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### Characteristics of In-Migrants to the Northern Great Plains: Survey Results from Nebraska and North Dakota

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## **CHARACTERISTICS OF IN-MIGRANTS TO THE NORTHERN GREAT PLAINS: SURVEY RESULTS FROM NEBRASKA AND NORTH DAKOTA**

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**ABSTRACT**—Recent employment growth in the northern Great Plains may be stimulating increased in-migration. This study, expanding on our initial report (Leistritz et al. 2000), seeks to identify the salient characteristics of recent in-migrants to Nebraska and North Dakota, using data from mailed surveys conducted in Nebraska in 1996 and North Dakota in 1997. The survey respondents were generally younger than the populations of Nebraska and North Dakota overall; about 60% were between 21 and 40 years old. The educational level of the migrants was also higher than that of the states' populations overall—45% of the new residents were college graduates and another 35% reported some college or postsecondary vocational/technical school attendance. The migrants' motivations appeared more linked to quality of life values than economic

incentives; reasons for moving most often cited were desire for a safer place to live (58%), desire to be closer to relatives (54%), lower cost of living (48%), and quality of the natural environment (47%). These new residents represent a very productive cohort of people who were needed to augment population strata that were severely depleted by the out-migration of the 1980s.

**KEY WORDS:** in-migrants, migration, Nebraska, North Dakota, population

### **Introduction**

Population dynamics is a major issue for decision makers at both state and local levels, as well as a long-term interest for scholars. This is particularly true for those concerned with the future of rural America. Migration is one of the fundamental processes of population change, and net migration is arguably the most difficult component of local population change to predict (Leistritz and Murdock 1981; Wardwell and Copp 1997). The relocation of individuals and families leads to changes in public infrastructure and service needs, labor availability, and housing requirements in both origin and destination communities (Kelsey 1998). During the decade of the 1980s, much of the Great Plains region experienced high rates of out-migration, which caused strains on rural communities (Rowley 1998). However, recent employment growth associated with successful economic development efforts has led to in-migration to some rural areas of the Great Plains, as well as to the region's larger cities (Rathge and Highman 1998). Understanding the characteristics of these in-migrants will help decision makers effectively plan to meet future needs and to develop strategies and tactics to influence the size and character of the in-migration stream.

Migration to and from rural areas of the United States has been the subject of research spanning several decades (Zuiches and Brown 1978; Sofranko and Williams 1980; Wardwell and Copp 1997). Patterns have shifted over time with net movements from rural (nonmetropolitan) areas to urban (metropolitan) areas in the 1950s and 1960s, a reversal in the 1970s with net in-migration to many rural areas, another reversal with major out-migration from rural areas in the 1980s, and most recently a post-1990 recovery, with nonmetropolitan net migration rates above those of metropolitan areas nationally (Fuguitt and Beale 1996).

The Great Plains region has been affected by these nationwide patterns of rural-urban migration. In addition, population patterns in the Plains region have been influenced by the region's heavy dependence on agriculture, which has resulted in a long-term pattern of net out-migration from

most of its rural counties (Rowley 1998). Population patterns of the Great Plains generally have been ones of sustained growth in the metropolitan centers (MSAs), counterbalanced by out-migration and population decreases in rural areas, particularly in those counties that lack a city of 2,500 people or more (Rathge and Highman 1998).

These studies consistently report that in-migrants tend to be younger and better educated than the resident populations of the areas to which they are moving. Motivations for moving vary, but persons moving to nonmetropolitan areas frequently report noneconomic, nonemployment considerations as their primary reason for moving (Sofranko and Williams 1980; Wardwell and Lyle 1997). Among recent migrants to a given area, a subset is often inclined to move again in the near future. These individuals tend to be younger than those who plan to remain and are more likely to have initially moved for employment or economic reasons (Sofranko and Williams 1980).

The purpose of this study was to identify the salient characteristics of recent in-migrants to the northern Great Plains states of Nebraska and North Dakota and to compare their attributes with those of existing residents. We examined the following specific hypotheses: (1) In-migrants are younger and better educated than the resident populations of the two states; (2) In-migrants moving to metropolitan areas more frequently identify employment considerations as their primary reason for moving, whereas those moving to nonmetropolitan areas more frequently identify other factors (e.g., considerations related to family or quality of life); (3) Return migrants (i.e., those who had lived in the state previously) more frequently identify family ties and/or quality of life factors as the primary motivation for their move, while first-time residents will often cite employment reasons; and (4) The in-migrants who plan to move again in the near future are younger than those who intend to remain and tend to be individuals who moved primarily for employment rather than for other reasons. We also examined the in-migrants' satisfaction with their new communities generally and with the availability and quality of specific community services. The specific hypothesis was: (5) Satisfaction with services will be higher in metropolitan areas.

### **Methods**

Results reported here, expanding on our initial report (Leistrutz et al. 2000), are based on similar surveys conducted in Nebraska and North Dakota. These states were selected because both lie largely or completely

within the Great Plains region (depending on the precise definition used) and their economies (heavily dependent on agriculture) and population trends (with substantial out-migration from rural areas) are typical of the region generally (Rathge and Highman 1998; Rowley 1998). The questionnaire solicited information about respondents' past and planned moves, their reasons for moving, current employment, demographic characteristics, and satisfaction with their present community. The questions were developed by the authors after consultation with demographers, community development researchers, and policy makers, both within their respective states and elsewhere in the region. The authors also relied heavily on a similar study done at Washington State University (Dillman et al. 1995). The questionnaire required about 15 minutes to complete. Compensation was provided to respondents in Nebraska but not in North Dakota (because of budget constraints).

