

Ethnic Spatial Segmentation in Immigrant Destinations—Edmonton and Calgary

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Abstract Immigrant destinations other than Toronto, Montreal, and Vancouver are often overlooked in Canadian immigration and settlement debates and discussions. Between 2011 and 2016, such destinations received over 40% of all immigrants arriving in Canada. This study endeavors to systematize the classification of communities where immigrants are destined to settle. It also explores the issue of spatial segmentation in two such places in Alberta—Edmonton and Calgary. In both metropolitan areas, ethnic spatial segmentation exists, but not at the same scale as in a large metropolis like Toronto. Both metropolitan areas still have a substantial population of established white Canadians who identify as Germans or Ukrainians, although most of them reside in rural parts of these two areas. However, the rest of the urban landscapes is a mix of the white Canadians and recently arrived visible minorities.

Keywords Spatial segmentation · Ethnic enclaves · Second-tier city · Edmonton · Calgary

Introduction

Immigrant destinations outside of Toronto, Montreal, and Vancouver (TMV) received over 40% of all immigrants who arrived in Canada between 2011 and 2016. In the last decade or so, Edmonton and Calgary have been among the top such destinations. However, while several studies have looked at large cities (such as TMV), fewer studies exist on medium-size cities like Edmonton and Calgary—even though these cities are considered large within the Alberta context. Studies on non-TMV immigrants' settlements (also termed as second- or third-tier destinations) have largely focused on the availability of affordable housing (Teixeira 2009), the municipal role in immigrant dispersal and regionalization (Walton-Roberts 2005, 2007), quality of life of

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immigrants (Williams et al. 2015), attraction and retention of immigrants (Derwing et al. 2005; Krahn et al. 2005; Pruegger and Cook 2010; Wilkinson and Kalischuk 2009), and the capacity of settlement agencies serving in these cities (Das 2010; Zhao 2009). What is sorely missing in the literature is a better understanding of how spaces and neighborhoods have been transformed in these cities.

To contextualize the metropolitan-based internal organization of immigrant settlements, we first flesh out the problematic tier classification system used at the national level. This is the first segment of our bifurcated methodology to explore dynamics at the two levels: national, with a focus on recently arrived immigrants; and metropolitan, with a focus on nuanced ethnic groups. We review the literature on immigration trends to traditionally defined second-tier destinations, and then provide a brief overview of the literature on ethnic enclaves. We then describe our empirical methods and map out the spatial imprints of Edmonton and Calgary, discussing them in detail. Our aim is to determine if spatial segmentation exists in these two cities. If it does exist, what are its characteristics? Is the spatial segmentation in any way different from other places in Canada, such as Toronto? Finally, we conclude with a few broad assertions and shortcomings of the study.

This research makes two key contributions to the scholarly literature and to the national policy debate. First, it suggests processes for organizing immigrant destinations across the country at a macro level by proposing how to meaningfully categorize Canadian cities and metropolitan areas, based on the arrival of recent immigrants. Second, it contributes to the understanding of the internal geography of settlement patterns of immigrants and Canadian-born, based on ethnicities in Calgary and Edmonton, two important Canadian immigrant destinations.

Classification System Based on Immigration

Citizenship and Immigration Canada (CIC) first discussed a tiered system of classifying Canadian settlements in its 2001 report, borrowing the tiered concept from Markusen et al.'s (1999) study. This system was intended to ameliorate imbalanced geographic distribution of immigrants throughout the country, as well as “excessive concentration” of immigrants in the three large cities (TMV). “Second-tier cities” are large cities—but not leading metropolises—with a large enough local industrial base to generate and provide employment; thus, they can adequately serve as alternate immigrant destination cities. This report was premised on linking population movement with regional economic development: a region’s success at generating economic growth determines the movement of populations as well as how effectively it attracts and retains immigrants—rather than the other way around.

CIC’s (2005) portrait of recent immigrants, based on the 2001 census, revealed how many recent immigrants settled in a city. This data was then used to specify the city’s tier as an immigrant destination, as opposed to the way cities or metropolitan areas are often defined—by their population size, such as large, medium, or small size. Tier designations are as follows:

- First-tier cities receive over 100,000 immigrants over a 5-year period—the largest Census Metropolitan Areas (CMAs) of Toronto, Montreal, and Vancouver.

- Second-tier cities receive from 40,000 to 100,000 recent immigrants over a 5-year period—four such destinations are Edmonton, Calgary, Winnipeg, and Ottawa CMAs.
- Third-tier destinations receive from 5000 to 15,000 recent immigrants—such as Victoria, Saskatoon, Regina, Québec City, and Halifax.

Between 2011 and 2016, Edmonton and Calgary welcomed 6.5 and 7.7% of all recent immigrants to Canada, top destinations among second-tier destinations only exceeded by TMV, the three large CMAs. According to Statistics Canada (2011), 70,700 recent immigrants settled in Calgary between 2006 and 2011, while Edmonton welcomed 49,930 during the same period. Between 2011 and 2016, these numbers grew to 78,520 in Edmonton and 93,255 in Calgary (Statistics Canada 2016).

While this tiered destination classification may seem straightforward to follow, it has not been used consistently or systematically by either policy-makers or academic scholars, especially in the second- and third-tier categories, which have varied considerably over the years. Interpretations are unstable, depending on the census year or how recent immigrants are defined—for instance, some studies define recent immigrants as those who entered Canada in the past 15 years as opposed to the usual norm of 5 years. We have, for example, noticed the inclusion of Hamilton (Citizenship and Immigration Canada (CIC), 2001) as well as Halifax, Saskatoon, Victoria, and other cities (Derwing et al. 2005; Krahn et al., 2005) as second-tier destinations. Of note, a recent paper used second- and third-tier categories interchangeably with the population-size-based categories, with vague references to the immigrant population (Williams et al. 2015).

These tier threshold designations might further change in the next several years due to two factors: rising immigration, in light of the Liberal government's decision to continuously increase immigration levels to 340,000 until 2020; and, regional distribution changes. Indeed, such changes may require a new approach to classifying such places. In our quest to arrive at a better and systematic understanding of second-tier destinations, we thus decided to use a location quotient (LQ), which clarifies the share of recent immigrants coming to various metropolitan areas in the country.

We devised the LQ of *recent immigrants in a metropolitan area* by dividing the percentage of recent immigrants (for example, arriving from 2011 to 2016) in a metropolitan area by the percentage of all recent immigrants in the country. Values mean the following:

- 1.0 = Rate of immigrant settlement is the same as the national average.
- < 1.0 = Rate of immigrant settlement is less than the national average.
- > 1.0 = Rate of immigrant settlement is above the national average.

Based on this formula, our analysis (Table 1) shows the share of immigrants arriving in Edmonton, Calgary, Winnipeg, Saskatoon, and Regina has progressively increased since 2006, but at the expense of TMV. Montreal has a lower value than both Toronto and Vancouver, both of which also show a gradual decrease in their share of recent immigrants.

Even among the traditionally classified second-tier places—Edmonton, Calgary, Ottawa, and Winnipeg—the picture is mixed. Edmonton only became a target destination since 2011. Saskatoon and Regina show the most dramatic increase, with the 2016 LQs exceeding the so-called first-tier cities and coming close to Calgary and Winnipeg. Interestingly, Kitchener, Ontario became a second-tier destination in 2006 before dropping off the list in 2011. Among the second-tier group, only Calgary attracted more than its share of

Table 1 Location quotients of select metropolitan areas

CMA	LQ (2016)	LQ (2011)	LQ (2006)
Traditional first-tier cities			
Toronto	1.75	1.95	2.49
Montreal	1.27	1.43	1.30
Vancouver	1.68	1.92	2.04
Traditional second-tier cities			
Edmonton	1.72	1.24	0.88
Calgary	1.94	1.67	1.52
Ottawa	0.83	0.94	0.88
Winnipeg	1.95	1.79	0.99
Traditional third-tier cities			
Hamilton	0.68	0.75	0.86
Kitchener	0.77	0.92	1.06
Quebec City	0.49	0.40	0.34
Halifax	0.68	0.61	0.39
Saskatoon	1.83	1.26	0.41
Regina	1.99	1.11	0.38

immigrants in the past three census cycles. Of note, our LQ calculations do not place Ottawa in the second-tier category, since it never reached the necessary proportion (that is, an LQ > or = 1.0) despite reaching close to the raw threshold of 40,000 immigrants in 2011.

This LQ strategy challenges the current government definitions of first- and second-tier immigrant destinations. Nonetheless, we propose that CMAs be ranked according to their LQ value:

- A first-tier city would require an LQ of 1.5 or more—destinations thus are Edmonton, Calgary, Winnipeg, Saskatoon, and Regina, along with Toronto and Vancouver.
- A second-tier city must have an LQ from 1.0 to 1.49—currently, Montreal is the only such city.
- A third-tier city would have an LQ value from 0.75 and 0.99—such as Ottawa and Kitchener.

Cities' LQs will be based on 5-year intervals, so they may change categories from time to time, unlike with the traditional tiers, which were permanently designated. We now turn our attention to exploring ethnic spatial segmentation in two newly classified first-tier destinations.

