



Residential segregation of visible minorities in Canada's gateway cities

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Although the influx of visible minority immigrants has created an atmosphere of diversity and multiculturalism in Canada's three major gateway cities, Montreal, Toronto and Vancouver, immigration has also produced metropolitan landscapes of fragmentation and ethnic separation. The objective of this study is to compare the residential patterns of visible minority populations in Montreal, Toronto and Vancouver, using a rigorous and consistent method that examines the temporal and spatial nature of segregation and its links to local housing characteristics. The paper reviews the literature on models of urban separation, and ethnic and visible minority segregation in Canadian cities, and develops four propositions regarding expected residential patterns and concentrations of visible minorities. It tests these propositions using an analysis of 1986, 1991 and 1996 Census data, in which residential patterns in the three cities are examined and related to the distribution of different types of housing. Our findings confirm previous research results of fragmentation and dispersal, but we uncover decisive differences between cities.

Key words: visible minorities, ethnic segregation, gateway cities, housing

Bien que l'afflux d'immigrants appartenant à des minorités visibles ait créé un climat de diversité et de multiculturalisme dans trois des principales portes d'entrée au Canada, à savoir Montréal, Toronto, Vancouver, il n'en reste pas moins que cet afflux a aussi produit des paysages métropolitains de fragmentation et séparation ethniques. L'objectif de cette étude est de comparer les modèles résidentiels des populations minoritaires visibles de Montréal, Toronto et Vancouver; pour ce, nous avons utilisé une méthodologie rigoureuse qui examine la nature de cette ségrégation, du point de vue temporel et spatial ainsi que ses liens avec les caractéristiques des habitats locaux. L'article fait une recension des écrits portant sur les modèles de séparation urbaine, ainsi que sur la ségrégation des minorités ethniques et visibles. Il développe quatre propositions concernant les modèles résidentiels et les concentrations de minorités visibles anticipés. L'article vérifie ces propositions à partir de l'analyse des données du recensement des années 1986, 1991 et 1996, dans lesquelles les modèles résidentiels étaient étudiés et mis en rapport avec la distribution des différents types d'habitat. Nos conclusions confirment les résultats de recherches antérieures sur la fragmentation et la dispersion, mais dévoilent en même temps des différences cruciales entre les villes.

Mots-clés: minorités visible, ségrégation ethniques, portes d'entrée, habitats

Introduction

Canadian residents of non-European origin, or 'visible minorities', may soon constitute a majority in Toronto and Vancouver (Samuel 1988; Chard and Renaud 1999; Hiebert 1999; Ley 1999). The influx of visible minority immigrants has created an atmosphere of diversity and multiculturalism in Canada's three major gateway cities, Montreal, Toronto and Vancouver; but immigration has also produced metropolitan landscapes of fragmentation and ethnic separation (Bourne *et al.* 1986; Bourne 1989; Doucet 1999; Hiebert 1999). The objective of this study is to compare the residential patterns of visible minority populations in Montreal, Toronto and Vancouver. Thus this paper complements recent studies on the spatial separation and distribution of visible minority immigrants in Montreal, Toronto and Vancouver (Ray 1998, 1999; Archambault *et al.* 1999; Chard and Renaud 1999; Doucet 1999; Driedger 1999; Hiebert 1999). What needs to be added to these previous studies, however, is a comparison between all three cities using a rigorous and consistent method that examines the temporal and spatial nature of segregation and its links to local housing characteristics.

In the first part of the paper we review the literature on models of urban separation, and ethnic and visible minority segregation in Canadian cities. Based on this literature we develop four propositions regarding expected residential patterns and concentrations of visible minorities in Montreal, Toronto and Vancouver. In the second part, we test these propositions using an analysis of 1986, 1991 and 1996 Census data, in which we examine residential patterns in the three cities, and relate these patterns to the distribution of different types of housing. Our findings confirm previous research results of fragmentation and dispersal (Balakrishnan 1982; Sharpe 1985; Bourne *et al.* 1986; Mercer 1988; Bourne 1989; Doucet 1999), but we uncover decisive differences between cities.

Visible Minorities and Ethnic Residential Separation

Visible Minorities and Gateway Cities

The Canadian Employment Equity Act of 1986 defines "members of visible minorities" as "persons, other than aboriginal peoples, who are non-Caucasian in race or non-white in colour"

(Department of Justice Canada 2000). In 1987, Balakrishnan and Kralt (1987, 138-139) reported that the "...Secretary of State for Multiculturalism has tentatively defined ten groups as visible minorities, including Blacks, Indo-Pakistanis, Chinese, Indo-Chinese, Japanese, Koreans, Ethnic Filipinos, Pacific Islanders, Lebanese, and Arabic." A decade later, the 1996 Census designates Chinese, South Asian, Black, Arab/West Asian, Filipino, Southeast Asian, Latin American, Japanese, Korean and Pacific Islander as visible minority categories. We acknowledge that the visible minority category is socially constructed, and we are aware of the risk of reproducing racialised ideology by positioning non-European residents opposite to an 'invisible' European-origin population (Steinberg 1981; Smith 1989; Kobayashi and Peake 1994; Sibley 1995; Ang and Stratton 1996; Hage 1998). Yet, precisely because visible minorities are racialised in everyday life and in political discourse, it is important to understand what residential circumstances and what kind of segregation processes these groups confront, and how these circumstances and processes vary between different metropolitan contexts.

The growth of the visible minority population in recent decades is related to changes in Canadian immigration legislation in the 1960s that enabled more non-Europeans to settle in Canada (Samuel 1988; Kelly and Trebilock 1998). Ley (1999) summarises several trends of recent immigration. First, increasing numbers of immigrants enter Canada. Throughout the 1990s, with the exception of 1998, annual immigration was above 200,000, higher than in any previous decade (Citizenship and Immigration Canada 1999). Second, higher proportions of immigrants come from non-European, mostly Asian, origin countries. Third, skilled-worker and business-class immigration constitutes a growing percentage of total immigration. In 1998, for instance, roughly two-thirds of all immigrants were economic (i.e. skilled worker and business class) immigrants (Citizenship and Immigration Canada 1999).

In 1998, 71.2 percent of these immigrants settled in Toronto, Vancouver or Montreal (Citizenship and Immigration Canada 1999). These three cities are Canada's gateway cities, not only in regard to trade and investment but also with respect to transnational labour and migration flows (Sassen 1988; Waldinger 1989; Lin 1998). Despite their common gateway role in the urban system, the three cities are destinations for quite different immigrant groups

and entry classes (Ley 1999). In addition, different historical circumstances have produced varying ecological patterns in the three cities (Driedger 1999). Furthermore, minorities and immigrants probably confront varying degrees of racism and prejudice in Canadian cities (Ouston 1999). As a result of these differences among the three cities, we also expect differences in patterns of residential exclusion.

Due to the distinct ethnic composition of cities, different historical and political urban contexts, and locally particular attitudes and policies towards minorities, it is unlikely that ethnic identities are uniform across cities in Canada. That ethnic identities are not fixed but changing and spatially contingent has important implications for the empirical analysis below. Visible minority groups differ by language, place of origin, income, education, circumstances of immigration, destination city, and other factors. We therefore expect residential experiences to vary considerably between ethnic groups and urban contexts (Ray and Moore 1991; Fong 1996; Bourne 1998; Ray 1998). In sum, we expect ethnic residential patterns to differ between the gateway cities.

Urban Models of Ethnic Separation

Traditionally, the human ecological model of ethnic integration explains residential patterns of ethnic minorities (Burgess 1925; Park 1926). This model assumes that newly arriving immigrants are poor and therefore locate in inexpensive rental housing areas around the city centre. Furthermore, the model argues that segregation is a voluntary process which establishes local ethnic support networks and eases assimilation to the host society. In the ecological model, differences in class, language, origin, customs and visible markers translate into residential separation from the host population; but separation gradually declines with upward class mobility and cultural assimilation.

According to Peach (1996, 394) the parallel processes of assimilation and residential integration suggested by the ecological model are only one of many possible scenarios. He notes that: "...if positive interaction between groups is not taking place. Segregation can increase over time as well as decrease. Dispersal is not an inevitable social process." There are several alternative explanations of the segregation of ethnic groups (Fairbairn and Khatun 1989; Ray 1994, 1998; Dunn 1998; Lin 1998; Van Kempen and Özüekren 1998; Gober 2000). One alternative explanation of separation suggests that

persistent geographical clustering enables physical defence against racially motivated harassment, it provides psychological support within the group, it sanctions the preservation of ethnic heritage, and it enables the promotion of group interests (Boal 1981). In this case, separation is a protective measure that benefits a minority population. A second explanation proposes that visible minorities experience discrimination in the housing market (Henry 1989; Kalback 1990; Farley 1995; Teixeira 1995). In contrast to the first explanation, residential exclusion is undesirable, and does not benefit the minority group. A third explanation purports that residential separation merely reflects the socio-economic status of ethnic groups and has little to do with identity formation and ethnic exclusion (Clark 1986). Some ethnic minority groups tend to be poor and therefore live in low-status areas, while the ethnic majority population can afford to live in higher-status neighbourhoods. Finally, a fourth explanation suggests that transitory and transnational communities may have only limited interest in social and residential integration (Ong 2000). Ethnic groups may cluster in a particular residential area in which ethnic networks converge and enable residents to maintain transnational social and economic linkages. These four explanations probably apply to various degrees to different minority groups, in different cities and time-periods.