In each state, questionnaires were mailed to individuals who had moved to the state from some other state or country and who had subsequently surrendered their previous driver's license for a Nebraska or North Dakota license. Because both states require new residents to obtain a new driver's license within a short time (30 to 90 days) of establishing residence, this appeared to be the most comprehensive sample frame available (Cordes et al. 1996; Leistritz and Sell 1998). The Nebraska sample consisted of persons who surrendered licenses between May 1994 and April 1995. The North Dakota sample consisted of persons who surrendered licenses between January and May of 1997. The Nebraska survey used a stratified sampling procedure, in which sampling rates ranged from 1.7 % in metropolitan counties to 23.7% in the most sparsely populated rural counties. A total of 864 usable surveys were obtained, out of 2,061 mailed, for a response rate of 42%. When the surveys returned by the postal service as undeliverable were eliminated, the effective response rate was over 50%. In North Dakota, a total of 2,640 persons had surrendered licenses between January and May of 1997, and questionnaires were mailed to all persons in this group. A total of 726 usable surveys were obtained, which resulted in a response rate of 27.5%. In our analysis, all of the observations (1,590) from the two surveys were given equal weight.

The use of driver's license applicants as a sample frame poses a self-selection problem, in that certain types of in-migrants may not be adequately represented (e.g., illegal immigrants and in-migrants who do not own automobiles, who do not speak English, or who are not planning to stay for an extended period). At the same time, those in-migrants who apply for

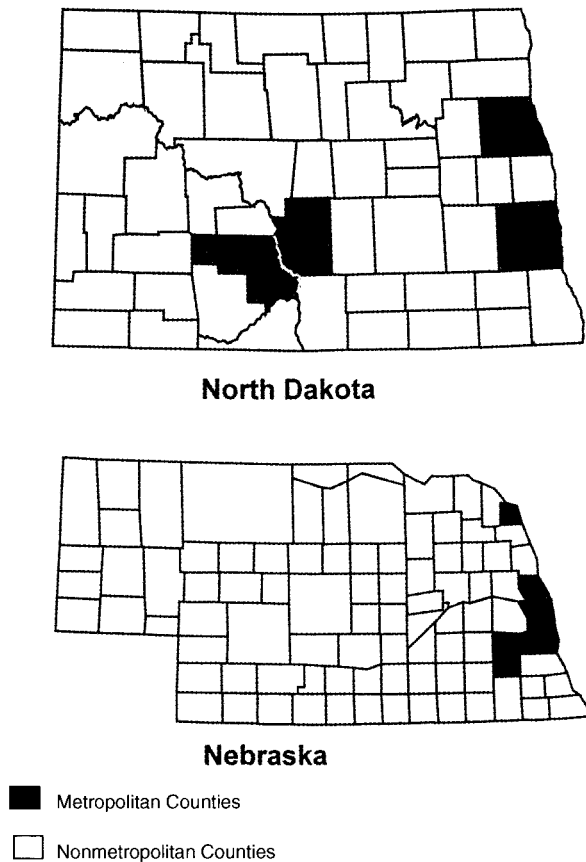


Figure 1. Metropolitan and nonmetropolitan counties in North Dakota and Nebraska.

driver's licences are likely to be ones who have formed some attachment to the state, which makes their characteristics and motivations of special interest to decision makers. In any event, the limitations of the sample frame should be considered when interpreting the results.

In our survey analysis, we compared many of the attributes and observations of respondents by place of residence. The counties where respondents resided were categorized into two groups: (1) Six Nebraska counties and four North Dakota counties that are part of metropolitan areas (Fig.1), and (2) The remaining 87 counties in Nebraska and 49 counties in North Dakota in nonmetropolitan areas.

## **Results**

### **Demographic and Related Characteristics**

Approximately 42% of the new North Dakota residents and 41% of those in Nebraska came from adjacent states or provinces. Among nonadjacent states, the southwestern states were the leading points of origin for Nebraska in-migrants, with approximately 10% coming from California, 5% from Arizona, and 4% from Texas. There was a different pattern for North Dakota's in-migrants. Nonadjacent states from which new residents came included California (4.6%), Washington (4.5%), Texas (3.4%), Nebraska (3.2%), Wisconsin (3.0%), Colorado (2.9%), Illinois (2.7%), and Arizona (2.6%).

Across the two states, more than three respondents in four lived within the city limits of a city or town, while most of the remainder lived within 15 minutes of the nearest town. Only about 4% of the new residents lived more than 15 minutes from town. Just over half (51%) of the new residents owned their current home, while 38% rented and the remainder reported other housing arrangements (e.g., military base housing).

The new residents who responded to the survey were younger than the overall population of Nebraska and North Dakota. Only 5% of North Dakota in-migrants and 10% of those in Nebraska were age 60 or over, compared to 26% and 25% of the residents of the two states, respectively (Table 1). The age groups under 40 and, for Nebraska, 40 to 59 were more heavily represented among the in-migrants than existing residents.

A substantial majority of the respondents were married: 70% for Nebraska and 68% for North Dakota. These percentages were substantially higher for the in-migrants than for the resident populations of the respective states. The in-migrants to each state also included somewhat higher percentages of persons who were divorced or separated, and lower percentages of those who were widowed or never married, than the resident population. The latter finding is likely related to the fact that the in-migrants were younger than the resident population. More than 70% of the new residents reported that they were accompanied by others (i.e., spouse or partner and/or children) when they moved to Nebraska or North Dakota. The percentage who moved alone was much higher for persons residing in metropolitan areas than for those living in rural communities. (Demographic data reported are for the respondent only and do not include accompanying persons.)

