

**First Nation Affiliation Among Registered  
Indians Residing in Select Urban Areas**

by

Stewart Clatworthy

Four Directions Project Consultants

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The views expressed in this paper are those of the authors and do not necessarily represent the views of Indian and Northern Affairs Canada (INAC).

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## **Summary, Conclusions and Implications**

In spite of the size and importance of the off-reserve component of many First Nations' populations, little research has been undertaken to identify the First Nation affiliations of the Registered Indian populations living in specific, off-reserve localities. This study employs data from the 1996 Census of Canada to explore several dimensions of the First Nation affiliations of Registered Indians living off reserve in six major urban areas, including Thunder Bay, Winnipeg, Regina, Saskatoon, Calgary and Edmonton.

The analyses undertaken for this study are largely descriptive and exploratory. Within the context of the six urban areas, the study examines four issues, including:

- the composition and heterogeneity of urban First Nations populations;
- the size of urban First Nations populations in relation to First Nations total populations (i.e. the proportion of First Nations populations living in the city);
- the size of urban First Nations populations in relation to the distance between First Nations reserves and the city (and other accessibility factors); and
- recent (1991-1996) migration patterns between First Nations reserves and the city.

Key findings of the research are summarized briefly below.

- Each of the six urban areas considered in the study contains highly heterogeneous Registered Indian populations. In general, the Registered Indian populations in these centres contain a small number of large First Nations population groups and a large number of quite small First Nations groups. Although characteristic of the Registered Indian populations in all study areas, heterogeneity is especially pronounced in the city of Edmonton;
- The degree of concentration of First Nations populations in the study areas is strongly influenced by the proximity of the First Nations reserve to the city. First Nations with reserves located closer to the city tend to have a larger proportion of their total population residing in the city. Anomalies in the relationship between proximity and concentration of First Nations populations in the city appear to reflect either unique First Nations characteristics (e.g. health care needs of Island Lake First Nation), intervening urban settlement opportunities (e.g. the case of western Manitoba) or remoteness and lack of access to provincial road systems (e.g. northern Manitoba and northwestern Ontario First Nations);

- Recent migration patterns differ somewhat from patterns of First Nation concentration in the city, suggesting that the First Nations settlement patterns in these urban areas are largely a product of longer term (past) migration. First Nations with larger urban populations tend to exhibit higher rates of in-migration to the city and lower rates of out-migration to the reserve. Net outflows from the city to reserves tend to be lower among those First Nations with larger urban populations;
- Overall levels of migration (gross) are weakly patterned by distance between the city and First Nation reserve. In general, the level of reserve gross migration associated with the city declines with increasing distance to the city. With the exception of Edmonton, however, rates of in-, out- and net-migration, whether referenced either in terms of the city population or the reserve population, are not clearly patterned over distance;
- Recent city/reserve migration patterns are generally not contributing to growth in the populations affiliated with specific First Nations in the highlighted urban areas. All of these cities experienced net outflows to First Nations reserves (in aggregate) during the 1991-1996 period and only a few individual First Nations reserves experienced net outflows of population to these cities.

Patterns of migration between the city and First Nations reserves during the 1991-1996 period did not serve to alter the high degree of heterogeneity that has been found to characterize the First Nations populations of each study area. This heterogeneity (in particular the large numbers of quite small First Nations population groups which comprise the urban Registered Indian population) would appear to have several potential implications, including:

- posing a barrier to social cohesion, culture and language retention and the development of a shared sense of community;
- limiting opportunities for institutional and political development among the urban, off-reserve population (as small “unrelated” First Nations populations may pose difficulties in relation to marshaling support for political causes and the development urban-based cultural and service delivery institutions);<sup>1</sup>

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<sup>1</sup> Recent research by Clatworthy, Hull and Loughran (1994) concerning the state of development of Aboriginal controlled institutions in select urban areas has found much higher levels of institutional development in the City of Winnipeg than the City of Edmonton. This situation suggests the possibility that the extent of urban Aboriginal institutional development may be correlated with the degree of heterogeneity of the Aboriginal population, as Edmonton’s First Nations population has been found to be much more heterogeneous than that of Winnipeg.

- presenting considerable challenges with respect to the extension of First Nations governance and First Nations administered services to urban off-reserve populations (as the vast majority of First Nations populations residing in specific urban areas tend to form not only quite small populations, but also quite small minorities of total First Nations populations).

Analyses conducted for the First Nations populations residing in the City of Winnipeg, however, reveals significantly larger populations affiliated with First Nations that are members of specific tribal council organizations. This situation suggests that tribal council-level initiatives may provide one means of addressing the challenges and barriers to socioeconomic and political development of urban First Nations populations, mentioned above.

## 1. Introduction

According to the Census, roughly one-half of Canada's Registered Indian population resided off reserve in 1996, most commonly in large urban areas.<sup>2</sup> In spite of the size and importance of this component of many First Nations' populations, little research has been undertaken to identify the First Nation affiliations of the Registered Indian populations living off reserve in specific localities. This study employs data from the 1996 Census of Canada to explore several dimensions of the First Nation affiliations of Registered Indians living off reserve in six major urban areas, including Thunder Bay, Winnipeg, Regina, Saskatoon, Calgary and Edmonton. Collectively, the Registered Indian populations residing in these six urban areas totaled more than 62,450, representing about one-quarter of the total off reserve, Registered Indian population identified by the Census in 1996.

Given the paucity of prior research on this subject, the analyses undertaken for this study are largely descriptive and exploratory. Within the context of the six urban areas, the analyses presented in this report focus on four issues, including:

- the composition and heterogeneity of urban First Nations populations;
- the size of urban First Nations populations in relation to First Nations total populations (i.e. the proportion of First Nations populations living in the city);
- the size of urban First Nations populations in relation to the distance between First Nations reserves and the city (and other accessibility factors); and
- recent (1991-1996) migration patterns between First Nations reserves and the city.

The remainder of this report is structured into three sections. Section 2 provides a brief description of the data sources and analytical methods employed in the study. Section 3 presents the findings in relation to the four main issues explored in the study. A brief summary of the main findings and the study's conclusions and implications are presented in the final section.

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<sup>2</sup> The 1996 Census population estimates of Registered Indians are subject to error as a result of incomplete (or non-) enumeration and under-coverage. As incomplete enumeration and under-coverage are more prevalent on reserve, the off-reserve population is believed to form a minority of the total Registered Indian. Data from the Indian Register suggest that about 41 percent of the total Registered Indian population resided off reserve in 1996. This estimate is also subject to error as a result of inaccuracies in the location of residence data contained on the Register.

## 2. Data Sources and Methods

### 2.1 First Nation Affiliation Data

The 1996 Census of Canada included a question which asked respondents to identify their band or First Nation affiliation. Responses were coded according to the Indian Band (First Nation) names maintained by Indian and Northern Affairs Canada (INAC). The coding system distinguishes among 508 Indian bands or First Nations.<sup>3</sup> Although First Nation affiliation data were collected for both Aboriginal and non-Aboriginal respondents, this study is restricted to those individuals who identified themselves as Registered Indians.<sup>4</sup> In addition, data used for this study exclude respondents affiliated with First Nations reserves that were incompletely enumerated by the Census. Table 1 identifies the Registered Indian population counts from the 1996 Census for the six urban areas highlighted in the study.

The First Nation affiliation data collected by the Census are subject to some limitations as a consequence of non-response and coding (assignment) difficulties. Table 2 provides a summary of the response characteristics concerning First Nation affiliation among the Registered Indian populations in each of the six urban areas. As revealed in the table, First Nation affiliation was reported for a large majority of the Registered Indian populations residing in Winnipeg (84.1 percent), Saskatoon (88.5 percent) and Regina (93.2 percent). A significantly lower proportion of the Registered Indian population reported affiliation in Thunder Bay (72.6 percent), Calgary (72.5 percent) and Edmonton (68.9 percent). The study's findings with respect to these latter three urban areas may be influenced by high levels of unreported affiliation.<sup>5</sup>

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<sup>3</sup> The tabulations supplied by Statistics Canada actually identify 510 Indian bands or First Nations. Data for the Island Lake First Nation bands (St. Theresa Point, Garden Hill and Wasagamack) were aggregated.

<sup>4</sup> About 40 percent of First Nations have adopted their own rules governing First Nations membership. Some of these rules allow for individuals who are not Registered Indians to become members. As such, some individuals who are not Registered Indians may report affiliation with a First Nation. This population, however, forms a small minority of those reporting affiliation.

<sup>5</sup> Data available to the study do not differentiate between non-responses and unassignable responses.

**Table 1**  
**Population Showing Aboriginal Identity and Registered Indian Status,  
 Highlighted Urban Areas, On and Off Reserve, 1996**

Urban Area	Aboriginal Identity	Registered Indian		
		On Reserve*	Off Reserve	Total
<b>Thunder Bay</b>	7,085	525	4,995	5,520
<b>Winnipeg</b>	45,010	310	20,370	20,680
<b>Regina</b>	13,060	0	8,900	8,900
<b>Saskatoon</b>	15,875	165	9,040	9,205
<b>Calgary</b>	14,800	30	6,760	6,790
<b>Edmonton</b>	32,175	2,365	12,390	14,755

\* On-reserve populations are located within some of the selected urban areas.  
 Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Table 2**  
**Registered Indian Population Showing Response Status to First Nation  
 Affiliation, Select Urban Areas, 1996**

Urban Area	Affiliation Reported	Unreported Unassignable	Total Population	% Reported
<b>Thunder Bay</b>	4,005	1,515	5,520	72.6
<b>Winnipeg</b>	17,385	3,295	20,680	84.1
<b>Regina</b>	8,295	605	8,900	93.2
<b>Saskatoon</b>	8,145	1,060	9,205	88.5
<b>Calgary</b>	4,925	1,865	6,790	72.5
<b>Edmonton</b>	10,160	4,595	14,755	68.9

Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

The analyses are also limited by data suppression associated with small population estimates. First Nation affiliation data available to the study were suppressed for all First Nations populations with rounded population estimates below 10 individuals. As such, some First Nation populations which reside in the study areas may not be identified in the analyses.



## 2.2 Migration Data

Migration data to and from the six urban areas and specific First Nations reserves also derive from the 1996 Census. These data are based on the 5-year migration construct and reflect the migration flows of Registered Indians (aged 5 or more years) between 1991 and 1996. Unlike the First Nation affiliation data, which were organized for Indian bands or First Nations, the migration data supplied to the study were structured to identify population flows between each urban centre and Indian reserves (identified as census sub-divisions or CSD's). For First Nations with more than one reserve, migration data were reorganized (aggregated) to reflect flows between the urban centres and the Indian band or First Nation.

The migration data do not specifically identify the migrants' First Nation affiliation. In this regard, the study assumes that Registered Indian migration between an urban area and a specific First Nation involves individuals who are affiliated with that First Nation. This assumption is substantiated by Indian Register data which reveals that the vast majority of Registered Indians residing on reserve are affiliated with that reserve's First Nation. As in the case with analyses concerning First Nations affiliation, the migration components of the analyses reported in the study exclude those First Nations which were incompletely (or not) enumerated in the 1996 Census.

Migration rates (in, out, net and gross) presented in the study are estimated for the 1991-1996 time period and relate to the population aged 5 or more years. The denominator used for calculating the rates reflects the estimated mid-point population for the 1991-1996 time period (i.e. the 1991 population + 1996 population/2). Migration rates are presented from two perspectives. One perspective references the rates within the context of the urban Registered Indian population. A second perspective references the rates within the context of the Registered Indian population residing on First Nation reserves.

Several of the study's analyses explore the relationships between the First Nation populations (and urban/First Nation migration) and distance between the urban centre and First Nations reserves. All distance measures used in the study reflect straight-line (or crow fly) distances between the urban area and First Nation reserve (using CSD centroids). This measure of distance is believed to serve as a good proxy for the level of accessibility between the urban centre and those First Nation reserves which are connected via an all weather/all season road system, including, most of the reserves located in the central and southern regions of the prairie provinces and those in the southern region of Northern Ontario (south of Pickle Lake). Several reserves located in northern Ontario and in northern and northeastern Manitoba lack year round road access and are serviced by air or

seasonal road systems. For these reserves, levels of accessibility to the city are unlikely to be adequately measured in terms of straight-line distance, as other factors such as air service access, scheduling and cost are likely to be more significant determinants of access. Specific data on these latter factors have not been compiled or used in the analyses presented in this report.

### **3. Study Findings**

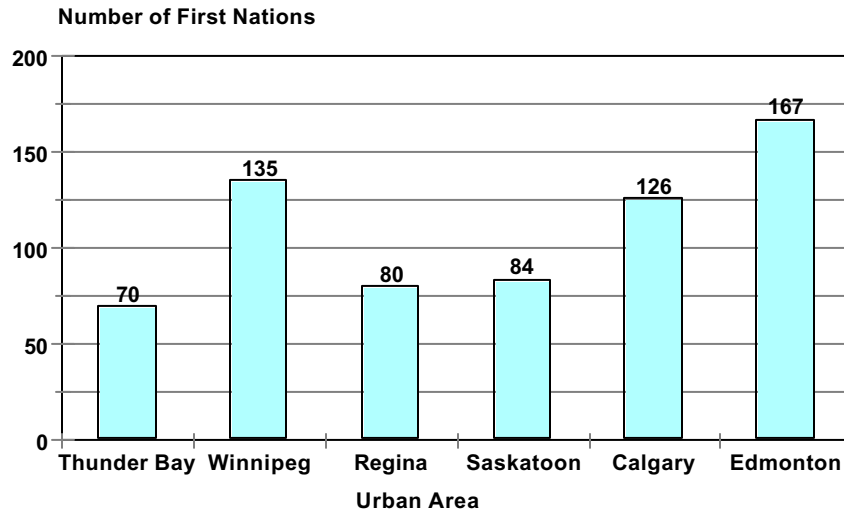
#### **3.1 Heterogeneity and Concentration of First Nations Urban Populations**

As noted in the introduction, very little prior research has focused on the First Nations composition of urban Aboriginal populations. Research by Marks (1980) characterized Winnipeg's Aboriginal population in the late 1970's as quite diverse (in terms of the number of First Nations groups residing in the city) and socially segmented in the sense that social interaction patterns tended to be organized (and constrained) according to kinship or families ties. Clatworthy (1980) also noted a high degree of heterogeneity in the composition of the city's Aboriginal population during that time period. More recent studies of the First Nations composition of Winnipeg's Aboriginal population or of the Aboriginal populations of other urban centres do not appear to have been undertaken.

One indicator of the degree of heterogeneity is the number of First Nations groups which comprise the urban First Nations population. As a result of the suppression of small population counts, it is not possible to identify the exact number of First Nations which have populations residing in the study areas. Figure 1 identifies the number of First Nations with Registered Indian population counts of 10 or more individuals in each of the urban areas. As data for First Nations with fewer than 10 individuals have been suppressed, the actual number of First Nations populations in each centre is likely to be higher than the numbers identified in the figure.

As revealed in the figure, the First Nations populations of each of the six urban areas can be characterized as quite heterogeneous. The number of First Nations populations residing in the study areas ranged from a low of 70 in Thunder Bay to a high of 167 in Edmonton. In addition to Edmonton, both Winnipeg (135 First Nations) and Calgary (126 First Nations) reported high levels of heterogeneity among the First Nation population.

**Figure 1**  
**Number of First Nations with Registered Indian Populations of 10 or More Residing in Select Urban Areas, 1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

Table 3 provides more detailed information on the composition of the First Nations population by documenting the population size distribution of First Nations residing in each urban area. Among those First Nations for which data were available (i.e. those with 10 or more individuals), a majority contained less than 50 individuals in each of the six centres. First Nations with populations exceeding 600 individuals were identified only in Winnipeg (5 First Nations), Regina (2 First Nations) and Calgary (1 First Nation). Although larger First Nation population groups were identified for these urban areas, the First Nations population in each of the urban areas comprises a relatively small number of First Nations with large populations (400 or more individuals) and a large number of First Nations with relatively small populations (under 100 individuals).

**Table 3**  
**Distribution of First Nations by Size of Population Living**  
**Off Reserve in Select Urban Areas, 1996**

Urban Area	First Nation Off Reserve Population						
	<10*	10-49	50-99	100-199	200-399	400-499	500+
<b>Thunder Bay</b>	438	46	13	9	2	0	0
<b>Winnipeg</b>	373	78	20	14	13	5	5
<b>Regina</b>	428	50	10	6	8	4	2
<b>Saskatoon</b>	424	43	13	16	11	1	0
<b>Calgary</b>	382	108	11	5	0	1	1
<b>Edmonton</b>	341	122	23	14	7	1	0

\* Group includes First Nations with no population in the urban centre and First Nations with data suppressed due to small population counts (i.e. <10 individuals).

Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

As revealed in Table 4, which identifies the populations of the 10 largest First Nation groups residing in each of the six urban areas, a sizable number of large First Nation groups is characteristic only of the city of Winnipeg.

Figure 2 illustrates the proportion or share of the total urban First Nation population that is accounted for by the 3, 5, 10 and 20 largest First Nation groups residing in each urban area. These data provide an alternative measure of the degree of heterogeneity of the First Nation population in each urban area. As revealed in the figure, the First Nations populations residing in Thunder Bay and Regina the exhibit lowest levels heterogeneity of First Nation groups. In these urban areas, the 20 largest First Nation groups account for roughly three-quarters of the area's total First Nation population. In Winnipeg, Saskatoon and Calgary, the 20 largest First Nation groups account for about 60 percent of the total urban First Nation population. In relation to all other urban areas examined in the study, the First Nation population of Edmonton exhibits a much higher level of heterogeneity. The 20 largest First Nations residing in Edmonton account for less than one-half of the city's total First Nation population.