Peach (1996b, 1996c) argues that there is "good segregation" and "bad segregation." Good segregation is associated with the voluntary desire to retain group identity and cohesion; bad segregation relates to involuntary forces of racialisation (see also Boal 1981; Dunn 1998). Segregation may, however, not be an issue of *either* voluntary *or* enforced processes. Rather, in-group preference for concentration may concur simultaneously with the exclusion of visible minorities from some neighbourhoods. Sarre (1986) and Sarre *et al.* (1989) have further suggested that voluntary and involuntary segregation are not independent processes, but that both forms of segregation are embedded in a wider system of residential constraints and choices that interrelate with practices in the real estate industry, the organisation of local authorities, and immigrants' coping strategies. Ray (1994), for instance, demonstrates that Italian and Afro-Caribbean immigrants to Toronto weight their housing preferences against their available choices under racial discrimination. Anderson (1991) and Smith (1989) have linked segregation to a wider discourse of race and ethnicity, whereby voluntary

and involuntary forces of segregation cannot be neatly separated from each other. Ley (1995) demonstrates that inter-ethnic residential conflict in a Vancouver neighbourhood is not a simple matter of spatial exclusion and/or inclusion, but rather involves a political process, in which established residents' perception of neighbourhood aesthetics clashes with Chinese migrants' demand for property rights. Overall, this recent literature suggests that the experiences of ethnic minorities do not conform to a single model of residential segregation.

Many of the ideas discussed above are derived from British, US and Australian studies. However, there are important differences between national contexts due to different integration approaches, housing policies, planning traditions, ethnic populations and public attitudes towards minorities (Fong 1996; Peach 1996a, 1996b; Roseman *et al.* 1996; Poulsen and Johnston 2000). Canada therefore may confront its own issues of urban segregation, and foreign-based models of segregation may apply to Canadian cities only to a certain degree.

Separation in Canadian Cities

More than a decade ago, Bourne (1989, 314) established the "social mosaic hypothesis" for Canadian cities, which describes "...an increasing level of social diversity – notably the emergence of a more detailed and fragmented ethnocultural mosaic (*ibid.*, 325)." According to Bourne, this hypothesis:

...suggests a shift away from a traditional ecological model of urban social patterning, in which the landscape is partitioned in an essentially geometric fashion into large homogeneous zones and sectors, to one that incorporates a much more complex, spatially variable, and less predictable social mosaic. That mosaic may also be highly responsive to any increases in overall social differentiation and may mirror the increasing number and variety of distinctive subgroups in the nation's population. As a result, the particular spatial pattern of these groups might be less rigid, and could vary widely from one urban area to another, and over time (314-315).

Furthermore, immigrants and ethnic minorities are affected by processes of economic and residential decentralisation. To note this effect, Bourne (1989, 314) has established the more traditional "dispersed city hypothesis," which addresses the suburbanisation of ethnic minority and immigrant groups, following the population as a whole. Many recent immigrants, for instance, locate directly in the suburbs

(Ray *et al.* 1997). According to Bourne, residential decentralisation and spatial fragmentation are complementary developments.

Recent case studies of Montreal, Toronto and Vancouver support Bourne's hypotheses. Archambault *et al.* (1999) show for greater Montreal that visible minorities disperse not only into the inner suburbs of St-Laurent and Dollard-Des-Ormeaux but also to Laval and the off-island suburb of Brossard. Doucet (1999, 11) points out that Toronto's "immigrant reception area has moved... outward, and many immigrants now 'skip [the] downtown stage' entirely." In 1996, suburban Scarborough, for instance, had more visible minorities than the city of Toronto,¹ and suburban neighbourhoods in North York, Mississauga and Markham have become new centres of multiculturalism. Hiebert (1999, 62) observes similar trends for Vancouver. He finds that "most recent immigrants... choose to locate in peripheral neighbourhoods" but that "ethnocultural composition of the immigrant population differed between municipalities." Chard and Renaud (1999) provide evidence of dispersal and fragmentation for all three CMAs. Despite the consistent evidence of dispersal, Ray (1994, 263) warns: "It would be... erroneous to suggest that only a few immigrants live in the City of Toronto... It would also be misleading to suggest that immigrants, whether they live in the City of Toronto or one of the suburban municipalities, enter the housing market in similar ways. Immigrants vary significantly in terms of their socioeconomic status and housing conditions." In other words, there is no common immigrant experience.

Ethnic settlement patterns also vary between cities because of differences in the housing market. Fong (1996) – following the logic of the ecological model – suggests that the age of a city relates to levels of segregation. Older Canadian cities, such as Montreal, have higher levels of segregation among Asians and Blacks than younger Canadian cities, such as Vancouver. He argues that concentrations of cheaper, but ageing, housing stock in the centres of older Canadian cities intensify levels of segregation compared to younger Canadian cities. However, city-particular efforts of urban renewal and gentrification may also affect the quality of inner-city housing stock (Ley 1996). Ray and others (Ray and Moore 1991; Ray 1994, 1998; Ray *et al.* 1997) confirm that immigrant settlement patterns in Canada are closely related to circumstances in the housing market. In

this respect, an important issue is housing affordability. Pendakur and Pendakur (1998) show that, in all three cities, visible minorities – both Canadian-born and foreign-born – have lower earnings than the white population. The same study also points out that visible minority men in Montreal suffer from a far greater earning disadvantage than visible minority men in Toronto and Vancouver. These differences suggest that Montreal's visible minority families are financially more constrained and may have to rely on cheaper apartment housing than their counterparts in Toronto and Vancouver. In a detailed comparative study of Toronto and Montreal, Ray (1998, 221) found evidence of multiple interlocking factors, suggesting that "the process of settlement is considerably different in the two cities, owing in part to differences in overall segregation levels, types of housing, histories of development, and the location, accessibility and availability of kin and friends."

Based on this literature we expect that ethnic groups, aggregated under the visible minority category, follow quite distinct residential trends and display various degrees of dispersal and separation from the British and French-origin populations. However, if processes of racialisation apply categorically to people who are visibly distinct from the British and French-origin 'charter' populations then we would expect a general trend of residential segregation among visible minorities in the three gateway cities. The literature suggests that this segregation will have various dimensions and that it will be evident in several ways:

- 1 that visible minorities will be unevenly distributed across residential space (census tracts) relative to the majority population comprised of the French, British or Canadian categories. The city-wide index of dissimilarity (D) will measure this unevenness of residential distribution, and we expect visible minorities to have high dissimilarity indices in all three cities;
- 2 that uneven residential distributions will persist over time, and thus dissimilarity indices will be consistently high across census periods. The index of dissimilarity will be calculated for 1986, 1991, and 1996 to examine changes in segregation. We expect segregation to persist over time;
- 3 that visible minorities will be concentrated in particular locations within the city. Location quotients and thematic mapping will be used to display spatial concentrations of visible minorities. We expect to identify patterns of spatial clustering, subur-

banization and centralisation;

- 4 that some visible minority groups will be concentrated in older, less expensive, and higher density housing stock. We expect location quotients of these visible minority groups to be correlated with location quotients of housing characteristics including: type of dwelling, value of dwelling in dollars, and age of dwelling.

Furthermore, we expect differences in the patterns of residential segregation between Montreal, Toronto, and Vancouver. The literature suggests that the patterns will vary due to differences in the distribution of types of housing, histories of metropolitan development, the accessibility of ethnic and family networks of support, and locally contingent discourse of race and ethnicity.

Data

The analysis uses census-tract level data from the user summary tapes for the 1986, 1991 and 1996 Censuses of Population (Statistics Canada 1999a, 1999b). In the 1986 and 1991 census questionnaires ethnic identity was not self-defined by the users, but the questionnaires provided the categories and articulated the selection criteria, ancestry. In the analysis of 1996 data we use a separate visible minority variable, which featured a ten-category mark-in question in the questionnaire.²

Despite our effort to use consistent variables between censuses, there are differences in the wording of the ethnicity question on the census form, which may affect our analysis. In addition, group categories are inconsistent across censuses. The visible minority categories we identified for 1986 are Black, Chinese and South Asian. From the 1991 census we use Chinese, East Indian, Black, Filipino, Vietnamese, Korean, Japanese and Lebanese. The 1996 census identifies Chinese, South Asian, Black, Arab/West Asian, Filipino, Southeast Asian, Latin American, Japanese and Korean.³ For comparative purposes, we also include Aboriginal population in the analysis. The 1996 census subdivides ethnic categories into single, multiple and total responses (a feature not available in the 1986 or 1991 censuses) but we only use "single response." This category is problematic because it provides no information about the combination of origins among respondents. The "multiple response" category comprises 61,570 individuals, or less than 5 percent of the total visible minority population. Urban separation of ethnic minorities is usu-

ally examined in reference to an ethnic majority. For the 1986 and 1991 analysis, we use French and British as reference categories. Below we refer to White-French and White-British populations to distinguish them from visible minority populations. In the 1996 census we also use Canadian.