Spatial Segmentation and Ethnic Enclaves

The literature on ethnic enclaves is rooted in discourses about spatial segregation. The social processes of class, ethnicity, or racial differentiation and clustering give rise to

spatially segregated communities (Alberta Manpower Immigration and Settlement Services 1986; Hou and Picot 2004; Savage et al. 2003), where—in current understandings of ethnic enclaves—particular ethnic groups numerically dominate. These groups, in turn, spawn corresponding religious, cultural, and linguistic services and institutions (Qadeer and Kumar 2006). The “institutional completeness” of a community determines an enclave (Breton, 1964), which vary in shape and size. Most scholars agree that an enclave is both a spatial and institutional phenomenon: an ethnic concentration is necessary, along with ethnic businesses, services, institutions, and associations. Ethnic enclaves are thereby distinct, both culturally and economically (Breton 1964; Peach 2005; Qadeer 2005; Qadeer et al. 2010).

Views on ethnic enclaves differ: some celebrate their ethnic diversity, while others express concern about the racial segregation of visible minorities. The specter of the dreaded “ghetto” emerges, often confused with ethnic enclaves. However, a ghetto is another type of spatial segregation, based on ethnic and/or racial segregation—but with poor living conditions, characterized by poverty, discrimination, and deprivation (Qadeer and Kumar 2006).

Various factors shape the formation of ethnic enclaves, their composition, and the tensions of residing in one. Qadeer et al. (2010) have distilled two key questions and themes emerging from the considerable literature on ethnic enclaves:

- Is the enclave a result of discrimination or individual preference/choice (Balakrishnan and Kralt 1987)?
- Does the enclave represent a form of ghettoization or poverty (Kazemipur and Halli 2000; Walks and Bourne 2006)?

Ethnic enclaves generally arise from choice rather than as outcomes of discrimination (Logan et al. 2002; Marcuse 2005; Peach 2005; Smith and Ley 2008; Murdie and Teixeira 2003). Qadeer and Kumar (2006) critiqued Hou and Picot’s (2004) characterization of ethnic enclaves as places of segregation and locales of ghettos, arguing against their assessment that ethnic concentrations promote “social isolation and reduce minorities’ incentives to acquire host-country language or to gain work experience and educational qualifications” (p. 13). Qadeer and Kumar (2006) also consider ethnic enclaves as more than residential concentrations of particular minorities: enclaves are regions where minorities build community life by developing places of worship, institutions, services, and businesses, and they have a vibrant cultural life and robust economies, where residents have high social capital. Ethnic identity in these neighborhoods reflects shared religion, customs, language, culture, and history.

Three main approaches explain the formation of ethnic enclaves:

1. *The spatial assimilation model* assumes new immigrants enter the host society at the bottom of the socioeconomic ladder and are restricted to poor neighborhoods. As they acquire more economic resources, they begin to convert them into higher quality housing and neighborhoods with more and better amenities. Since the non-immigrant majority usually dominates such areas, the move to better housing is usually associated with an exit from immigrant enclaves and, hence, “assimilation” (Massey and Denton 1985).

2. *Place stratification theory* highlights the constraints imposed on the residential choices of racial minority groups by more advantaged groups, through various discriminatory practices (Alba and Logan 1991; Logan et al., 2002; Massey and Denton 1993)—for example, the historical experience of Blacks and Chinese in the USA and Canada. Group membership, in addition to income and other sociodemographic characteristics, thus affects the locational options available to racial minorities because majority groups use mechanisms of exclusion to maintain social (and hence physical) distance between themselves and racial minorities.
3. Choice theory explains residential concentration as the result of minorities' choices. Own-group preference in choosing neighborhoods—either on the part of minority group members to stay in proximity to each other, or on the part of dominant group members to practise avoidance of other ethnic groups—preserves residential segregation (Clark 1989; Farley et al. 1997; Krysan and Farley 2002; Schelling 1971).

We, like Qadeer et al. (2010), find that the spatial assimilation and place stratification perspectives do not reflect the contemporary reality of multiculturalism and pluralism in Canada. The law now recognizes and protects the equal rights of minorities, along with their freedom of expression and association, and their right to preserve their heritage—all enshrined in the Charter of Rights and Freedoms, the Multiculturalism Act, and the Employment Equity Act. These rights and freedoms legitimize both the spatial expression of ethnic identities and support the formation of ethnic institutions and organizations, which also help consolidate enclaves. Further, many new immigrants are professionals and business people, often bringing enough financial capital with them that they do not invariably start at the bottom of the economic ladder (despite difficulties experienced by many in finding suitable jobs). While wage gaps and overt or covert discrimination exist in accessing employment and housing (Pendakur and Pendakur 1998; Agrawal 2013; Teixeira 2008; Preston et al. 2007), these challenges may be systemic and not spatially or ethnically linked to enclaves (Pendakur and Bevelander 2014).

Recent research concerns the second generation and their propensity to live in ethnic enclaves, as well as the ethnic economy and immigrants' earnings. Kataure and Walton-Roberts (2013) illustrate that even second-generation immigrants, particularly South Asians, prefer to live in suburban ethnic enclave settings largely because they favor detached homes, familial ties in the South Asian culture, and traditional life cycle values. Such choices may contribute to expansion of ethnic enclaves the authors suggest. Maitra (2013) further demonstrates how the enclave economy may help immigrant women become self-reliant and productive, develop networks, and mobilize resources for their home-based businesses.

Settlement Studies in Calgary and Edmonton

Settlement studies of Edmonton and Calgary to date have only explored aspects that attract and retain newcomers to the two cities. For instance, Krahn et al. (2005) evaluated the internal migration patterns of refugees to second- and third-tier cities in Alberta. They looked at Edmonton and Calgary, and five third-tier cities, specifically

Lethbridge, Red Deer, Medicine Hat, Grande Prairie, and Fort McMurray. They found that newcomers tend to move from third-tier cities to second-tier cities, and some even go on to first-tier ones. The most common reason for these moves were better employment opportunities, followed by “quality of life issues, the desire to be closer to family and friends, better educational opportunities, and dissatisfaction with community services” (p. 887). Overall, the data showed larger cities (by population) had greater retention rates.

Derwing et al. (2005) found that newcomers chose Edmonton or Calgary mainly for economic reasons (34%) or family and friends (29%), followed by quality of life, and educational opportunities. Edmonton offered more available educational opportunities while Calgary attracted more immigrants because of its strong economy and larger ethno-cultural communities. Pruegger and Cook (2010) ranked Calgary and Edmonton’s immigrant retention rates above Saskatoon, Regina, and Winnipeg but behind Vancouver among six Western cities.

Alberta Manpower Study

A study by Alberta Manpower–Immigrant and Settlement Services (1986), although dated, is useful to review since it provides a meaningful comparison to our current data. The study evaluated the ethnic concentration trends in Edmonton and Calgary over several intervals, with the premise that immigrant concentrations generate integration issues: lack of proficiency in English, unemployment, crime, and overcrowding in the available housing. It also considered the concentration of immigrants as a percentage of the area population for three immigration periods: 1975–1977, 1978–1981 (data from the Canadian census of 1981), and 1982–1985 (data from the local settlement agencies).

For the 1982–85 data collected from the various settlement agencies, a composite analysis of an immigrant’s “place of birth,” “country of citizenship,” and “language spoken” determined ethnic origins. Ultimately, these were grouped into the same origins as in the 1981 Census.¹

In Edmonton, the study identified three areas of immigrant concentrations (see Fig. 1): *central Edmonton*, with a concentration of recent immigrants; *northeast Edmonton*, with a minor cluster of immigrants; and *Millwoods*, with a higher concentration of recent immigrants. Adding together two periods of immigration (1975–77 and 1978–81) showed that immigrants accounted for 10% of the central and 13% of the Millwoods area population in 1981.

Even though the geographic locations of immigrants’ concentrations remained stable, the ethnic composition of the concentrations changed over time. For instance, in Edmonton central, Indo-Chinese and Chinese were two of the five largest ethnic groups immigrating during 1978–1981 and 1982–1985. However, Latin Americans, Poles, and Africans appeared during 1982–1985 in greater proportions. In Millwoods, Indo-Chinese remained the largest ethnic group both in 1978–1981 and 1982–1985.

¹ In the 1981 census, the question, “To which ethnic or cultural group did you or your ancestors belong on first coming to this continent?” allowed for multiple responses. It was the first time answers were not restricted only one side of one’s family. It thus generated data about diverse ethnic groups: The Indo-Chinese group included Burmese, Cambodian, Laotian, Thai, and Vietnamese. Indo-Pakistanis consisted of Bengali, Gujarati, Punjabi, Singhalese, Tamil, Bangladeshi, Indian, Pakistani, and Sri Lankan.

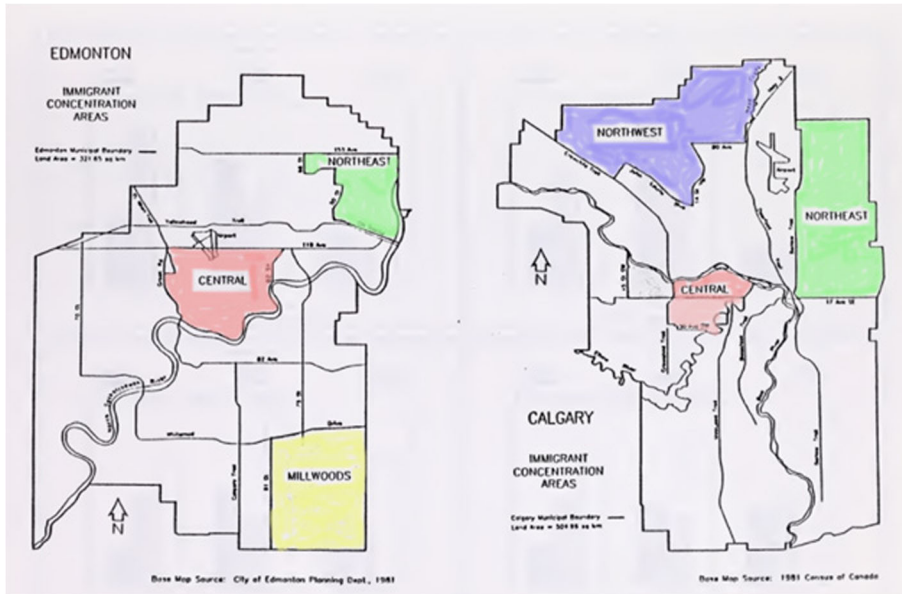


Fig. 1 Immigrant Concentrations in 1981 (Adapted from Alberta Manpower Immigration and Settlement Services. Immigration and Settlement Services, 1986)

Latin American and Polish were more recent ethnic groups to Millwoods (immigrating between 1982 and 1985).

