

Costs of County Government Services in North Dakota *

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County governments in North Dakota have a major role in providing many essential services to the state's citizens. In recent years, county governments have experienced fiscal stress resulting from pressure to maintain or improve the levels of services but without the needed added revenue.

Revenue problems result from the decline in federal and state revenue transfer, statutory limits on increasing property tax levies, a continuing rise in costs due to inflation, and a decline in the property tax base in some rural counties. Over 30 North Dakota counties have lost population during the last decade.

County governments and other local governments serve as arms of the state government in providing public services. County governments are required by state statutes to maintain a county highway and road system, provide social services, provide law enforcement, administer and pay for elections, levy and collect property taxes for all governments in the county, and maintain records of ownership of real property. In addition, counties may provide a variety of services permitted by statutes as approved by the county commissioners or by a vote of the electorate.

STRATEGIES TO COPE WITH FISCAL PRESSURE

Possible strategies for county governments to reduce fiscal stress include: increasing revenue, reducing expenditures, and program/administrative innovations.

Increasing Revenue

Options for counties to increase revenue include raising taxes, imposing new taxes, imposing user fees and capitalizing on new grants.

Under 1981 statutes, local governments can increase property tax levies by a percentage in dollars levied over the previous year adjusted for changes in taxable property. This permitted increase was 7 percent for the 1981-83 biennium, 4 percent for the 1983-84 biennium, 3 percent for the

1985-86 biennium, and 5 percent for the last two bienniums. However, taxes can be increased beyond these limits if approved by a vote of the electorate. User fees and charges have an advantage in that they send signals to government administration on how much of certain services to provide.

Reducing Expenditures

County governments have several alternatives for reducing expenditures.

Alternative service delivery methods: Studies have been done in a number of states on various approaches for counties to deliver services more efficiently.

Contracting involves an agreement between the government and a private firm or organization to provide a specific service for a government unit. This approach may be applicable to services such as road construction and maintenance, building repair, and legal counsel.

Franchise agreement is an exclusive or nonexclusive license to a private firm to provide a particular service within a specified geographical area. It may apply to a service such as solid waste collection. The consumer pays for the service.

Intergovernmental cooperation is usually defined as two or more local governments working together to solve common problems. Examples include law enforcement, parks, and landfills.

Economies of scale/size refers to the reduction in per unit cost of producing a good or service that accompanies a larger scale of operation. This method applies to intergovernmental cooperation or to functional consolidation among units of government.

Cutback strategies may involve reducing or eliminating some services. This may involve layoffs, wage freezes, reducing maintenance, or reducing spending on social programs and general government functions.

Administrative Innovations

Administrative innovations may include new methods of fiscal management, personnel management, adapting new technologies, centralized purchasing, and computerized information management.

DATA FOR THE COST STUDY

Analysis of county government services and costs in North Dakota involved gathering extensive information on the various county services and their costs. Itemized county

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expenditures for the years 1977 to 1986 were obtained from the state auditor's office and county auditors. To facilitate analysis of expenditures, itemized expenses were categorized according to eight inclusive spending areas (Table 1).

Other data compiled for each county and used in comparative analyses include population, county area, road and highway miles, and vehicle miles traveled.

Expenditure Data Adjusted for Inflation

Nominal or current expenditure data were adjusted to reflect 1986 dollars. Expenditures for the years 1977 to 1985 represent 1986 dollar equivalents. The price index in 1986 was about 80 percent above the 1977 index. The expenditure data in this study reported as **real** spending refer to spending adjusted to 1986 dollars.

Table 1. Aggregated spending categories and corresponding itemized expenditures for North Dakota county government spending, 1977-1986.

