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Telecommunications Spur North Dakota's Rural Economy

In the past few years several telecommunications-based firms expanded to rural areas, bringing employment opportunities and boosting rural economies. But what kinds of jobs do they actually offer? In North Dakota, new telecommunications jobs seem to offer employee wages and fringe benefits comparable with those of new manufacturing jobs.

State and local leaders, as well as Federal officials, are emphasizing efforts to diversify nonmetro economies. Most economic development efforts recognize the need to attract or create new export-oriented businesses, while retaining and expanding existing ones. An area's telecommunications infrastructure is increasingly being recognized as central to rural development efforts. Recent advances in communications technology may alleviate the "tyranny of rural space" and allow rural businesses improved access to market information and opportunities. The possibility that advanced telecommunications may facilitate spatial separation of such business functions as data processing, claims processing, and telemarketing (sometimes termed "back-office operations") from a firm's headquarters affords new growth opportunities to rural areas.

In North Dakota, several new businesses have tapped into telecommunications advances, diversifying their economic regions in the bargain. Two examples are Rosenbluth Travel in Linton, which now employs more than 100 people, and U.S. Health Care in Bismarck, with about 250 employees. As the significance of telecommunications-linked businesses as a source of new jobs grows, the location decisions of such businesses come under scru-

tiny. To what extent do a community's existing telecommunications, labor force attributes, and transportation infrastructure constrain or enhance its development?

Other questions concern the economic contributions of these firms to the communities in which they settle. Some argue that telecommunications-based businesses, like other service sector businesses, pay low wages, with many jobs near the minimum wage, and have a disproportionate share of part-time jobs. Others indicate, however, that in an era of global competition, many rural manufacturing firms are also offering relatively low wages and that some labor force members, such as women and students, prefer the part-time jobs and flexible hours offered by telecommunications-linked enterprises.

Telecommunications are now integral to business operations in all sectors of the economy. The telecommunications operations that have the greatest potential for location in nonmetro areas of the upper Midwest are:

- *Telemarketing*—including both outbound (the marketing agent calls prospective customers) and inbound (the marketing agent receives calls from customers) operations; and
- *Data processing*—including data entry operations and related back-office activities.

These activities have demonstrated a potential to operate successfully at locations remote from major markets, or from their parent organizations, or both.

Labor Skills Attract Telecommunications-Linked Firms

Labor is the largest single cost for most telemarketing or data-processing firms, and labor considerations were the location factors most frequently

cited by the firms interviewed (see box, "About the Interviews..."). Telemarketing substitutes for a field sales force and requires telephone service representatives (TSR's) with both "sales ability" and computer/data-processing proficiency (typing speeds of at least 20 words per minute). People without a strong regional accent are generally valued, especially by operations that make or take calls nationally. The absence of a strong regional accent was frequently cited by telemarketing firms as a factor favoring locations in the upper Midwest.

Other types of back-office operations have more stringent personnel requirements. For example, medical claims processing requires an understanding of medical terminology. U.S. Health Care, which opened a claims-processing facility in Bismarck, ND, in 1990, reports that medical background is one of its key selection criteria for new personnel, along with computer skills.

Telemarketing often entails part-time work, work outside the usual business day, or both. Outbound telemarketing requires that most of the calling be done during hours when working people are more likely to be home (6-9 p.m.). This requirement suggests that more TSR positions are part-time. Some firms preferred midcontinent locations in the central time zone because TSR's can begin calling eastern destinations earlier and continue calling western destinations later.

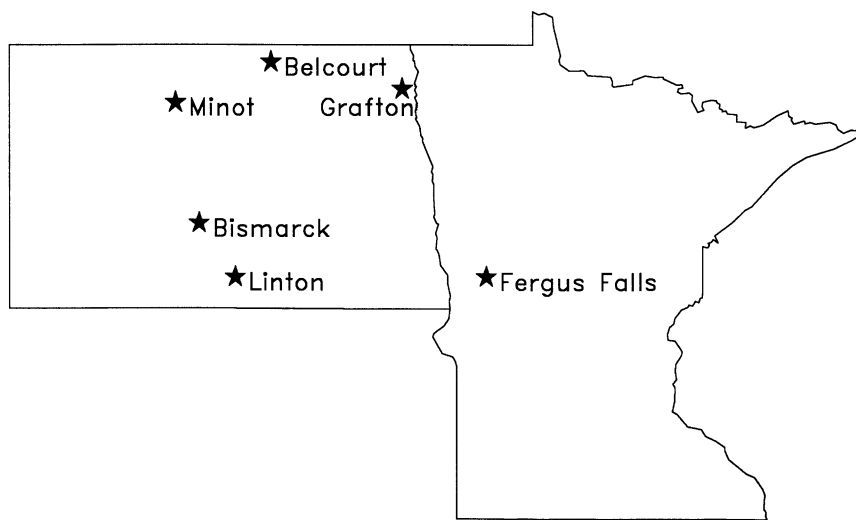
Inbound telemarketing (hotel reservations, mail ordering) typically requires that phones be staffed during hours convenient for potential customers. In many cases, the phones may be staffed around the clock, although the number of TSR's needed varies depending on the anticipated volume of calls. To meet these demands, many firms require TSR's to accept flexible schedules.