In Calgary, the study identified three concentration areas (see Fig. 1): central Calgary, where 7.7% of the population during 1975–1981 were immigrants; *northeast Calgary*, where 9.1% of the population in 1981 were immigrants; and *northwest Calgary*, which had a smaller, lower density cluster of immigrants. Calgary geographic concentrations also did not change across the periods of 1978–1981 and 1982–1985, but their ethnic group composition did. In central Calgary, Indo-Chinese and Chinese were ranked the top five ethnic groups for both periods, although Latin Americans, Poles, and Africans appeared more frequently during 1982–1985. In Calgary’s northeast district, Indo-Chinese, Chinese, and Indo-Pakistani were three of the five largest ethnic groups for the first two periods. During 1982–1985, Latin Americans and Poles were newer groups.

Immigrant concentration levels were slightly higher in Edmonton than Calgary, though they remained in the same locations in both cities over the 10 years covered in the study. Both Edmonton and Calgary had two evident concentration areas, one in the downtown core and one in a suburban area (Millwoods in Edmonton and northeast Calgary).

The study identified subsidized housing locations and various housing types and costs as factors contributing to the concentrations and differences between Calgary and Edmonton. Subsidized housing in Edmonton was in the downtown and northeast areas. The situation in Calgary was slightly different due in part to the Calgary Housing Authority dispersing their housing projects throughout the city to facilitate tenant location preferences; they also targeted more diverse housing to avoid concentrations of one type.

Our Empirical Method

The empirical portion of this study is guided by the questions and propositions discussed in the previous sections: specifically, where and why immigrants chose to settle in particular cities, and which areas in particular they have selected in Edmonton and Calgary. We used techniques of GIS mapping to identify patterns of development of ethnic enclaves' in the Edmonton and Calgary CMAs. The longitudinal analysis of enclaves is carried out by comparing their spatial patterns at two points in time—2011 and 2016—but also includes 2006 and 2001 to look for any specific trends or trajectories. Census data are plotted by census tract (CT), a geographic unit of about 4000 residents within a metropolitan area, for each of the 2 years. The composite maps are compared, to observe changes in the spatial structures of enclaves over time. The study builds on previous works that mapped ethnic enclaves in Toronto (Qadeer and Kumar 2006; Qadeer et al. 2010), using the same criteria to map enclaves to ensure the comparability of maps. Almost every major study of ethnic spatial patterns has used census data for analysis, and we do the same.

Our methodology differs from that of the Alberta Manpower study in three ways:

1. We used Qadeer and Kumar's (2006) method that used a GIS mapping technique and classified ethnic settlements into primary and secondary concentrations. Primary concentrations have a single ethnic group as 50% or more of the census-tract population, while secondary concentrations have a single ethnic group at between 25 and 49.9% of the census-tract population. This differentiation is similar in principle, though not as finely tuned as the classification scheme proposed by Poulsen et al. (2002), who postulated six-level classification of neighborhoods based on the presence of minorities from 20 to 70%.
2. We derive our data from the 2016 census data and the National Household Survey (NHS) of 2011, along with 2001 and 2006 datasets.
3. We used ethnicity, not immigrant status, as a marker of identity.

The ethnicity data is compiled from responses to the question “What were the ethnic or cultural origins of this person’s ancestors?” This question is followed by an explanation and examples, which includes nationality, religion, and Indigenous lineage, as follows:

An ancestor is usually more distant than a grandparent. For example, Canadian, English, French, Chinese, East Indian, Italian, German, Scottish, Irish, Cree, Mi'kmaq, Salish, Métis, Inuit, Filipino, Dutch, Ukrainian, Polish, Portuguese, Greek, Korean, Vietnamese, Jamaican, Jewish, Lebanese, Salvadorean, Somali, Colombian, etc. (2011 National Household Survey, p. 10)

This question was identical in the 2011 survey and the 2016 census. However, it is not exactly the same as that of the 1981 census—the backbone of the Manpower study.

Issues remain in using the 2011 NHS data, when combined with previous or subsequent census datasets. According to Smith (2015), the 2011 NHS achieved a collection response rate of 68.6% and a weighted response rate of 77.2%. This was significantly lower than the 2006 census long form, which achieved a response rate of

93.8%, or the 2016 census, which received a response rate of 98.4%. Statistics Canada took a number of measures to offset the lower response rate and the risks associated with sampling error and non-response bias. However, the variability of response rates in smaller geography such as a neighborhood is still problematic and limits full comparability with the 2006 or 2016 census. We therefore used the two 2011 and 2016 datasets by keeping the geography size to the census tract. Moreover, our preliminary analysis and mapping exercise with the NHS and census datasets elicited a largely consistent and logical story of the growth of enclaves in the two cities.

Ethnicity

Ethnicity is a powerful force in social life, particularly in multi-ethnic societies such as Canada, Australia, Britain, the USA, and others (Lee and Edmonston 2010). Abercrombie et al. (2000) define ethnicity as a socially constructed attribute of individuals and groups based on their culture, language, nationality, or customs. It is a strong marker of people's identity, but it can change over time and context. It is important to note that in the Canadian context, it applies to both immigrants and the Canadian-born. In the census, it is self-reported. In the 2016 census, as many as 250 ethnic groups were identified.

As a concept, ethnicity may be challenging to define, but it is harder still to capture and measure. Changes in the wording and format of the ethnic origin question in Canada's censuses illustrate this challenge. According to Boyd (1999), the problems encountered in measuring ethnicity reflect the volatility associated with the social construction of ethnicity. In contrast, the situational circumstances of living provide the primordial framing of ethnic identity—which resides in emotional or experiential affiliations and cultural heritage—all of which have implications for how people self-identify in the census.

We acknowledge the existence of First nations and Métis groups who are the first peoples of Canada before the early settler groups, like the English and French, arrived in Alberta. According to the census of 1885, French outnumbered English (582 vs. 310) in the Edmonton area, while English dominated the Calgary and Red Deer area. In our study, we assumed English and French as a marker of mainstream society.

We discovered four major ethnicities and their corresponding enclaves in the Edmonton and Calgary metropolitan areas, all revealing heterogeneous religions, languages, and national origins: two white Canadian groups (Germans and Ukrainians) and two visible minorities (South Asians and Chinese). The concentration of the latter two groups remained largely the same as described in the Alberta Manpower study, although they have increased over the past three or more decades. Before describing the concentrations further, we first briefly discuss these four primary ethnic groups and their immigration history to Alberta.

Germans

Germans are the largest ethnic group in Canada after the French and British, with the largest concentration in Alberta, and could include the Swiss, the Austrians, the Hutterites, the Mennonites, the Russian-Germans, and many other groups who spoke

German but were Protestants, Lutherans, or Baptists. The German settlement in Alberta began in the 1880s around Calgary and Pincher Creek. Germans tended to settle based on religious affiliation rather than nationality. While a majority of Albertan Germans were Lutheran, a number of Protestant settlements were built near Medicine Hat. However, the arid climate did not suit the Germans' agricultural backgrounds and many relocated north in 1891. Palmer (2006b) notes that "approximately 60,000 German-speaking settlers came to western Canada between 1923 and 1930 ... 11,000 of [which] came to Alberta" (p. 188). Following the Second World War, 115,000 German-Austrian immigrants arrived in Canada between 1946 and 1953, many of whom worked on sugar beet farms in southern Alberta. In 2016, 712,955 people in Alberta reported being German, which accounted for 17.5% of Alberta's population. (Statistics Canada 2016).

Ukrainians

Most Ukrainian immigrants settled in western Canada (Makuch 2009; Swyripa 2015), with a majority in the rural bloc and its offshoots. However, some chose to become wage workers, largely in Edmonton, Calgary, Drumheller, and the Crowsnest Pass (Ukrainian Canadian Congress (UCC) 2010). After World War II, many Ukrainians chose to settle in urban centers, and in Alberta, most belonged to the Ukrainian Catholic church (Makuch 2009). Interestingly, both rural and urban Ukrainian community churches were commonly the first community structures to be erected. As of 2016, Ukrainians accounted for 9.1% of the Alberta population (i.e., 369,090).

South Asian

South Asians had relatively no presence in Alberta in the first half of the twentieth century, except for a few Sikhs who settled on rural farmlands in southern Alberta during the interwar years (Buchignani, 1985). After the Immigration Act changed in the 1960s, South Asians began emigrating to Alberta, primarily to Calgary and Edmonton, so that by the 1970s, South Asian ethnic and religious communities were noticeably present in these major centers. These immigrants were generally well educated and skilled (Heritage Community Foundation 2010). Their population has continued to grow exponentially, and as of 2016, South Asians accounted for 5.7% of the Alberta population (231,550).