**Table 4**  
**First Nations with Largest Population Residing Off Reserve in Select Urban Areas, 1996**

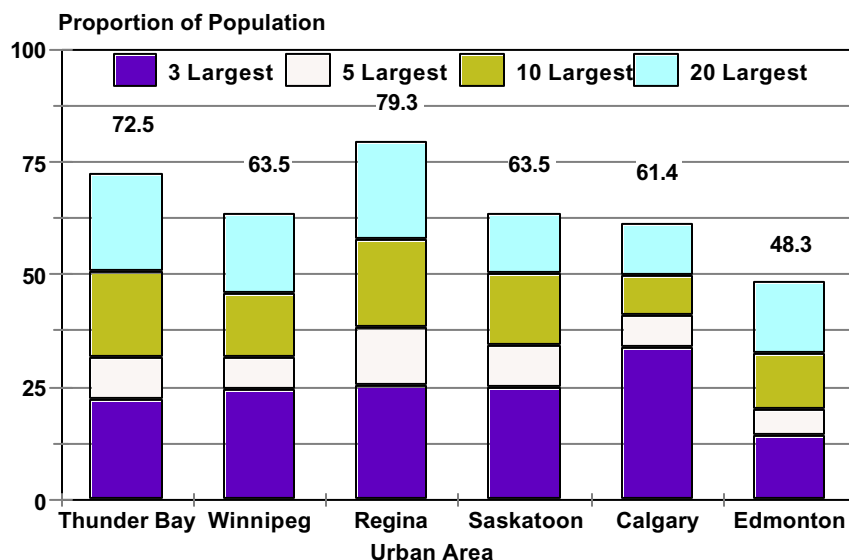
Thunder Bay	Population		Distance (km) From City	Winnipeg	Population		Distance (km) From City
	Total Off Reserve	In City			Total Off Reserve	In City	
Fort William First Nation	455	290	20	Fort Alexander First Nation	2,815	1,875	100
Red Rock First Nation	865	285	120	Peguis First Nation	3,040	1,570	160
Gull Bay First Nation	355	195	160	Island Lake First Nation	1,145	910	580
Eabametoong First Nation	525	170	380	Fairford First Nation	850	690	220
Wikwemikong First Nation	2,030	160	660	Norway House First Nation	1,260	620	460
Lac des Mille Lacs Nation	330	145	130	Fisher River First Nation	1,075	595	170
Whitesand First Nation	405	140	220	Brokenhead Ojibway Nation	660	555	60
Lac Seul First Nation	890	140	280	Long Plain First Nation	1,115	505	100
Long Lake First Nation	425	120	270	Sandy Bay First Nation	1,170	470	130
Couchiching First Nation	700	115	290	Pine Creek First Nation	895	405	320
Regina	Population		Distance (km) From City	Saskatoon	Population		Distance (km) From City
Total Off Reserve	In City	Total Off Reserve			In City		
Cowessess First Nation	1,770	880	140	Yellowquill First Nation	1,230	545	210
Gordon First Nation	1,350	685	90	Muskeg Lake First Nation	1,005	380	100
Pasqua First Nation	890	545	60	Beardy's and Okemasis	995	375	80

First Nation Affiliation Among Registered Indians Residing in Select Urban Areas

	845	540	40	Little Pine First Nation	565	355	100
	1,045	495	120	Thunderchild First Nation	1,005	280	210
	785	410	80	Montreal Lake First Nation	1,110	275	190
	1,385	335	230	Mistawasis First Nation	835	255	110
	1,005	320	100	Muskoday First Nation	685	250	130
	470	290	50	Cote First Nation	1,385	250	330
	700	280	140	Ahtahkakoop First Nation	1,365	245	140
Calgary	Population		Distance (km) From City	Edmonton	Population		Distance (km) From City
	Total Off Reserve	In City			Total Off Reserve	In City	
Siksika nation band	1,570	940	90	Cold Lake First Nation	890	430	260
Blood Tribe	2,090	520	220	Bigstone Cree Nation	3,065	390	270
Cowessess First Nation	1,770	195	800	Sucker Creek First Nation	1,115	295	260
Tsuu t'ina Nation	235	180	30	Alexander First Nation	410	235	30
Peigan Nation	760	155	180	Enoch Cree Nation #440	420	220	20
Beardy's and Okemasis	995	100	560	Blood Tribe	2,090	215	450
Peguis First Nation	3,040	100	1,150	Mikisew Cree First Nation	690	205	740
Sakimay First Nation	700	95	800	Long Lake Cree Nation	510	200	220
White Bear First Nation	720	85	950	Paul First Nation	335	190	30
Paul First Nation	335	75	270	Frog Lake First Nation	585	180	250

Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 2**  
**Proportion of Total Registered Indian Population Affiliated with 20 Largest First Nations, Select Urban Areas, 1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

### 3.2 Tribal Council Affiliation: A Winnipeg Case Study

First Nation affiliation data can be organized to identify the tribal council affiliation of the First Nations populations residing in the study areas.<sup>6</sup> The tribal council affiliation of the First Nations population residing in Winnipeg is summarized in Table 5. As revealed in the table, the largest concentrations of First Nations populations residing in Winnipeg are affiliated with First Nations from tribal councils located in the southern region of the province. These include populations affiliated with Interlake Tribal Council First Nations (3,325 individuals), South East Tribal Council First Nations (2,325 individuals), and Dakota-Ojibway Tribal Council First Nations (1,690 individuals). Collectively, the population affiliated with First Nations from these three tribal councils forms about 35.5 percent of the total First Nations population residing in the city. Populations affiliated with First Nations that are associated with tribal councils located in the west-central and northern regions of the province (including West Region, Swampy Cree, Keewatin and Island Lake Tribal Councils) jointly form about 17.6 percent of the total First Nations population of the city.

<sup>6</sup> First Nations affiliation data could also be aggregated explore the urban populations associated with other First Nations political structures and organizations (e.g. Treaty organizations).

**Table 5**  
**Registered Indian Population Residing in Winnipeg Showing Tribal Council Affiliation, Manitoba First Nations, 1996**

<b>Tribal Council</b>	<b>Population</b>	<b>% of Winnipeg First Nations Population</b>	<b>% of First Nations Population in Winnipeg</b>
<b>Swampy Cree Tribal</b>	755	3.7	8.1
<b>Interlake Tribal Council</b>	3,325	16.1	33.6
<b>Dakota Ojibway Tribal</b>	1,690	8.2	17.6
<b>South East Tribal Council</b>	2,325	11.2	34.9
<b>West Region Tribal Council</b>	1,010	4.9	19.3
<b>Keewatin Tribal Council</b>	915	4.4	8.6
<b>Island Lake Tribal Council</b>	950	4.6	14.8
<b>Total Independents</b>	3,780	18.3	17.6

Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

### **3.3 Effects of Distance on the Urban Share of First Nations Total Populations**

Table 6 identifies the distribution of First Nations by the proportion or share of the total First Nations population (i.e. on and off reserve) that resides in each of the study areas.<sup>7</sup> This proportion provides a measure of the extent to which the populations affiliated with individual First Nations are concentrated in the urban area considered in the study. As revealed in the table, the First Nation population residing in the study areas formed less than 10 percent of the total First Nation population for a majority of First Nations. Only three (3) First Nations were identified to have the majority of their population residing in one of the six urban areas considered in the study. These First Nations included Sandpoint (64 percent in Thunder Bay), Brokenhead (58 percent in Winnipeg) and Tsuu t'ina (61 percent in Calgary). First Nations with sizable concentrations of their population living in a specific urban area tend to be common only to Winnipeg and Regina. In Winnipeg, for example, 20 or

<sup>7</sup> A few First Nations are located within the boundaries of the urban areas as they have been defined for this study. For these First Nations, the proportion of the First Nation population residing in the city has been calculated in relation to the total First Nation population residing off reserve. For all other First Nations, the proportion is calculated in relation to total First Nation population (i.e. on and off reserve).



more percent of the total populations of 23 First Nations were identified to be living in the city. Nineteen (19) First Nations had 20 more percent of their total population residing in the city of Regina. In the remaining urban areas, the number of First Nations with 20 or more percent of their population residing in the city ranged from 2 (in Calgary) to 9 (in Thunder Bay).

Existing research has identified the level of accessibility (or proximity) of First Nations reserves to the city to be a significant factor in the on-/off-reserve migration patterns of Registered Indians.<sup>8</sup> This situation suggests that the degree of concentration of a First Nation's population in the city may be patterned by proximity to the city. Figures 3 to 8 illustrate the relationship between the share of the First Nation's population (both on and off reserve) residing in the city and distance between the city and the First Nation's reserve. For each of the six urban areas, the level of concentration of a First Nation's population (either total or off reserve) in the city is strongly patterned over distance. The proportion of a First Nation's total population in the city declines sharply with increasing distance between the city and the First Nation's reserve. Visual inspection of the patterns suggests a non-linear (negative exponential) relationship.

**Table 6**  
**Distribution of First Nations by Proportion of First Nation Population Living Off-Reserve, Select Urban Areas, 1996**

Urban Area	Percent of Total Population Living Off Reserve in City						
	No Data*	<10	10-19.9	20-29.9	30-39.9	40-49.9	50+
<b>Thunder Bay</b>	438	45	17	3	2	2	1
<b>Winnipeg</b>	373	92	20	13	6	3	1
<b>Regina</b>	428	53	8	10	4	5	0
<b>Saskatoon</b>	424	56	21	3	3	1	0
<b>Calgary</b>	382	120	4	1	0	0	1
<b>Edmonton</b>	341	140	20	7	0	0	0

\* Includes First Nations with no population in the urban area and First Nations with data suppressed due to small population counts.

Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

<sup>8</sup> Recent research by Clatworthy and Cooke, (2001) has suggested that the relationships between migration to and from reserves and distance to an urban centre are quite complex and non-linear. Nevertheless, proximity to an urban centre was identified in their research as a statistically significant explanatory variable in on/off reserve migration patterns.

A series of simple regression analyses has been used to examine more formally the relationships illustrated in the figures. The analyses are structured to relate the log of distance between the city and First Nation reserve (the independent variable) to the share of the total First Nation population that resides in the city (the dependent variable). To minimize the effects of small population counts, the analyses are restricted to those First Nations with a minimum population of 25 individuals residing in the urban area.

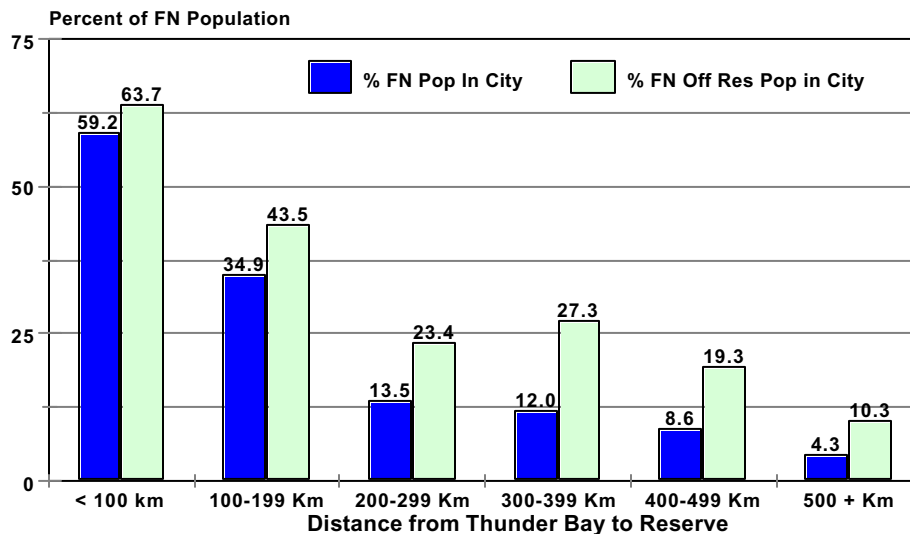
Results of the regression analyses are summarized in Table 7. For each urban area, the regression coefficient for distance is statistically significant and negative, implying that the population share residing in the city declines (exponentially) with increasing distance between the city and First Nation reserve. Values for simple R-squared ranged from .427 to .640 suggesting a fairly high degree of correlation between the variables in each urban area.

Maps 1 to 6 identify the geographic locations of First Nations differentiated according to the share of their total population residing in the urban area. First Nations with 20 or more percent of their total population living in the city are identified on the maps with place name labels. Examination of the mapped data leads to the following observations:

- Nearly all First Nations with 20 or more percent of their populations residing in the city are located within a 300 kilometre radius of the city. A significant majority of these First Nations are located within 200 kilometres of the city;
- More distant (i.e. outside of the 300 kilometre radius) First Nations with 20 or more percent of their populations in the city were identified only for Winnipeg (four First Nations [North Spirit Lake, God's Lake, Poplar River and Pine Creek]) and Edmonton (2 First Nations [Dene Tha and Mikisew Cree]).
- With the exception of Winnipeg, all First Nations with 20 or more percent of their population in the city are located within the same province as the city. In Winnipeg, one First Nation (North Spirit Lake) located in northwestern Ontario, also had 20 or more percent of its population living in the city;
- Several of First Nations located in the central and west-central regions of Saskatchewan have a significant portion (10 or more percent) of their population residing in Edmonton (Map 6). Like Winnipeg, Edmonton appears to attract First Nations population from a more expansive geographic region which extends beyond provincial boundaries.

- Quite distinct north/south patterns exist in the composition of First Nations populations living in Regina and Saskatoon (Maps 3 and 4). First Nations with 20 or percent of their populations living in Regina are located in the southern region of the province (south the Yellowhead Highway). Those with 20 or more percent of their populations living in Saskatoon are located in the central region of province, north of the Yellowhead Highway.<sup>9</sup> A similarly distinct north/south pattern exists among First Nations with 20 or more percent of their populations living in Calgary and Edmonton (Maps 5 and 6);
- Most First Nations with high population concentrations in Winnipeg are located in the south central, central (Interlake) or south eastern regions of the province (Map 2). There is a general absence of First Nations with 20 or more percent of their population living in Winnipeg from the western and south western regions of Manitoba. This situation may result from the influence of other urban centres (Brandon and Portage la Prairie) located in the southern and western regions of the province.

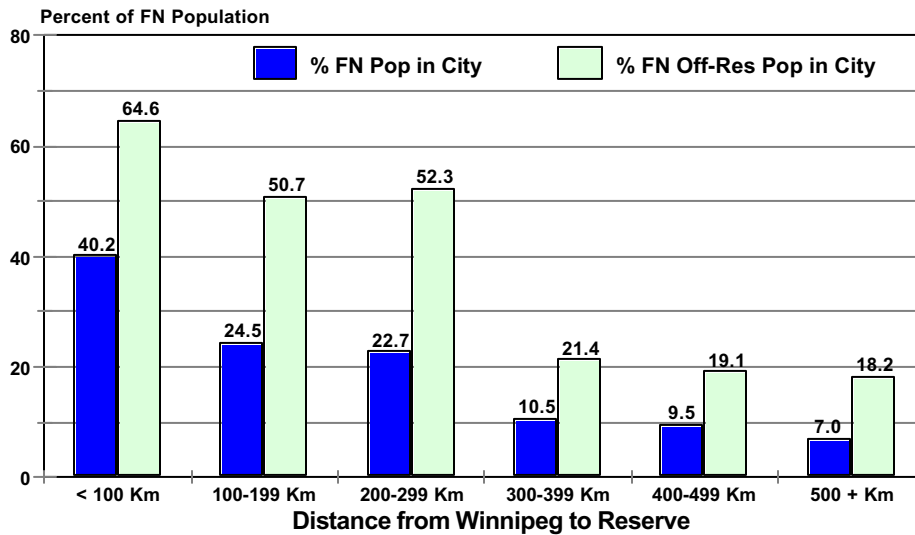
**Figure 3**  
**Proportion of First Nation Population Residing in Thunder Bay**  
**by Distance from Thunder Bay to First Nation Reserve, 1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

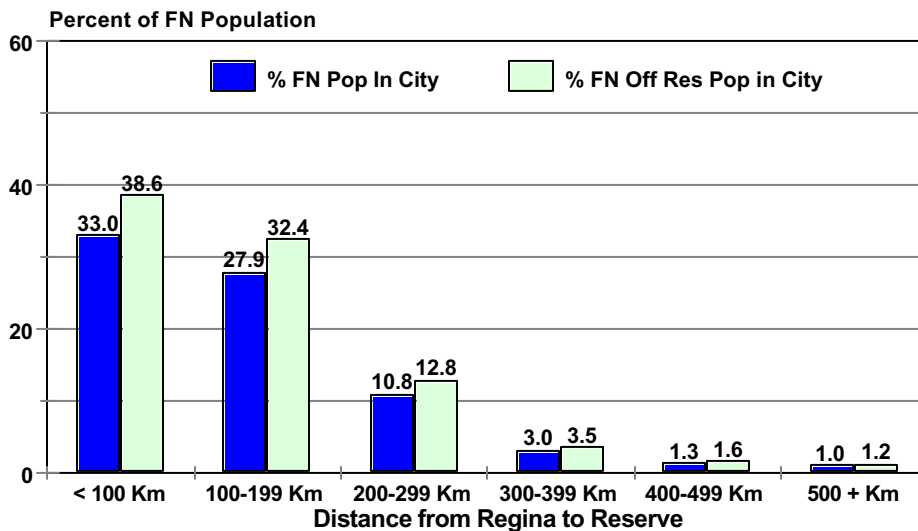
<sup>9</sup> The Whitecap Dakota Sioux First Nation is located south of the Yellowhead Highway but within the boundaries of the Saskatoon study area.