Census tract data do not allow us to explore processes of ethnic identity formation and racialisation, and we are limited to the categories provided by the census. This is a significant limitation since visible minority groups are more complex than the census categories express. The Chinese population, for example, is probably not as cohesive as the analysis of census data suggests. Chinese immigration to Vancouver in 1996 consisted of 12,269 people from Hong Kong, 9,238 immigrants from Taiwan and 4,028 citizens of the People's Republic (Citizenship and Immigration 1999). Socio-economic characteristics differ dramatically between business-class immigrants from Hong Kong or Taiwan and refugees from the People's Republic. We acknowledge these issues when measuring residential differentiation by using racial categories that reduce complex cultural identities to a single dimension.

Preliminary Analysis

Visible Minorities in the Canadian Context

The 1996 census identified more than 3 million persons, or 11.2 percent of Canada's population, as visible minorities (Table 1). The largest group was Chinese, with a national population of 860,150, followed by South Asian and Black, both of which had populations above half a million. Arab/West Asian, Filipino, Latin American, and Southeast Asian each had a population between 100,000 and 250,000. Japanese and Korean counted less than 100,000 people. We compared these figures to 1991 data and found that the single-origin visible minority population was, with 1,732,390 people, much smaller five years earlier and accounted for only 6.4 percent of Canada's population. This difference is probably not only attributable to the increase of the visible minority population but also to the inconsistent measurement of visible minorities between censuses.

The size and proportion of visible minority groups reflect immigration trends. Chinese, for instance, were the largest visible minority group in 1996 as well as the largest immigrant group throughout the 1990s. South Asians were the second largest visible

minority group, and large numbers of immigrants came from India and Sri Lanka (i.e., South Asia). Other major immigrant origin countries were Pakistan and Iran (i.e., Arab/West Asia) as well as the Philippines and Korea (Citizenship and Immigration Canada 1999, 7). However, not all visible minorities are newly arriving immigrants. Some visible minorities have been in Canada for generations. For example, 65 percent of Japanese and 42 percent of Blacks were born in Canada. Nevertheless, the majority of the remaining visible minority groups consist of immigrants – especially many Asian-born residents are recent immigrants (Chard and Renaud 1999).

Gateway Cities

Canada's visible minority population is highly urbanised. In 1996, 93.8 percent of the visible minority population lived in a Census Metropolitan Area of Canada, although these areas contained only 62.0 percent of the total Canadian population. Table 1 depicts the distribution of visible minorities across the three largest metropolitan areas in 1996. The three large gateway cities, Toronto, Montreal and Vancouver were home to 32.7 percent of Canadians but to 72.1 percent of all visible minorities, with the largest concentration in Toronto (41.8%), followed by Vancouver (17.7%) and Montreal (12.6%). This distribution of visible minorities matches immigration trends. Toronto was the first destination of 42.3 percent of all newly-arriving immigrants in 1996, followed by Vancouver (17.3%) and Montreal (11.6%). Together, the three cities absorbed 74.3 percent of all newly arriving immigrants in 1996 (Citizenship and Immigration Canada 2001).

The composition of the visible minority population varies greatly between the three CMAs (Table 1). Toronto had a comparatively large share of South Asians, Blacks and Koreans. Vancouver, in comparison had a large proportion of Chinese, Japanese and Koreans. Finally, Montreal was home to a relatively large Arab/West Asian, Latin American, Southeast Asian and Black populations. The Aboriginal population was less urbanised and relatively few lived in Toronto, Montreal or Vancouver.

Again, immigration streams reflect the differences in visible minority composition between cities. In 1996, Toronto's largest immigrant group was Chinese, followed by South Asians from India and Sri Lanka. Prior to 1996, Toronto received a large share of Caribbean immigration, many of whom are Blacks (Ray 1998, 167-197; Citizenship and Immigration

Table 1
Visible Minorities in Canadian Metropolitan Areas, 1996

Group Category	Population Count				CMA as a Proportion of the Total Population of Group		
	Canada	Montreal	Toronto	Vancouver	Montreal	Toronto	Vancouver
Total Population	28528125	3287265	4229620	1813840	0.115	0.148	0.064
Total Visible Minority pop.	3197480	401020	1336485	564475	0.126	0.418	0.177
Black	573860	121995	274425	16255	0.213	0.479	0.029
South Asian	670585	45980	329260	120005	0.069	0.492	0.179
Chinese	860150	45760	334540	278895	0.054	0.39	0.324
Korean	64835	3425	28255	17000	0.054	0.44	0.263
Japanese	68135	2285	16755	21780	0.034	0.25	0.321
Southeast Asian	172765	372900	4624	20305	0.218	0.269	0.118
Filipino	234200	14270	98790	40530	0.061	0.423	0.174
Arab/West Asian	244665	73670	71840	18000	0.302	0.295	0.074
Latin American	176975	46370	61320	13660	0.264	0.348	0.078
Multiple Visible Minority	61570	4864	27460	10220	0.079	0.446	0.166
Visible Minority, n.i.e.	69745	3330	45115	6675	0.05	0.655	0.097
Aboriginal	779790	9960	16095	31140	0.012	0.02	0.039

SOURCE: Analysis of 1996 Census by authors

1999, 23). The majority of Vancouver's immigrants were Chinese. Altogether, 80.1 percent of Vancouver's immigration came from the Asia-Pacific Region in 1996 (Citizenship and Immigration 1999, 29). Proximity to the Pacific Rim makes Vancouver not only the nearest port of entry for Asian immigration, but it is also easier for transnational families to maintain personal and business relationships to Hong Kong, Taiwan and other Pacific Rim locations (Mitchell 1995; Hiebert *et al.* 1998; Waters 2000). The fact that 67.8 percent of Vancouver's immigrants in 1996 were economic immigrants (compared to 54.0% in Toronto and 35.9% in Montreal) underscores the role of Vancouver as Canada's gateway to Pacific Asia (Citizenship and Immigration 1999, 16, 22, 28).

Montreal drew about a third of its new immigrants in 1996 from the Asia-Pacific region. Another quarter came from Africa and the Middle East region, with Algeria and Morocco being the largest African contributor countries. South and Central Americans also constituted sizeable portions to Montreal's immigration (Citizenship and Immigration Canada 1999, 17). French heritage and provincial immigration policies

have influenced Montreal's visible minority composition. Unlike Ontario or British Columbia, Quebec negotiated immigration agreements with the federal government (the 1978 Cullen-Couture agreement and the 1991 Quebec-Canada Accord), which granted relative provincial autonomy in immigration and settlement issues to Quebec (Hiebert 1994; Nash 1994; Hawkins 1998; Kelly and Trebilcock 1998). Provincial selection procedures, in combination with language preferences of immigrants, have made Montreal the first destination choice for many French speaking immigrants. In 1996, 38.9 percent of new immigrants in Montreal spoke French, compared to 2.2 percent in Toronto and 1.2 percent in Vancouver (Citizenship and Immigration 1999, 18, 25, 31).

Measuring Separation

We recognize that residential separation is a multidimensional phenomenon that varies along five different axes of measurement: evenness, exposure, concentration, centralization, and clustering (Massey and Denton 1988). Thus the residential separation of

a minority can be revealed as one or more of the following: an uneven distribution across census tracts in comparison to the majority; isolation from interaction with the majority; a concentration into small geographic areas; a centralisation in the inner city; and a clustering into spatially contiguous zones. Although conceptually distinct, these five measures are strongly intercorrelated. We use three indices⁴ to measure exposure, evenness and clustering.

