenage clothing, radios-TVs-VCRs, optometrist, men's clothing, sporting goods, jewelry, major appliances, dentist, furniture, and grain and livestock marketing.

Goods and services that are important to Watford City shoppers and those for which Watford City is capturing a large percentage of the market include plumber, mortician, drinking places, florist, hardware, and veterinarian (small animals).

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

Responses in Watford City Main Trade Area						
Goods and Services	Purchase the Goods & Services Somewhere	Purchase Some of the Goods & Services in Watford City	Purchase Majority of the Goods & Services in Watford City	Measure of Market Capture		
		No.	% <sup>a</sup>	No.	% <sup>b</sup>	% <sup>c</sup>
Plumber	126	123	97.6	122	99.2	96.8
Mortician	96	89	92.7	88	98.9	91.7
Veterinarian (Sm Animals)	105	93	88.6	91	97.8	86.7
Drinking Places	68	64	94.1	62	96.9	91.2
Accounting Services	113	84	74.3	81	96.4	71.7
Heating Fuel/Propane	119	104	87.4	100	96.2	84.0
Florist	128	123	96.1	118	95.9	92.2
Barber	109	102	93.6	97	95.1	89.0
Hardware	143	140	97.9	133	95.0	93.0
Auto Sales	136	114	83.8	108	94.7	79.4
Legal Service	126	113	89.7	107	94.7	84.9
Building Supplies	138	130	94.2	123	94.6	89.1
Prescription Drugs	145	134	92.4	126	94.0	86.9
Banking and Savings	147	145	98.6	136	93.8	92.5
Appliance/Elec Repair	121	109	90.1	102	93.6	84.3
Gas/Diesel Service	144	129	89.6	120	93.0	83.3
Beautician	129	121	93.8	112	92.6	86.8
Groceries	147	145	98.6	131	90.3	89.1
Chiropractor	87	72	82.8	65	90.3	74.7
Auto Repair	136	123	90.4	110	89.4	80.9
Family Doctor	146	130	89.0	115	88.5	78.8
Dentist	138	103	74.6	91	88.3	65.9
Major Appliances	136	107	78.7	93	86.9	68.4
Radios, TVs, VCRs	137	111	81.0	95	85.6	69.3
Nursery (Plants)	123	103	83.7	88	85.4	71.5
Eye Doctor	144	84	58.3	71	84.5	49.3
Hospital	142	122	85.9	103	84.4	72.5
Computers	28	12	42.9	10	83.3	35.7
Eating Places	139	132	95.0	108	81.8	77.7
Sporting Goods	103	87	84.5	64	73.6	62.1
Jewelry	95	72	75.8	48	66.7	50.5
Women's Coats	124	61	49.2	34	55.7	27.4
Furniture	129	67	51.9	37	55.2	28.7
Men's Clothing	121	97	80.2	48	49.5	39.7
Women's Clothing	136	94	69.1	41	43.6	30.1
Shoes	135	78	57.8	33	42.3	24.4
Teenage Clothing	50	25	50.0	5	20.0	10.0
----- Agricultural Goods and Services -----						
Crop Consultants	18	17	94.4	17	100.0	94.4
Veterinary Services	42	39	92.9	39	100.0	92.9
Other Farm Chemicals	40	34	85.0	33	97.1	82.5
Commercial Feeds	37	33	89.2	32	97.0	86.5
Crop Seeds	47	41	87.2	39	95.1	83.0
Fertilizer	45	38	84.4	35	92.1	77.8
Farm Mach Repair/Parts	50	49	98.0	45	91.8	90.0
Farm Fuel & Lubricant	50	40	80.0	36	90.0	72.0
Farm Machinery	50	49	98.0	44	89.8	88.0
Other Farm Supplies	37	36	97.3	32	88.9	86.5
Grain Marketing	48	37	77.1	32	86.5	66.7
Livestock Marketing	39	7	17.9	5	71.4	12.8

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

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

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

Relatively underutilized services (those for which Watford City is not capturing much of the market) include shoes, women's clothing and coats, teenage clothing, men's clothing, furniture, and jewelry. Accounting, chiropractor, major appliances, radios-TVs-VCRs, and dentist services are important to shoppers in Watford City, but few of the potential buyers purchase a majority of those goods and services in Watford City. This suggests some loyalty for those shopping in Watford City yet a good portion of the market has not been captured. A large portion of the goods and services for which Watford City is capturing much of the potential market is also important to Watford City shoppers, suggesting that most of the potential shoppers (within the MTA) feel Watford City is an important source for a majority of their services.