TABLE 1

PERCENTAGE OF SELECTED CHARACTERISTICS OF RESIDENTS  
AND IN-MIGRANTS FOR NEBRASKA AND NORTH DAKOTA

Characteristic	In-migrants (Survey)		Residents (1990 Census)	
	Nebraska	North Dakota	Nebraska	North Dakota
Total sample (n)	864	726	—	—
Age (for persons 18 and over):				
Under 40	59 <sup>c</sup>	69 <sup>a,d</sup>	47	48
40 to 59	31	26	28	27
60 and over	10	5	25	26
Race:				
White	96 <sup>c</sup>	93 <sup>b,d</sup>	94	95
Black	1	2	4	1
Native American or Alaskan Native	1	2	1	4
Asian or Pacific Islander	1	2	1	1
Other	2	2	1	0
Marital status (for persons 15 and over):				
Married	70 <sup>c</sup>	68 <sup>a,d</sup>	59	59
Divorced or separated	11	12	9	8
Widowed	4	1	8	8
Never married	16	19	24	25
Education (for persons 25 and over):				
High school or less	21 <sup>c</sup>	18 <sup>a,d</sup>	52	51
Some college or vocational	34	35	24	21
College graduate	44	47	24	28

Notes: Totals may not add to 100% due to rounding. The surveys of in-migrants were conducted six to seven years after the 1990 Census, a factor to consider in noting that age, race, marital status, and education of the in-migrants were significantly different than those of the states' resident population.

<sup>a</sup> Nebraska and North Dakota differences are significant at 1% level based on Chi Square test.

<sup>b</sup> Nebraska and North Dakota differences are significant at 10% level based on Chi Square test

<sup>c</sup> Nebraska in-migrants were significantly different from resident population at the 1% level based on Chi Square goodness of fit test.

<sup>d</sup> North Dakota in-migrants were significantly different from resident population at the 1% level based on Chi Square goodness of fit test.



The educational level of the new residents was substantially higher than that of the resident populations of the respective states. About 47% of the in-migrants to North Dakota and 44% of those to Nebraska were college graduates, compared to 24% of Nebraska's resident population and 28% in North Dakota (Table 1). An additional 35% of the North Dakota in-migrants and 34% of those in Nebraska reported some college or vocational/technical school attendance, compared to 21% of the resident population of North Dakota and 24% in Nebraska.

About 34% of the in-migrants lived in the metropolitan counties of their respective states, and of the metropolitan residents, 66% lived in North Dakota. This is a result of the different sampling designs used in the two states (described in the Methods section), which resulted in heavier sampling among the nonmetropolitan counties of Nebraska. Had an unweighted sampling approach been used in Nebraska, between 55% and 60% of the responses would have represented metropolitan areas, compared to 49% of North Dakota respondents who resided in metropolitan areas.

The new residents in metropolitan counties of both states were somewhat younger and better educated than their counterparts in nonmetropolitan areas (Table 2). For example, about 44% of in-migrants in nonmetropolitan Nebraska counties were age 40 or older, compared to 38% for the state's metropolitan counties. In North Dakota the corresponding figures for nonmetropolitan and metropolitan counties were 34% and 27%, respectively. Approximately 51% of the in-migrants to Nebraska metropolitan counties were college graduates, compared to 37% for nonmetropolitan counties, while the corresponding figures for North Dakota were 55% for metropolitan counties and 45% for nonmetropolitan. In-migrants to metropolitan counties also had somewhat higher income levels both before and after their moves. For example, about 33% of in-migrants to Nebraska's metropolitan counties had annual incomes over \$50,000 after their move, compared to 13% for nonmetropolitan counties; the corresponding figures for North Dakota were 29% for metropolitan and 16% for nonmetropolitan. The differences in age, education, and income between metropolitan and nonmetropolitan areas were all statistically significant (Table 2).

The respondents' incomes were generally similar before and after their moves. The questionnaire asked for household income in the following increments: less than \$10,000; \$10,000 to 19,999; \$20,000 to 29,999; \$30,000 to 39,999; \$40,000 to 49,999; \$50,000 to 74,999; \$75,000 to 99,999; and \$100,000 or more). Of the respondents overall, 43% reported that their incomes fell into the same category before and after moving, while about 32% indicated that their incomes dropped and 25% indicated their

TABLE 2

PERCENTAGE OF SELECTED CHARACTERISTICS OF IN-MIGRANTS  
TO NEBRASKA AND NORTH DAKOTA BY METROPOLITAN AND  
NONMETROPOLITAN RESIDENCE

Characteristic	Nebraska			North Dakota		
	Metro- politan	Non- metro- politan	Total	Metro- politan	Non- metro- politan	Total
Total sample (n)	183	681	864	355	371	726
Respondent age:						
Under 40	62	56	59 <sup>a</sup>	73	66	69 <sup>b,c</sup>
40 to 59	32	31	31	22	29	26
60 and over	7	13	10	5	5	5
Respondent education:						
High school or less	15	27	26 <sup>a</sup>	11	21	16 <sup>a,c</sup>
Some college or vocational	33	36	34	33	34	33
College graduate	51	37	44	55	45	51
Annual income before move:						
Less than \$20,000	24	33	28 <sup>a</sup>	28	30	29 <sup>b,d</sup>
\$20,000 to \$50,000	43	48	46	42	47	45
Over \$50,000	32	19	26	30	22	26
Annual income after move:						
Less than \$20,000	20	41	30 <sup>a</sup>	24	36	30 <sup>a,c</sup>
\$20,000 to \$50,000	48	47	47	48	47	48
Over \$50,000	33	13	23	29	16	22

Note: Totals may not add to 100% due to rounding; adapted from Leistritz et al. 2000 (Table 1).