In-Group Exposure

The degree to which a group is isolated in an enclave, or ghetto, is best measured by the isolation index P^* , which evaluates the extent to which a member of a particular group is exposed to fellow group members within his/her census tract of residence (Peach 1996a, 1996c; Darden and Kamel 2000; Poulsen and Johnston 2000). An index of P^* close to zero indicates that the typical member of an ethnic group has little chance of sharing a census tract of residence with fellow group members, therefore has low exposure to fellow group members. A value close to one indicates that the visible minority group is highly isolated from the majority, though members of that group enjoy high exposure to each other. Ray (1999, 81) computes this index for various groups in Montreal and Toronto on the basis of 1991 census data. He finds that indices are below 0.14 among non-European immigrants. He concludes: "In both Toronto and Montreal, no group is strongly isolated." P^* is sensitive to population size: a large ethnic group is more likely to obtain a high value of P^* than a smaller one. Thus, the interpretation of P^* must take into account the group counts, which makes it difficult to compare groups of different size and cities of different size.⁵

According to our calculations based on 1996 census data, the isolation index for the total visible minority population was lowest in Montreal and highest in Vancouver. In Montreal even the most coherent visible minority group, Lebanese, only had a 0.058 likelihood of exposure to other Lebanese in their census tract of residence. In Toronto, the only category that had a P^* value of above 0.1 was Chinese. In Vancouver, East Indians had a P^* value above 0.1, and Chinese ($P^* = 0.240$) had the most in-group exposure with almost similar values as Vancouver's White-British population. In comparison, Aboriginals had by far the least exposure to their own group in Montreal and Toronto, but not in Vancouver. Our analysis revealed that in-group exposure has

increased for all visible minority categories that were represented in the 1986 and the 1991 censuses. The opposite is true for White-French in Montreal and for White-British Toronto and Vancouver. This suggests that in 1996 visible minority communities had become more spatially coherent as the sizes of their populations increased, while White-French and White-British groups became more dispersed. Isolation indices, however, are generally low, and there is no evidence of ghettoization of any single visible minority group.

Urban Separation

Our next analysis of separation uses the traditional city-wide index of dissimilarity (D) to measure evenness, the residential distribution of an ethnic group relative to the distribution of the French, British and Canadian categories. Generally, dissimilarity indices between 0 and 0.3 indicate a low degree of separation; indices between 0.3 and 0.6 suggest a moderate degree; and indices above 0.6 express a high degree of residential separation between groups (Massey and Denton 1988). The dissimilarity index has been used in a variety of national contexts to measure urban segregation (Roseman *et al.* 1996; Kaplan and Holloway 1998).

1986: Table 2 presents the counts of visible minorities and the dissimilarity indices for the Montreal, Toronto and Vancouver CMAs for 1986. It also displays the counts of the White-British and White-French reference groups. In Vancouver visible minorities constituted a greater share of the total population (10.8%) than in Toronto (9.4%) or in Montreal (2.5%). Chinese were the largest group in Vancouver and Toronto, accounting for 7.3 and 3.6 percent of the total populations. South Asians were the second and Blacks the third largest groups in these two cities. In Montreal Blacks were the largest group, constituting 1.2 percent of the population. The second largest group was Chinese, followed by South Asians and Aboriginals.

Dissimilarity indices for visible minority groups and Aboriginals were computed based on the reference group White-British for Vancouver and Toronto, and White-French for Montreal. Except for Aboriginals, dissimilarity indices were higher for visible minorities in Montreal than in Toronto and Vancouver. South Asians, Chinese and Blacks were highly segregated in Montreal.⁶ In Toronto and Vancouver, on the other hand, no group had dissimi-

Table 2
Visible Minorities in Gateway Cities, 1986

	Population Count			Dissimilarity Index (D)*		
	Montreal	Toronto	Vancouver	Montreal	Toronto	Vancouver
Total Population	2921352	3427112	1380727	n/a	n/a	n/a
White, British	191850	968145	392645	n/a	n/a	n/a
White, French	1827260	65100	29290	n/a	n/a	n/a
Total Visible Minority	73810	323395	149820	.597	.447	.483
Black	35405	91015	3795	.611	.484	.461
South Asian	17150	106075	45705	.732	.491	.463
Chinese	21255	126305	100320	.705	.541	.572
Aboriginal Peoples	7915	5815	11115	.391	.533	.541

* Reference categories for Montreal = White French (French, single response); for Toronto and Vancouver = White British (British, single response)

SOURCE: Analysis of 1986 Census by authors

larity indices above 0.6, indicating moderate degrees of separation.

1991: The calculations for 1991 (Tables 3) display a much richer image of the visible minority population because more categories are available in the 1991 census. As in 1986, Vancouver had the largest proportion of visible minorities (18.5%), followed by Toronto (16.2%) and Montreal (12.5%). The Chinese were again the largest group in Vancouver and Toronto, constituting 10.4 and 5.9 percent of the population, followed by East Indians. However, Toronto was home to much larger Black, Korean and Lebanese populations, whereas Vancouver had more Japanese. In Montreal the largest group was Blacks, followed by Chinese. Montreal also had a larger Lebanese population than Toronto and Vancouver, and more Vietnamese than Vancouver.

The dissimilarity indices were computed based on three different reference categories. In addition to the indices based on White-French and White-British reference groups, we also display indices based on the reference category Canadian (in parentheses). In this case a single category is consistently applied across the three CMAs. As in 1986, visible minorities in 1991 were most separated in Montreal. Korean, Japanese and Filipinos were extremely separated with D values above 0.8. Other highly separated groups were Vietnamese, East Indian and Lebanese ($D > 0.7$), as well as Chinese and Blacks ($D > 0.6$). Only the Aboriginal category experienced a moderate degree of separation. Similarities emerge between Vancouver and Toronto, although dissimilarity indices were slightly lower in Vancouver than in

Toronto. In both cities, Vietnamese and Lebanese were highly separated. All other ethnic categories display moderate degrees of separation. Filipinos and Japanese – among the most separated in Montreal – were among the least separated groups in both Vancouver and Toronto.

1996: Table 4 shows that Toronto had the largest share of visible minorities (31.6%) in 1996, closely followed by Vancouver (31%). Montreal had a much lower share (12.2%). Consistent with our analyses of 1986 and 1991 data, 1996 data indicate that Montreal's visible minority composition differed from that of Toronto and Vancouver. The largest visible minority category in Montreal was Black (although this category was less than half the size of Blacks in Toronto). Montreal had more Arab/West Asians than the other cities, and it had a comparatively large Latin American population. As in 1986 and 1991, Chinese were the largest visible minority group in Toronto and Vancouver in 1996, constituting 7.9 and 15.4 percent of the population. The second largest group in both cities was South Asian; and the third largest group was Blacks in Toronto and Filipino in Vancouver. Three categories Black, South Asian and Chinese are consistent between the 1986 and 1996 censuses. For all three cities, time series comparison indicates a doubling, tripling, or – in the case of Vancouver's Blacks – a quadrupling of visible minority groups since 1986.

As in previous censuses, dissimilarity indices were generally larger in Montreal than in Toronto and Vancouver. In Montreal, Korean, Japanese and Filipino categories remained extremely separated in

Table 3

Visible Minorities in Gateway Cities, 1991

	Population Count			Dissimilarity Index (D) ²		
	Montreal	Toronto	Vancouver	Montreal	Toronto	Vancouver
Total Population	3125339	3887000	1602498	n/a	n/a	n/a
Canadian	9665	265820	24220	n/a	n/a	n/a
White, British ¹	165845	744710	365355	n/a	n/a	n/a
White, French	1823525	51695	28075			
Total Visible Minority	148420	628655	296990	.583 (.602)	.457 (.457)	.454 (.486)
Black	38340	125070	4750	.615 (.659)	.518 (.501)	.486 (.492)
Chinese	33790	231135	167310	.672 (.677)	.572 (.586)	.556 (.586)
Korean	2500	21455	8225	.899 (.842)	.564 (.576)	.526 (.535)
Japanese	1650	13485	15985	.897 (.838)	.489 (.521)	.423 (.495)
East Indian	16585	141105	65895	.776 (.685)	.519 (.508)	.516 (.501)
Filipino	9640	66265	24685	.854 (.758)	.497 (.495)	.455 (.488)
Vietnamese	17555	21775	9000	.695 (.746)	.724 (.713)	.752 (.744)
Lebanese	28360	8365	1140	.690 (.704)	.668 (.679)	.742 (.768)
Aboriginal	12560	6130	12415	.343 (.577)	.581 (.582)	.539 (.567)

¹ White, British = English+Scottish+Irish+other British² Reference categories for Montreal = White, French; for Toronto and Vancouver = White, British; Parenthesis indicate reference category = Canadian