Spending category and expenditure items	
1. General government	Operation of county offices, courthouse maintenance, county insurance, advertising, document printing, record keeping, interest on operating loans, economic development, debt repayment, office supplies and equipment, and federal and state aid (reported without specific expenditures)
2. Law enforcement	All court expenditures Jail and custody of prisoners Sheriff States attorney County judge
3. Education	County superintendent of schools County agent 4-H programs Teachers' retirement
4. Emergency	Disaster emergency services Emergency fund Ambulance services
5. Health and Human Services	Veterans service officer County poor Social services/welfare OASIS and Social Security County health unit Board of health Senior citizens Mental health programs
6. Environment	Weed control Soil conservation Water management
7. Highways and Roads	County road and bridge Highway tax distribution fund Farm to market roads Unorganized road and bridge
8. Miscellaneous	County libraries Parks Fairs Historical society County airport

Spending by Category

The four major spending categories were highways and roads, general county government, health and human services, and law enforcement (Figure 1). These four categories accounted for about 92 percent of total spending. Nearly 40 percent of total county expenditures was for highways and roads. The analysis concentrated on these four major categories.

Revenue Sources

County governments are largely dependent on intergovernmental transfers and county taxes (Figure 2). Local county taxes are primarily property taxes and small amounts from estate taxes and miscellaneous taxes. Intergovernmental transfers include federal and state aid. Federal aid provides support for several programs; however, the General Revenue Sharing program was terminated at the end of 1986; which reduced intergovernmental transfer by about 8 percent. State aid includes primarily state revenue sharing,

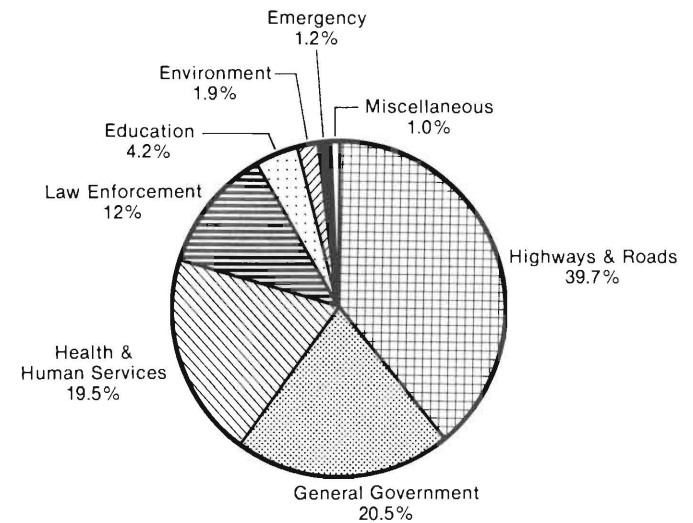


Figure 1. Average percentage of all North Dakota county expenditures by category, 1977-1986.

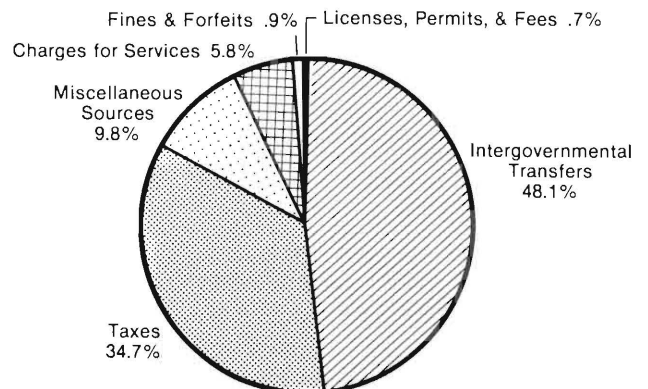


Figure 2. North Dakota county revenue by source, 1985 and 1986.

personal property tax replacement and counties' shares of highway taxes, coal severance tax, and gas and oil production taxes.

TRENDS IN COUNTY EXPENDITURES

County expenditures were examined to identify trends during the 10-year period 1977-1986. Spending by categories was examined in an attempt to explain differences in per capita spending levels among counties.