<sup>a</sup> Metropolitan and nonmetropolitan differences are significant at 1% level based on Chi Square test.

<sup>b</sup> Metropolitan and nonmetropolitan differences are significant at 10 % level based on Chi Square test.

<sup>c</sup> Nebraska and North Dakota differences are significant at 1% level based on Chi Square test.

<sup>d</sup> Nebraska and North Dakota differences are significant at 10% level based on Chi Square test.

income increased. Of those reporting an income change, about 60% reported an increase or decrease of only one category (increment).

### **Past and Planned Moves**

About 59% of the in-migrants to Nebraska and 63% of those in North Dakota were first-time residents, while the remainder had lived in the state in the past (Table 3). There was not a clear pattern of migration into metropolitan vs. nonmetropolitan counties for these two groups. In Nebraska, metropolitan areas had a significantly higher percentage of first-time residents, while in North Dakota the percentage of first-time residents was slightly higher in nonmetropolitan areas. In general, the return migrants were somewhat older than the first-time residents and were more likely to be divorced, separated, or widowed.

When asked whether they would move to Nebraska (or North Dakota) if they had it to do over again, more than two-thirds of the respondents in each state said definitely or probably yes (70% in Nebraska, 67% in North Dakota), while 14% of Nebraska in-migrants and 13% of those in North Dakota were undecided and 15% of Nebraska residents and 20% of North Dakota residents replied probably or definitely no (Table 3). The percentages of respondents who would not move if they could revisit the decision were similar between the metropolitan and nonmetropolitan areas of the two states. Further analysis of responses from the North Dakota survey indicated that the percentage who would not move to North Dakota again was more than twice as high (37%) among residents of Grand Forks County than for other residents (17%). (The survey was conducted just a few months after Grand Forks County suffered a devastating flood.)

About 21% of the North Dakota respondents and 17% of those in Nebraska indicated that they definitely planned to move from their community within the next year, while about 17% of those in North Dakota and 16% in Nebraska were uncertain about their plans (Table 3). For those planning to move, 77% of those in Nebraska and 74% in North Dakota expected to move out of state. Residents of nonmetropolitan areas in Nebraska were less likely to move and, if they did move, would be more likely to relocate within the state, as compared to metropolitan area residents.

Persons who planned to move again were generally younger than those who planned to remain (50% were age 30 or younger, compared to 27% of those planning to remain). They were also somewhat more likely to mention employment as their most important reason for moving to Nebraska or North Dakota.

TABLE 3

PREVIOUS RESIDENCE OF SAMPLE POPULATION, RELOCATION  
WITHIN STATE, AND FUTURE PLANS BY METROPOLITAN AND  
NONMETROPOLITAN RESIDENCE

Characteristic	Nebraska			North Dakota		
	Metro- politan	Non- metro- politan	Total	Metro- politan	Non- metro- politan	Total
First-time resident?						
Yes	65	51	59 <sup>a</sup>	61	64	63
No	35	49	41	39	36	37
Would Move to State Again:						
Definitely yes	38	38	38	32	33	33 <sup>b</sup>
Probably yes	34	31	32	38	31	34
Don't know	14	15	14	11	17	13
Probably no	10	11	11	11	9	11
Definitely no	4	4	4	8	10	9
Plan to move from community in the next year:						
Yes	20	13	17 <sup>b</sup>	21	22	21
No	65	71	68	61	62	62
Uncertain	15	16	16	18	16	17
If plan to move:						
Within state	16	27	23	25	29	26
Out of state	84	73	77	75	71	74

Notes: Figures are percentages. Totals may not add to 100% due to rounding.

<sup>a</sup> Metropolitan and nonmetropolitan differences are significant at 1% level based on Chi Square test.

<sup>b</sup> Metropolitan and nonmetropolitan differences are significant at 10% level based on Chi Square test.

### Reasons for Moving

When asked their most important reason for moving, 52% of the survey respondents gave reasons related to employment (e.g., accepted a new job, transferred by current employer), while 48% mentioned reasons not related to employment. Employment was more often cited by respondents between 30 and 50 years old (59%) than by older respondents (only 31% of those over 50). Employment was also more frequently mentioned by persons with higher levels of education; 58% of college graduates reported that their primary reason for moving was employment-related, compared to only 38% of those who had not attended college. Employment was also more often identified as the primary reason for moving by individuals who moved to the metropolitan areas of the respective states (56% moved for employment), compared to those who moved to nonmetropolitan areas (49%).

When asked about reasons other than employment for moving to the northern Great Plains, the new residents most often mentioned the desire to find a safer place to live and to be closer to relatives (Table 4). A lower cost of living, the quality of the natural environment, the quality of local grade and high schools, and outdoor recreation opportunities were also identified as important considerations by at least one-third of all respondents. The frequency with which the various reasons for moving to the states were cited was similar between Nebraska and North Dakota respondents, with a few exceptions. Nebraska respondents identified desirable climate as a reason for moving more frequently than did North Dakota residents (26% vs. 17%) and also were more likely to identify getting closer to relatives as a factor (58% vs. 50%). The frequency with which various reasons were cited was similar between metropolitan and nonmetropolitan residents except that nonmetropolitan residents more frequently identified getting closer to relatives and finding a safer place to live as reasons (these differences were both significant at the 1% level). Nonmetropolitan communities that are seeking to bolster their population and labor force through in-migration might emphasize these themes in recruiting.