SOURCE: Analysis of 1991 Census by authors

Table 4

Visible Minorities in Gateway Cities, 1996

	Population Count			Dissimilarity Index (D) ³		
	Montreal	Toronto	Vancouver	Montreal	Toronto	Vancouver
Total Population	3287265	4229620	1813840	n/a	n/a	n/a
Canadian	964445	311500	123175	n/a	n/a	n/a
White, British ¹	93895	453150	222305	n/a	n/a	n/a
White, French ²	796345	34475	18685			
Total Visible Minority	401020	1336485	564475	.455 (.458)	.391 (.384)	.377 (.381)
Black	121995	274425	16255	.561 (.586)	.499 (.483)	.379 (.391)
South Asian	45980	329260	120005	.736 (.767)	.533 (.519)	.542 (.514)
Chinese	45760	334540	278895	.635 (.678)	.599 (.602)	.543 (.574)
Korean	3425	28255	17000	.832 (.865)	.576 (.597)	.449 (.476)
Japanese	2285	16755	21780	.859 (.877)	.447 (.481)	.359 (.422)
Southeast Asian	37290	46240	20305	.602 (.630)	.628 (.617)	.613 (.594)
Filipino	14270	98790	40530	.815 (.837)	.505 (.504)	.443 (.441)
Arab/West Asian	73670	71840	18000	.628 (.671)	.525 (.537)	.424 (.480)
Latin American	46370	61320	13660	.572 (.607)	.562 (.560)	.452 (.457)
Visible Minority, n.i.e.	3330	45115	6675	.820 (.825)	.538 (.520)	.568 (.537)
Aboriginal	9960	16095	31140	.458 (.458)	.407 (.411)	.374 (.365)

¹ White, British = British+Irish+Scottish+English² White, French = French+Quebecois³ Reference categories for Montreal = White, French; for Toronto and Vancouver = White, British; Parenthesis indicate reference category = Canadian

SOURCE: Analysis of 1996 Census by authors

1996. With the exception of Blacks and Latin Americans, all other groups were also highly separated. In most instances, dissimilarity indices were somewhat lower in Vancouver than in Toronto. Nevertheless, similarities exist between Vancouver and Toronto. In both cities Southeast Asians and Chinese were the two most unevenly distributed groups.

Spatial Patterns

The index of dissimilarity and the isolation index provide city-wide summaries which are useful for making comparisons among cities and over time, but they tell us nothing about the location and spatial distribution of visible minorities. Therefore, we computed location quotients (LQ) for the 1996 data on visible minorities and displayed these quotients on census-tract boundary maps of the Montreal, Toronto and Vancouver CMAs. Due to space limitations we are unable to present maps for all visible minority categories, and Chard and Renaud (1999) have already presented an overview of the spatial distribution of visible minorities in Toronto, Montreal and Vancouver. To simplify the maps and focus attention on areas of visible minority concentration we selected those census tracts with LQs greater than, or equal to 1.5. For these tracts we are able to display further information using proportional pie charts. The size of the circle represents the total visible minority population in the tract, and the pie slices indicate the proportion of each group in the visible minority population. This method allows for a clearer representation of particular spatial patterns - clustering of visible minorities among contiguous census tracts, concentrations in city centres and suburbs, and the spatial association of visible minorities in multiethnic neighbourhoods.

Our final method of analysis focuses on the relationship between spatial concentrations of visible minorities and the metropolitan distribution of housing. In general, we expect that some visible minority groups will concentrate in areas with older, cheaper, and higher density housing stock, while other visible minority groups reside in newer, more expensive and low-density subdivisions. To examine this relationship, we developed several measures of housing characteristics. First, we measure the age of housing in a census tract by calculating location quotients for old housing constructed before 1945, and for new housing constructed between 1986 and 1996. Second, to indicate dwelling type, we develop two

location quotients for single detached housing and apartment buildings of five stories or more. Third, the census provides the mean value of dwellings in a census tract.⁷ We correlated these housing measures with the location quotients for the visible minority groups depicted in the maps.

Montreal: Figure 1 displays census tracts with location quotients greater than 1.5 for visible minorities in Montreal. In comparison to the total population, visible minorities concentrate in the city of Montreal, the inner island suburbs as well as Dollard-Des-Ormeaux and off-island Brossard. Blacks concentrate in the older suburbs of Montreal, such as Montreal-North, whereas few live in the outer suburbs or the inner-city core. Chinese, a group that grew at a slower rate than Blacks between 1986 and 1996, cluster in the inner-city as well as in some suburban locations, such as Brossard and Saint-Laurent.

With relatively low incomes 61 percent of Montreal's immigrants lived in apartments in 1991; only every fourth immigrant lived in a single-detached unit (Canadian Mortgage and Housing Corporation 1996). In the Montreal CMA multiple-dwelling and low-rise housing stock is common, but it concentrates in the inner city and the older suburbs. Expensive single-detached housing, on the other hand, tends to be located in the newer suburbs of the West Island, the South Shore, Laval and the North Shore (Ray 1998).

Table 5 shows correlation coefficients indicating the relationship between visible minority location and housing characteristics for Montreal. The location quotient of the aggregated visible minority group is positively related to the location quotient of housing constructed before 1945 and the mean housing value. Although this relationship is statistically significant, the correlation is relatively weak. Nevertheless, compared to the Montreal population as a whole, visible minorities are more likely to concentrate in neighborhoods with old and high-value housing stock. The non-significance of dwelling type indicates that Montreal's visible minorities do not cluster in census tracts with single-detached homes or large apartment buildings (Ray 1998). South Asians are underrepresented in tracts with large apartment buildings, and they are more likely to live in newer residential areas. Chinese, on the other hand, tend to live in older neighbourhoods. For Blacks, housing characteristics of tracts are not significant locational factors.

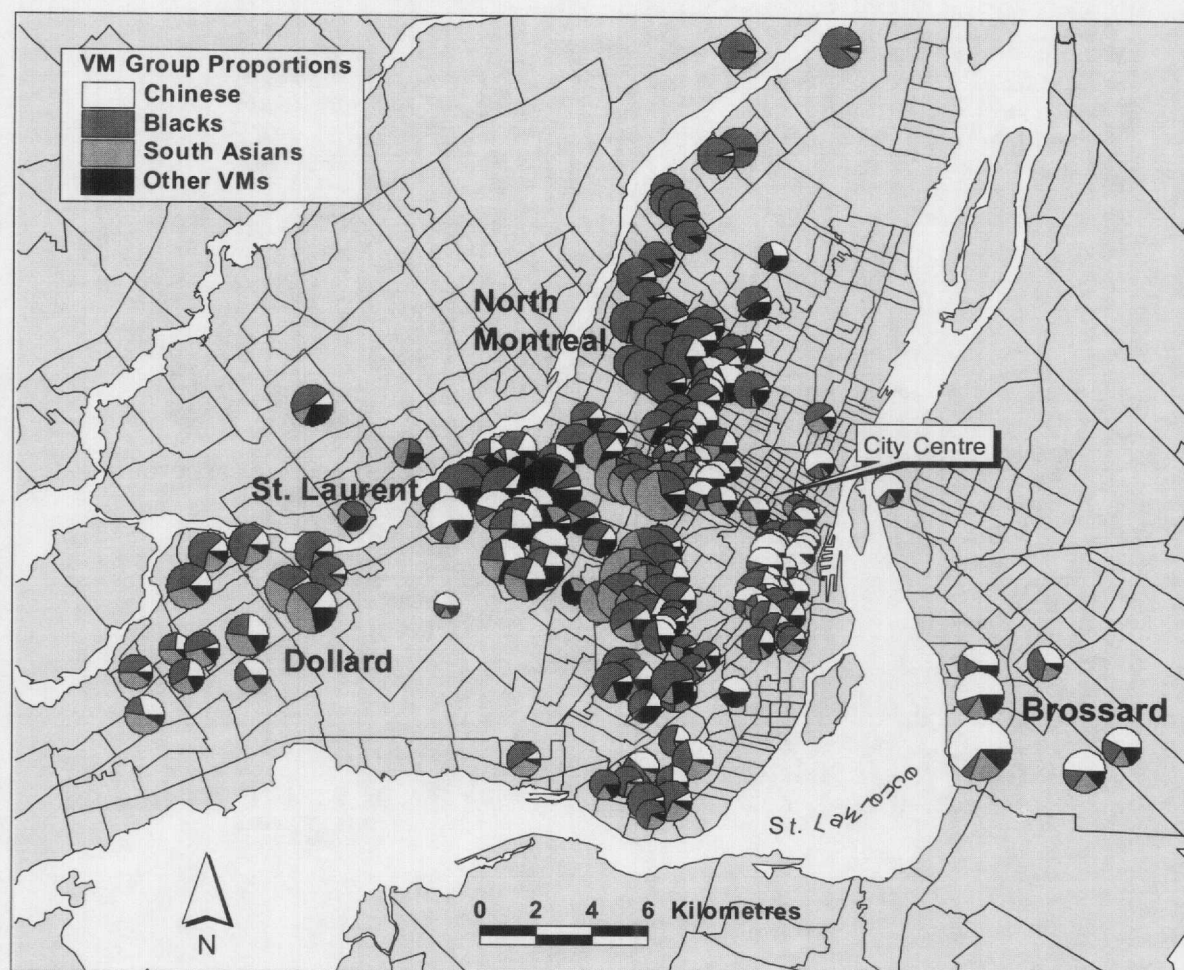


Figure 1

Visible minority concentrations in Montreal and vicinity, 1996; SOURCE: Analysis of 1996 Census by authors

Table 5

Location Quotient Correlations Between Housing and Visible Minority Location, Montreal, 1996

	Age of Dwelling		Type of Dwelling		Value Mean Value
	Pre 1945	Post 1986	Single Detach	Apt. Bldg.	
Visible Minorities	.128**	.029	-.063	-.085	.156***
Blacks	-.049	-.058	-.515	.261	.036
South Asians	-.158***	.138**	.064	-.171***	.089**
Chinese	.226***	-.004	.033	-.080	.063*
All Other	-.007	-.272***	-.393***	.246***	.208***

*** Correlation is significant at the 0.01 level (2-tailed).

** Correlation is significant at the 0.05 level (2-tailed).

* Correlation is significant at the 0.1 level (2-tailed).