Total Spending

Total county spending in the state in real dollars increased an estimated 19 percent from 1977 to 1986. Nominal spending in current dollars (not adjusted for inflation) increased nearly 130 percent (Figure 3). Real spending declined slightly from 1977 to 1982 due to rapid inflation and statutory limits on property taxes. Spending then increased more than 19 percent from 1982 to 1986. The increase from 1982 to 1985 can be partially explained by the change in tax laws in 1981. Until 1981, local government property tax levies were limited by statutory mill levy limits. Under 1981 statutes, local governments could increase property tax levies a specified percentage increase in dollars over the previous year. Also, during the 1982-85 period, oil and coal production were increasing resulting in higher tax revenue to oil and coal producing counties.

Changes in total real county government expenditures varied considerably among categories (Table 2). For general government and health and human services, real spending declined slightly from 1977 to 1982, then increased sharply to 1986. For law enforcement, most of the increase was between 1982 and 1986. Real expenditures for highways and roads increased in 1979, then dropped in 1980 and 1981, increased sharply to 1983, and dropped about 10 percent by 1986. Road building expanded with oil exploration and production in oil counties.

County Spending Comparisons

Per capita expenditures were used as a common base to compare spending among counties. A comparison of coun-

Table 2. Percent change in real total county spending by category, North Dakota, 1977-1986.

Category	Percent Change*
Highway and roads	22.3
General government	38.3
Health and human services	54.9
Law enforcement	42.7
Education	-65.0
Environment	471.6
Emergency	-29.7
Miscellaneous	-5.5

*These percentages indicate the differences in changes in spending among categories. The absolute changes in spending are higher than actual because data on spending by category were not available from seven rural counties for the first years of the study period. However, data on total spending were available for all counties.

ty expenditures by population can indicate possible economies of scale or a reduction in per capita expenses with an increase in county population. County population ranged from about 1,200 in Slope and Billings counties to about 85,000 in Cass County.

The pattern of per capita expenditures indicates that as population increases, per capita expenses decrease. However, there is considerable variability among counties with similar populations. For counties with populations over 7,000, the pattern of per capita spending indicates a reduction in spending as population increases, but with great variation among counties of similar size (Figure 4). McKenzie County is excluded because it experienced major oil industry impact, and likewise had higher revenue and expenditures.

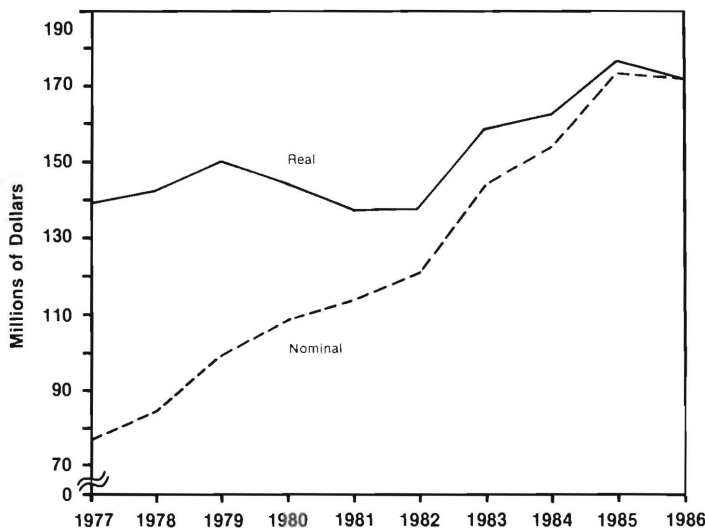


Figure 3. Nominal and real total county spending, North Dakota, 1977-1986.