**Figure 4**  
**Proportion of First Nation Population Residing in Winnipeg**  
**by Distance from Winnipeg to First Nation Reserve, 1996**



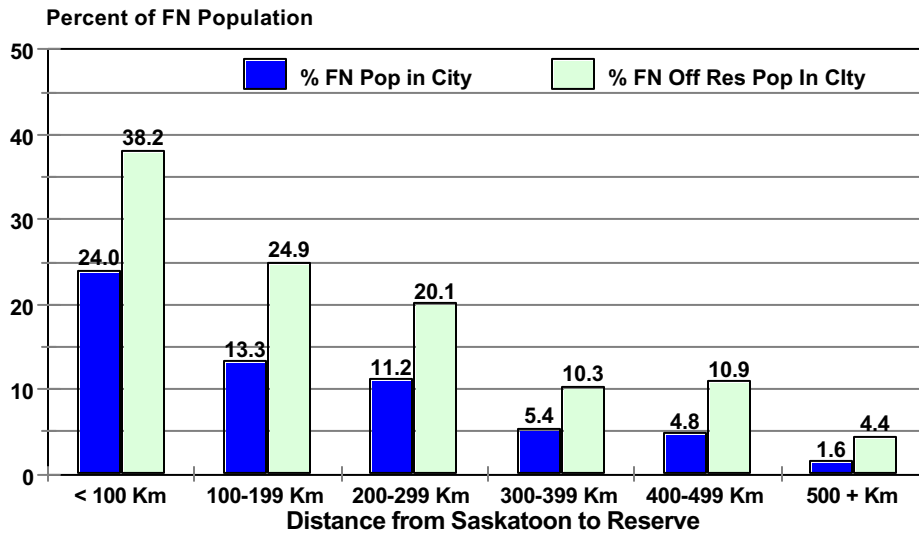
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 5**  
**Proportion of First Nation Population Residing in Regina**  
**by Distance from Regina to First Nation Reserve, 1996**



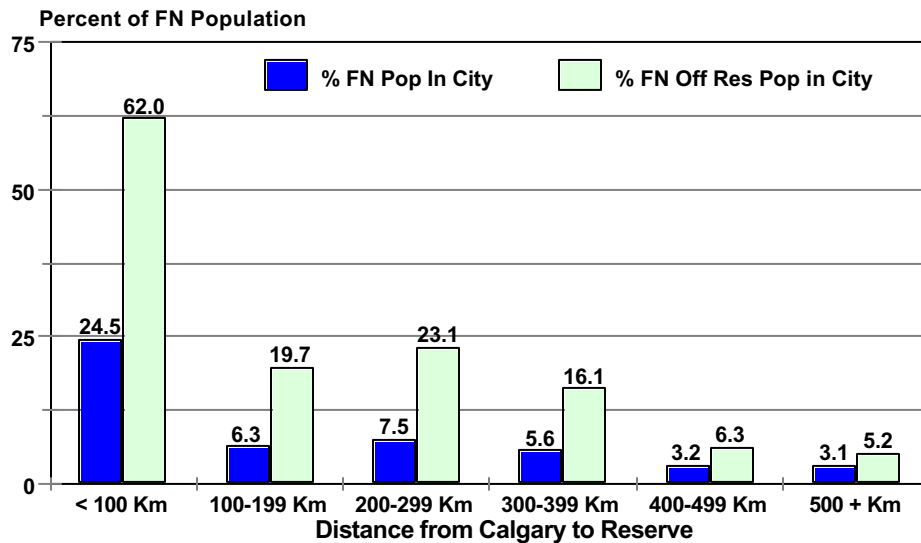
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 6**  
**Proportion of First Nation Population Residing in Saskatoon**  
**by Distance from Saskatoon to First Nation Reserve, 1996**



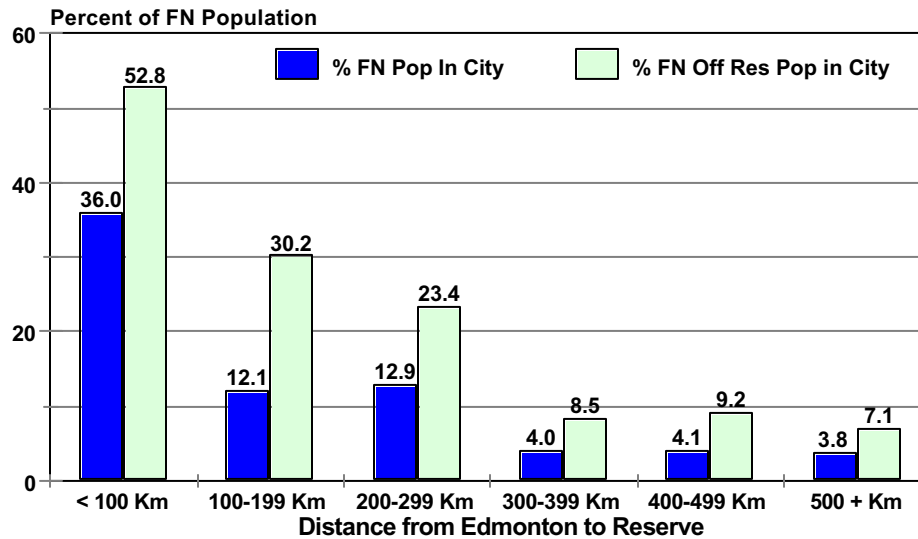
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 7**  
**Proportion of First Nation Population Residing in Calgary**  
**by Distance from Calgary to First Nation Reserve, 1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 8**  
**Proportion of First Nation Population Residing in Edmonton**  
**by Distance from Edmonton to First Nation Reserve, 1996**



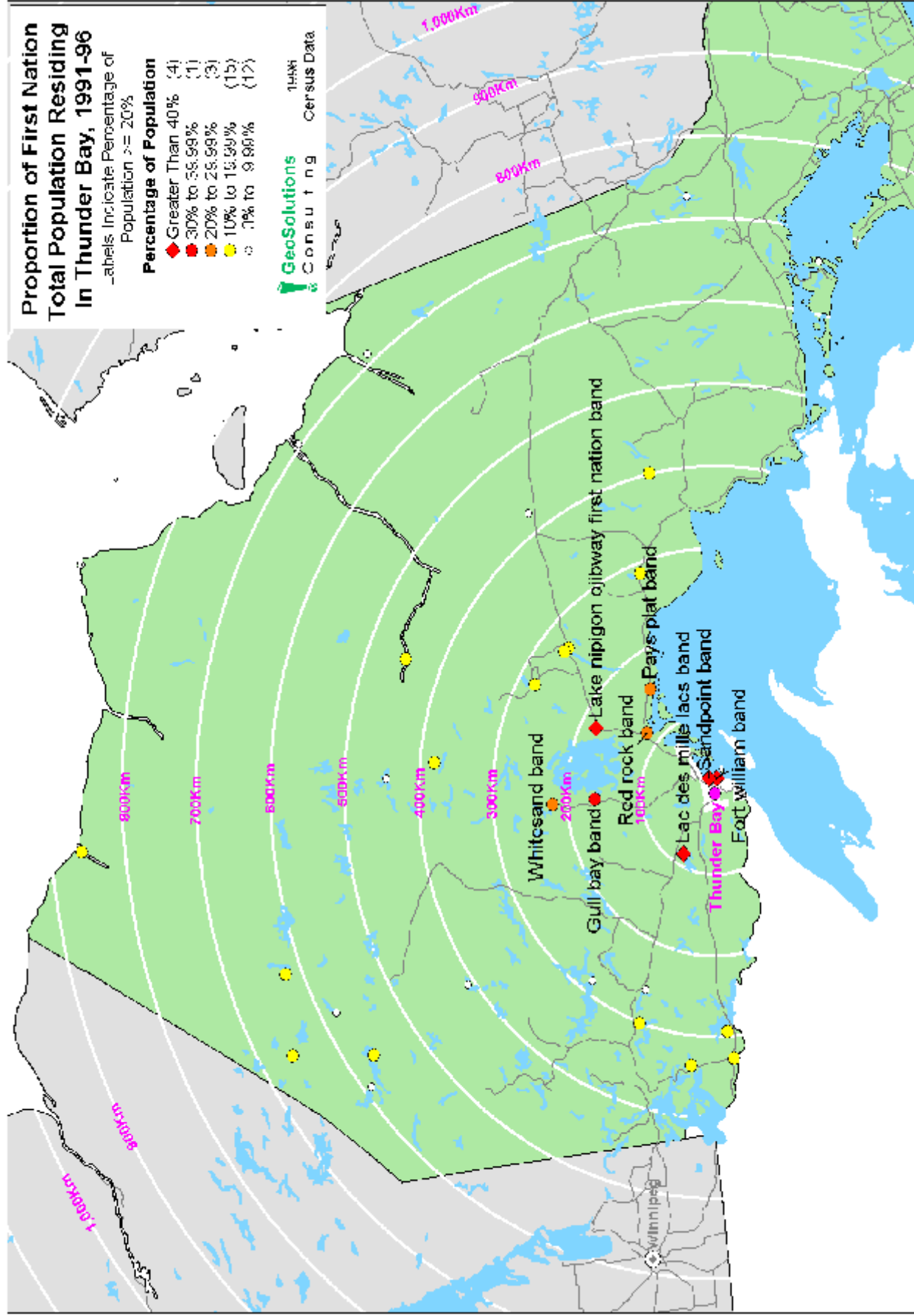
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Table 7**  
**Summary of Results of Regression of Distance (Log) on Proportion of First**  
**Nation Population Residing in City, 1996**

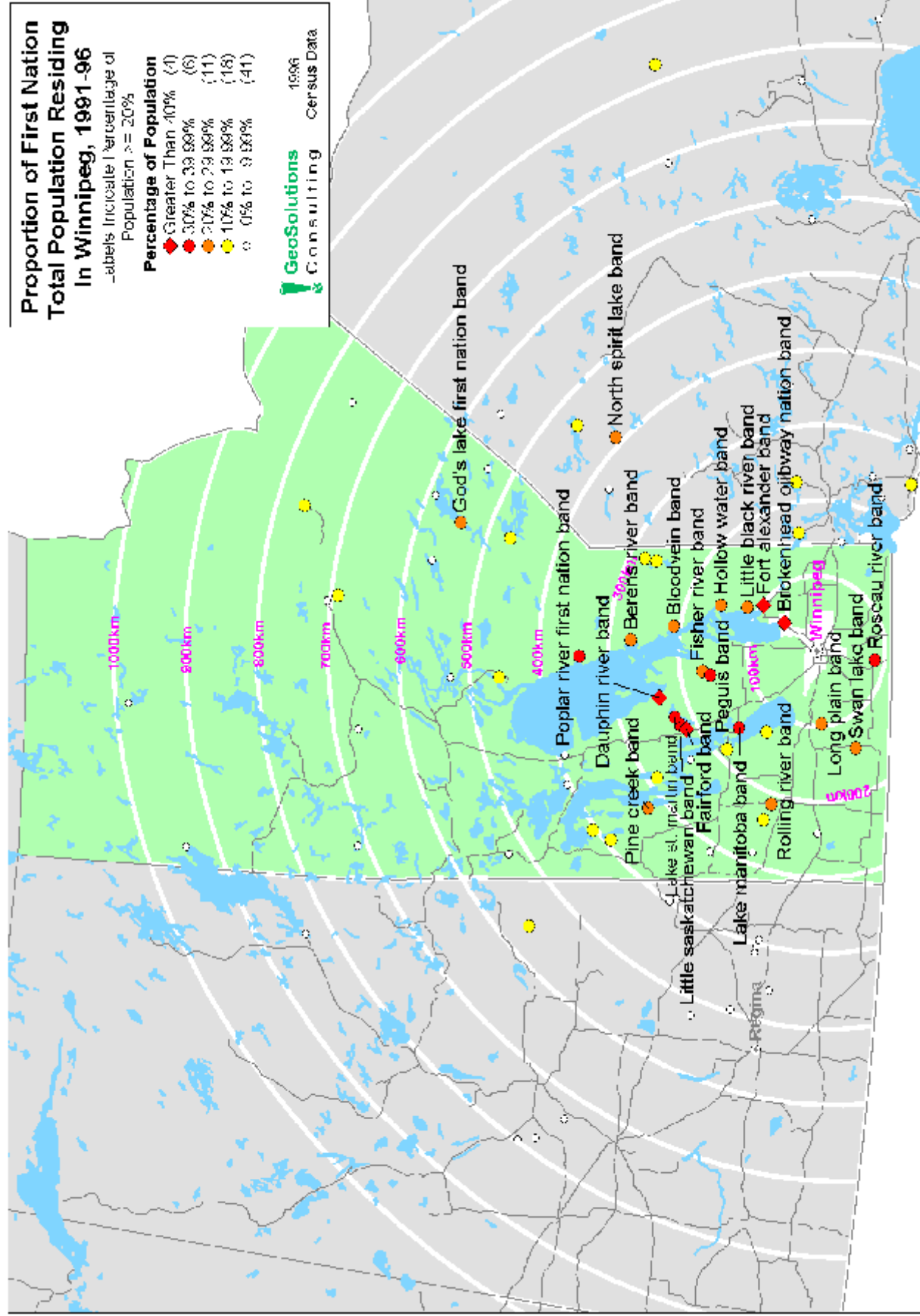
Urban Area	R-Squared	Coefficient	Standard Error
Thunder Bay	0.493	-17.593	3.153
Winnipeg	0.441	-11.997	1.526
Regina	0.640	-14.153	1.642
Saskatoon	0.596	-10.921	1.180
Calgary	0.427	-6.895	1.204
Edmonton	0.505	-11.961	1.315

Source: Statistics Canada, calculations based on custom tabulations from the 1996 Census of Canada.