Chinese

According to Palmer (2006a), prior to the 1900s, Alberta had relatively few Chinese immigrants apart from the few who found jobs as laundrymen in Edmonton and Calgary or as cooks in rural areas. Very few Chinese lived in Alberta because of excessive racism and xenophobic attitudes toward them; those who did, lived exclusively in the Chinatowns of Edmonton, Calgary, Fort Macleod, and Lethbridge. By 1911, Chinese immigration to Alberta had increased to 1787, but population growth was slow, due mostly to the head tax that placed a heavy financial burden on immigrants who brought their families. Chan (2015) notes that unlike other ethnic groups such as Germans and Ukrainians, Chinese migrants settled in primarily urban

areas and today are still mainly concentrated in Canada's major cities. As of 2016, 188,280 Chinese lived in Alberta, accounting for 4.6% of the Alberta population.

We now turn our attention to the distribution of ethnic settlements across Edmonton and Calgary. Figures 2, 3, 4, 5, 6, and 7 illustrate the distribution of ethnic enclaves in the two CMAs in 2001, 2006, 2011, and 2016. As previously mentioned, our study used primary (50+ %) and secondary concentrations (25 to 49.9%) of the census-tract population for the census tracts in the past four censuses.

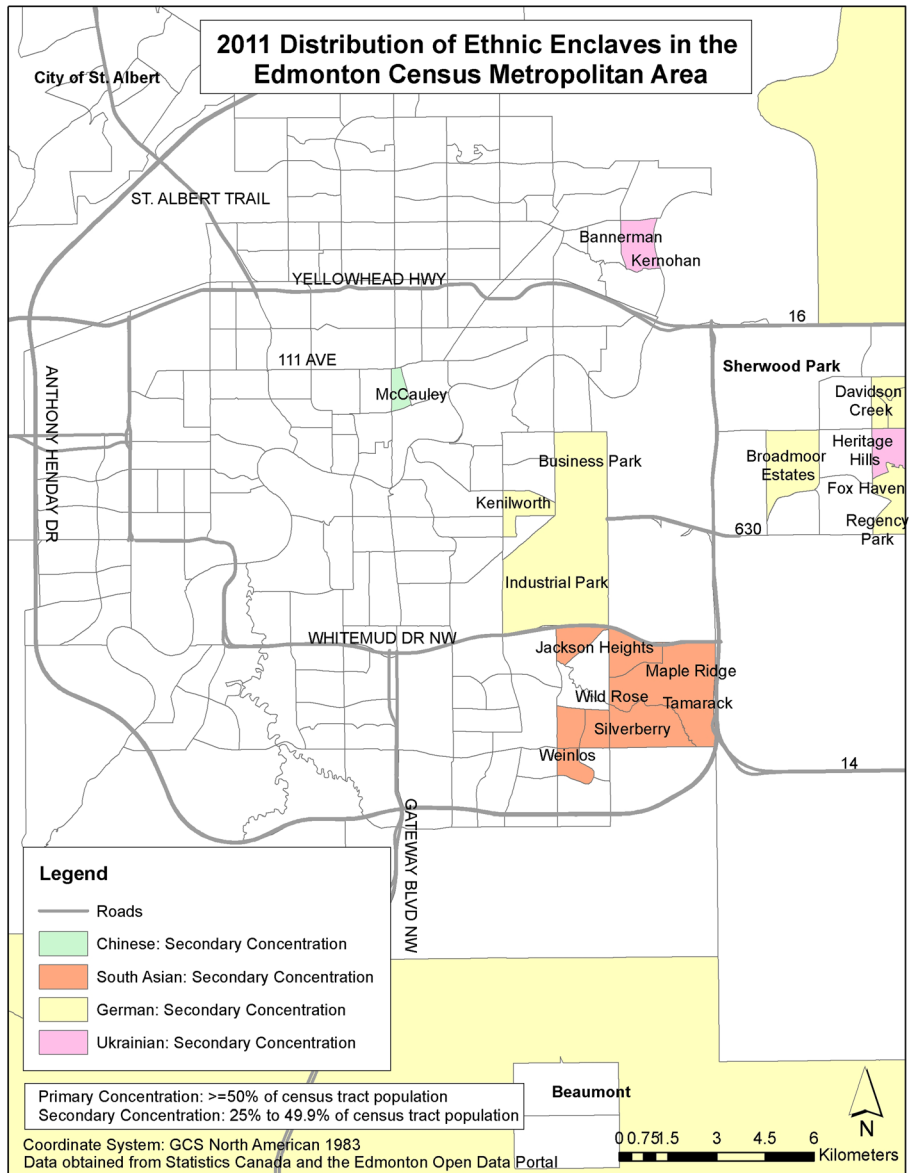


Fig. 2 Edmonton Map 2011

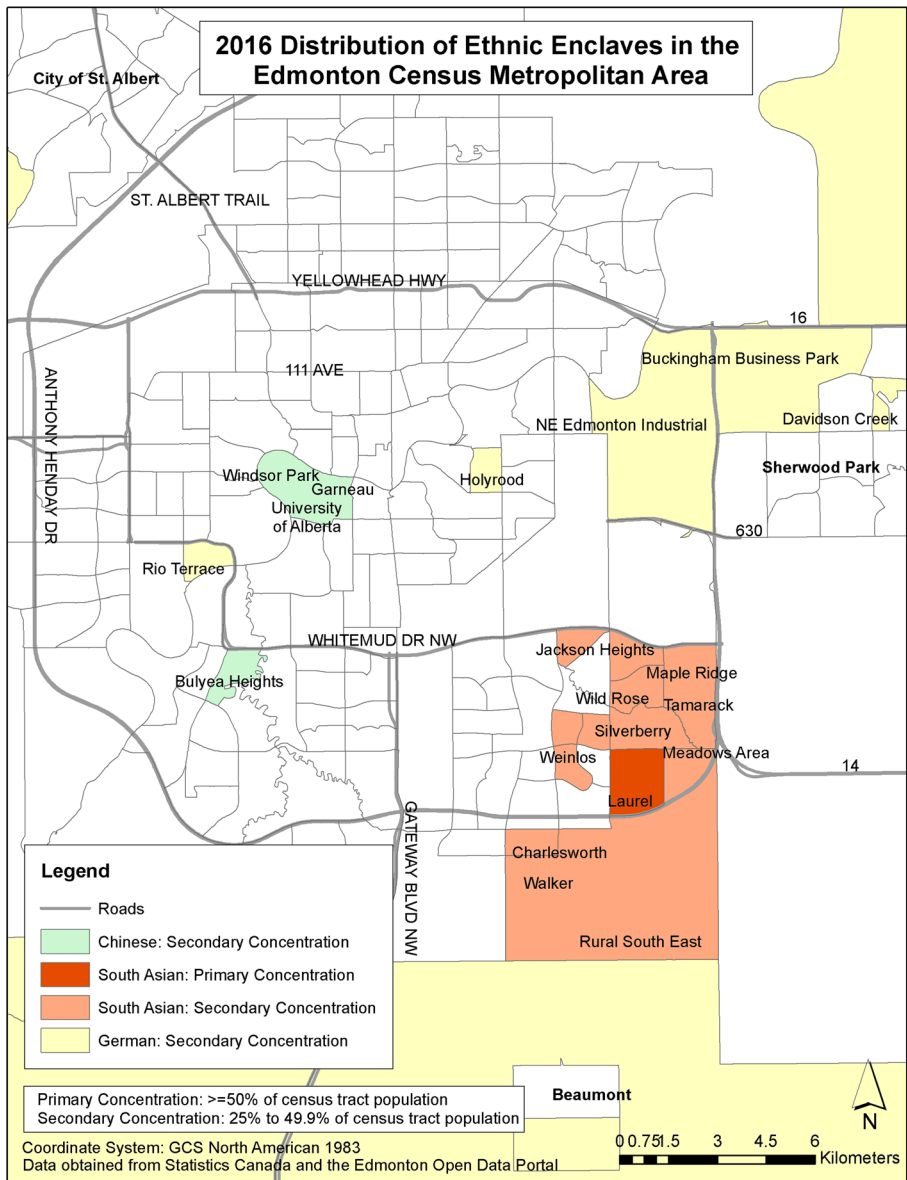


Fig. 3 Edmonton Map 2016

Edmonton

As Fig. 2 demonstrates, in 2011, Ukrainians mostly resided in the northeast quadrant in places like Delwood, Kernohan, and Beverly Heights, and immediately outside the city limits. The map that used 2006 data also showed them in the York and Beverly Heights areas (Fig. 4). Sherwood Park and rural counties west and northwest of the city showed the presence of Ukrainians. However, in 2016, all of these fell below our minimum threshold of 25% to qualify for secondary concentrations (see Fig. 3). Historically,