When asked about their reasons for leaving their previous location, the respondents most often cited fear of crime, the high cost of living, unsafe place to live, and urban congestion (Table 5). These were also the four reasons most often cited by those who lived in nonmetropolitan counties (in Nebraska or North Dakota). Comparing the Nebraska respondents to those living in North Dakota, there was only one statistically significant difference—North Dakota in-migrants more often mentioned high state and/or local taxes (33% vs. 25%).

TABLE 4  
REASONS FOR MOVING TO NEBRASKA OR NORTH DAKOTA BY  
STATE AND PLACE OF RESIDENCE

Item	State		Place of Residence		Overall
	Nebraska	North Dakota	Metro-politan	Non metro-politan	
Looking for a safer place to live	57	59	53	61	58 <sup>c</sup>
To be closer to relatives	58	50	49	57	54 <sup>a,c</sup>
To lower cost of living	47	48	44	49	48 <sup>d</sup>
Quality of the natural environment	45	49	44	49	47 <sup>d</sup>
Quality of local grade/high schools	37	34	33	37	36 <sup>d</sup>
Outdoor recreational opportunities	34	38	34	37	36
Desirable climate	26	17	16	26	22
To obtain training/education	20	23	27	18	21 <sup>b,c</sup>
More cultural opportunities	16	16	16	16	16
To get more affordable health care	15	15	15	15	15
To lower cost of operating a business	7	6	4	8	6 <sup>a</sup>

Note: Figures are percentages.

<sup>a</sup> Nebraska and North Dakota respondents are significantly different at 1% level based on Chi Square test.

<sup>b</sup> Nebraska and North Dakota respondents are significantly different at 10% level based on Chi Square test.

<sup>c</sup> Metropolitan and nonmetropolitan respondents are significantly different at 1% level based on Chi Square test.

<sup>d</sup> Metropolitan and nonmetropolitan respondents are significantly different at 10% level based on Chi Square test.

### Employment of New Residents

For many residents, job-related considerations are central to the decision to relocate. Among the new North Dakota residents responding to the survey, 12% indicated that they had been transferred by their current employer, almost 10% had experienced a military transfer, 26% had accepted

TABLE 5

REASONS FOR LEAVING FORMER LOCATION BY STATE AND  
PLACE OF RESIDENCE

Item	State		Place of Residence		Overall
	Nebraska	North Dakota	Metro-politan	Non metro-politan	
Fear of crime	45	45	39	48	45 <sup>b</sup>
High cost of living	38	39	31	45	41 <sup>b</sup>
Unsafe place to live	38	36	33	39	37 <sup>c</sup>
Urban congestion	36	33	31	37	35 <sup>c</sup>
High state and/or local taxes	25	33	28	29	29 <sup>a</sup>
Poor schools	20	20	18	21	20
Undesirable climate	19	16	16	19	18
Long commute	17	19	21	17	18 <sup>c</sup>
Quality of the natural environment	19	17	16	19	18
Lack of outdoor recreational opportunities	11	12	10	12	11
Too close to relatives	10	11	9	11	10
Few cultural opportunities	11	10	10	11	10
High cost of operating a business	9	7	5	9	8 <sup>b</sup>

Note: Figures are percentages; adapted from Leistriz et al. 2000 (Table 3).

<sup>a</sup> Nebraska and North Dakota respondents are significantly different at 1% level based on Chi Square test.

<sup>b</sup> Metropolitan and nonmetropolitan respondents are significantly different at 1% level based on Chi Square test.

<sup>c</sup> Metropolitan and nonmetropolitan respondents are significantly different at 10% level based on Chi Square test.

employment by a new employer, and 6% had moved to start or take over a business (Table 6). In addition, among those individuals who moved with a spouse or partner, almost 11% indicated that their spouse or partner had been transferred by their current employer, 17% had received a military transfer, 23% had accepted employment by a new employer, and 7% moved

TABLE 6

**JOB-RELATED CONSIDERATIONS FOR MOVING TO NEBRASKA  
OR NORTH DAKOTA BY FIRST-TIME RESIDENTS AND RETURN  
MIGRANTS**

Item	Nebraska	North Dakota	First-time residents	Return migrants	Overall
<b>Respondent:</b>					
Transferred by current employer	7	12	10	9	9 <sup>b</sup>
Accepted job with new employer	32	26	30	29	29 <sup>b</sup>
Start or take over business	8	6	6	8	7
Military transfer	2	10	8	2	5 <sup>a,c</sup>
<b>Spouse:</b>					
Transferred by current employer	9	11	11	7	9 <sup>d</sup>
Accepted job with new employer	24	23	24	23	24
Start or take over business	8	7	8	8	8
Military transfer	3	17	14	2	9 <sup>a,c</sup>
<b>One or more job-related considerations (respondent or spouse)</b>					
	58	65	67	53	61 <sup>a,c</sup>

Note: Figures are percentages; adapted from Leistritz et al. 2000 (Table 4).

<sup>a</sup> Nebraska and North Dakota respondents are significantly different at 1% level based on Chi Square test.

<sup>b</sup> Nebraska and North Dakota respondents are significantly different at 10% level based on Chi Square test.

<sup>c</sup> First-time residents and return migrants are significantly different at 1% level based on Chi Square test.