#### Where Services Are Purchased When Not Purchased In Watford City

For most of the goods and services listed in the survey, some respondents did not purchase any of the good or service in Watford City or purchased more of the good or service in other cities. For people living in the Watford City MTA and not purchasing a majority of the services in Watford City, the cities where the majority of those services were purchased were identified (Table 9). Williston was the most popular choice for services purchased outside of the Watford City MTA. Other popular cities included Dickinson, Minot, and New Town. Keene and Arnegard were popular for purchasing some agricultural and convenience items.

Watford City will always lose some shoppers to surrounding cities and towns for several reasons. First, many shoppers in the Watford City 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, Williston, Minot, and Dickinson, because of their size, will have an image of greater variety and more favorable prices for many goods and services. Thus, many people will travel to those centers 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  
WATFORD CITY MAIN TRADE AREA RESIDENTS WHO DID NOT PURCHASE A MAJORITY  
OF THE GOOD OR SERVICE IN WATFORD CITY, 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	Williston Dickinson	7 3	63.4 78.0	Eating Places	Williston Arnegard Dickinson Minot	15 5 3 3	79.0 64.0 60.0 53.3
Drinking Places	Arnegard	3	52.0	Men's Clothing	Williston Minot Dickinson	31 15 12	63.2 70.0 64.6
Women's Clothing	Williston Minot Dickinson	50 18 10	60.8 70.0 59.3	Teen Clothing	Williston Minot Dickinson	21 14 4	53.8 63.9 53.7
Women's Coats	Williston Minot Dickinson Bismarck	51 14 9 8	63.3 64.3 80.0 44.9	Shoes	Williston Minot Dickinson	58 16 10	71.5 72.2 67.0
Jewelry	Williston Minot Dickinson	23 10 7	56.3 63.0 39.2	Radios, TVs, VCRs	Williston Minot Dickinson	26 9 3	67.7 71.1 93.3
Major Appliance Repair	Williston Dickinson	10 4	75.5 57.5	Florist	Williston	4	65.0
Auto Sales	Williston Minot	11 4	82.3 68.8	Gas Station	Keene Arnegard	8 5	98.1 83.0
Furniture	Williston Minot Sidney, MT	50 20 12	72.8 68.5 63.7	Plumber	New Town	2	87.5
Auto Repair	Arnegard Keene	11 5	80.9 66.0	Nursery (Plants)	Williston Dickinson Minot	20 6 4	77.5 73.3 67.5
Heating Fuel/Propane	Keene New Town	12 3	96.3 48.3	Legal Service	Williston	17	89.1
Beautician	New Town Williston Dickinson	3 3 3	83.3 81.6 75.0	Accounting Service	Williston Sidney, MT	19 5	98.2 98.0
Optometrist	Williston Dickinson Minot	60 5 3	90.8 94.0 90.0	Barber	Williston Dickinson	5 2	81.0 80.0
Computers	Williston Minot	7 5	50.0 81.0	Family Doctor	Williston New Town	22 3	81.6 66.7
Major Appliance	Williston Minot Dickinson	20 9 5	77.5 65.5 51.0	Banking and Services	Williston New Town	3 3	86.7 81.7
Chiropractor	Williston	21	80.2	Building Supplies	New Town Williston	7 3	74.2 33.3
Dentist	Williston Parshall	37 4	92.5 100.0	Mortician	Williston	3	90.0
Prescription Drugs	Williston	11	84.5	Hospital	Williston Minot	22 9	88.4 70.6
Vet (Small Animal)	Williston	10	84.0	Hardware	Williston New Town Dickinson	3 2 2	50.0 75.0 40.0
Sporting Goods	Williston Minot	21 10	59.3 58.0	Farm Machinery	Killdeer Williston	2 2	67.5 42.0
Farm Machinery Repair	Five cities with one response each			Crop Consultant	Williston	1	80.0
Farm Fuel	Keene New Town	8 2	82.5 87.5	Fertilizer	New Town	7	82.1
Commercial Feed	New Town	3	91.7	Crop Seeds	New Town	4	88.7
Farm Chemical	New Town	5	91.0	Grain Marketing	New Town Arnegard Alexander	7 4 3	93.5 80.0 78.3
Livestock Marketing	Dickinson Williston	14 11	88.8 69.5	Farm Supplies	New Town	2	70.0
Veterinary Services	Five cities with one response each						