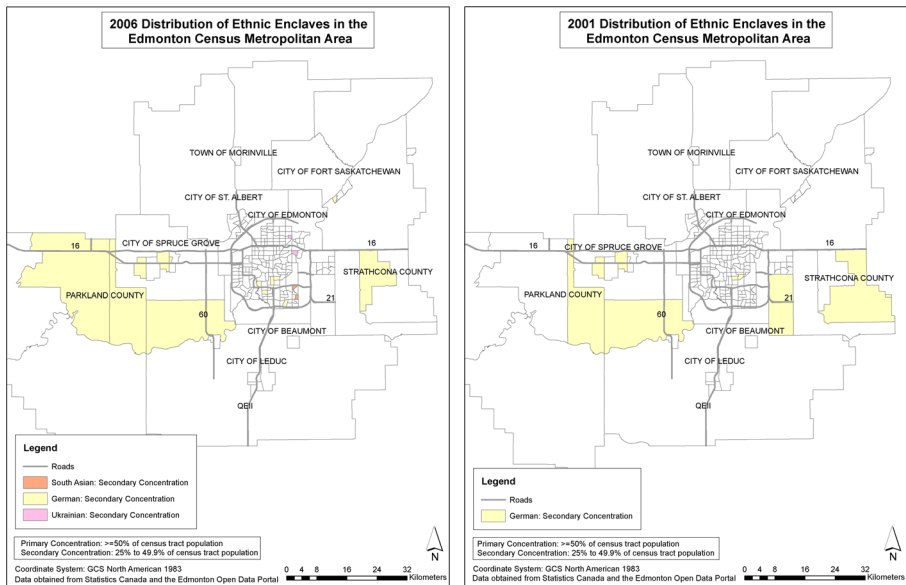


Fig. 4 Edmonton maps 2006 and 2011

areas close to downtown Edmonton (mainly Central McDougall and McCauley) have been centers of Ukrainian settlement and the location for institutions like churches, senior centers, and funeral homes. This area is now giving way to Chinese businesses and residents, and the expansion of Chinatown.

In 2011, Germans resided in the Avonmore, Terrace Heights, Kenilworth, and Capilano areas. In 2016, they were noticeable in Rio Terrace and Holyrood areas. Interestingly, in 2006, they were more prominent in South Edmonton, such as the Landsdowne, Greenfield, and Allendale areas, but clearly not the same places as in 2011 and 2016. However, their presence in the rural counties around Edmonton has been consistent since 2006. We also note that in 2016, many of the German areas showed a healthy proportion of Ukrainians, even though they remain slightly less than the Germans, the largest ethnic group.

South Asians live in southeast suburban Edmonton, mainly eastern Millwoods, Maple, Wildrose, Weinlos, Bisset, Pollard Meadows, Silver Berry, and Tamarack areas, where the landscape is also sprinkled with South Asian Plazas, strip malls, grocery stores, places of worship, and ethnic doctors. This ethnic group dominates Millwoods East and the area east of that district. The South Asian population has increased in most of these areas over the past 5 years, to the point that the Laurel neighborhood (a one secondary concentration of 2011) became a primary concentration in 2016. Our 2006 map (Fig. 4) showed the presence of South Asians in neighborhoods such as Jackson Heights and Bisset. The ethnic shops dominating the strip plazas, and temples, Gurdwaras, and mosques dotting the area reflect this trend towards primary or secondary concentrations. South Asians are also the largest ethnic group in new subdivisions, like Walker, Charlesworth, and new neighborhoods just south of Anthony Henday Highway, as well as Tamarack and Maple, east of Millwoods, close to Whitemud Drive and Anthony Henday Highway.

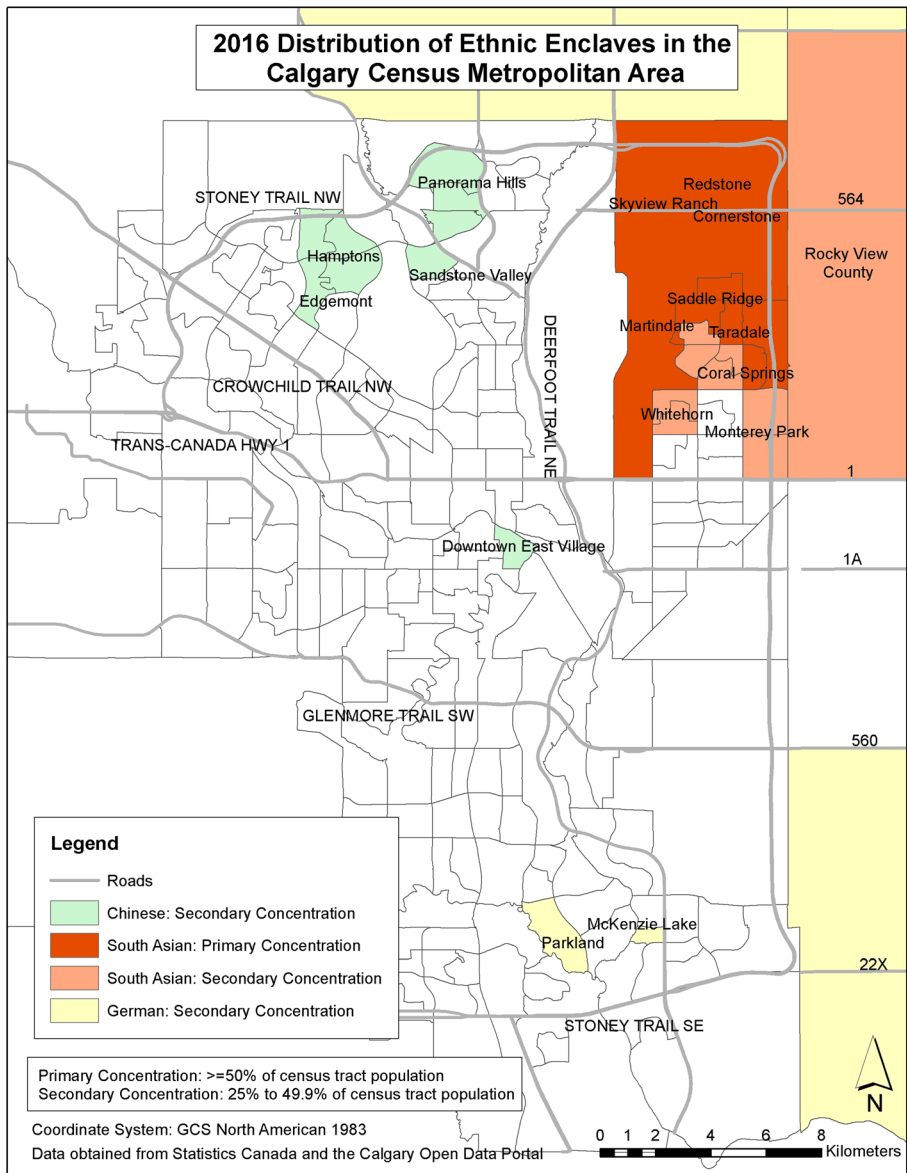


Fig. 5 Calgary 2016

In 2011, the Chinese had a secondary concentration in Boyle Street, Central McDougall, and the Chinatown areas of the Edmonton inner city. This downtown concentration did not exist back in 2006, but 2016 showed a net decline of 7% in the Chinese population since 2011 in these areas. A corresponding rise occurred in matured suburbs of the city—Windsor Park, next to the University of Alberta North campus, the University of Alberta campus itself, Garneau (likely due to Chinese students), and Bulyea Heights—each of which now has a 25% Chinese population. Incidentally, these are all high-income areas of Edmonton, well above the city’s median family income of \$88,900.