<sup>d</sup> First-time residents and return migrants are significantly different at 10% level based on Chi Square test.

to start or take over a business. Taking these job-related motivations together, about 61% of the households reported that one or more of these job-related considerations influenced their move. The Nebraska residents reported similar frequencies for most employment-related factors, except military transfers were less frequently reported by Nebraska's respondents (2% vs. 10%)



and their spouses (3% vs. 17%). In addition, a somewhat smaller percentage of Nebraska households reported that one or more job-related considerations influenced their move (58% vs. 65% for North Dakota). These differences were statistically significant at the 1% level.

Across both states, the percentage of households that reported one or more job-related factors was substantially higher for first-time residents (67% of these households reported one or more job-related considerations) than for return migrants (53%). In particular, the percentages of military transfers were higher for first-time residents. Again, these differences were significant at the 1% level.

Most of the new residents in both states had been employed full-time (35 hours or more per week) both before and after their move. About 65% of Nebraska respondents and 67% of North Dakota respondents were employed full-time at the time of the survey (Table 7). Before their move, 66% of Nebraska respondents and 69% of those in North Dakota had been employed full-time. About 15% of Nebraska respondents and 12% of those in North Dakota were employed part-time after moving while 4% of Nebraska respondents and 6% of North Dakota respondents were currently unemployed. Similar percentages were reported for spouses in each state.

About 14% of the Nebraska respondents were retired, while only 6% of the North Dakota respondents were retired. Of the Nebraska respondents 14% were homemakers, compared to 16% of those in North Dakota. Six percent of Nebraska respondents were full-time or part-time students, compared to 8% of North Dakota respondents who were full-time or part-time students.

The new residents reported an average one-way commuting distance of about 12 miles, ranging from 9 miles in metropolitan areas to 13 miles in nonmetropolitan counties (Table 7). About 13% of the new residents reported that they or their spouse operate a business out of the home, ranging from 11% in metropolitan areas to 20% in nonmetropolitan communities.

Another question concerned whether the respondent or spouse was a telecommuter. Recently, the phenomenon of telecommuting, whereby individuals do some or all of their work at home and use telecommunications to stay in touch with the office or clients, has attracted increasing attention by policy makers (Mokhtarian 1998). Overall, about 6% of respondents reported that they were telecommuters; about 2% reported that they were full-time telecommuters (Table 7). Telecommuting was somewhat more common for those who lived in metropolitan areas (about 8% of respondents reported some telecommuting). In comparison, a recent study estimates that 6% of the workforce nationwide is currently telecommuting (Mokhtarian 1998).

TABLE 7

## LABOR FORCE AND EMPLOYMENT CHARACTERISTICS OF IN-MIGRANTS AFTER MOVING

Item	Nebraska	North Dakota	Metro-politan	Non metro-politan	Total
<b>In labor force<sup>a</sup></b> (respondents)					
Employed full-time	65	67	70	64	66 <sup>b,c</sup>
Employed part-time	15	12	13	14	14
Unemployed	4	6	4	5	5
<b>Not in labor force</b> (respondents)	16	14	13	17	15
Respondent or spouse operate a business out of the home					
	20	14	11	20	17 <sup>b,c</sup>
Is respondent a telecommuter?					
No, not at all	95	94	91	96	94 <sup>d</sup>
Yes, one day or less per week	3	3	4	2	3
Yes, 2-3 days per week	2	1	2	1	1
Yes, full-time	1	2	2	1	2
One-way commuting distance (miles)	15	8	9	13	12

Note: Figures in percentages (except where noted). Totals may not add to 100% due to rounding; adapted from Leistriz et al. 2000 (Table 5).

<sup>a</sup> "Full-time"= employed at least 35 hours per week; "Part-time"=employed less than 35 hours per week; "Unemployed"= not employed and looking for work; "Not in labor force"= not employed and not looking for work.

<sup>b</sup> Nebraska and North Dakota respondents are significantly different at 10% level based on Chi Square test.

<sup>c</sup> Metropolitan and nonmetropolitan respondents are significantly different at 1% level based on Chi Square test.

<sup>d</sup> Metropolitan and nonmetropolitan respondents are significantly different at 10% level based on Chi Square test.

### **Satisfaction with Present Community**

The new residents were generally quite satisfied with the communities where they are living. Respondents rated their communities as quite friendly, trusting, and supportive. The ratings by respondents in the rural areas were more favorable for each attribute, as compared to metropolitan area residents.

The new residents also were asked whether existing local residents had generally made them feel welcome in their new Great Plains community. Overall, about 90% of respondents in both Nebraska and North Dakota indicated that they felt welcome or very welcome. There was little difference between metropolitan and nonmetropolitan residents or between first-time residents and return migrants.

The respondents also evaluated a variety of public services and community amenities. The services that had the highest levels of satisfaction were fire protection (96% of respondents were either very or somewhat satisfied), church or civic activities (92%), and senior centers and sewage disposal (91% each) (Table 8). The services that respondents were least satisfied with were entertainment (54%), public transportation (59%), retail shopping (61%), streets and highways (63%), and restaurants (66%). For most services, levels of satisfaction were generally higher among metropolitan residents than for nonmetropolitan respondents. In only one case—streets and highways—was the level of satisfaction higher among nonmetropolitan respondents.

Some services were reported to be unavailable, especially by rural residents. For example, 23% of the respondents overall reported that public transportation was not available, ranging from 4% for metropolitan residents to 32% for nonmetropolitan residents. Similarly, Head Start programs were not available to 9% of respondents, ranging from 4% in metropolitan areas to 11% for rural residents. The services that registered the lowest satisfaction scores or that were frequently reported to be unavailable might be areas for attention, especially by leaders seeking to encourage in-migration and/or population retention in rural areas.