Map 1

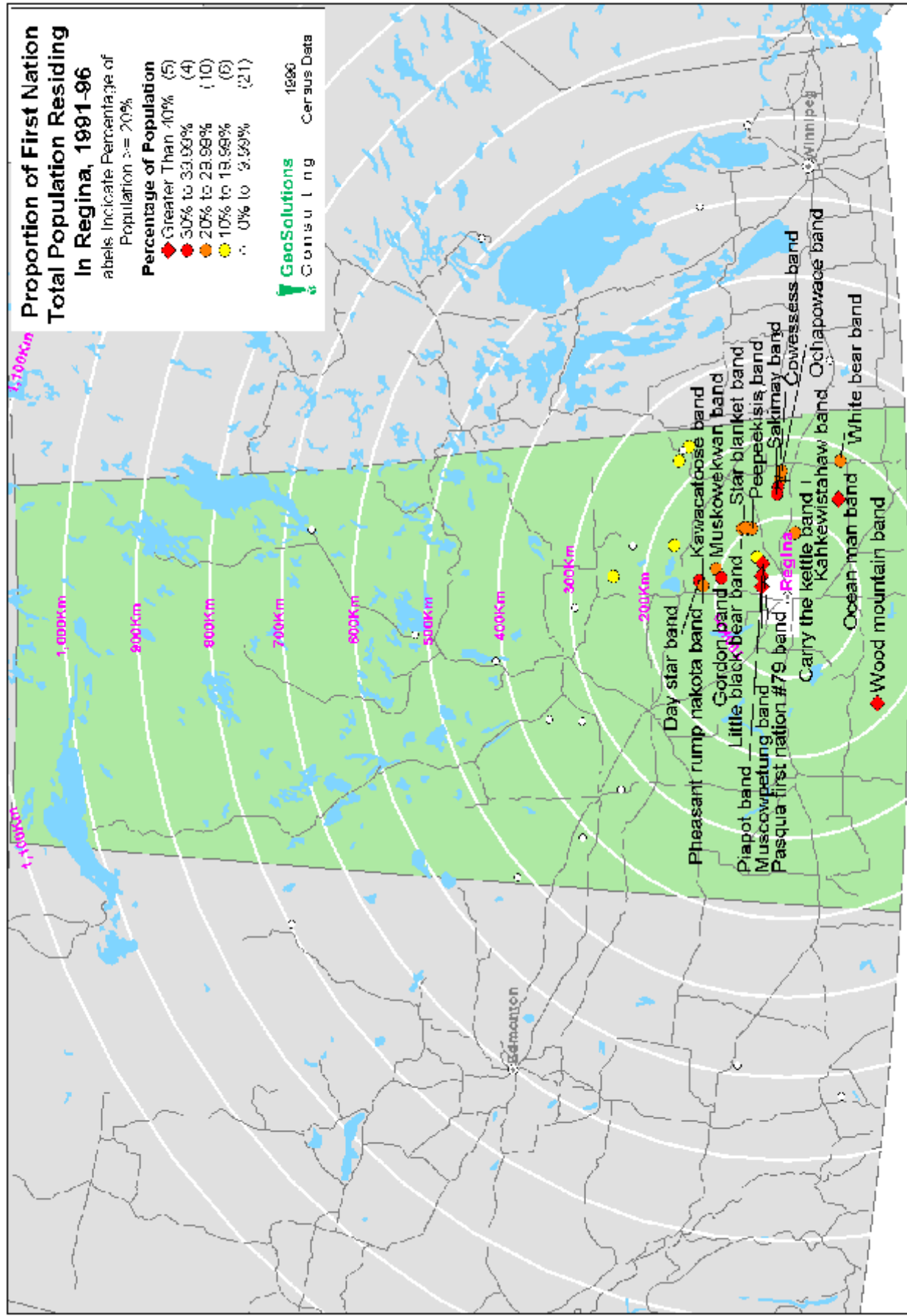


Map 2

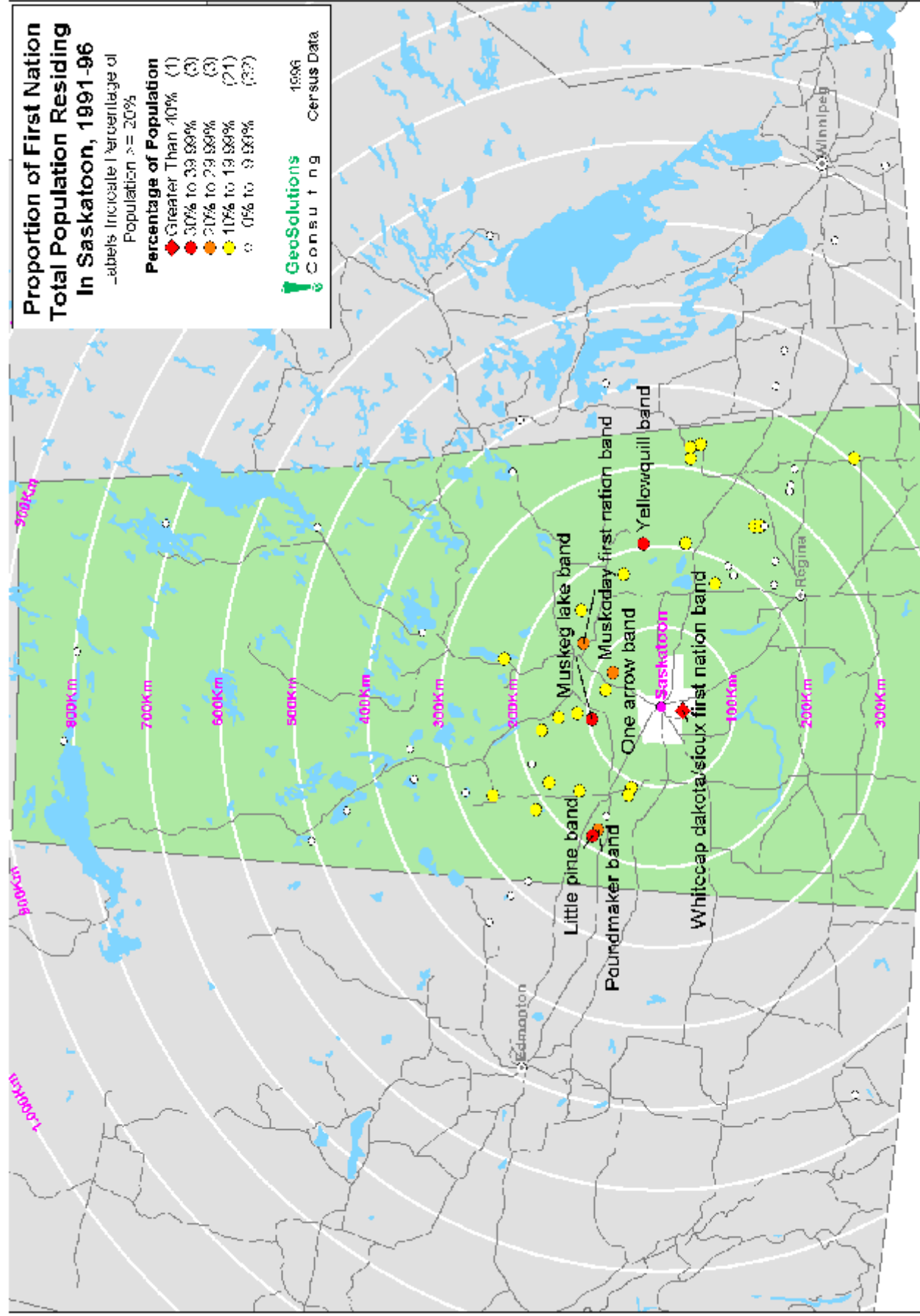




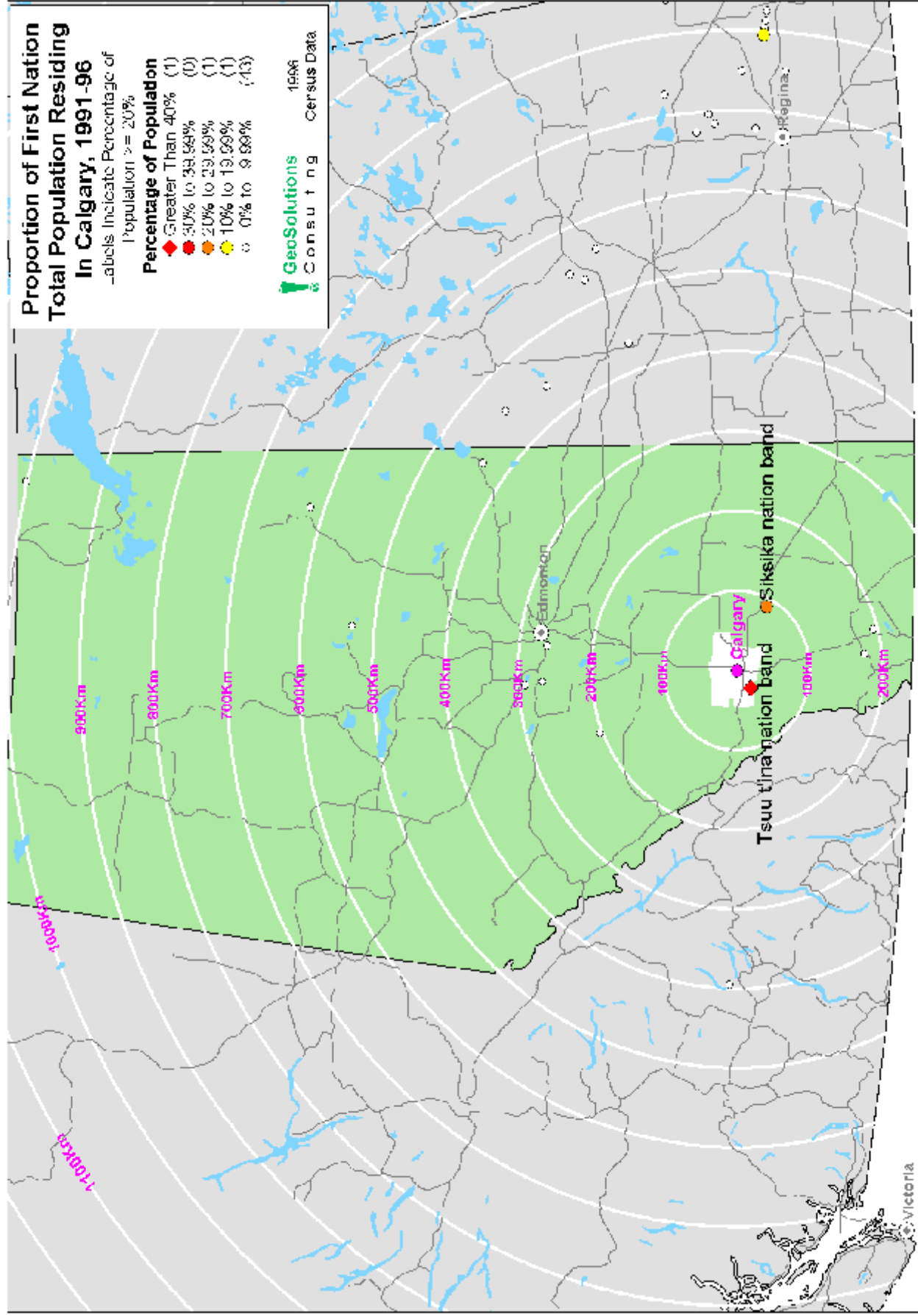
Map 3



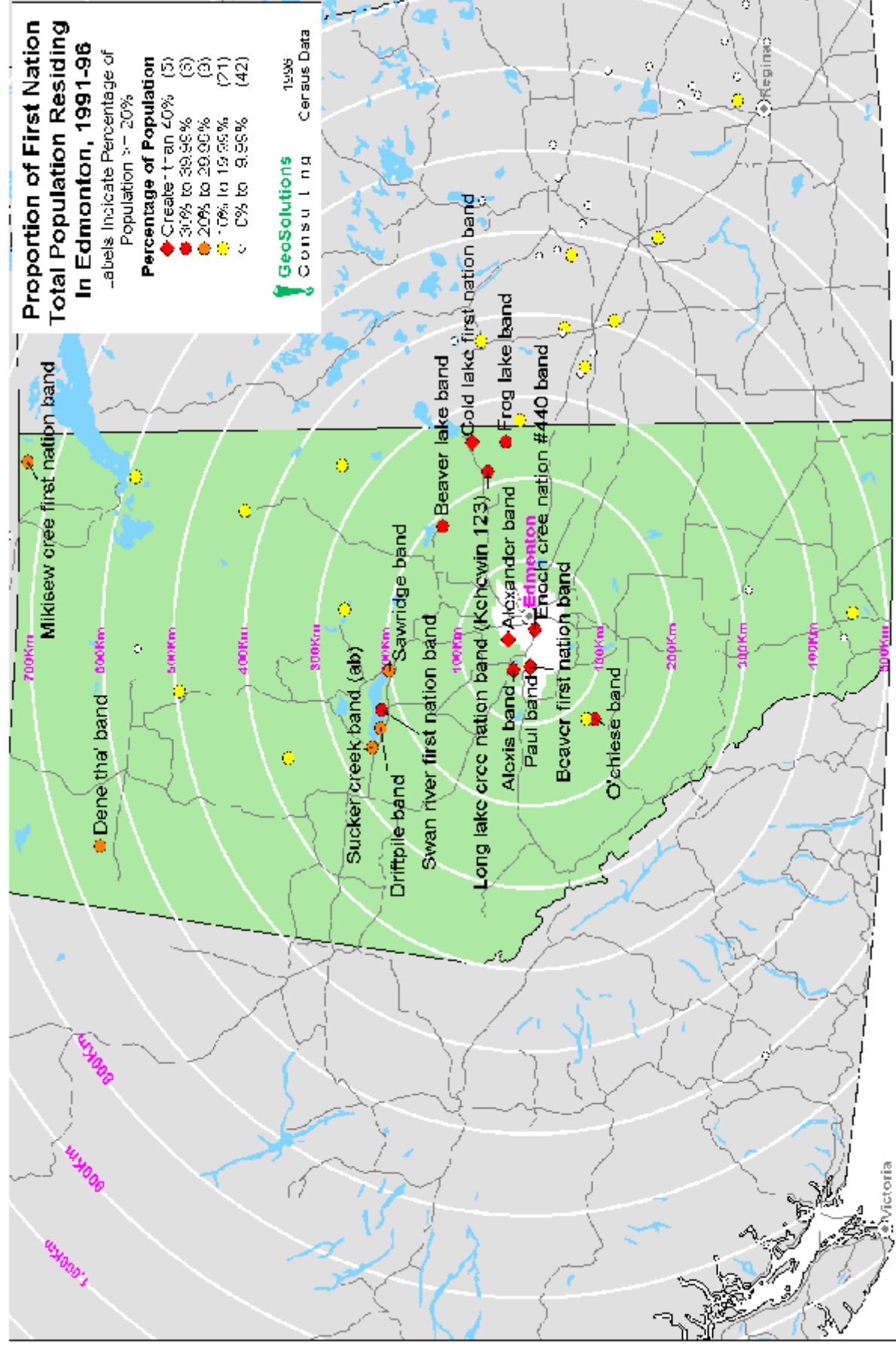
Map 4



Map 5



Map 6



### **3.4 Recent Migration Patterns between First Nation Reserves and Urban Areas**

The preceding analyses have served to document the important role of proximity to the city as a determinant of the degree of concentration of First Nations populations in the city. The study's findings in this regard raise questions concerning the effects of proximity and the size of First Nations urban populations on recent patterns of migration between the city and First Nations reserves.

#### **3.4.1 General Patterns of Registered Indian Migration**

Recent research by Clatworthy and Cooke, 2001 and Norris et al (1999, 2000) has identified the nature and scale of Registered Indian migration flows between off-reserve urban and rural areas and First Nations reserves. Some of this research, which has been undertaken at the national and provincial levels, also explores in detail the migration patterns associated with specific urban centres. The patterns of migration of specific First Nations populations between urban areas and First Nations reserves, however, were not explored in these studies.

Table 8 provides a summary of the Registered Indian migration rates for each of the six study areas. The rates presented in the table are expressed as the number of migrants per 100 population for the 1991-1996 period and can be interpreted as percentages. As revealed in the table, high levels of Registered Indian migration characterizes each of the six study areas. Gross migration rates (a measure of the overall change in the population through migration) ranged from 42 percent (in Winnipeg) to more than 69 percent in Saskatoon. In addition to Saskatoon, gross migration rates exceeding 50 percent were also identified for Regina, Calgary and Edmonton.

In contrast to popular belief (but consistent with earlier research findings), most of the urban areas recorded net outflows of Registered Indians during the 1991-1996 period. These outflows were of significant scale only in the case of Edmonton (13.3 percent). Two of the study areas: Saskatoon and Thunder Bay recorded net inflows of Registered Indians during the period (5.4 percent for each urban area).

**Table 8**  
**Summary of Registered Indian Migration Rates to/from Select Urban Areas, Population Aged 5 or More Years, 1991-1996**

Urban Area	1991-1996 Mid-Population	Registered Indian Migrants/100 Population			
		In	Out	Net	Gross
Thunder Bay	4,353	26.1	20.7	5.4	46.8
Winnipeg	17,268	20.3	21.4	-1.1	41.7
Regina	7,468	22.7	27.6	-4.9	50.3
Saskatoon	7,200	37.3	31.9	5.4	69.2
Calgary	6,045	26.5	29.9	-3.4	56.4
Edmonton	11,585	21.9	35.2	-13.3	57.1

Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

### 3.4.2 Migration between First Nations Reserves and the Urban Areas

Table 9 provides some additional detail concerning the nature and scale of Registered Indian migration between the urban areas and First Nation reserves. As revealed in the table, although most Registered Indian migration involved moves to or from off-reserve areas, migration between the urban areas and First Nations reserves formed a significant component of the total Registered Indian migration in each of the areas. The reserve share of gross Registered Indian migration (to/from the study areas) ranged from 19 percent in Edmonton to nearly 37 percent in Winnipeg. In addition to Winnipeg, migration between the city and First Nations reserves was more common in both Regina and Saskatoon.

Although both Thunder Bay and Saskatoon recorded net inflows of Registered Indian migrants during the 1991-1996 period, this situation resulted from net gains from other off-reserve locations. All of the urban areas considered in the study recorded net outflows to First Nation reserves during the period. These outflows were largest for Edmonton (825 individuals), Winnipeg (785) and Saskatoon (610).

**Table 9**  
**Distribution of Migrants to/from Selected Urban Areas Showing**  
**Reserve Components of Migrants, 1991-1996**

<b>Migrant Group</b>	<b>Thunder Bay</b>	<b>Winnipeg</b>	<b>Regina</b>	<b>Saskatoon</b>	<b>Calgary</b>	<b>Edmonton</b>
<b>In-Migrants</b>						
Total	1,135	3,505	1,695	2,685	1,605	2,540
From Reserves	150	935	375	370	315	225
% Reserves	13.2	26.7	22.1	13.8	19.6	8.9
<b>Out-Migrants</b>						
Total	900	3,690	2,060	2,295	1,805	4,080
To Reserves	270	1,720	795	980	530	1,050
% Reserves	30	46.6	38.6	42.7	29.4	25.7
<b>Net-Migrants</b>						
Total	235	-185	-365	390	-200	-1,540
Reserves	-120	-785	-420	-610	-215	-825
% Reserves	-51.1	424.3	115.1	-156.4	107.5	53.6
<b>Gross Migrants</b>						
Total	2,035	7,195	3,755	4,980	3,410	6,620
Reserves	420	2,655	1,170	1,350	845	1,275
% Reserves	20.6	36.9	31.2	27.1	24.8	19.3

Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

### 3.4.3 Migration Rates by Size of Urban First Nation Population

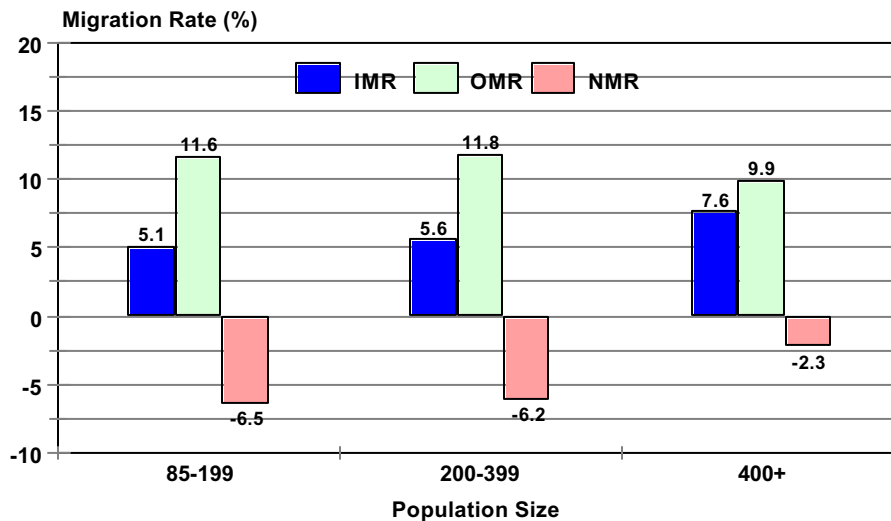
The size of an urban First Nation population may be expected to influence migration patterns between the city and First Nation reserve as a result of its influence on the nature and extent of family and kinship ties and social supports. In general, one might expect that in-migration to the city may be enhanced, while out-migration to the reserve may be inhibited among First Nations with larger populations in the city. This issue can be examined by estimating the migration rates for First Nations with urban populations of varying size. The study's analysis in this regard is limited by the relatively small population counts associated with migrants to and from the city. As a consequence, it is not possible to control for factors other than population size (e.g. proximity to the city or reserve) which may influence migration patterns.

In addition, in order to obtain a sufficient number of observations to support the analysis, data for the six urban areas have been grouped.

Figure 9 presents estimates of the in- and out-migration rates associated with First Nations populations residing in the study areas (combined) by population size group. The figure reveals that First Nations with large urban populations (400 or more individuals) exhibit higher rates of in-migration and lower rates of out-migration (as expected). In addition, First Nations groups with populations of 400 or more individuals exhibit a much lower rate of net out-migration (-2.3 percent compared to more than -6.0 percent for smaller population groups). Among First Nations with urban populations under 400 individuals differences in in-, out-, and net-migration rates tend to be quite small.