### Analysis of Outshoppers in Watford City Main Trade Area

Responses were analyzed to determine if those who bought 50 percent or more of selected goods and services in Watford City 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 Watford City and those who purchase a majority 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 of the four goods and services in Watford City traveled farther (for all but one of the services) than the group purchasing 50 percent or more of the same goods and services in Watford City.

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 Watford City 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 Watford City.

### Newspaper Subscriptions of Watford City Area Residents

Newspaper subscriptions of respondents in the Watford City 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 Minot Daily News* and *The Williston Daily Herald*. The most popular weekly papers for the main and greater trade areas were *The McKenzie County Farmer* and *New Town News*. Other popular weekly newspapers for respondents included *Ag Week* (Grand Forks) and *The Plains Reporter*.

### Radio Stations of Watford City Area Residents

The most popular radio stations that respondents in Watford City's main trade area listened to were KEYZ of Williston, KYYZ of Williston, KG CX of Sidney, Montana, and KF YR of Bismarck (Table 12).



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 WATFORD CITY, NORTH DAKOTA, 1989

Attribute	Group Purchasing 50 Percent or More of Goods in Watford City				Group Purchasing Less Than 50 Percent of Goods in Watford City			
	Groc-eries	Gas Station	Building Supplies	Major Appliances	Groc-eries	Gas Station	Building Supplies	Major Appliances
Age	51.1	49.8	50.4	54.6	51.0	56.9	50.2	43.7
Education	12.6	12.6	12.7	12.2	11.8	12.3	12.4	13.1
Years Lived In County	37.9	35.6	36.5	42.7	39.2	48.8	40.5	28.9
Number in Household	2.9	2.9	3.0	2.8	2.9	2.8	2.9	3.2
Number in Grade School	1.4	1.4	1.4	1.4	0.6	1.0	1.1	1.2
Number in High School	1.1	1.1	1.1	1.3	1.2	1.2	0.8	0.9
Average Miles Traveled <sup>a</sup>	15.2	13.7	14.7	18.8	22.5	22.2	27.6	63.4
Household Income	\$25,702	\$25,794	\$26,141	\$25,031	\$26,094	\$27,250	\$27,815	\$28,232

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

### Comparison of Current and Previous Watford City Trade Area Boundaries

Owens and Vangsness (1971) discussed general information on retail trade and identified both main and greater trade areas for Watford City. Information from the past Watford City 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 Watford City's main and greater trade areas. Although trade area delineation criteria used in the previous Watford City trade area report differ, enough similarity exists to make comparisons with the trade area boundaries determined in this report.

The main trade area for Watford City has changed little from 1971. Watford City lost three townships to Killdeer; however, it gained two townships from New Town. Watford City lost only one township overall in its MTA since the early 1970s.

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

Main Trade Area			Greater Trade Area		
Newspaper	Numbers of Respondents	Percent	Newspaper	Number of Respondents	Percent
----- Daily Newspapers -----					
Minot Daily News	43	46.7	Williston Daily	7	50.0
Williston Daily	40	43.5	Minot Daily News	4	28.6
Bismarck Tribune	4	4.3	Bismarck Tribune	1	7.1
Dickinson Press	2	2.2	Dickinson Press	1	7.1
USA Today	2	2.2	Fargo Forum	1	7.1
Wall Street Journal	1	1.1			
Total	92 <sup>a</sup>		Total	14 <sup>b</sup>	
----- Weekly Newspapers -----					
McKenzie County Farmer	122	79.2	McKenzie County Farmer	17	48.6
New Town News	8	5.2	New Town News	6	17.1
AgWeek-Grand Forks	5	3.2	Plains Reporter	2	5.7
Others	19 <sup>c</sup>	12.4	Others	10 <sup>c</sup>	28.6
Total	154 <sup>d</sup>		Total	35 <sup>e</sup>	

<sup>a</sup>82 respondents subscribe to a daily paper with 10 respondents subscribing to more than one paper.