SOURCE: Analysis of 1996 Census by authors

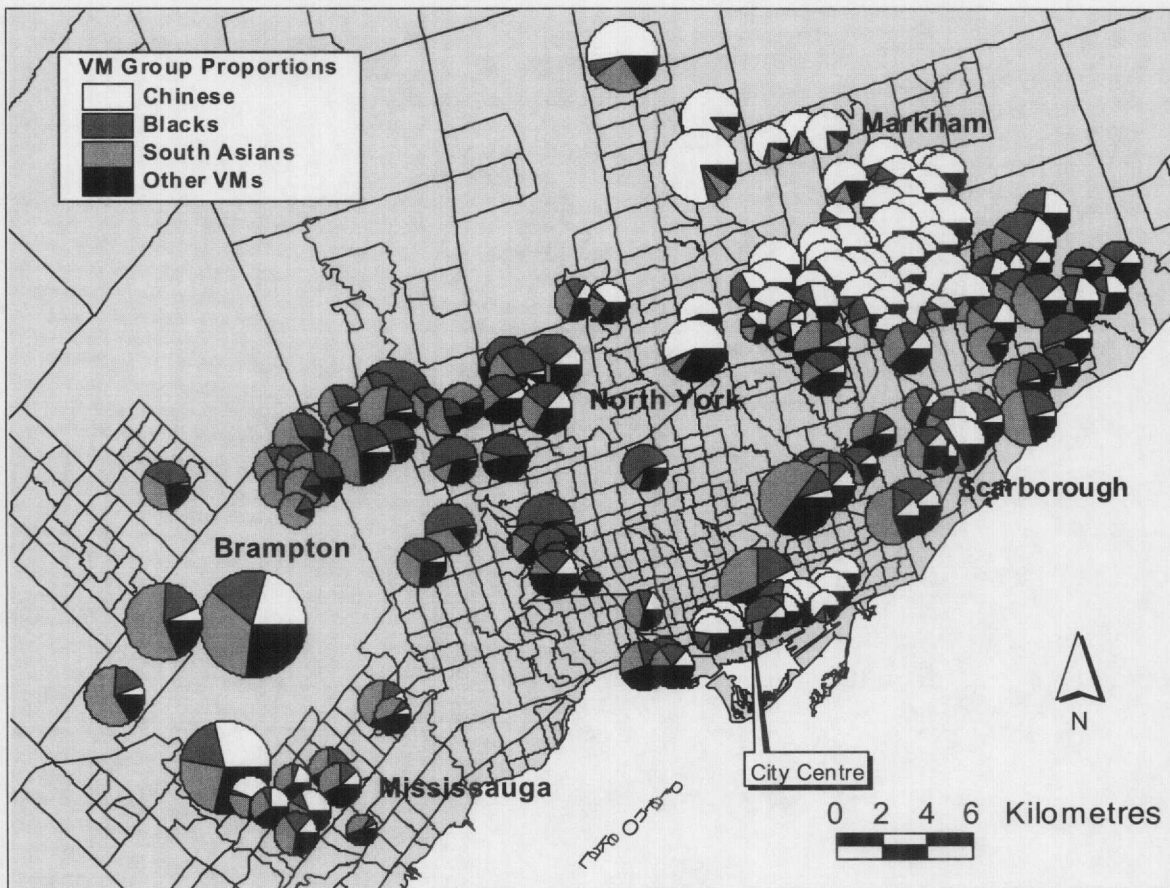


Figure 2

Visible minority concentrations in Toronto and vicinity, 1996; source: Analysis of 1996 Census by authors

Toronto: The location quotients for visible minorities in Toronto (Figure 2) confirm patterns of immigrant decentralisation. High concentrations of visible minorities occur in suburban Scarborough, Markham, North York and northern Etobicoke. Chinese cluster in suburban Markham, Richmond Hill and Northern Scarborough, but there are also large concentrations in Toronto's south east and south west. South Asians – who suffer a significant earnings gap relative to British Canadians (Pendakur and Pendakur 1998) – tend to be more dispersed towards the outer suburbs of Brampton and Mississauga, and Scarborough. Particularly noticeable is the relative absence of South Asians in many inner-city census tracts.

In the Toronto CMA the two most common housing arrangements are single-detached houses and high-rise apartment buildings. In 1991, 44 percent of

Toronto's foreign-born population lived in single-detached houses, and another 36 percent lived in apartments (Canadian Mortgage and Housing Corporation 1996). A substantial proportion of high-rise rental housing is located in suburban areas, including Etobicoke, North York, Scarborough and Mississauga. In addition, the Metropolitan Toronto Housing Authority allocates some low-income immigrant households to suburban housing complexes (Ray 1998, 123).

In Toronto the location quotients of dwelling type and average housing value are highly correlated with visible minority representation. For all groups depicted in Table 6 the correlation coefficient for single detached housing is negative and significant, indicating that visible minorities are less represented in tracts with single detached homes. On the other

Table 6

Location Quotient Correlations Between Housing and Visible Minority Location, Toronto, 1996

	Age of Dwelling		Type of Dwelling		Value Mean Value
	Pre 1945	Post 1986	Single Detach	Apt. Bldg.	
Visible Minorities	-.040	-.259***	-.406***	.229***	-.283***
Blacks	-.158***	-.188***	-.308***	-.014	-.372***
South Asians	-.024	-.144***	-.177***	.117***	-.313***
Chinese	.088**	-.059	-.178***	.298***	.063*
All Other	-.194***	-.114***	-.517***	.530***	-.290***

*** Correlation is significant at the 0.01 level (2-tailed).

** Correlation is significant at the 0.05 level (2-tailed).

* Correlation is significant at the 0.1 level (2-tailed).

SOURCE: Analysis of 1996 Census by authors

hand, neighbourhoods with high-rise apartment buildings appear to attract visible minority groups, except for Blacks. All groups, but Chinese, are under-represented in neighbourhoods with new and expensive housing stock.

Vancouver: The mapping analysis reveals similarities between Toronto and Vancouver. The patterns described for Toronto's Chinese and South Asians also exist in the Vancouver CMA (Figure 3). Chinese were less dispersed and concentrate in east Vancouver, but also in suburban Richmond and Burnaby. Chinese immigrants in Richmond, Ray *et al.* (1993, 93) note, are "almost quintessential suburbanites." South Asians clustered in the outer suburb of Surrey.

Vancouver's newly arriving immigrants are more likely to enter as family units than Toronto or Montreal's immigrants. Thus demand for single family housing among immigrants is probably higher in Vancouver than in Toronto or Montreal (Canada Mortgage and Housing Corporation 1996, 16-17). In 1991, 53 percent of Vancouver's foreign-born population lived in single-detached houses and only 29 percent lived in apartments (Canada Mortgage and Housing Corporation 1996, 45-47). More than half of the immigrants who came to Vancouver between 1986 and 1991 were homeowners (Canada Mortgage and Housing Corporation 1996, 32-35). Relatively few immigrants concentrate in public and non-profit housing in the downtown area, and gentrified downtown apartments cater to non-immigrant households (The Housing Centre 1993; Ley 1996). Suburban homeownership, a preference for many immigrants throughout Canada, may be relatively attainable for Vancouver's immigrants.

In Vancouver, visible minority groups are more likely than the population as a whole to live in census tracts with new housing stock, but also high-rise apartment buildings (Table 7). They are less likely to live in residential areas with pre-1945 housing stock and single detached dwellings. A notable exception to this pattern are Chinese. Their location quotient has a higher positive correlation with mean housing value than for any other group in any of the three cities. Although many Chinese apparently prefer to locate in new and affluent residential areas, these neighbourhoods do not consist homogeneously of single-detached homes.⁸

Interpreting Segregation in Gateway Cities

The results of the above analysis support to various degrees the four propositions we developed based on our review of existing literature. Visible minorities are unevenly distributed across residential space in Montreal, Toronto and Vancouver. However, dissimilarity indices are moderate and have declined over time. In addition, visible minorities concentrate in particular communities within the larger contexts of Montreal, Toronto and Vancouver, and housing characteristics are related to these concentrations.