Although the study’s findings are consistent with those expected, in light of the small scale of the differences identified among population size groups (and the likelihood that other factors may be contributing to the observed differences), the study’s results concerning the effect of population size on migration should be viewed as inconclusive. In addition, the possibility exists that findings identified for the aggregate of urban areas may not be characteristic of all of the individual urban areas.

**Figure 9**  
**Summary of Migration Rates of Registered Indian Population by Size of First Nation Population Residing in Select Areas, 1991-1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.



### 3.4.4 Geographic Patterns of Migration between the City and First Nations Reserves

Analyses of the effects of distance between the city and First Nations reserves have been undertaken for all centres except Calgary. The migration analyses reported in this subsection are limited to those First Nations which reported a minimum population (aged 5 or more years) of 85 individuals in the city. In the case of Calgary, only eight (8) First Nations which met this condition, reported migration volumes of sufficient scale to permit estimation of the migration rates.<sup>10</sup>

#### *Reserve to City Migration Flow*

Figures 10 to 14 present rates of in-migration to the city and rates of out-migration from First Nations reserves to the city for First Nations organized by distance from the city.<sup>11</sup> Although several anomalies are apparent in the structure of the relationship between distance and in- (out-) migration to (from) the city (First Nations reserves), two general patterns are suggested by the data presented in the figures:

- With the exception of Edmonton, rates of in-migration to the city tend to be higher for those First Nations located at greater distances from the city; and
- For all urban centres, rates of out-migration from First Nations reserves to the city tend to be lower at greater distances from the city.

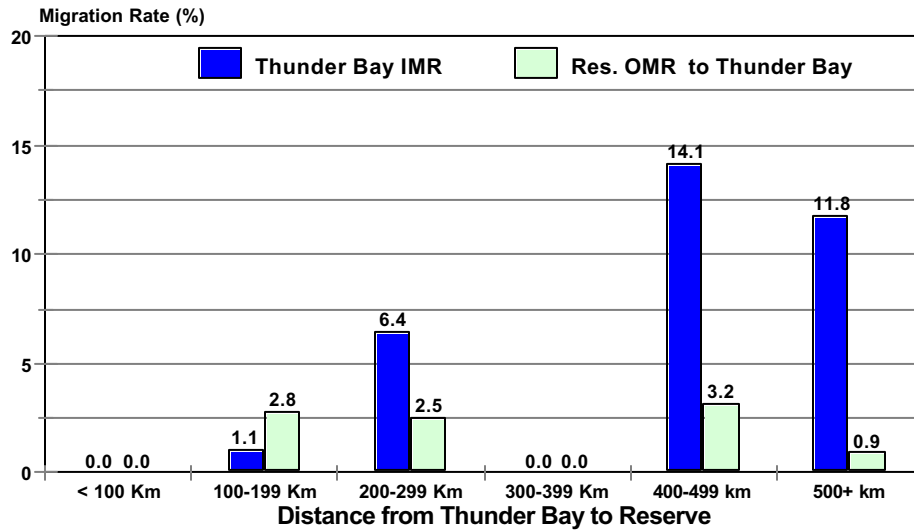
Regression analyses of the log of distance on in-migration rates to the city (Table 10) and out-migration from First Nations reserves to the city (Table 11) reveal that the effect of distance is statistically significant only for specific urban centres. In the case of in-migration rates to the city, significant distance effects were identified only for Saskatoon and Edmonton. For both of these centres, rates of in-migration to the city from reserve were identified to decline with increasing distance from First Nations reserves. Rates of out-migration from First Nations reserves to the city were significantly related to distance only in the case of Edmonton. In this case, rates of out-migration from First Nations to the city declined with increasing distance to the city.

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<sup>10</sup> The migration analyses are based on the following number of First Nations: Thunder Bay (16 cases), Winnipeg (44 cases), Regina (22 cases), Saskatoon (33 cases), and Edmonton (25 cases).

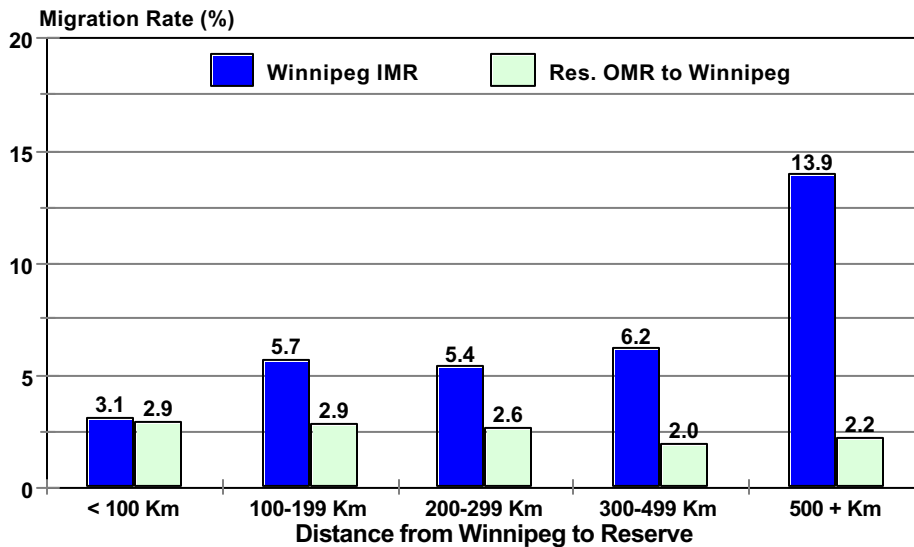
<sup>11</sup> The rates of in-migration to the city and out-migration from reserve measure the same migration flow from two perspectives. The rate of in-migration to the city measures the inflow of migrants to the city from a specific First Nation reserve in relation to the size of that First Nation's population in the city. The rate of out-migration from the First Nation's reserve to the city measures that same flow of migrants in relation to the size of First Nation's population on reserve.

**Figure 10**  
**In-Migration Rate to Thunder Bay and Reserve Out-Migration Rate to Thunder Bay by Distance from Thunder Bay to First Nation Reserve, 1991-1996**



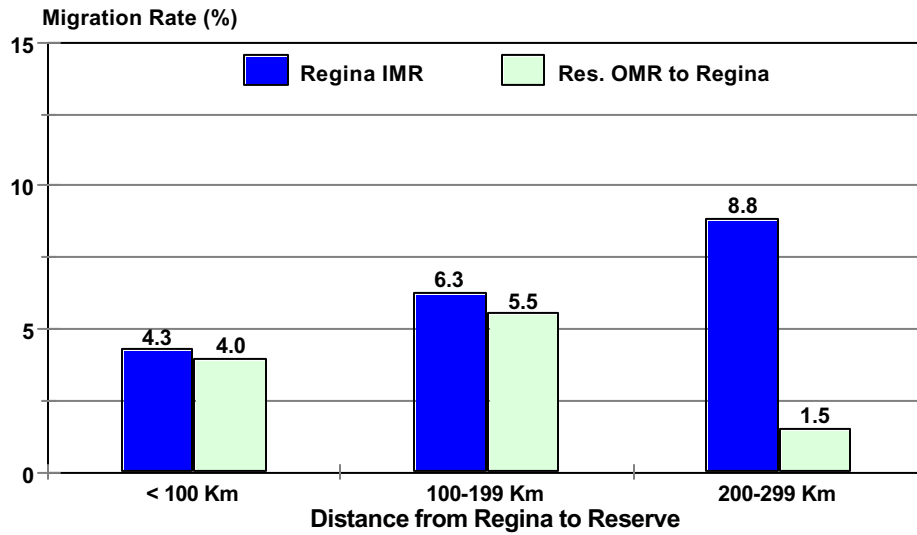
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 11**  
**In-Migration Rate to Winnipeg and Reserve Out-Migration Rate to Winnipeg by Distance from Winnipeg to First Nation Reserve, 1991-1996**



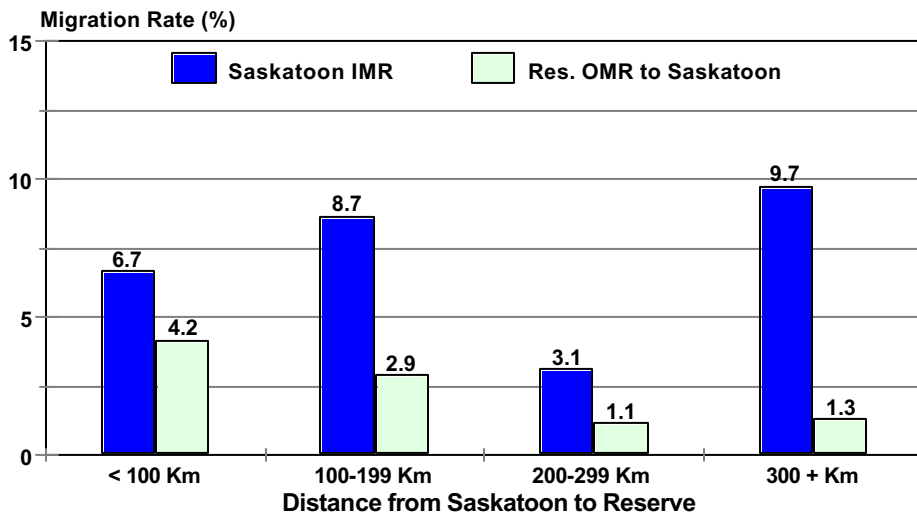
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 12**  
**In-Migration Rate to Regina and Reserve Out-Migration Rate to Regina by Distance from Regina to First Nation Reserve, 1991-1996**



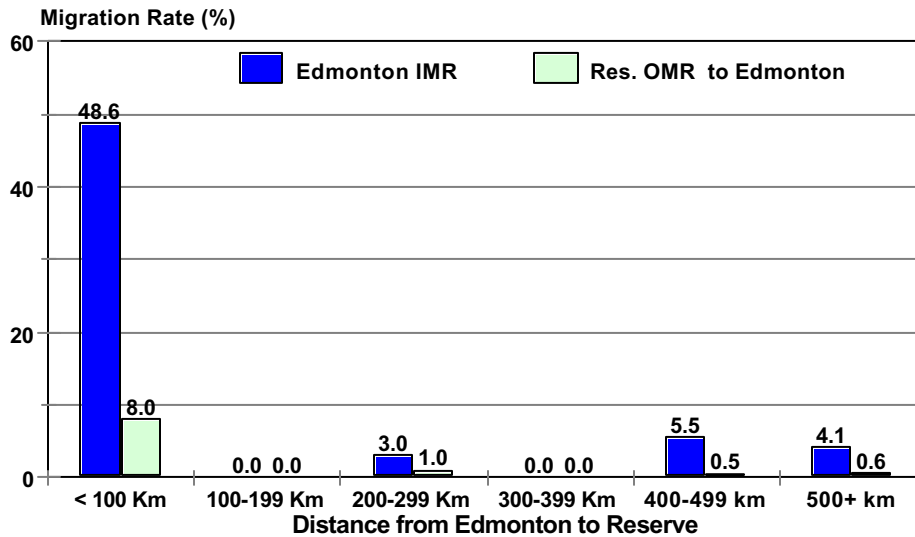
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 13**  
**In-Migration Rate to Saskatoon and Reserve Out-Migration Rate to Saskatoon by Distance from Saskatoon to First Nation Reserve, 1991-1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 14**  
**In-Migration Rate to Edmonton and Reserve Out-Migration Rate to Edmonton by Distance from Edmonton to First Nation Reserve, 1991-1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Table 10**  
**Summary of Results of Regression of Distance (Log) on Rate of Registered Indian In-Migration to City, 1991-1996**

Urban Area	R-Squared	Coefficient	Standard Error
Thunder Bay	0.096	5.096	Not Sig
Winnipeg	0.013	-0.005	Not Sig
Regina	0.056	2.880	Not Sig
Saskatoon	0.209	-12.118	4.23
Calgary	NA	NA	NA
Edmonton	0.220	-7.963	3.124

Source: Statistics Canada, calculations based on custom tabulations from the 1996 Census of Canada.

**Table 11**  
**Summary of Results of Regression of Distance (Log) on Registered Indian Out-Migration Rate from Reserve to City, 1991-1996**

Urban Area	R-Squared	Coefficient	Standard Error
Thunder Bay	0.009	0.303	Not Sig
Winnipeg	0.072	-1.67	Not Sig
Regina	0.001	-0.234	Not Sig
Saskatoon	0.032	-1.592	Not Sig
Calgary	NA	NA	NA
Edmonton	0.315	-1.742	0.536

Source: Statistics Canada, calculations based on custom tabulations from the 1996 Census of Canada.

### ***City to Reserve Migration***

Figures 15 to 19 illustrate rates of out-migration from the city (to First Nation reserves) and rates of reserve in-migration (from the city) for First Nations organized by distance from the city.<sup>12</sup> Data presented in the figure suggest that:

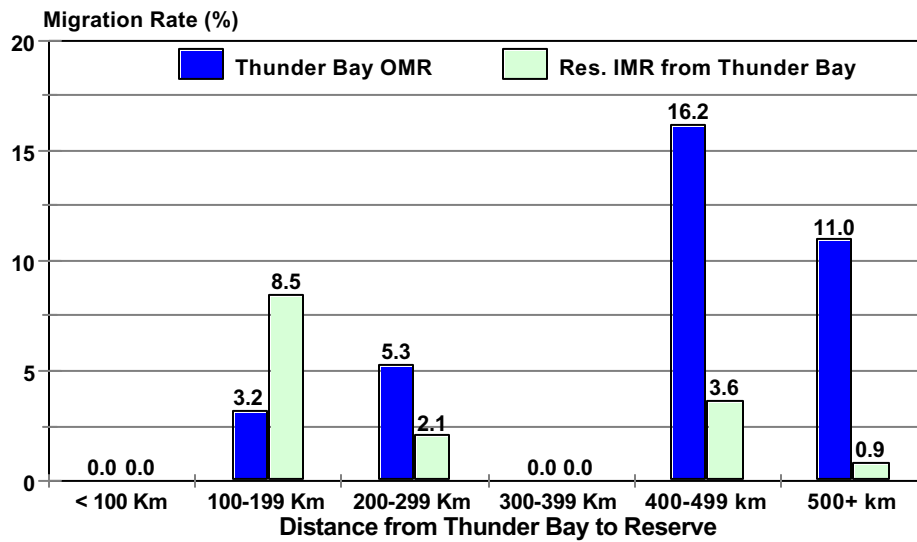
- With the exception of Edmonton, rates of out-migration from the city to First Nation reserves are not clearly patterned over distance. In the case of Edmonton, rates of out-migration to reserves tend to decline sharply with increased distance between the city and reserve.
- Rates of in-migration to First Nation reserves from the city are generally lower among more distance reserves for all of the study areas.

Tables 12 and 13 present a summary of the results of regression analyses of the log of distance on rates of out-migration from the city to First Nation reserves and rates of in-migration to First Nation reserves from the city. In the case of out-migration from the city, a statistically significant relationship was identified only in the case of

<sup>12</sup> The rates of out-migration from the city (to the reserve) and in-migration to reserve (from the city) measure the same migration flow from two perspectives. The rate of out-migration from the city measures the outflow of migrants from the city to a specific First Nation reserve in relation to the size of that First Nation's population in the city. The rate of in-migration to the First Nation's reserve from the city measures that same flow of migrants in relation to the size of First Nation's population on reserve.

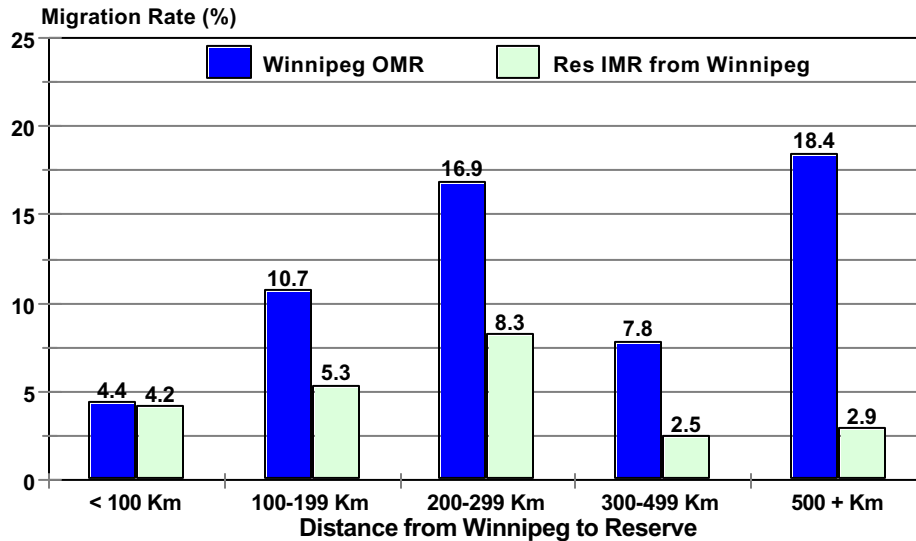
Edmonton. Significant relationships between distance from the city and rates of in-migration to First Nation reserves from the city were identified for each of the study areas. For all areas, the rate of in-migration to First Nation reserves from the city declines with increasing distance. Distance effects were largest for Regina and Edmonton.