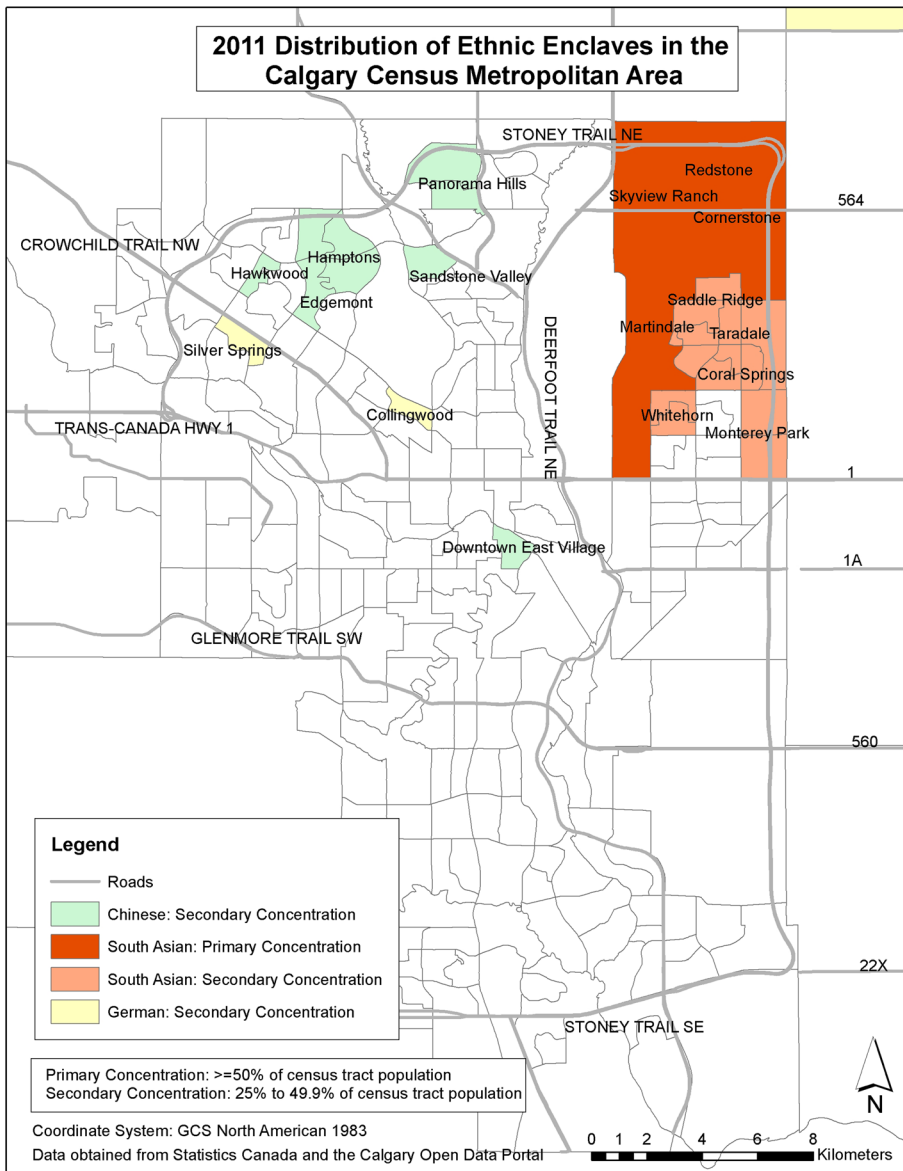


Fig. 6 Calgary 2011

Between 2001 and 2011, the German population in Edmonton was about 18.5%, which declined in 2016 to 16.4%. The Ukrainian population remained quite stable from 2001 to 2011, remaining around 14%, but 2016 showed a first decline, to 12.3%. Meanwhile, the Chinese population showed a steady slight increase: 4.8% in 2001, to 5.2% in 2011 and 5.5% in 2016. It is noteworthy that South Asians populations have shown the most dramatic rise in both Edmonton and Calgary. In Edmonton, the South Asian population rose from 0.08% in 2001 to 5.4% in 2011. In 2016, it was at 7%.

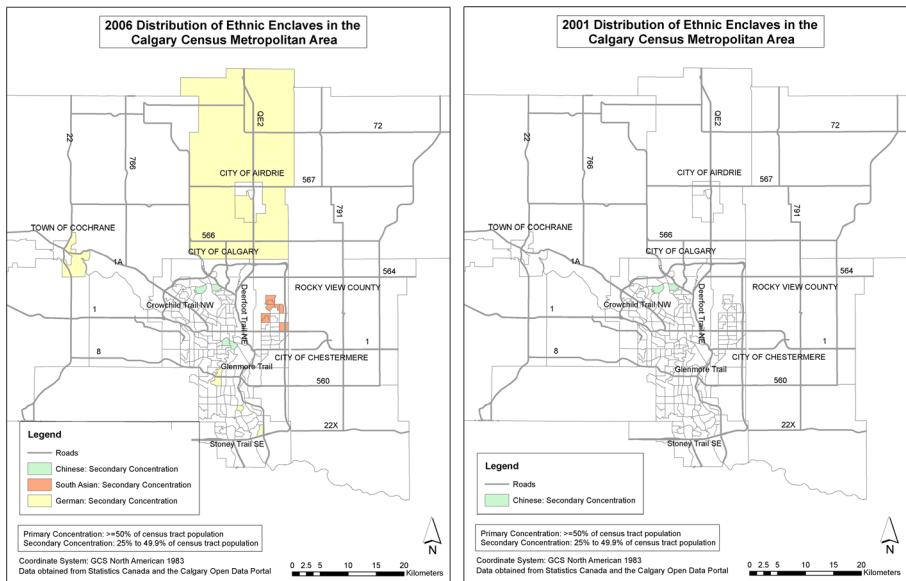


Fig. 7 Calgary in 2001 and 2006

Calgary

The Calgary area has several enclaves more concentrated than in Edmonton. Since 2006, the Chinese community has dominated in the downtown west end; however, concentrations are now also noticeable in some northwest suburban areas, such as Hamptons, Edgemont, Panorama Hills, and Sandstone Valley. Over the past 5 years, the Chinese population has increased in most of these suburban neighborhoods, forming two new secondary concentrations in the northwest (Fig. 5).

In 2011, some Germans lived in north Calgary, especially in Triwood and Silver Springs (Fig. 6). By 2006, more German neighborhoods existed mainly in the south, such as Kelvin Grove, Chinook Park, Eagle Ridge, Lake Bonavista, Bonavista Downs, and McKenzie Lake (Fig. 7). They now appear only in a few south areas—Parkland and Douglasdale/Glen, far away from the original Germantown of the early 1900s in the Bridgeland-Riverside area of the city, just northeast of downtown. Germans are still present in the surrounding rural counties, such as Rockyview County.

Many of these areas have German businesses (bakeries, deli, and meat shops) and institutions, like Lutheran, Roman Catholic, and Mennonite churches. However, some churches are experiencing dwindling congregations (Wiebe-Neufeld 2015; Wright 2014). Several reasons account for this: few new German immigrants, the upward spatial and economic mobility of existing members (Beattie and Ley 2001), and the fact that subsequent generations of Germans do not share the linguistic heritage and cultural experiences of their forebears.

No pronounced Ukrainian areas exist in Calgary. However, South Asians have formed large thriving communities in the northeast—Skyview Ranch, Saddleridge, Falconridge, Redstone, Martindale, Taradale—and are the majority population in several other neighborhoods (see Fig. 5). Indeed, over the last 5 years, many secondary concentrations turned primary. Some new subdivisions, like Redstone and Skyview

Ranch, were predominantly occupied by South Asians from the outset. We also noted an expansion of South Asians to the east in the adjoining rural areas of Rockyview County.

Between 2001 and 2011, Germans in Calgary declined slightly from 17 to 15.5%, with this decline continuing in 2016 to 14.7%. The Ukrainian population is lower in Calgary (6.6%) compared to Edmonton (12.3%). On the other hand, like Edmonton, a slight uptick in the Chinese population is noticeable in Calgary, from 6% in 2001 to 7.2% in 2011, and 7.6% in 2016. The South Asian population had a significant increase from 0.1% in 2011 to 7.1% in 2011. As of 2016, it sits at 8.9%, a key factor in the growth of their enclaves.

Several smaller cities and rural areas also have an ethnic presence near Calgary and Edmonton. For example, Ukrainians are visible outside Edmonton's city limits in the eastern part of Sherwood Park. Domes and steeples of Ukrainian Catholic and Orthodox churches dot towns and villages in Two Hills, Lamont, and St. Paul counties. In the Calgary area, the German population is present in bedroom communities such as Cochrane, Airdrie, and in rural Rocky View County in the north.

New Housing, Homeownership, and Recent Immigrants

Two key factors account for the formation and expansion of enclaves: new home construction and the arrival of new immigrants. We investigated these factors by calculating and mapping the new housing locations and where new immigrants settle. The South Asian enclaves in the two cities served as a reference point since they are the most recent and seemingly most institutionally complete.

About 30% of all housing in South Asian CTs in the Edmonton CMA was built in the past 5 years, but elsewhere in the Edmonton CMA, only 12% occurred in this period. Between 2006 and 2016, new subdivisions in the South Asian areas grew by 41.5%, whereas comparable growth across the CMA was only 23%. In Calgary, new housing in South Asian CTs increased by 16%, whereas in the CMA, the increase was just over 11%. These figures are much more telling if we look at the past 10 years: over 33% of housing in South Asian CTs was built during this time as opposed to 20% across the Calgary CMA.

Enclaves primarily depend on recent immigrants to maintain and expand their strength and stability. In Calgary, 14.6% of the population in the South Asian CTs are recent immigrants (and are predominantly South Asians), while only 6.7% of the Calgary CMA population are recent immigrants. Data for the Edmonton CMA is similar—in South Asian CTs, 13.4% are recent immigrants, versus 5.9% who are recent immigrants across the Edmonton CMA. Further, our calculations show that several South Asian areas in both Edmonton and Calgary received up to four times as many recent immigrants as other parts of the CMAs.

Another interesting feature of growing enclaves is that rates of homeownership are higher than the corresponding CMA rates. For instance, in 2016, the South Asian areas in Edmonton had 80% homeownership versus 70% across the CMA. In Calgary, homeownership in South Asian areas was 77.25%, with the average across the CMA at 73%. Higher homeownership rates in enclaves generally indicate their relative prosperity, even though new housing in these cities' suburbs are more affordable and hence within the grasp of immigrant households.