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Figure 1

Location of telecommunications-based firms

Bismarck and Minot are long-distance POP sites, but that obviously was not the only site selection factor for the interviewed firms.



Worker turnover is a major concern of the firms interviewed. High turnover rates make it necessary for telemarketing operations to have access to a relatively large pool of potential workers. Reasons frequently cited for turnover include (1) dislike for working nights, weekends, or holidays, (2) preference for full-time rather than part-time work, (3) competition from other firms in the area, (4) inability of outbound TSR's to deal with rejection, and (5) the prevalence of students graduating and moving on to better jobs and second-income workers leaving the area when their spouses are transferred. Firms that have located telemarketing operations in rural areas have reported much lower turnover than is typical in urban settings. The lower turnover rate may be a major factor encouraging some firms to seek nonmetro locations for branches.

Most firms indicated that they prefer high school graduates, at a minimum, and that they provide some training for their workers. Towns with post-secondary schools are good sites for telemarketing firms because many students may be seeking part-time jobs, and evening work may be more acceptable to them. Company officials had mixed feelings, however, about the usefulness of training programs offered by public institutions, such as vocational-technical schools or community colleges. Some firms had little experience with such programs and generally perceived very limited potential benefits, but others

believed that programs emphasizing telephone techniques and computer data entry would be helpful.

Other Telecommunications Location Factors

Other factors that influence location decisions of telecommunications-based businesses include the cost and availability of office space, availability and quality of scheduled air service, energy costs and reliability of service, and special taxes or regulations. Establishing and equipping the office is one of the major initial costs associated with telemarketing or back-office operations. Telemarketing centers have some special requirements for office facilities such as raised floors (for cables) and large open areas (with no pillars) to allow a few supervisors to observe a large number of TSR's. Special "no glare" windows also are desirable to facilitate reading computer screens.

Routinized data-processing operations, which require little phone contact, are amenable to foreign locations. A number of major companies have moved back-office operations to the Caribbean, Ireland, and other overseas locations. This raises the prospect that some back-office operations could follow a cycle similar to that followed by some low-skill manufacturing branch plants, where moves from urban areas to rural locations with abundant supplies of low-skill, low-wage workers were followed by move-

ments to offshore locations, where labor is available at even lower wages.

Adaptable Infrastructure and Local Cooperation Key to Site Location

Communications charges are frequently the second largest cost item for telecommunications-based businesses, and most firms cited the quality of the telecommunications infrastructure as a major consideration in location decisions. Telemarketing involves a large volume of long-distance telephone calls, and the cost of calls can erode firm profits. Large telemarketing operations prefer locations that are a "point of presence" (in telecommunications jargon) for one of the major long-distance carriers because lower rates are generally available at these locations. The point of presence (POP) is the point at which a long-distance call is transferred from the company that provides local service to the long-distance carrier. If a telemarketing firm is located away from a POP, it must pay an additional charge for "hauling" the signal from its location to the appropriate POP. In late 1991, six North Dakota towns (Bismarck, Casselton, Dickinson, Fargo, Grand Forks, and Minot) were POP's for AT&T. A POP is not a prerequisite for a telemarketing location, however. Telnet in Fergus Falls, MN, and Impact, Inc., in Grafton, ND, the most telemarketing-oriented operations surveyed, chose locations away from POP sites.

Telecommunications infrastructure optimally includes digital switching, the ability of the local telephone service provider to provide extra lines in a timely fashion, and the availability of "data-quality," high-volume lines. Digital switching is a prerequisite for almost all telecommunications-based businesses as it is the basic technological requirement for data transmission (modems, facsimile machines). Almost all North Dakota communities now have this infrastructure.