**Figure 15**  
**Out-Migration Rate from Thunder Bay and Reserve In-Migration Rate from Thunder by Distance from Thunder Bay to First Nation Reserve, 1991-1996**



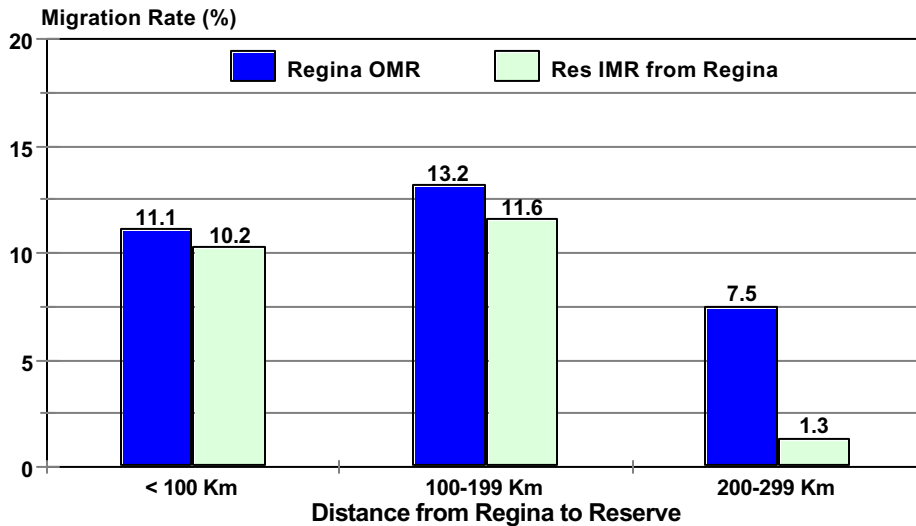
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 16**  
**Out-Migration Rate from Winnipeg and Reserve In-Migration Rate from Winnipeg by Distance from Winnipeg to First Nation Reserve, 1991-1996**



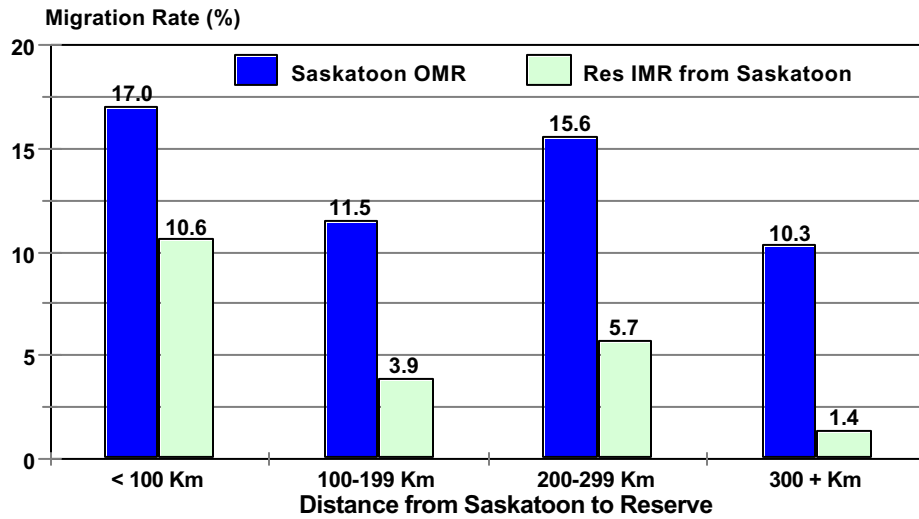
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 17**  
**Out-Migration Rate from Regina and Reserve In-Migration Rate from Regina by Distance from Regina to First Nation Reserve, 1991-1996**



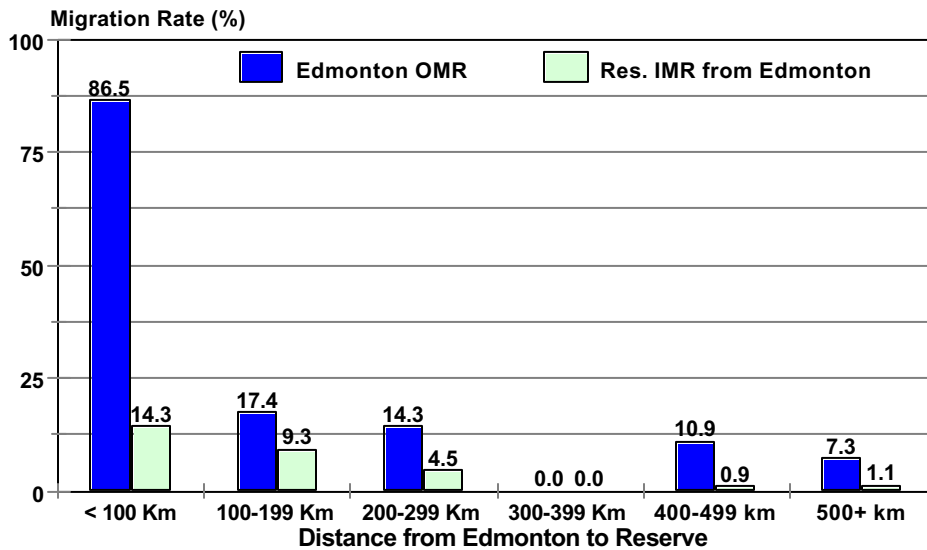
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 18**  
**Out-Migration Rate from Saskatoon and Reserve In-Migration Rate from Saskatoon by Distance from Saskatoon to First Nation Reserve, 1991-1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 19**  
**Out-Migration Rate from Edmonton and Reserve In-Migration Rate from Edmonton by Distance from Edmonton to First Nation Reserve, 1991-1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.



**Table 12**  
**Summary of Results of Regression of Distance (Log) on Rate**  
**of Registered Indian Out-Migration from City, 1991-1996**

Urban Area	R-Squared	Coefficient	Standard Error
Thunder Bay	0.006	0.621	Not Sig
Winnipeg	0.002	-0.002	Not Sig
Regina	0.001	-0.033	Not Sig
Saskatoon	0	0.131	Not Sig
Calgary	NA	NA	NA
Edmonton	0.596	-18.602	3.192

Source: Statistics Canada, calculations based on custom tabulations from the 1996 Census of Canada.

**Table 13**  
**Summary of Results of Regression of Distance (Log) on Registered Indian**  
**In-Migration Rate to Reserve from City, 1991-1996**

Urban Area	R-Squared	Coefficient	Standard Error
Thunder Bay	0.313	-2.341	1.006
Winnipeg	0.118	-2.940	1.242
Regina	0.209	-5.196	2.262
Saskatoon	0.174	-3.160	1.234
Calgary	NA	NA	NA
Edmonton	0.572	-4.345	0.783

Source: Statistics Canada, calculations based on custom tabulations from the 1996 Census of Canada.

### ***Net-Migration Rates***

Figures 20 to 24 provide a descriptive summary of the relationship between rates of net-migration to/from the city and rates of net-migration to/from First Nations reserves (and the city) by distance between the city and First Nation reserve. As revealed in the figures, net-migration rates, referenced in terms the First Nations population residing in the city, are clearly patterned over distance only in the case of Edmonton. For all other centres, city net-migration rates vary widely with distance between the city and First Nations reserves.

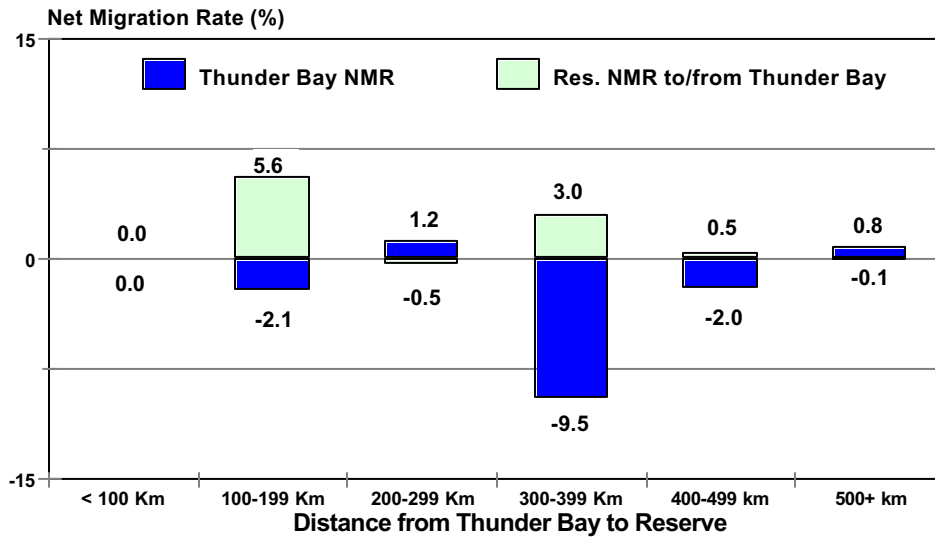
Net-migration rates referenced in terms of First Nations' reserve populations reveal similar patterns over distance. Within the context of all centres except Edmonton, net-migration rates to First Nations reserves are highly variable over distance. Rates of net-migration to First Nations reserves from Edmonton tend to be much lower among First Nations located at greater distances from the city.

As expected on the basis of the patterns of net-migration illustrated in the figures, the results of regressions between the log of distance and net-migration rates are statistically significant only in the case of Edmonton. The rate of net-migration from the Edmonton to First Nations reserves declines with increasing distance from the city (Table 14). Similarly, the rate of net migration to First Nations reserves from Edmonton declines with greater distance between the city and the First Nation reserve (Table 15).

### ***City Component of Reserve Gross Migration***

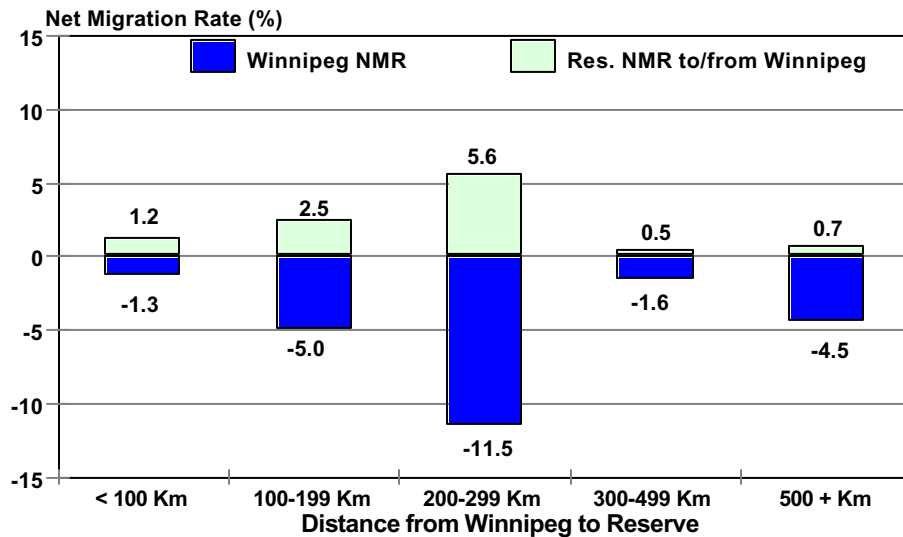
Gross migration (i.e. the sum of in- and out-migration) provides one measure of the overall volume of migration for a specific location. A measure of the level of interaction between the city and First Nations reserves can be constructed by calculating the proportion of reserve gross migration that is attributable to moves to or from the city. Based on the findings of earlier work, one expects that the level of interaction between First Nations reserves and the city will decline with increasing distance between the reserve and city. Figures 25 to 29 present these data for the five urban areas for which sufficient migration data are available.

**Figure 20**  
**Net-Migration Rate off Thunder Bay and Reserve Net-Migration Rate to/from Thunder Bay by Distance from Thunder Bay to First Nation Reserve, 1991-1996**



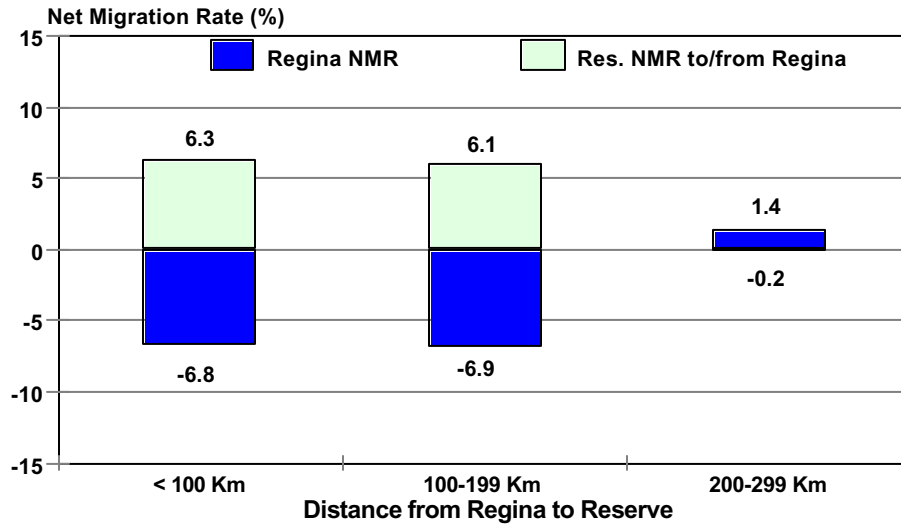
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 21**  
**Net-Migration Rate off Winnipeg and Reserve Net-Migration Rate to/from Winnipeg by Distance from Winnipeg to First Nation Reserve, 1991-1996**



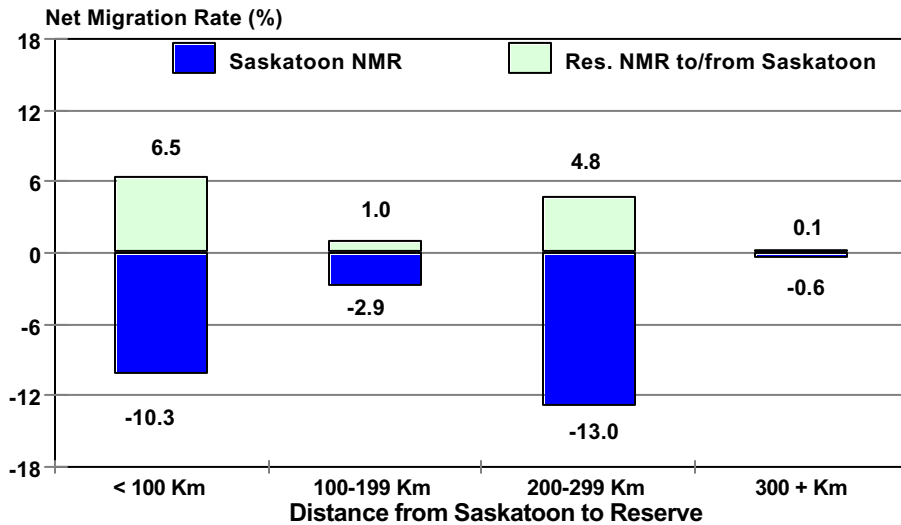
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 22**  
**Net-Migration Rate off Regina and Reserve Net-Migration Rate to/from Regina by Distance from Regina to First Nation Reserve, 1991-1996**



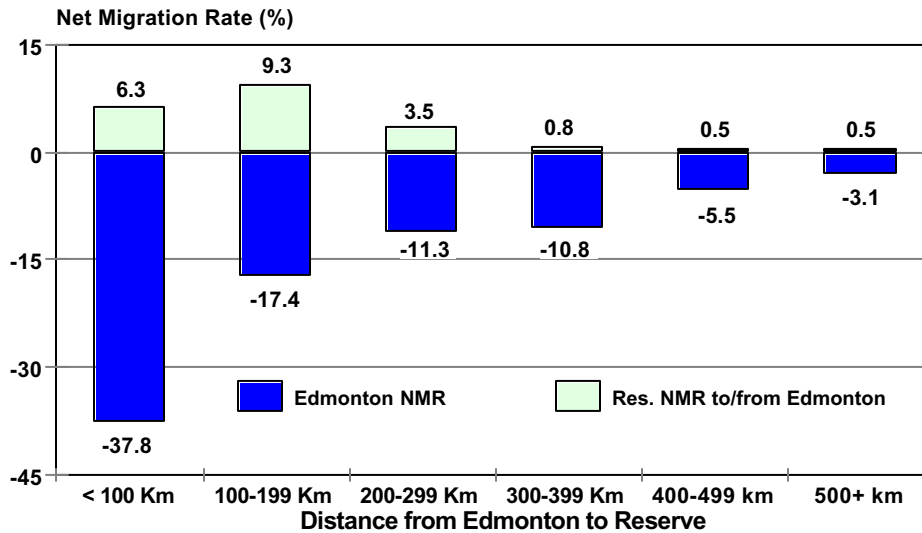
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 23**  
**Net-Migration Rate off Saskatoon and Reserve Net-Migration Rate to/from Saskatoon by Distance from Saskatoon to First Nation Reserve, 1991-1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 24**  
**Net-Migration Rate off Edmonton and Reserve Net-Migration Rate to/from Edmonton by Distance from Edmonton to First Nation Reserve, 1991-1996**



Source: Statistics Canada, calculations based on custom tabulations from the 1996 Census of Canada.

**Table 14**  
**Summary of Results of Regression of Distance (Log) on Rate of Registered Indian Net Migration to/from City, 1991-1996**

Urban Area	R-Squared	Coefficient	Standard Error
Thunder Bay	0.057	4.475	Not Sig
Winnipeg	0.002	-0.003	Not Sig
Regina	0.027	3.209	Not Sig
Saskatoon	0.010	-4.471	Not Sig
Calgary	NA	NA	NA
Edmonton	0.394	10.639	2.750

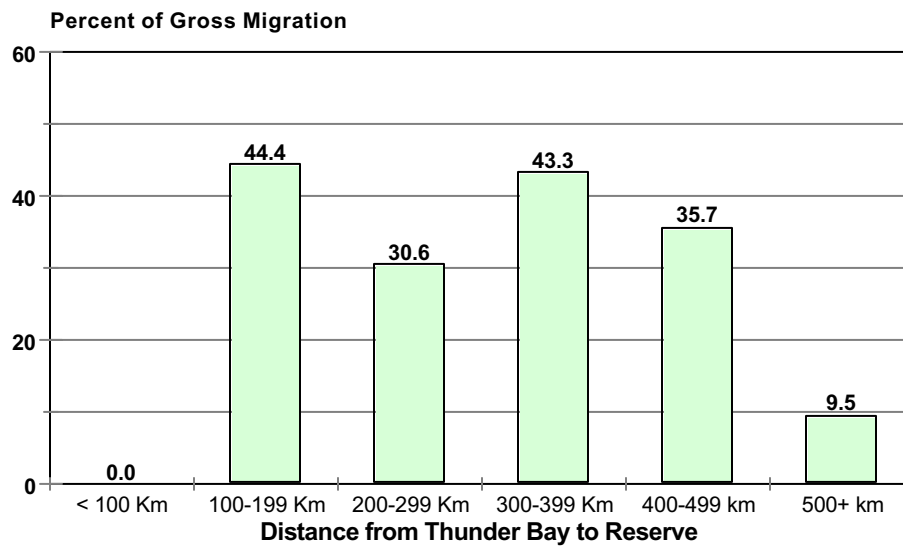
Source: Calculations based on custom tabulations from Statistics Canada, 1996 Census of Canada.