Our mapping and analysis support the following key assertions in the Edmonton and Calgary context:

- Ethnic settlements are becoming increasingly suburban, with continued expansion fuelled by new immigrants and recently constructed affordable housing. Toronto and other large metropolises show this same trend (Qadeer et al. 2010).
- Such settlements remain mostly secondary concentrations, where an ethnic group is the single largest, but not the majority, in a given area. Most other neighborhoods in Calgary and Edmonton consist of mixed ethnicities with no one group predominating—primarily composed of Germans and Ukrainians, followed by others which also include newcomers from the Middle eastern (mainly Lebanese, Syrians, and other Arabic-speaking groups), and Chinese, Filipinos, or Africans and Caribbeans.
- The Chinese population, in particular, has increased in the suburban neighborhoods of both Calgary and Edmonton. Edmonton's Chinatown has declined in population, but Calgary's Chinatown remains steady.
- South Asians settle directly in suburbs, as they do in the Toronto area. These neighborhoods continue to attract newcomers, generating primary concentrations.
- South Asian enclaves emerge when some initial ethnic households form a core that expands outwards—first as fragmented clusters, but over time coalescing into a consolidated band, a phenomenon described elsewhere by Qadeer et al. (2010). Gradually, an axis of highly concentrated clusters (primary census tracts) emerges, around which form zones of territories that are ethnically less dense (secondary census tracts).
- In Edmonton and Calgary, this axis shifts but is constrained by two principal factors—growth (or contraction) of population, and growth and development policies of neighboring jurisdictions. Because the enclaves are developed at the corners of the cities' municipal boundaries (for example, NE in Calgary and SE in Edmonton), their expansion is constrained on two sides, with the municipal boundary acting as a hard edge. The neighboring municipalities in both Calgary and Edmonton are predominantly rural and, most likely, follow starkly different development policies than those of the urban core; this thus limits the spillage of these enclaves outwards into the rural area. This is a different process than that observed in the Toronto CMA, where enclaves cross over municipal boundaries relatively seamlessly (for instance, Chinese enclaves traversing over the municipal boundaries of Toronto, Markham, and Richmond Hill). This could be because adjoining urban municipalities may follow somewhat similar residential growth policies to the city of Toronto.
- The concentrations of long-established and well-integrated ethnic groups like the Germans and Ukrainians appear to continue to thrive—demonstrating that even when ethnic groups socially integrate, they may remain spatially separated in enclaves, as is the case with Jewish, Italians, and Portuguese groups in Toronto. We note that the data show the concentrations of Germans and Ukrainians as inconsistent within the city limits—perhaps due to difference in how respondents answered questions about ethnicity over the census periods. A slight variation in self-reporting across censuses could affect whether reporting at a census-tract level meets our threshold criteria.
- Germans (and Ukrainians) consistently dominate the rural landscapes in both Calgary and Edmonton. Ukrainians, however, are much more visible in

Edmonton's rural area, partly because of their physically dominant and highly ornate churches and other public architecture.

- Over the past four decades, ethnic groups locations remained constant (especially for Chinese and South Asians), but the intensity changed. This is explained below.

When we compare immigrant trends between the Alberta Manpower study (1986) and our findings, two key points emerge.

1. The initial locations of immigrant settlement destinations within each city, particularly South Asians and Chinese, have remained largely consistent since 1978—so, in both the Manpower study and this study. In Edmonton, settlement of the city continues: in the downtown/Central Edmonton (primarily Chinese, though declining overall); in the southeast portion (predominantly South Asian); and in the northeast portion (a minor cluster of mostly Arabic-speaking immigrants). In Calgary, settlement patterns focused on the central, northeast, and northwest portion of the cities in both studies. The central cluster is still going steady with Chinese as the largest ethnic group. The northeast is predominantly South Asian and is continuously expanding. The northwest comprises Chinese secondary concentrations that are also expanding.
2. The ethnic composition has shifted in some areas. In the Alberta Manpower study, Indo-Chinese were the largest populations in both Edmonton and Calgary. In our study, we identified Ukrainians and Germans in Edmonton as dominant ethnic groups. These two groups were conspicuously missing in the earlier study. The method may account for this, as the Manpower study focused on the ethnic composition of the identified concentrations of new immigrants without considering ethnic distribution elsewhere in the city. We noticed that more people self-identified as Ukrainians and Germans in Edmonton and Calgary in the 2016 census than in the 2011 NHS, but proportionately they are fewer. This changed response may be due to ethnicity becoming a symbol of identity and pride in many communities (Boyd 1999; Jedwab 2003). Alternatively, the lower response rate may have been over compensated for with added weighting in NHS by Statistics Canada.

Conclusion

The current classification of immigrant destinations is not sufficiently developed to capture the changing levels of immigration and immigrants' destination choices. We responded to this deficit by proposing an alternative—the location quotient (LQ), based on a metropolitan area's proportionate share of recent immigrants to Canada derived from its population, which adds a better understanding and systematic categorization of immigrants' destinations.

It is also abundantly clear that Edmonton and Calgary, as two top immigrant destinations for Chinese and South Asian immigrants, have had documented ethnic enclaves for at least three decades, if not more. However, their size and concentration levels have grown over time, providing much needed pre-existing social and cultural

institutions that have attracted and retained newly arriving immigrants and helped these newcomers to settle much quickly. In comparison to Toronto, however, Calgary's and Edmonton's enclaves have taken longer to form, likely because the growth of these immigrant populations expanded mostly in the past decade or so.

Germans and Ukrainians turned out to be more prominent in the past two censuses in these two metropolitan areas, even though both ethnic groups were the early settlers in Alberta who came from agrarian home societies to farm in Canada. Ukrainians traditionally express their culture through their imposing religious and other institutions. Germans' cultural imprints are also visible across the city and beyond, though not as pronounced. They have diffused over time given the German immigrants' assimilation into mainstream society. Additionally, new South Asians, Chinese, Filipinos, Middle Eastern, or African and Caribbean immigrants are moving into German/Ukrainian neighborhoods, further diluting their presence.

Ethnic enclaves in Calgary and Edmonton are not exclusive to their respective ethnic groups, typically consisting of secondary groups. Other neighborhoods are a blend of diverse ethnic newcomers and the old stock of Germans and Ukrainians. In Calgary, we noted that immigrant settlement remains both an inner city and suburban phenomenon; however, in Edmonton, it is increasingly becoming entirely suburban.

As mentioned at the outset, the findings of this research contribute to the body of immigrant settlement knowledge by clarifying the classification of immigrant destinations at a macro level, as well as describing the settlement patterns at the metropolitan level. We also attempt to influence the policy debate about the efficacy of ethnic enclaves. Mapping helps policy-makers understand how a metropolitan structure may be changing; concomitantly, it identifies where certain critical mass may be available to more effectively provide ethno-cultural-specific services, such as English classes, settlement programs, and employment services.

A few shortcomings do exist in this study. These are related to the use of datasets from 2011. To overcome the pertinent compatibility issues, we also used datasets from the 2001 and 2006 censuses. The intention in doing this was to ensure that our findings came together to elicit a consistent and logical pattern of phenomena.

To further this work, several future studies can be undertaken. This study challenges the current typology of immigrant destinations in Canada and proposes an alternative. However, other ways of classifying settlements may exist, which future research can explore. Future studies could also document detailed chronological changes to the ethnically identified neighborhoods to determine factors leading to change. Further, we need more data on how housing affordability contributes to the formation and expansion of enclaves in Calgary and Edmonton. Other key aspects of enclaves remain to be studied—such as their level of social cohesion and characteristics such as residents' income levels, housing, and institutions.

References

- Agrawal, S. (2013). Economic disparities among south Asian immigrants in Canada. *South Asian Diaspora*, 5(1), 1–28.
- Abercrombie, N., Hill, S., & Turner, B. (2000). *Penguin dictionary of sociology* (4th ed.). London: Penguin Books.

- Alba, Richard D. and John R. Logan. (1991). "Variations on Two Themes: Racial and Ethnic Patterns in the Attainment of Suburban Residence." *Demography* 28:431–53.
- Alberta Manpower Immigration and Settlement Services. (1986). Patterns of concentration and movement of immigrant groups within Edmonton and Calgary. Retrieved from <https://archive.org/details/patternsofconcen00alba>
- Balakrishnan, T., & Kralt, J. (1987). Segregation of visible minorities in Montreal, Toronto, and Vancouver. In L. Driedger (Ed.), *Ethnic Canada: Identities and inequalities* (pp. 138–157). Toronto: Copp Clark Pitman.
- Beattie, L., and D. Ley. 2001. The German immigrant church in Vancouver: Service provision and identity formation. Working paper series 01–19. Research on Immigration and Integration in the Metropolis. Vancouver, BC: Research on Immigration and Integration in the Metropolis.
- Boyd, M. (1999). Canadian, eh? Ethnic origin shifts in the Canadian census. *Canadian Ethnic Studies*, 31(3), 1–19.
- Breton, R. (1964). Institutional completeness of ethnic communities and personal relations of immigrants. *American Journal of Sociology*, 70, 193–205 Retrieved from <https://www.jstor.org/journal/amerjsoci>.
- Buchignani, N. (1985). South Asians in Alberta. In H. Palmer & T. Palmer (Eds.), *Peoples of Alberta: Portraits of cultural diversity* (pp. 413–436). Saskatoon: Western Producer Prairie Books.
- Chan, A. (2015). Chinese Canadians. *Historica Canada: Canadian Encyclopedia*. Retrieved from <http://www.thecanadianencyclopedia.ca/en/article/chinese-canadians/>
- Citizenship and Immigration Canada (CIC). (2001). Towards a more balanced geographic distribution of immigrants. (Strategic Policy, Planning and Research). Author.
- Clark, W. (1989). Residential segregation in American cities: common ground and differences in interpretation. *Population, Research and Policy Review*, 8, 93–197.
- Das, S. (2010). Building solidarity through diversity in Edmonton's emerging ethnocultural communities: a community based research. Edmonton multicultural coalition. Retrieved from <http://www.emcoalition.ca/research>
- Derwing, T., Krahn, H., Foote, J., & Diepenbroek, L. (2005). The attraction and retention of immigrants to Edmonton: a case study of a medium sized Canadian city (Paper No. WP05–05). Retrieved from <https://sites.ualberta.ca/~pcerii/WorkingPapers/WP05-05.pdf>
- Farley, R., Fielding, E., & Krysan, M. (1997). The residential preference of blacks and whites: a four metropolis analysis. *Housing Policy Debate*, 8, 763–800.
- Heritage Community Foundation. (2010). South Asian. Alberta Online Encyclopedia. Retrieved from <http://wayback.archive-it.org/2217/20101208165233/http://www.abheritage.ca/albertans/people/southasian.html>
- Hou, F., & Picot, G. (2004). Visible minority neighbourhoods in Toronto, Montreal and Vancouver (catalogue no. 11-008). *Canadian Social Trends, 2004(72)*, 8, Retrieved from <http://www.statcan.gc.ca/pub/11-008-x/2003004/article/6803-eng.pdf-13>.
- Jedwab, J. (2003). Coming to our census: the need for continued inquiry into Canadians' ethnic origins. *Canadian Ethnic Studies*, 35(1), 33–50.
- Kataure, V., & Walton-Roberts, M. (2013). The housing preferences and location choices of second-generation South Asians living in ethnic enclaves. *South Asian Diaspora*, 5(1), 57–76.
- Kazempur, A., & Halli, S. S. (2000). *The new poverty in Canada: ethnic groups and ghetto neighbourhoods*. Toronto: Thompson Educational Publishing.
- Krahn, H., Derwing, T. M., & Abu-Laban, B. (2005). The retention of newcomers in second-and third-tier Canadian cities. *International Migration Review*, 39, 872–894. <https://doi.org/10.1111/j.1747-7379.2005.tb00292.x>.
- Krysan, M., & Farley, R. (2002). The residential preference of blacks: do they explain persistent segregation? *Social Forces*, 88, 937–980.
- Lee, S.M., & Edmonston, B. (2010). "Canadian" as National Ethnic Origin: Trends and Implications. *Canadian Ethnic Studies*. 41–42(3–1), 77–108.
- Logan, J. R., Alba, R. D., & Zhang, W. (2002). Immigrant enclaves and ethnic communities in New York and Los Angeles. *American Sociological Review*, 67, 299–322 Retrieved from <http://www.jstor.org/stable/3088897>.
- Makuch, A. (2009). Alberta. Internet encyclopedia of Ukraine. Retrieved from <http://www.encyclopediaofukraine.com/display.asp?linkpath=pages%5CA%5CL%5CALberta.htm>
- Maitra, S. (2013). Points of entry: South Asian immigrant women's entry into enclave entrepreneurship in Toronto. *South Asian Diaspora*., 5(1), 123–137.
- Marcuse, P. (2005). Enclaves yes, ghettos no: Segregation and the state. In D. P. Varady (Ed.), *Desegregating the city: Ghettos, enclaves, and inequality* (pp. 15–30). Albany: State University of New York Press.