To more thoroughly explore the availability of services to rural residents, an alternative county classification was used, which divided nonmetropolitan counties into four groups:

**Large Trade Center**—nonmetropolitan counties with a city of at least 7,500 people (12 counties in Nebraska and 6 counties in North Dakota).

TABLE 8

RESPONDENTS' SATISFACTION WITH PUBLIC SERVICES AND  
COMMUNITY AMENITIES

Item	Metropolitan	Nonmetropolitan	Total
Fire protection	98	94	96 <sup>a</sup>
Church or civic activities	94	91	92 <sup>b</sup>
Senior centers	92	91	91 <sup>a</sup>
Sewage disposal	95	89	91 <sup>a</sup>
Emergency medical services	94	87	89 <sup>a</sup>
Parks and recreation	88	86	87 <sup>a</sup>
Nursing home care	87	87	87 <sup>a</sup>
Education (K-12)	90	85	86 <sup>a</sup>
Solid waste disposal	91	83	86 <sup>a</sup>
Head Start programs	89	84	86 <sup>a</sup>
Library services	89	83	85 <sup>a</sup>
Basic medical care services	93	81	85 <sup>a</sup>
Law enforcement	90	79	83 <sup>a</sup>
Mental health services	90	77	81 <sup>a</sup>
Day care services	81	72	75 <sup>a</sup>
Housing	81	70	74 <sup>a</sup>
County government	78	69	72 <sup>a</sup>
City/village government	75	67	70 <sup>a</sup>
Restaurants	84	55	66 <sup>a</sup>
Streets and highways	60	64	63
Retail shopping	80	50	61 <sup>a</sup>
Public transportation	74	50	59 <sup>a</sup>
Entertainment	72	43	54 <sup>a</sup>

Notes: Respondents who indicated that they had "no opinion" or who indicated the service was "not available" were excluded. Figures are percentages of those who expressed that they were very or somewhat satisfied; expanded from Leistriz et al. 2000 (Table 7).

<sup>a</sup> Metropolitan and nonmetropolitan respondents are significantly different at 1% level based on Chi Square test.

<sup>b</sup> Metropolitan and nonmetropolitan respondents are significantly different at 10% level based on Chi Square test.

**Small Trade Center**—counties with a city between 2,500 and 7,500 people (19 counties in Nebraska and 5 in North Dakota).

**Small Rural**—counties with no town larger than 2,500 and with a population density of at least 6 persons per square mile (24 counties in Nebraska and 5 in North Dakota).

**Frontier**—counties with no town larger than 2,500 and a population density of less than 6 persons per square mile (32 counties in Nebraska and 33 in North Dakota).

Services were generally less available in the frontier and small rural counties than in the other county types, and the differences in availability by county type were all statistically significant (Table 9). Respondents who lived in nonmetropolitan counties that contained large trade centers reported most services to be available in about the same frequencies as in metropolitan areas. One exception was in the case of public transportation (unavailable to 19% of large trade center residents vs. 4% of metropolitan residents). While this county typology is one that has been used extensively by Nebraska policy makers (Cordes et al. 1996), the findings concerning service availability appear to hold when other classification schemes are used. For example, Leistritz and Sell (1998) report very similar results using a three-category classification.

## Discussion

Recent employment growth in the northern Great Plains may be stimulating increased in-migration to some rural areas, as well as to the region's larger cities, and additional in-migration is likely needed to sustain the region's momentum in economic development (Goss 1998). Understanding the characteristics of the new residents, their motivations for moving, and their expectations regarding and satisfaction with their new community is important for state and local decision makers. Our study addresses those needs by describing basic socioeconomic characteristics of new residents of Nebraska and North Dakota, the factors motivating their move, and their satisfaction with their present communities.

Our first hypothesis (i.e., that in-migrants are younger and better educated than the states' resident populations) was clearly supported by the data. Approximately 60% of the in-migrants were between 21 and 40 years old, compared to 43% of the resident population of the two states. Levels of formal education were also higher for in-migrants, as 47% of North Dakota's

TABLE 9  
RESPONDENTS' EVALUATIONS OF AVAILABILITY OF PUBLIC  
SERVICES AND COMMUNITY AMENITIES, BY PLACE  
OF RESIDENCE

Item	Overall	County type				
		Metro	Large trade	Small trade	Rural	Frontier
Total sample (n)	1,540	519	373	201	194	253
Public transportation	23	4	19	32	43	43 <sup>a</sup>
Head Start programs	9	4	4	12	15	20 <sup>a</sup>
Mental health services	9	3	4	12	20	19 <sup>a</sup>
Nursing home care	7	4	3	8	10	14 <sup>a</sup>
Day care services	5	2	2	7	10	13 <sup>a</sup>
Senior centers	5	4	2	4	8	11 <sup>a</sup>
Retail shopping	5	1	2	8	13	11 <sup>a</sup>
Entertainment	5	1	1	8	12	11 <sup>a</sup>
Basic medical care services	4	1	2	5	5	9 <sup>a</sup>
Library services	4	1	3	5	5	8 <sup>a</sup>
Sewage disposal	3	1	2	3	6	8 <sup>a</sup>
Housing	3	0	1	3	5	8 <sup>a</sup>
Solid waste disposal	3	1	2	5	5	6 <sup>a</sup>
Emergency medical services	2	2	1	3	2	4 <sup>a</sup>
Restaurants	2	1	0	3	4	3 <sup>a</sup>
County government	2	1	1	3	2	3 <sup>b</sup>
City/village government	2	1	1	2	2	3 <sup>b</sup>
Education (K-12)	2	2	1	4	2	2 <sup>a</sup>
Law enforcement	1	0	0	2	2	2 <sup>a</sup>
Parks and recreation	1	0	1	2	2	4 <sup>a</sup>
Fire protection	0	0	1	1	0	1 <sup>a</sup>
Church or civic activities	0	0	0	1	0	1 <sup>a</sup>
Streets and highways	0	0	0	0	0	1 <sup>a</sup>

Note: Figures are percentages of those reporting services as unavailable.