**Table 15**  
**Summary of Results of Regression of Distance (Log) on Rate**  
**of Registered Indian Net Migration to Reserve from City, 1991-1996**

Urban Area	R-Squared	Coefficient	Standard Error
Thunder Bay	0.046	-0.807	Not Sig
Winnipeg	0.018	-1.456	Not Sig
Regina	0.148	8.355	Not Sig
Saskatoon	0.021	-1.568	Not Sig
Calgary	NA	NA	NA
Edmonton	0.309	-11.962	1.315

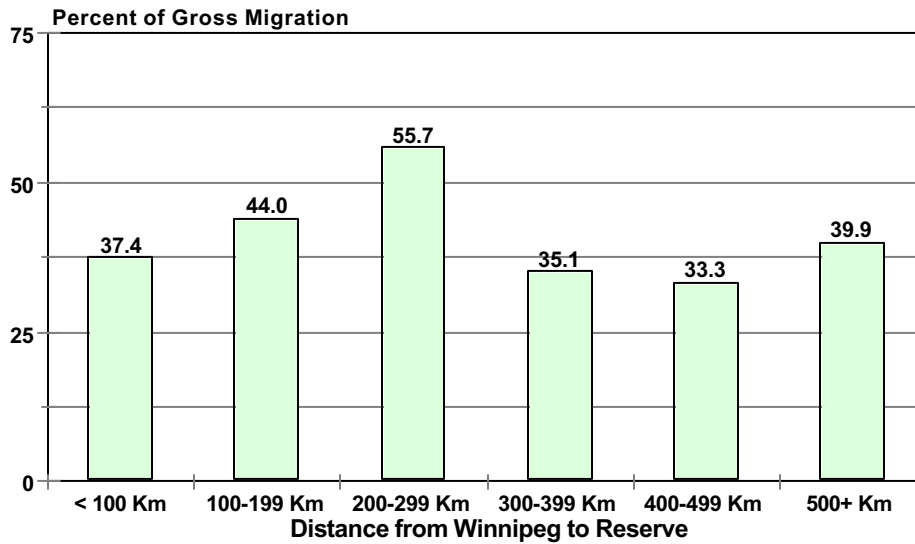
Source: Statistics Canada, calculations based on custom tabulations from the 1996 Census of Canada.

**Figure 25**  
**Proportion of Reserve Gross Migration Involving Migration to/from Thunder**  
**Bay by Distance from Thunder Bay to First Nation Reserve, 1991-1996**



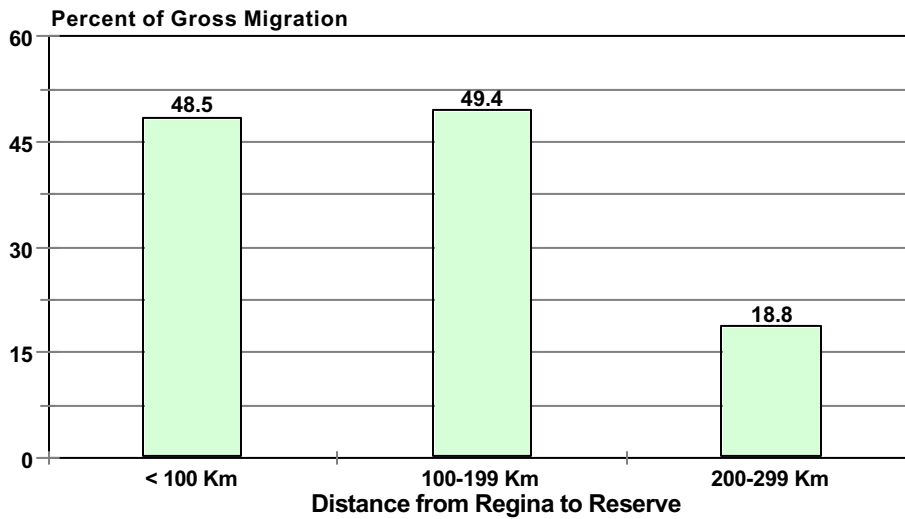
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 26**  
**Proportion of Reserve Gross Migration Involving Migration to/from**  
**Winnipeg by Distance from Winnipeg to First Nation Reserve, 1991-1996**



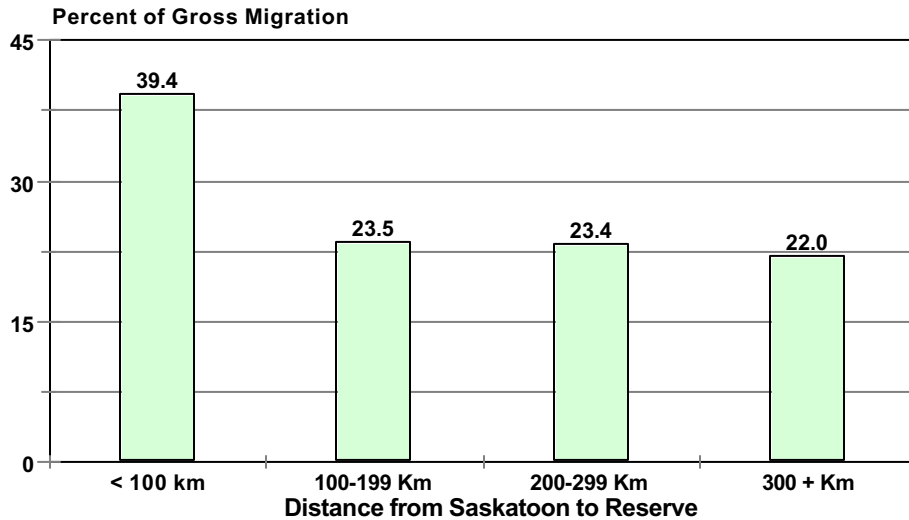
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 27**  
**Proportion of Reserve Gross Migration Involving Migration to/from Regina**  
**by Distance from Regina to First Nation Reserve, 1991-1996**



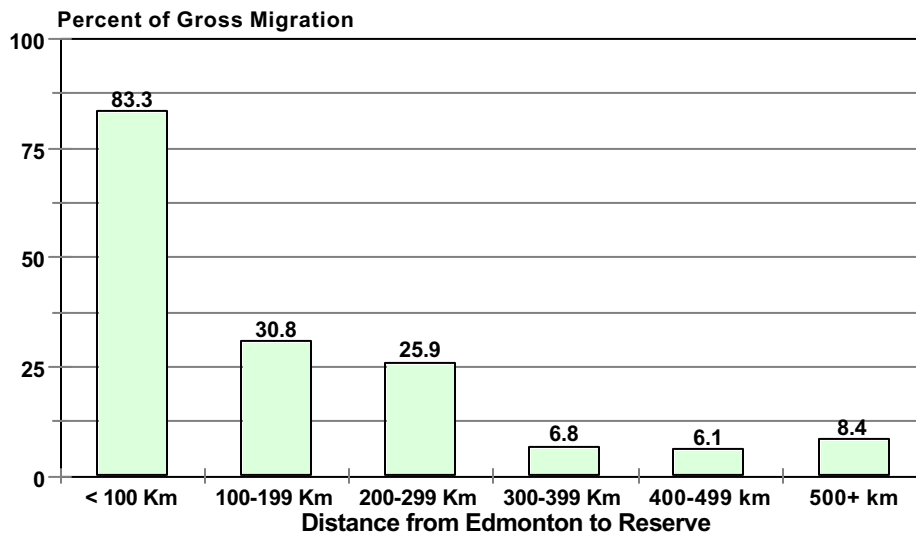
Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 28**  
**Proportion of Reserve Gross Migration Involving Migration to/from**  
**Saskatoon by Distance from Saskatoon to First Nation Reserve, 1991-1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.

**Figure 29**  
**Proportion of Reserve Gross Migration Involving Migration to/from**  
**Edmonton by Distance from Edmonton to First Nation Reserve, 1991-1996**



Source: Statistics Canada, custom tabulations from the 1996 Census of Canada.



Data presented in the figures support the following general observations:

- The city share of reserve gross migration tends to be lower among First Nations reserves located at greater distances from the city. In relation to the other centres included in the study, the effects of distance appear to be much more pronounced within the context of Edmonton.
- The pattern of reduced levels of reserve/city interaction among more distance reserves is less pronounced in Winnipeg and Thunder Bay. For these study areas, the city's share of reserve gross migration remains reasonably high among several First Nation reserves located outside of a 300 kilometre radius of the city.

Results of regressions of the log of distance on the city's share of reserve gross migration confirm the findings of the descriptive analyses (Table 16). With the exception of Thunder Bay, the effect of distance on the city component of reserve gross migration is statistically significant and negative, implying that as distance between a specific city and First Nation reserve increases, less of the reserve's migration involves moves between the reserve and that city. The regression parameters suggest that the distance effect is most significant (largest) for Edmonton and Regina (both of which display higher R-squared values and larger negative regression coefficients).

Maps 7 to 12 identify the locations of First Nations with measurable migration to or from the city and the share of First Nations reserve gross migration associated with moves to or from the city (i.e. the city component of reserve gross migration). First Nations for which the city's share is 40 or more percent of reserve gross migration, are highlighted on the maps by place name labels.

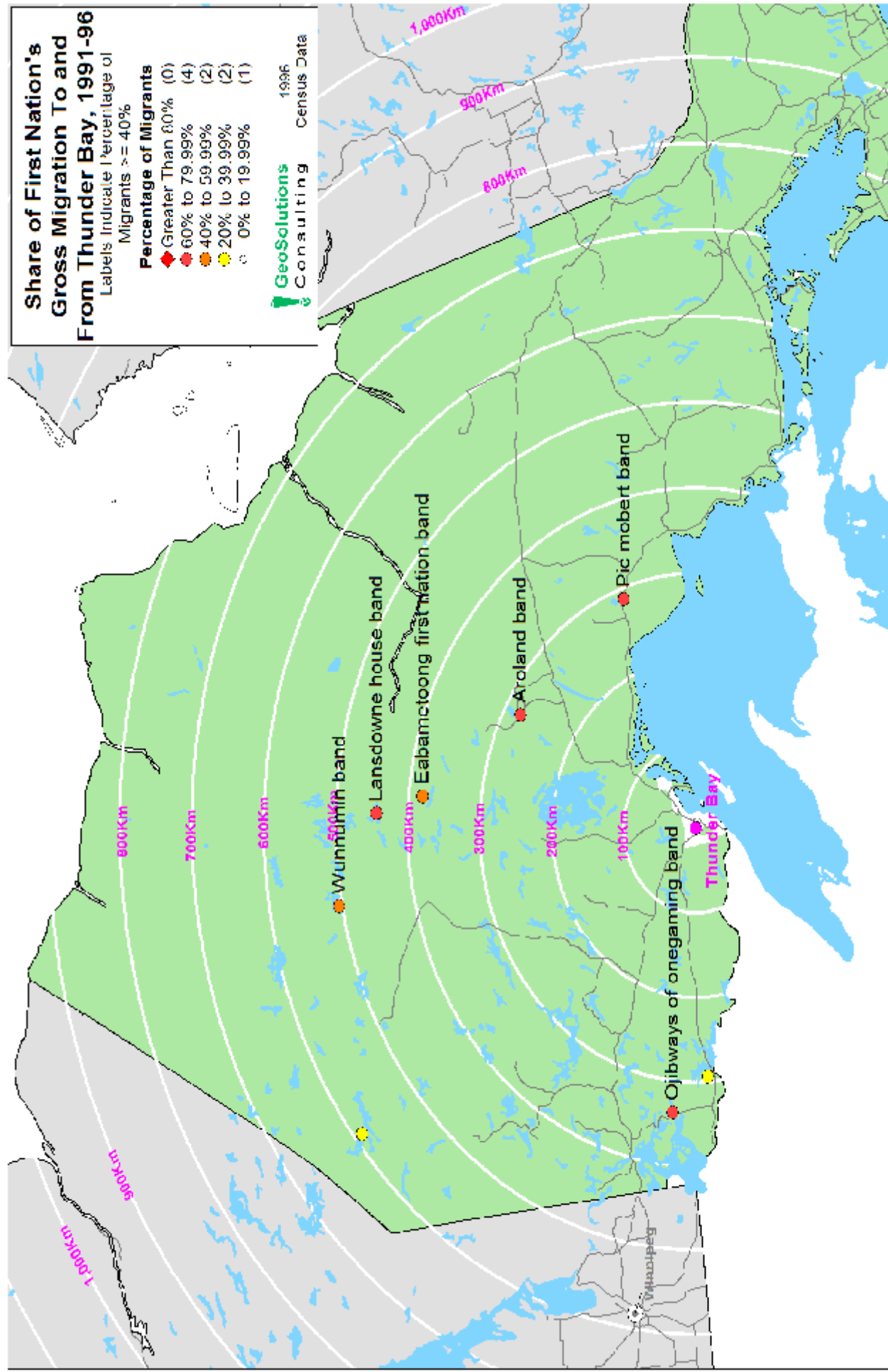
As revealed in the maps, all but seven First Nations with strong migration linkages to the cities are located within a 300 kilometre radius of the city. A sizable majority are located within a 200 kilometre radius. More distant First Nations with strong migration linkages with the city tend to be more common in the Thunder Bay and Winnipeg contexts. In the Thunder Bay context, four of six First Nations where the city's share of gross migration equaled or exceeded 40 percent of the First Nation's total, were located at distances exceeding 300 kilometres. Three of these four First Nations (i.e. Wunnumin, Lansdowne House and Eabametoong), lack year round access to the provincial road system and are dependent upon air transport services for movement in and out of the community.

**Table 16**  
**Summary of Results of Regression of Distance (Log) on Rate**  
**of Registered Indian Net Migration to Reserve from City, 1991-1996**

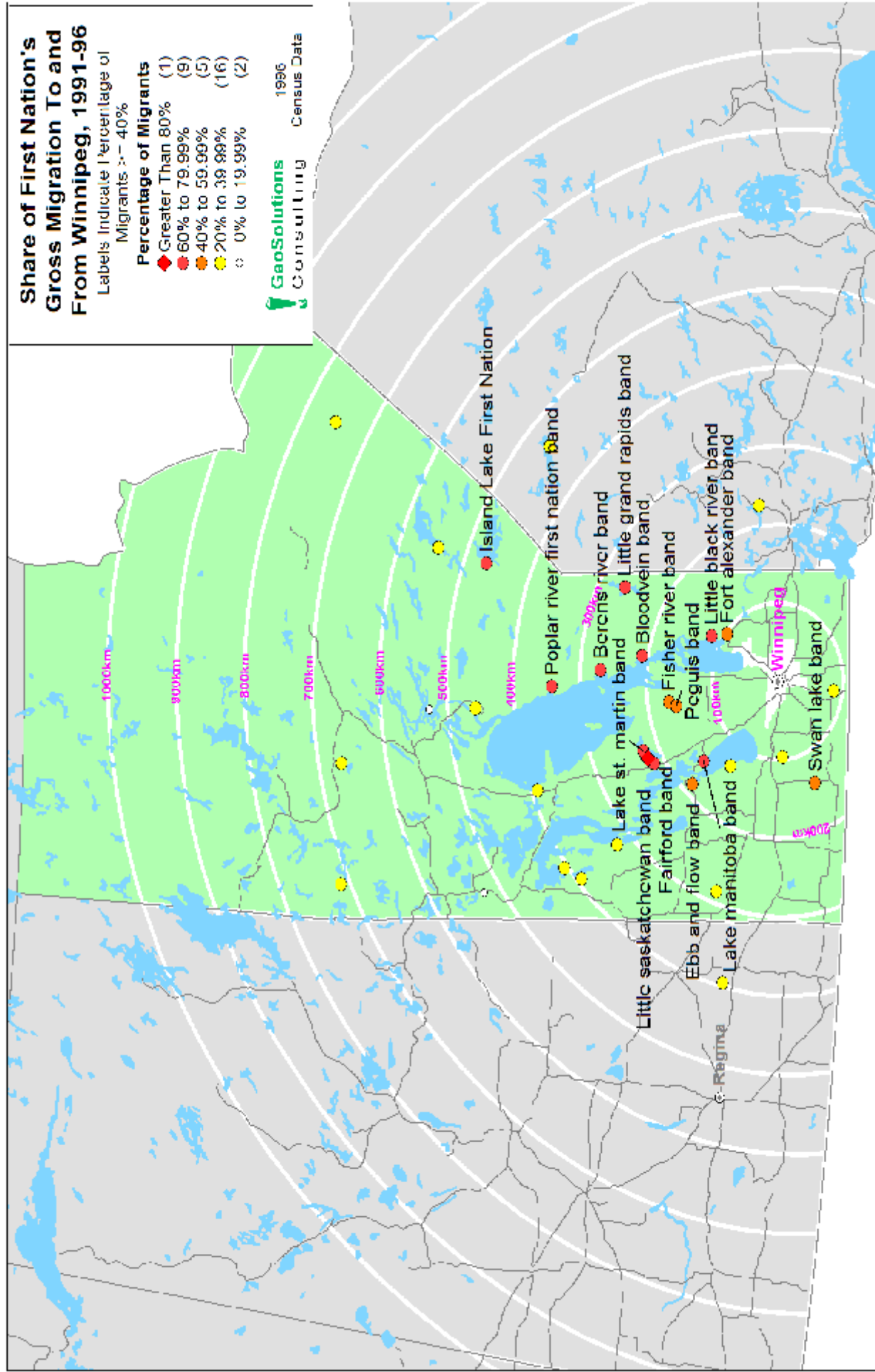
<b>Urban Area</b>	<b>R-Squared</b>	<b>Coefficient</b>	<b>Standard Error</b>
<b>Thunder Bay</b>	0.103	5.717	Not Sig
<b>Winnipeg</b>	0.010	-0.008	Not Sig
<b>Regina</b>	0.023	2.551	Not Sig
<b>Saskatoon</b>	0.014	-4.209	Not Sig
<b>Calgary</b>	NA	NA	NA
<b>Edmonton</b>	0.487	-26.566	5.685

Source: Statistics Canada, calculations based on custom tabulations from the 1996 Census of Canada.