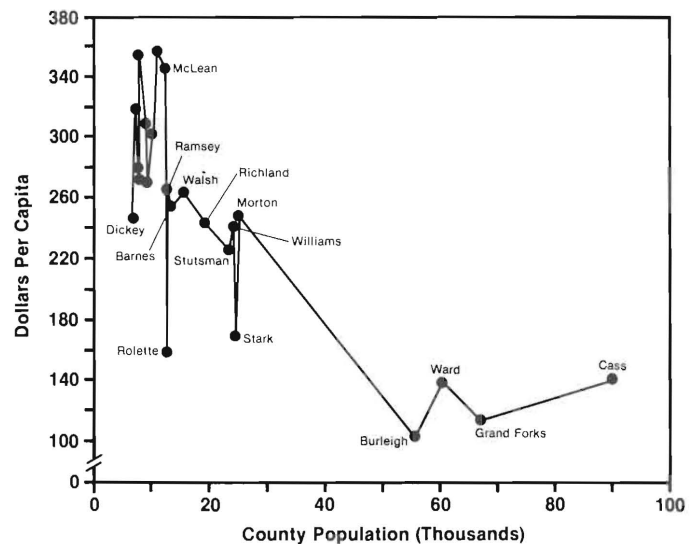


Figure 4. Average total per capita county expenditures by average county population, excluding McKenzie County, population 7,000 to 100,000, North Dakota, 1977-1986.

The majority of the counties have populations under 10,000. Per capita county expenditures also vary widely among these counties, but the pattern indicates a reduction in per capita expenditures as populations increase (Figure 5). Billings, Slope and McKenzie counties are excluded because of considerably higher per capita expenditures due to oil industry impact. As shown in Figures 4 and 5, total county expenditures per capita ranged from \$102 in Burleigh to \$631 in Oliver County. McKenzie, Slope and Billings expenditures were higher.

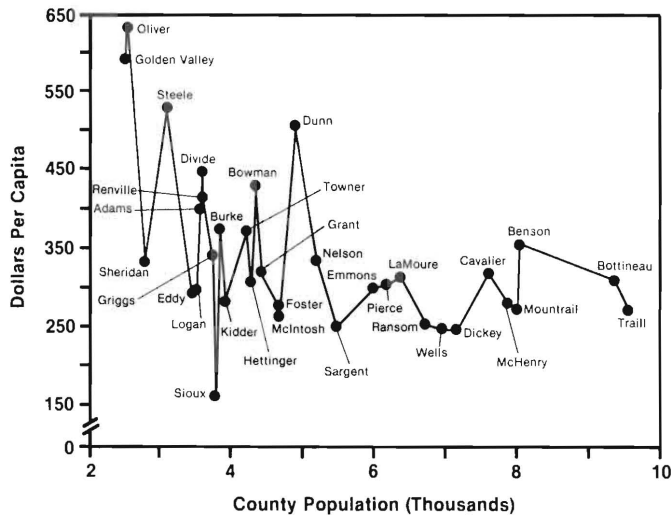


Figure 5. Average total per capita county expenditures by average county population, excluding Billings, Slope, and McKenzie counties, population 2,000 to 10,000, North Dakota, 1977-1986.

Economies of Size for Major Categories

Total county spending per capita generally decreased with increases in population, but with wide variability among counties (Figures 4 and 5). There was a wide range in average annual per capita spending for each of the major categories (Table 3).

Analysis of the per capita expenditures relative to county population indicated differences in economies of size among categories. General government appeared to show relatively high economies of size. Counties with 16,000 to 25,000 people could deliver general government services at \$30 per capita lower than counties with only 4,000 people.

Highways and roads appeared to show economies of size relative to population. The most obvious reason is that rural, lower population counties need many more miles of road per capita than high population counties. There was high variability among counties in per capita costs. Possible explanations are the combination of county area, road miles, vehicle miles traveled, and county population.

Law enforcement and health and human services did not show a clear pattern; however, the data suggest some potential for economies of size.

Table 3. Average real per capita annual spending by major category, North Dakota counties, 1977-1986; range among counties and most frequent levels.*

Category	Range	Most Frequent
----- dollars per capita -----		
General government	19 - 153	61 - 80
Law enforcement	15 - 74	26 - 30
Health and human services	28 - 114	51 - 60
Highways and roads	29 - 551	81 - 105

* Billings County not included.