Our analysis revealed a level of detail not captured in our initial propositions. We agree with Ray's (1998, 36) proclamation that "there is no overarching common 'immigrant experience.'" Using multivariate methods, Ray (1998, 95-104) demonstrates that socio-economic status, period of immigration as well as place of birth exert independent forces on immigrants' homeownership and their location within the metropolitan area. And Ley (1999) discovers a high correlation between segmentation in the labour mar-

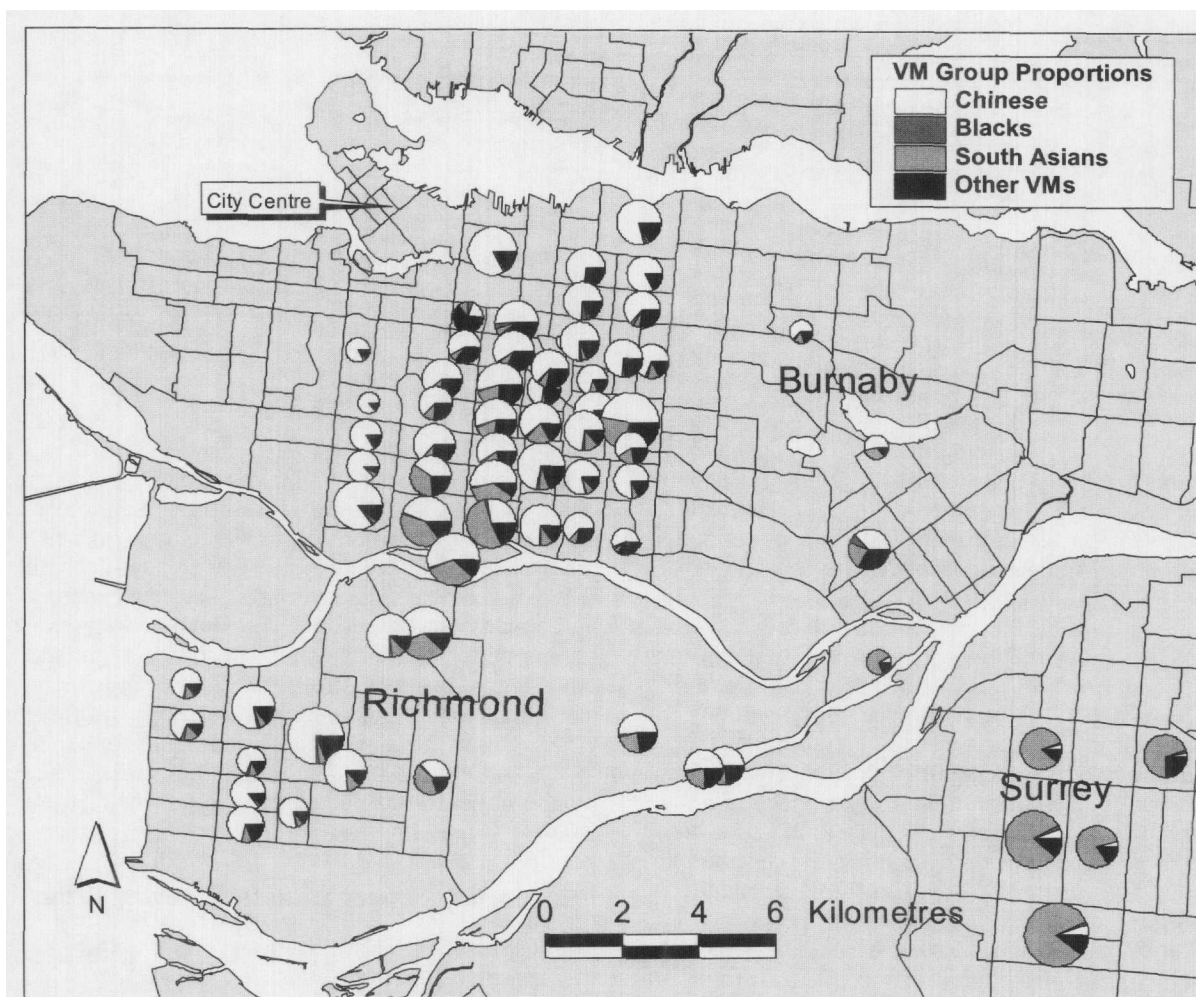


Figure 3
Visible minority concentrations in Vancouver and vicinity, 1996; SOURCE: Analysis of 1996 Census by authors

Table 7
Location Quotient Correlations Between Housing and Visible Minority Location, Vancouver, 1996

	Age of Dwelling		Type of Dwelling		Value Mean Value
	Pre 1945	Post 1986	Single Detach	Apt. Bldg.	
Visible Minorities	-.261***	.095***	-.363***	.358***	.229***
Blacks	-.190***	-.033	-.400***	.372***	-.357***
South Asians	-.348***	.099***	-.205***	.259***	-.127**
Chinese	-.036	.193***	-.025	-.010	.411***
All Other	.087	-.111*	-.412***	.165***	-.095

*** Correlation is significant at the 0.01 level (2-tailed).

** Correlation is significant at the 0.05 level (2-tailed).

* Correlation is significant at the 0.1 level (2-tailed).

SOURCE: Analysis of 1996 Census by authors

ket, earnings and residential segregation among ethnic groups in Vancouver. A variety of factors shape the residential circumstances of visible minority groups.

In addition, our analysis produced insights beyond the four propositions. For instance, the three CMAs have in common that relatively few visible minorities settle on the urban fringe. One possible explanation is that these areas are too far removed from the transnational centres that make gateway cities attractive for immigrants in the first place. Another explanation is that hostilities against racialised minorities exclude visible minorities from exurban living (Ray *et al.* 1997). Limits to dispersal may also be created by the nature of exurban housing stock – mostly new and relatively expensive detached single-family units – which some visible minority groups cannot afford.

We also found that spatial separation varies considerably between visible minority groups and metropolitan areas. Some groups, such as Japanese in Montreal, are simply too small to form coherent spatial communities on the census-tract level despite their relative spatial concentration. Larger groups, such as Vancouver's Chinese and South Asians, are only moderately concentrated but have higher rates of exposure to each other than even the British and Canadian reference groups. In Montreal the same two groups are smaller in size and they are more spatially concentrated than in the other two cities.

The correlation between location quotients of visible minorities and housing characteristics reveals more important differences between the three metropolitan areas. For example, the relationship between visible minority location and new, post-1986 housing differs in all three cities. In Montreal, this relationship is not significant; in Toronto it is significant and negative; and in Vancouver it is positive and significant. Individual visible minority groups also have a different relationship to neighborhood housing characteristics in the three cities. The locational pattern of Blacks in Montreal, for instance, is largely unaffected by housing characteristics, while in Toronto they are underrepresented in tracts with new housing stock, and in Vancouver they are more likely to live in high-rise neighbourhoods. Apparently, the distinct structure of the metropolitan housing market, the housing stock of neighbourhoods and the contingent responsiveness of visible minority groups to housing characteristics are important factors in the residential patterns in the three cities.

Conclusion

The Canadian approach to immigrant integration and multiculturalism stresses that immigrants and cultural minorities should make an effort to adapt to Canadian society, while all Canadians are urged to respect the cultural differences of minority groups (Page 1993; Abu-Laban 1998; Kelly and Trebilcock 1998). This approach implies that neither complete residential integration nor ghettoisation of visible minorities is desirable. Rather, ethnic groups should have spatial access to social and cultural institutions, while a degree of residential separation is acceptable to sustain group coherence. Our results revealed that visible minorities in Montreal, Toronto and Vancouver are not ghettoised, and even the most concentrated groups are not isolated among each other. We therefore see aspects of multi-cultural policy realized in the residential organization of Canada's three largest cities of immigrant settlement.

Also encouraging is our finding that, over time, segregation levels (expressed by the dissimilarity index) have declined while in-group exposure (measured by the isolation index) has risen for visible minorities in Canada's gateway cities. This result supports Australian and British research that limits the ghetto phenomenon to the United States (Peach 1996a; Poulsen and Johnston 2000). In this respect, Canada clearly distinguishes itself from its southern neighbour.

Perhaps most importantly, our analysis and our findings demonstrate that we should not conceptualize residential patterns as 'natural' trends and spatial laws. In other words, we must avoid the trap of spatial fetishism which lures with the idea that space alone can explain residential configurations. We have shown, for example, that levels of segregation and integration relate to local housing characteristics, and that different visible minority groups in different cities have varying relationships to neighborhood housing types. Thus, spatial patterns of visible minority location are shaped by the particular arrangement of housing types. Social mosaic and dispersed city hypotheses may be powerful empirical observations, but they have limited explanatory power. Circumstances of immigration, federal and provincial settlement policies, geographical and historical situations of the city all shape the residential patterns of visible minorities. We need to understand precisely how these factors are configured in each of the three gateway cities.