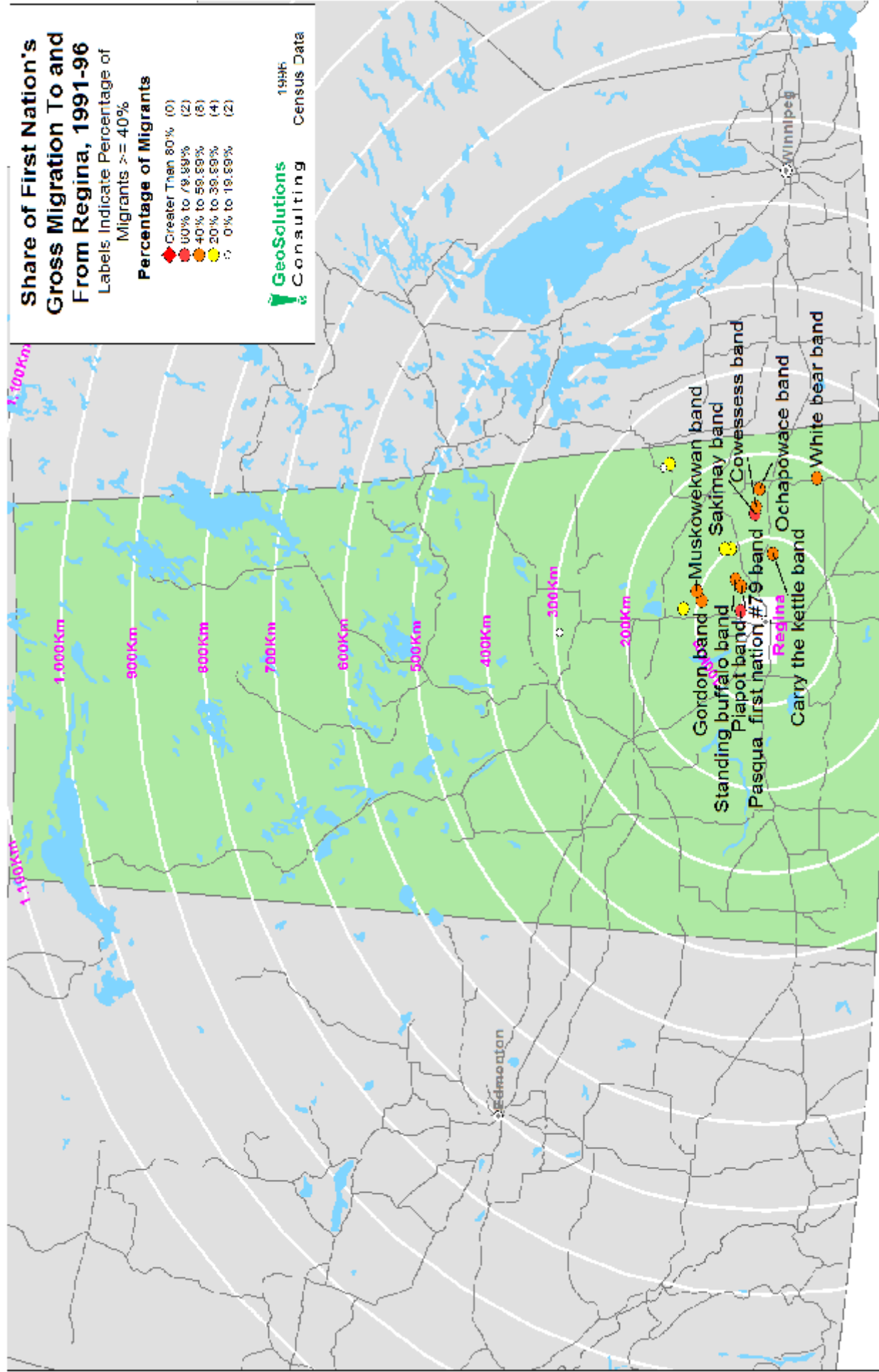
Map 7



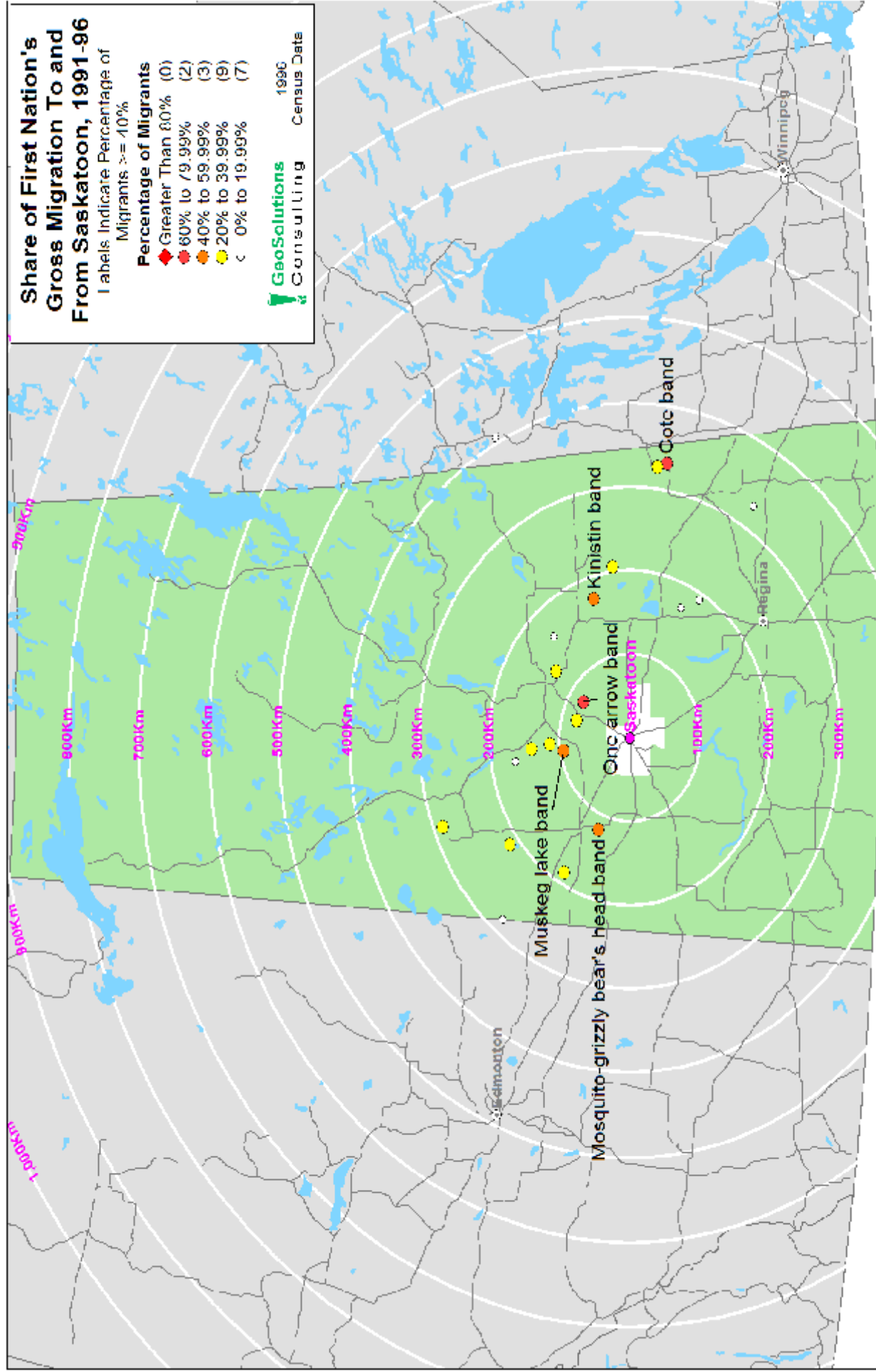
Map 8



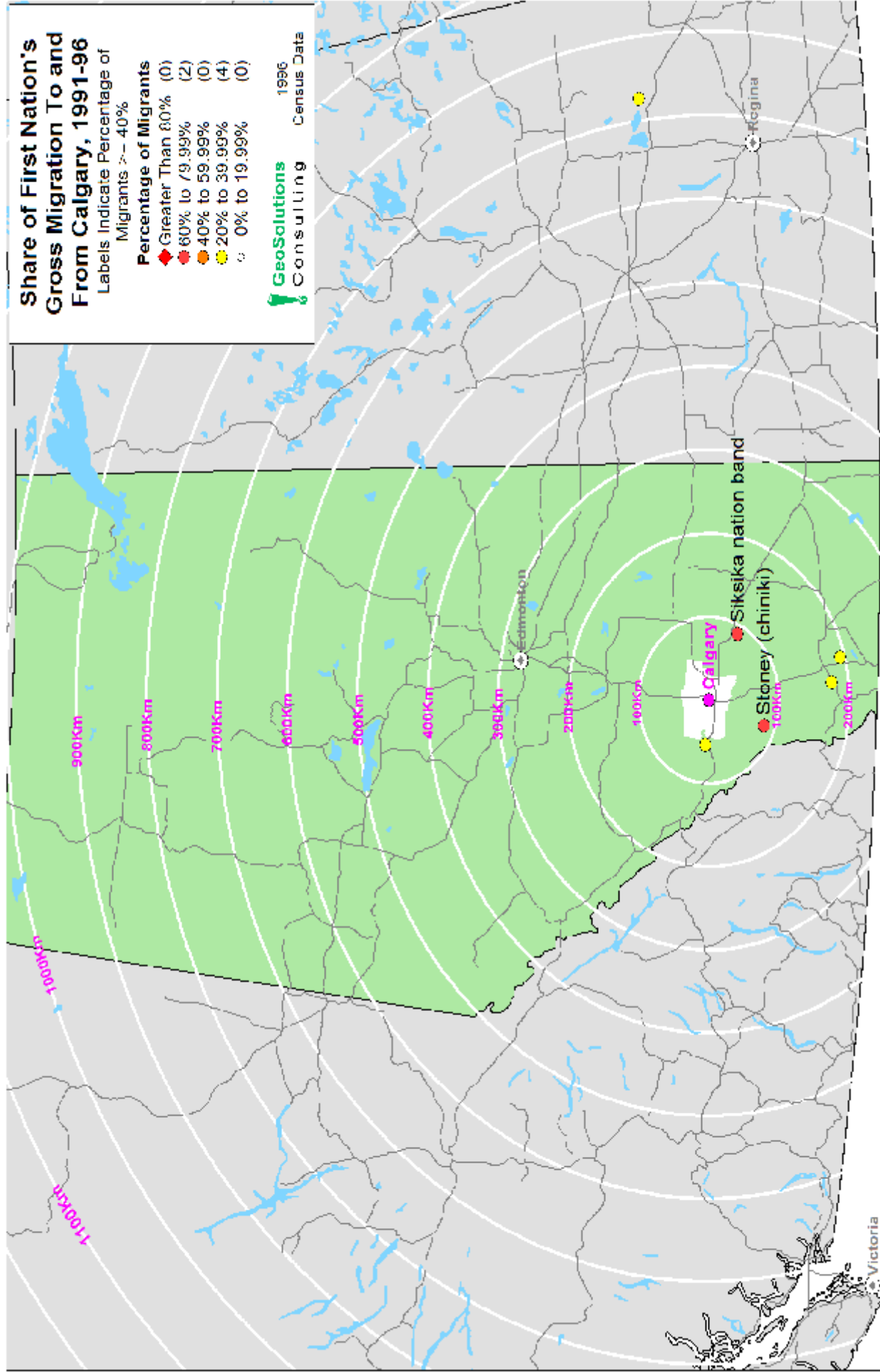
Map 9



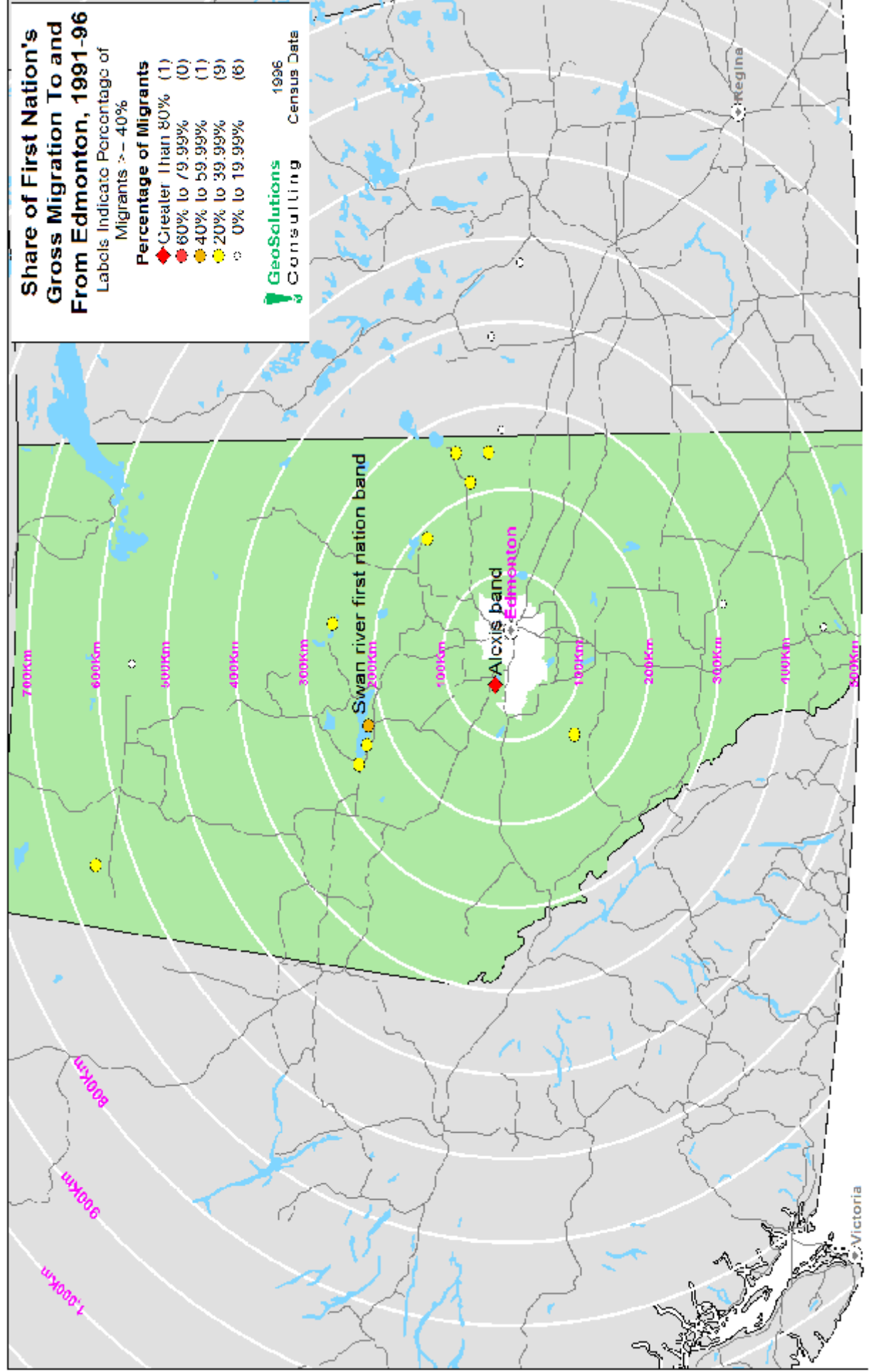
Map 10



Map 11



Map 12





In the case of Winnipeg, the city's share of gross migration was 40 or more percent for two First Nations located more than 300 kilometres from the city (Poplar River and Island Lake). Both of these First Nations also lack year round access to the provincial road system. In addition to these two First Nations, ten other First Nations located at distances exceeding 300 kilometres from Winnipeg reported a city share of gross migration between 20 and 39.9 percent .

In relation to the other urban areas examined in the study, strong migration linkages between First Nations and the cities of Thunder Bay and Winnipeg extend over a much more expansive region. This situation would appear to reflect the role of these urban centres as the primary providers of post-secondary education and training, specialized health care and other public services to First Nations and other residents of remote and northern regions of northwestern Ontario and Manitoba.

For Island Lake First Nation, a significant portion of migration to and from Winnipeg may to be linked to high levels of chronic health problems (e.g. diabetes and Island Lake Syndrome) experienced by Island Lake residents. Strong migration linkages between other remote and northern First Nations in Manitoba and northwestern Ontario and the cities of Winnipeg and Thunder Bay may also relate to health service provision issues (as diabetes and other chronic ailments including fetal alcohol syndrome and alcohol related neurological disorders (ARND) and have also been documented for other First Nations communities in these regions).

In both Saskatchewan (Regina/Saskatoon) and Alberta (Calgary/Edmonton), First Nations with strong migration linkages to the city are differentiated on a north/south basis. In the Regina context, for example, all First Nations where the city's share of reserve gross migration is 40 or more percent are located in the southern region of the province, while those associated with Saskatoon are located in the central region. A similar north/south alignment of First Nations with strong migration linkages to Alberta's major urban areas is also clearly apparent in the mapped data.

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