The ability of the local telephone service company to provide extra lines in a timely fashion and to handle the peak volume of calls is critical to many telemarketing operations, particularly those that operate as service bureaus. A service bureau is a company that undertakes telemarketing projects



Photo © by J. Norman Reid

Most telecommunications-based firms cite infrastructure (digital switching, "data-quality" lines) as a primary location factor.

(either outbound or inbound) for third-party clients. The organization's success or failure to develop contracts causes its activity to swing rapidly. One of the firms interviewed had recently closed a branch site because the local telephone company could not provide new lines expeditiously.

"Data-quality" lines are essential for data-processing operations, as well as in other situations where clients desire electronic data transmission. Some data-processing operations receive source documents from clients by mail, UPS, or other common carrier and send the data to the client either on tapes or discs or electronically. When time is important, clients desire electronic data transmission, in which case data-quality lines are critical. One firm reported that they had lost a contract because of poor line quality (unable to transmit at 9,600 baud).

Local organizations can sometimes help telecommunications-based businesses obtain suitable facilities. In Bismarck, for example, U.S. Health Care obtained a \$1.2-million loan from the Bank of North Dakota to construct an office building. The interest rate on the loan was reduced to 6 percent by participation of the Bismarck Loan Pool through the State's PACE (Partnership in Assisting Community Expansion) program. The cost saving associated with the interest rate reduction was calcu-

lated at \$337,000 over 7 years. New telecommunications-based businesses in Minot and Linton, ND, and Fergus Falls, MN, also received assistance from local groups in establishing their offices.

Scheduled air service can also influence site selection. Air service was particularly important to one firm because of the need for headquarters personnel to travel frequently to the branch site. Clients of telemarketing service bureaus often wish to visit the facility and meet the staff.

Energy costs and availability could also influence site selection. Back-office operations have substantial electricity needs for their computer-intensive facilities. An area with frequent brownouts or blackouts would not attract these operations.

Firms also factor special State taxes and regulations into their location decisions. For example, Nebraska's 1986 telephone deregulation law is widely credited with facilitating the growth of the telemarketing industry there, and Citicorp's move of its credit card operations to Sioux Falls was influenced by South Dakota's removal of ceilings on credit card interest rates. Recently, some States have imposed special taxes or regulations on the telecommunications industry, and some of these could affect location de-

isions. For example, recent passage of a 7-percent tax on telecommunications services in New Jersey is expected to drive out some back-office operations now located there.

Worker Benefits in Telecommunications Rival Those in Manufacturing

But why would North Dakota communities want to attract telecommunications firms with their stereotype as low-wage, no-benefit, part-time employers? Seven manufacturing and four telecommunications-based firms were contacted by telephone during the summer of 1991 to investigate this generalization. These firms had all begun operations in North Dakota within the past 5 years. The firms' responses did not support the stereotype of telecommunications-based businesses as poor employment providers; these telecommunications and manufacturing firms offered comparable employee prospects.

Although the telecommunications firms reported more part-time jobs than the manufacturing firms, the telecommunications firms averaged more full-time than part-time workers. One telecommunications firm reported that all of its workers were part-time, while one manufacturing firm reported that all of its 20 workers were employed on

a seasonal basis (full-time but only for part of the year).

The firms reported their wage and salary levels for workers by job category. The manufacturers reported that their wage rates for operators and fabricators (85 percent of their workers) ranged from \$5 to \$7.50 per hour. The telecommunications-based businesses reported that wage rates for clerical workers (70 percent of their workers) ranged from \$6 to \$8 per hour, while those for sales representatives (22 percent of their workers) ranged from \$5 to \$8 per hour. Thus, the wage rates offered by the two groups of firms to the bulk of their workforce were similar.

All four of the telecommunications-based firms reported that most of their workers received benefits. The one firm that hired only part-time workers reported that employees were eligible for health insurance, a pension plan, and other benefits based on the number of hours worked. Among the seven manufacturers, two reported that full-time workers received health insurance, life insurance, and paid vacation. One provided no benefits except 2 weeks of paid vacation. One provided some benefits to full-time workers, but did not specify the type of benefits. The three remaining manufacturers indicated that they provided no job-related benefits.

The firms were also asked what percentage of total expenditures they made within the State. The telecommunications-based businesses reported that about 86 percent of their total expenditures were made within the State, compared with 49 percent for the manufacturers. Excluding labor costs, the telecommunications-based firms made 48 percent of their expenditures within the State, compared with 38 percent for the manufacturers.

To summarize, the economic contribution of the new telecommunications-based businesses established in North Dakota in recent years compares favorably with that of new manufacturing firms. While telecommunications

About the Interviews...