- Markusen, A., Lee, Y. S., & DiGiovanna, S. (1999). *Second tier cities. Rapid growth beyond the metropolis*. Minneapolis: University Of Minnesota Press.
- Massey, D., & Denton, N. (1985). Spatial assimilation as a socioeconomic outcome. *American Sociological Review*, 50(1), 94–106.
- Massey, D. S., & Denton, N. A. (1993). *American Apartheid: Segregation and the Making of the Underclass*. Cambridge: Harvard University Press.
- Murdie, R., & Teixeira, C. (2003). Towards a comfortable neighbourhood and appropriate housing: Immigrant experiences in Toronto. In P. Anisef & M. Lanphier (Eds.), *The world in a city* (pp. 132–191). Toronto: University of Toronto Press.
- Palmer, H. (2006a). *Chinese: origins of settlement. Land of the second chance: a history of ethnic groups in Southern Alberta* (pp. 54–61). Calgary: AB: University of Calgary.
- Palmer, H. (2006b). *Germans. Land of the second chance: a history of ethnic groups in Southern Alberta* (pp. 182–193). Calgary: AB: University of Calgary.
- Peach, C. (2005). The ghetto and the ethnic enclave. In D. P. Varady (Ed.), *Desegregating the city: Ghettos, enclaves, and inequality* (pp. 31–48). Albany, NY: State University of New York Press.
- Pendakur, R., & Bevelander, P. (2014). Citizenship, enclaves and earnings: Comparing cool countries. *Citizenship Studies*, 18(3–4), 384–407.
- Pendakur, K., & Pendakur, R. (1998). The colour of money: earnings differentials among ethnic groups in Canada. *The Canadian Journal of Economics*, 31(3), 518–548.
- Poulsen, M., Forrest, J., & Johnston, R. (2002). From modern to post-modern? Contemporary ethnic residential segregation in four US metropolitan areas. *Cities*, 19(3), 161–172.
- Preston, V., Murdie, R.A., & Murnaghan, A.M.. (2007). The housing situation and needs of recent immigrants in the Toronto CMA. Toronto, ON: Ceris (Working Paper No. 56).
- Pruegger, V., & Cook, D. (2010). An analysis of immigrant attraction and retention patterns among Western Canadian CMAs. Edmonton, AB: Prairie metropolis Centre, University of Alberta.
- Qadeer, M. A. (2005). Ethnic segregation in a multicultural city. In D. P. Varady (Ed.), *Desegregating the city: Ghettos, enclaves, and inequality* (pp. 49–61). Albany, NY: State University of New York Press.
- Qadeer, M. A., Agrawal, S. K., & Lovell, A. (2010). Evolution of ethnic enclaves in the Toronto metropolitan area, 2001–2006. *Journal of International Migration and Integration*, 11, 315–339. <https://doi.org/10.1007/s12134-010-0142-8>.
- Qadeer, M. A., & Kumar, S. (2006). Ethnic enclaves and social cohesion. *Canadian Journal of Urban Research*, 15(Suppl. 2), 1–17 Retrieved from <http://www.jstor.org/stable/26192499>.
- Savage, M., Warde, A., & Ward, K. (2003). *Urban sociology, capitalism and modernity* (2nd ed.). New York: Palgrave.
- Schelling, T. (1971). Dynamic models of segregation. *Journal of Mathematical Sociology*, 1, 143–186.
- Smith, H., & Ley, D. (2008). Even in Canada? The multiscalar construction and experiences of concentrated immigrant poverty in gateway cities. *Annals of the Association of American Geographers*, 98(3), 686–713.
- Smith, W. R. (2015). The 2011 national household survey: the complete statistical story. Available at <https://www.statcan.gc.ca/eng/blog-blogue/cs-sc/2011NHSstory>
- Statistics Canada (2011). 2011 National Household Survey. Available at http://www23.statcan.gc.ca/imdb-bmdi/instrument/5178_Q1_V1-eng.pdf
- Statistics Canada (2016). 2016 Census topic: Immigration and ethnocultural diversity. <http://www12.statcan.gc.ca/census-recensement/2016/rt-t/imm-eng.cfm>. Accessed 20 Mar 2018.
- Swyrypa, F. (2015). Ukrainian Canadians. *Historica Canada: Canadian Encyclopedia*. Retrieved from <http://www.thecanadianencyclopedia.ca/en/article/ukrainian-canadians/>
- Teixeira, C. (2009). New immigrant settlement in a mid-sized city: a case study of housing barriers and coping strategies in Kelowna, British Columbia. *The Canadian Geographer*, 53, 323–339. <https://doi.org/10.1111/j.1541-0064.2009.00266.x>.
- Ukrainian Canadian Congress (UCC). (2010). Immigration and settlement patterns. Ukrainians In Canada (p.1–9). Ukrainian Canadian Congress. Accessed from: <http://www.ucc.ca/ukrainians-in-canada/immigration-and-settlement-patterns/>
- Walks, R., & Bourne, L. S. (2006). Ghettos in Canada's cities? Racial segregation, ethnic enclaves and poverty concentration in Canadian urban areas. *Canadian Geographer*, 50, 273–297. <https://doi.org/10.1111/j.1541-0064.2006.00142.x>.
- Walton-Roberts, M. (2005). Regional immigration and dispersal: lessons from small- and medium-sized urban centres in British Columbia. *Canadian Ethnic Studies*, 37(3), 12–34.

- Walton-Roberts, M. (2007). Immigration regionalization in Ontario: policies, practices and realities. *Our Diverse Cities*, 4, 13–19 Retrieved from http://publications.gc.ca/collections/collection_2008/cic/Ci2-1-4-2007E.pdf.
- Wiebe-Neufeld, D. (2015) German services come to an end at an Alberta church. *Mennonite World Review*. Jan 5th. Available at <http://mennoworld.org/2015/01/05/feature/german-services-come-to-an-end-at-alberta-church/>
- Wilkinson, L., & Kalischuk, A. (2009). Recent trends in migration to third-tier centres in the prairies. *Our Diverse Cities*, 6, 18–25 Retrieved from http://publications.gc.ca/collections/collection_2010/cic/Ci2-1-6-2009-eng.pdf.
- Williams, A., Kitchen, A., Randall, J., Muhajarine, N., Newbold, B., Gallina, M., & Wilson, K. (2015). Immigrants' perceptions of quality of life in the second- or third-tier Canadian cities. *The Canadian Geographer*, 59(4), 489–503.
- Wright, M. (2014) Churches keep the faith as congregations steadily shrink. *Calgary Herald*. January 3rd. Available at <http://www.calgaryherald.com/life/Churches+keep+faith+congregations+steadily+shrink/9347983/story.html>
- Zhao, G. (2009). The experience of ethnocultural communities in supporting newcomers in Edmonton: a community Research. Retrieved from <http://legacy.aaisa.ca/wp-content/uploads/2013/02/The-Experience-of-Ethnocultural-Communities-in-Supporting-Newcomers-in-Edmonton.pdf>