Percent of Expenditures by Category

Counties varied widely in the percentage of total expenditures allocated for each of the major categories (Table 4). The three counties with the highest percentage spent for highways and roads were energy development counties. High population counties tended to have a lower percentage of their expenditures for highways and roads.

Rural counties tended to have a higher percentage of their expenditures for general government than high population counties. Counties with urban centers tended to have a larger percentage of expenditures for law enforcement than rural low population counties. For health and human services there was no clear pattern. Counties with Native American populations or some with urban population allocated a larger percent of expenditures for health and human services than other counties.

SUMMARY OF INFLUENCE ON COUNTY SPENDING

Counties in North Dakota are very diverse as to population, land area, road and highway miles, and vehicle miles traveled, the major variables used in this study. Counties also vary widely in property tax base per capita, and counties with energy production receive income not available to non-energy producing counties. Influence of some variables on spending on major categories was identified; however, no rigorous statistical conclusions could be drawn (using the variables available) on what influences spending.

General government expenditures comprised 20.5 percent of total county spending. Total adjusted spending for general government per county varied from \$153,000 to

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Table 4. Highest and lowest three county averages and statewide average in percent of budgets for the four major categories, 1977-1986.

Category	Highest 3 County Avg.	Lowest 3 County Avg.	Statewide Average
----- Percent -----			
General government	28.9	13.4	20.5
Law enforcement	18.7	5.1	12.0
Health and human services	31.2	5.6	19.5
Highways and roads	70.5	24.1	39.7

of others (see Daniels and Crockett, 1988) suggest that rural entrepreneurs generally have less access to various forms of equity capital than those located in more urbanized areas. State or local initiatives to make venture capital more readily available to businesses in rural areas could help resolve this problem, although careful analysis of potential investments would certainly be required. Also, improved access to technical assistance in developing a business plan and making key financial management decisions could aid some potential entrepreneurs in gaining approval of their loans.

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\$2,147,000. Population explained 45 percent of the variation. Land area and population density explained some of the differences in county general government spending.

Differences in per capita spending for general government were more difficult to explain. There was an inverse relationship between population and per capita spending but with wide variation among counties.

Highway and road expenditures accounted for 40 percent of all county spending with wide variation among counties. It appeared that there were considerable differences among counties in the quality or level of highway and road services. Total spending per county was related to land area, road miles, vehicle miles traveled, population, population density, and energy development.

Very little of the variation in per capita expenditures could be explained statistically. Data indicated some economies of size, with an inverse relationship between expenditures and population.

Health and human services accounted for 19.5 percent of total county spending. By statistical analysis, population and density explained 66 percent of the variation in county health and human service expenditures.

On per capita spending, population explained only 10 to 25 percent of the variation among counties. There was an inverse relationship between population and per capita expenditures for health and human services. There were indications that the high population counties with major cities were providing more and better services than smaller population counties.

Law enforcement accounted for 12 percent of total county spending. Statistical analysis indicated that population and population density explained 63 percent of the variation in county spending for law enforcement.

Analysis of per capita expenditures indicated that variations in population, population density, and land area could explain very little of the difference in per capita law enforcement expenditures amount counties.

IMPLICATIONS

Most North Dakota counties appear to provide public services fairly efficiently. There is a wide range among counties in per capita costs of providing public services. It appears that there are differences among counties in quantity and quality of services provided. There is some potential for savings by taking advantage of economies of size for some services particularly for general government and highways and roads. There may be opportunities for cost savings by functional coordination between counties or between counties and cities. Internal analysis of costs by each county and a study of similar counties with lower costs may provide opportunities for providing services more efficiently.

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Table 17. Insecticides used in 1988 on beans in Minnesota and North Dakota.

Insecticide	# A	% A
Asana	248	0.1
Comite	80	0.0
Furadan	361	0.2
Lorsban	965	0.6
Malathion	280	0.2
Methyl parathion	288	0.2
Parathion	679	0.4
Pydrin	839	0.5
Scout	238	0.1
Sevin	297	0.2
Non designated	2,480	1.4
Total Sprayed	6,755	3.9