<sup>b</sup>11 respondents subscribe to a daily paper with 3 respondents subscribing to more than one paper.

<sup>c</sup>Griggs County Sentinel, Dickey County Leader, Hazen Star, Kenmare News, Dunn County Herald, Kulm Messenger, New Rockford Transcript, Mouse River Farmer Press, Plains Reporter-Williston, Wishek Star, Williston Sunday, Ashley Tribune, Cutbank Pioneer, Mountrail County Record, Killdeer Herald

<sup>d</sup>124 respondents subscribe to a weekly paper with 30 respondents subscribing to more than one paper.

<sup>e</sup>22 respondents subscribe to a weekly paper with 13 respondents subscribing to more than one paper.

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

Radio Station	Number of Respondents	Percent
KEYZ-Williston	39	30.2
KYYZ-Williston	20	15.5
KGCX-Sidney, MT	15	11.6
KFYR-Bismarck	13	10.1
KDSR-Williston	11	8.5
KCJB-Minot	7	5.4
KTGO-Tioga	5	3.9
KGLE-Williston	3	2.3
Others	16	12.5

Accurate determination of Watford City's GTA was hampered by lack of usable survey responses from townships to the west and southeast of Watford City's MTA. Under the constraint of limited information, Watford City's greater trade area appears to have diminished slightly to the east and west of Watford City; however, the GTA appears to have remained constant to the north and south of Watford City. Some of the differences in trade areas may be attributed to lack of survey information. The overall shape of Watford City's GTA appears to reflect the relative strength of the Williston and Dickinson trade centers.

### SUMMARY AND CONCLUSIONS

Trade area analysis was conducted for Watford City based on a statewide trade area survey which the Department of Agricultural Economics at NDSU conducted in 1989. The demographic and economic profile for Watford City was discussed. Watford City has suffered in the 1980s from decreased population, reduced taxable sales, and lower pull factors. Changes in economic activity and population for Watford City have been similar if not more severe than other North Dakota cities in the 1,500 to 2,500 population range, suggesting Watford City, during the 1980s, has been struggling economically compared to cities of comparable size. Although Watford City suffers from decreased economic activity and population declines, the city appears to fare as well as its smaller competing cities. The depressed economic conditions Watford City experienced in the 1980s were common to most cities in western North Dakota.

Main and greater trade areas were defined for Watford City, using several criteria. Townships where the majority of the respondents purchased 50 percent or more of a mix of goods and services in Watford City 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 Watford City 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 items.

Watford City's main trade area appears to have decreased slightly since 1971. Watford City lost three townships to Killdeer but gained two townships from New Town, for an overall reduction in MTA size of one township. The greater trade area may have decreased slightly to the east and west, but appears to have remained the same to the south and north of Watford City. The shape of the greater trade area appears to reflect competition from Williston and Dickinson.

Watford City appears to be doing a good job of capturing most of the available market (those respondents who purchase a majority of the service in Watford City divided by the total number of respondents in the Watford City main trade area who

purchase the service) for most of the services listed on the survey questionnaire. Also, Watford City appears to be an important source of services for those shopping in Watford City (i.e., of those shopping in Watford City, most individuals will purchase a majority of the item from Watford City retailers).

Williston, Dickinson, and Minot and a few smaller towns provide most of the shopping locations for area residents who do not purchase their goods or services in Watford City. 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 Watford City. Those purchasing 50 percent or more of one or more convenience or specialty goods or services in Watford City traveled an average distance of about 17 miles.

The 1980s have been difficult for rural North Dakota cities. Watford City appears to have experienced as much economic hardship as other cities of comparable size and has fared as well as smaller neighboring towns. Watford City is faced with decreasing city, county employment, and decreasing county per capita income. Although economic times have been difficult, Watford City appears to be doing a good job of retaining most of its past trade area and remaining an important trade center in western North Dakota.

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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**

**Towed:**

**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. **Jewelry**
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 →