<sup>a</sup> Responses by residents of different county types are significantly different at the 1 percent level based on the Chi Square test.

<sup>b</sup> Responses by residents of different county types are significantly different at the 10 percent level based on the Chi Square test.

new residents and 44% of those in Nebraska were college graduates, compared to 28% and 24% of the respective states' resident populations. Thus, these new residents represent a very productive cohort of people who are needed to augment population strata that were severely depleted by the out-migration of the 1980s. (Both Nebraska and North Dakota experienced extensive out-migration during the 1980s, and the out-migrants were concentrated in the age groups between 20 and 40. Persons 20 to 40 years old made up 53% of all out-migrants from the two states between 1985 and 1990, or 63% of those over age 14, [the group most comparable to the sample of in-migrants of our study][U.S. Department of Commerce 1995].)

The second hypothesis (that employment is more often the prime motivation for those moving to metropolitan areas) also was supported by the study findings. Employment was identified as the most important reason for moving by 56 % of those moving to metropolitan areas, compared to 49% of those moving to nonmetropolitan areas. Also, nonemployment reasons for moving (such as a desire to be closer to family, or quality of the natural environment) were more frequently identified by respondents living in nonmetropolitan areas.

Similarly, the hypothesis that employment is more often the primary motivation for first-time residents, whereas return migrants are more likely influenced by family ties or quality of life factors, was strongly supported by the data. Of the first-time residents, 65% identified employment as their most important reason for moving. On the other hand, only 32 percent of the return migrants identified employment as their most important reason for moving, while 68% cited nonemployment reasons. Among the most frequently identified nonemployment reasons for moving for this group were proximity to relatives, safer place to live, and quality of the natural environment.

Another hypothesis that was strongly supported was that persons planning to move again in the near future are younger than those who plan to remain. Among the respondents age 30 or younger, 24% planned to move in the next year, compared to only 12% of those over 30. Individuals who originally moved primarily for employment were somewhat more likely to plan another move than those who moved for other reasons (19% vs. 16%).

Although employment considerations were often important to the decision to move, many of the in-migrants appeared to respond more to quality of life values than to economic incentives. The family income distributions of in-migrants to both Nebraska and North Dakota were similar, before and after moving, and most migrants did not experience major income changes.

Rather, these appear to be persons who were willing to move to the Plains because of perceived quality of life benefits, provided they could find job opportunities that would allow them to maintain their previous income level. These findings are consistent with other research indicating that lifestyle preferences, environmental amenities, and other noneconomic factors may be increasingly important as motivations for migration (Johnson and Rasker 1995; Wardwell and Lyle 1997). Among the nonemployment reasons for moving mentioned most often were to live in a safer place (58%), to get closer to relatives (54%), to lower cost of living (48%), quality of the natural environment (47%), quality of local grade/high schools (36%), and outdoor recreational opportunities (36%). These factors could be emphasized by those seeking to encourage individuals or businesses to relocate to the northern Great Plains.

Few of the in-migrants appeared to fit the profile of the "lone eagle" migrant (i.e., individuals engaged in high-paying, knowledge-based industries who telecommute to work or service distant clients via fiber optic networks and fax machines) (Johnson and Rasker 1995; Nelson and Beyers 1998). When asked whether the availability of information technologies had any effect on their decision to move, only 2% of the Nebraska in-migrants and 4% of those in North Dakota responded affirmatively. Similarly, when asked whether the potential to work "long distance" for the same employer or clients influenced the decision to move, only 3% of Nebraska respondents and 5% of North Dakota respondents said this was a factor. Finally, when asked whether they considered themselves to be telecommuters in their present job, 94% reported they did not telecommute at all and only 3% telecommuted more than one day per week.

The new residents were asked to evaluate a variety of public services and community amenities. Some services were unavailable to a substantial number of respondents. For example, public transportation was unavailable to 23% of respondents overall (43% in small rural and frontier counties), while nursing home care, mental health care, and Head Start programs were all viewed as unavailable by more than 5% overall (14%-20% in frontier counties). Among those to whom services were available, satisfaction with the various services varied. Of those who expressed an opinion, more than 90% were satisfied with fire protection, sewer, church or civic activities, and senior centers. On the other hand, the respondents were less satisfied with entertainment (only 54% were very or somewhat satisfied), public transportation (59%), retail shopping (61%), mental health care (61%), and streets and highways (63%). These may be areas for attention by state and



local decision makers. These data generally support the hypothesis that satisfaction with services is higher in metropolitan areas.

Overall, the study findings indicate that recent in-migrants to the northern Great Plains are a relatively young and highly educated group of people who will augment population strata depleted by the out-migration of the 1980s. These new residents' moves were motivated by a combination of employment-related and other (e.g., family, quality of life) considerations. Few fit the profile of the "lone eagle" migrant. The in-migrants expressed general satisfaction with the results of their move and with their new communities, but there were some concerns regarding the availability (especially in rural areas) of some services (e.g., public transportation, mental health care, Head Start programs), as well as with the quality of a few other services (e.g., entertainment, retail shopping).

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