Factors related to site selection by telecommunications-based firms were identified through interviews with the following industry representatives and economic development specialists. Personal and/or telephone interviews were conducted periodically from December 1989 through December 1991.

Person(s) interviewed	Firm or organization	Location	Type and date of interview
Mark Anson, President	Outbound Marketing, SITEL Corporation	Omaha, NE	Personal, 12/19/89
Joan Braaten-Grabanski, Executive Director	Walsh County Job Development Authority (regarding Impact, Inc.)	Grafton, ND	Telephone, 2/7 and 3/11/91
Steve Idelman	Idelman Telemarketing, Inc.	Omaha, NE	Telephone, 1/25/90
Klayton C. Killion, Senior Sales Manager	Marriot Worldwide Reservation Center	Omaha, NE	Personal, 12/18/89
Ron Laverdure	Uniband Data Entry	Belcourt, ND	Telephone, 1/7/91
Robert Mathis, Professor	College of Business, University of Nebraska-Omaha	Omaha, NE	Telephone, 1/5/90
Mike Pruyt	U.S. West	Minneapolis, MN	Telephone, 11/14/91
Jerry F. Ray, President	Telnet Systems, Inc.	Fergus Falls, MN	Personal, 12/5/89
Sandy Ressler	U.S. Health Care	Bismarck, ND	Telephone, 1/7/91
Hal Rosenbluth, President, and Melinda Rippy Smith	Rosenbluth Travel	Philadelphia, PA, and Linton, ND	Personal, 7/15/89, and several telephone followups
Ernie Selland	Northern States Power Co.	Minot, ND	Telephone, 1/15/90 and 1/7/91
Don Stokke	Job Service of North Dakota, regarding Choice Hotels reservation center	Minot, ND	Telephone, 1/7/91
Owen Thomas and George Vogel	WATS Marketing Group	Omaha, NE	Personal, 12/18/89

firms did have more part-time workers, they also created more full-time jobs. Wage rates were similar between the two groups, and the telecommunications-based firms generally offered a more attractive package of job-related benefits. The high percentage of total expenditures telecommunications-based firms make within the State indicates that these firms have significant secondary (multiplier) effects for the State and local economies.

Local Development Groups Can Enhance Region with Job-Specific Training, Progressive Leasing

The telemarketing industry is growing rapidly, not only in the upper Midwest but nationwide. Industry officials indicate that pressure on the available labor supply in established centers, like Omaha, is creating incentives for the industry to seek other sites for future expansion. Lack of available labor and increasing costs associated with congestion create incentives for firms to move back-office functions out of large urban areas, at a time when advances in telecommunications are making such decentralization feasible.

Many rural communities in North Dakota and adjacent States appear to

have the resources and attributes desired by many telecommunications-based businesses, but local development interests can enhance a site's appeal. Labor availability is an overriding concern for these companies, and the size of rural labor pools may appear inadequate to some firms. A local labor survey could be useful in assessing labor availability among the unemployed, the underemployed, and persons presently out of the labor force. Such a survey could identify potential workers and assess their skills and interest in various types of work. In addition, some communities or areas may desire to be more active and initiate training programs to develop workforce skills before or during the business recruitment process. Obtaining suitable office space is often a major issue for these enterprises, and local development organizations often assist in this process. The community's telecommunications infrastructure is another issue. An agreement with the local telephone company may be necessary to address project-specific needs.

For Additional Reading...

Don A. Dillman, "Telematics and Rural Development," in *Rural Policies for the*

1990s, C. Flora and J. Christenson (eds.), Boulder, CO, Westview Press, 1991, pp. 292-306.

Don A. Dillman, Donald M. Beck, and John C. Allen, "Rural Barriers to Job Creation Remain, Even in Today's Information Age," *Rural Development Perspectives*, Vol. 5, No. 2, 1989, pp. 21-27.

Heather Hudson, "Ending the Tyranny of Distance: The Impact of New Communications Technologies in Rural America," *Competing Visions, Complex Realities: Social Aspects of the Information Society*, Norwood, NJ, Ablex Publishing Company, 1987, pp. 91-105.

F. Larry Leistritz, "New or Expanding Basic Sector Firms in the Upper Great Plains: Implications for Community Development Practitioners," *Journal of the Community Development Society*, Vol. 22, No. 1, 1991, pp. 56-82.

Barney Warf, "Telecommunications and the Globalization of Financial Services," *Professional Geographer*, Vol. 4, No. 3, 1989, pp. 257-271.

Susan Winsor, "Rural America in the Information Age," *Cooperative Partners*, Sept. 1991, pp. 2-4.