Future segregation research that complements our analysis could more fully explore these factors. Of particular value would be a more detailed analysis of the relationship of changes in residential segregation to changes in immigrant flows and characteristics. Data from the next census will likely provide further insights in this regard. A complementary analysis to our focus on Canada's gateway cities would be a similar analysis of medium-sized Canadian cities, such as Calgary, Edmonton, Hamilton, Ottawa or Winnipeg, which also receive significant and growing numbers of immigrants. Some of the limitations of aggregate analysis encountered in this study could be escaped through comparative study of particular groups within a visible minority category, and through housing and segregation analyses at finer spatial resolutions than the census tract. Finally, another avenue of fruitful investigation would be to relate processes of cultural identity formation to patterns of residential separation. Census data has serious limitations in expressing ethnic identities that affect processes of residential segregation (Bauder 2001). A challenge will be to relate processes of identity formation to macro-patterns of residential separation.

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Notes

- 1 Refers to the city of Toronto prior to amalgamation.
- 2 The 1996 census did not pre-list ethnic origin categories but provided 24 example categories. We did not use this category, however, because the census included a visible minority variable, which provided satisfying consistency with the 1986 and 1991 ethnicity variables.
- 3 Pacific Islander is not available as a separate category but is contained within the category of cases not included elsewhere, "Visible Minority n.i.e."
- 4 We calculate the dissimilarity index (D), the isolation index (P*) and location quotients (LQ) as follows:

$$D_{xy} = .5 * \sum |(x_i/X) - (y_i/Y)|$$

$$P^*_{xt} = \sum (x_i/X) * (x_i/t_i)$$

$$LQ_i = (x_i/X) / (t_i/T)$$
 where
 x_i = the number of minority group X in tract i
 X = the total number of minority group X in the CMA
 y_i = the number of majority group y in tract i
 Y = the total number of majority group Y in the CMA
 t_i = the total population of tract i
 T = the total population of the CMA
 5 P* is also sensitive to the size of the geographical unit or analysis. Thus, it would be inappropriate to compare P* values that were com-

puted on the basis of, say, enumeration areas, census tracts and census subdivisions. In this analysis, we compare only P* values based on census tracts.

- 6 In Montreal the White-French and the White-British groups are also separated from each other. It is possible that some visible minority groups have high dissimilarity indices in reference to the White-French population, but they may spatially be integrated with the White-British group. Therefore, we also computed the dissimilarity indices for Montreal with an aggregated "White French + White-British" reference category. This reduced the dissimilarity index for Montréal's visible minority population slightly. In 1986 the largest reduction was for Blacks (from $D = .611$ to $D = .566$). For other groups the reduction was much smaller, and for Aboriginals the dissimilarity index increased. In the 1991 and 1996 censuses, the dissimilarity indices changed even less than in 1986 when we used the aggregated reference group. For example, the group with the largest reduction of the dissimilarity index in 1996 was South Asian, which changed from $D = .736$ to $D = .710$. We conclude that White-French provides a robust reference category for Montreal.
- 7 "Mean value" refers to the average dollar amount by tract expected by the owners if the dwelling were to be sold. We also experimented with location quotients of proportions of under a certain value, but differences in real estate price structures made an inter-metropolitan comparison difficult. The problem of price-structure differences is less eminent using average value.
- 8 This finding may seem to contradict a study of suburban Richmond by Ray et al. (1997: 92) who find: "In contrast to the northern suburbs of Metro Toronto, where visible minority immigrants often live in high-rise housing surrounded by single-detached dwellings occupied by predominantly white Canadian- and foreign-born residents..., in Richmond this pattern is almost reversed." However, since our analysis is based on tract-level data, Chinese-Canadian residents may occupy single-detached dwellings in tracts that also contain large numbers of apartment dwellings.

References

- ABU-LABAN, Y. 1998 'Welcome/STAY OUT: the contradiction of Canadian integration and immigration policies at the millennium' *Canadian Ethnic Studies* 30, 191-211
- ANDERSON, A. B. and FRIDERES, J.S. 1981 *Ethnicity in Canada: Theoretical Perspectives* (Toronto: Butterworth)
- ANDERSON, K. J. 1991 *Vancouver's Chinatown: Racial Discourse in Canada, 1875-1980* (Montreal: McGill-Queen's University Press)
- ANG, I. and STRATTON J. 1996 'Asianing Australia: notes towards a critical transnationalism in cultural studies' *Cultural Studies* 10, 16-36
- ARCHAMBAULT, J., RAY, B., ROSE D. and SÉGUIN, A.-M. 1999 *Atlas Immigration et Métropoles* [http://im.metropolis.net/research-policy/research-content/atlas/index.html]
- BAJAKRISHNAN, T. R. 1982 'Changing patterns of ethnic residential segregation in metropolitan areas of Canada' *Canadian Review of Sociology and Anthropology* 19(1), 92-110
- BAJAKRISHNAN, T. R. and KRALT, J. 1987 'Segregation of Visible Minorities in Montreal, Toronto, and Vancouver' in *Ethnic Canada: Identities and Inequalities*, ed. L. Driedger (Toronto: Copp Clark) 138-157
- BAUDER, H. 2001 'Visible minorities and urban analysis' *Canadian Journal of Urban Research* 10, 69-90
- BOAL, F. W. 1981 'Ethnic residential segregation, ethnic mixing and resource conflict: a study in Belfast, Northern Ireland' in C. Peach, V. Robinson and S. Smith, eds. *Ethnic Segregation in Cities* (London: Croom Helm) 235-251
- BOURNE, L. S. 1989 'Are new urban forms emerging? empirical tests for

- Canadian urban areas' *The Canadian Geographer* 33, 312-328
- . 1998 'Migration, Immigration and Social Sustainability: The Toronto experience in comparative context' MOST Conference Paper. Capetown, September 1998 (mimeo)
- BOURNE, L.S., BAKER, A.M., KALBACH, W., CRESSMAN, R. and GREEN, D. 1986 *Canada's Ethnic Mosaic: Characteristics and Patterns of Ethnic Origin in Urban Areas*. Major Report No. 24 (Toronto: Centre for Urban and Community Studies, University of Toronto)
- BURGESS, E. W. 1925 'The growth of the city: an introduction to a research project' in R. E. Park, E. W. Burgess and R. D. McKenzie, eds. *The City* (Chicago: University of Chicago Press), 47-62
- CANADA MORTGAGE AND HOUSING CORPORATION. 1996 *Immigrants and the Canadian Housing Market: Living Arrangements, Housing Characteristics, and Preferences* (mimeo)
- CHARD, J. and RENAUD, V. RENAUD. 1999 'Visible minorities in Toronto, Vancouver and Montréal' *Canadian Social Trends* 54, 20-25
- CITIZENSHIP AND IMMIGRATION CANADA. 1999 *Facts and Figures: Immigration Overview*. C&I-291-06-99E (mimeo)
- . 2001 *Fact and Figures 1998: Immigration Overview*. [http://cicnet.ci.gc.ca/english/pub/facts98/1imm-05.html]. Accessed April 2001
- CLARK, W. 1986 'Residential Segregation in American Cities: A Review and Interpretation' *Population Research and Policy Review* 5, 95-127
- DARDEN J. T. and KAMEL, S. M. 2000 'Black Residential Segregation in the City and Suburbs of Detroit: Does Socioeconomic Status Matter?' *Journal of Urban Affairs* 22, 1-13
- DENTON, N. A. and MASSEY, D. S. 1988 'Residential Segregation of Blacks, Hispanics, and Asians by Socio-economic Status and Generation' *Social Science Quarterly* 69, 797-817
- DEPARTMENT OF JUSTICE CANADA 2000 *Employment Equity Act* (1995), c. 44, [http://laws.justice.gc.ca/en/E-5.401/text.html]. Accessed March 2001
- DOUCET, M. 1999 *Toronto in Transition: Demographic Change in the Late twentieth Century*. Virtual Library, Joint Centre of Excellence for Research on Immigration and Settlement - Toronto [http://ceris.metropolis.net/vl/other/doucet2.html]
- DRIEDGER, L. 1999 'Immigrant/Ethnic/Racial Segregation: Canadian big Three and Prairie metropolitan comparison' *Canadian Journal of Sociology* 24, 485-509
- DUNN, K. M. 1998. Rethinking ethnic concentration: the case of Cabramatta, Sydney. *Urban Studies* 35, 503-527
- FAIRBARN, K. J. and KHATUN, H. 1989 'Residential segregation and the intra-urban migration of South Asians in Edmonton' *Canadian Ethnic Studies* 21, 45-64
- FARLEY, J. E. 1995 'race still matters: The minimal role of income and housing cost as causes of housing segregation in St. Louis, 1990' *Urban Affairs Review* 31, 244-254
- FONG, E. 1996 'A comparative perspective on racial residential segregation: American and Canadian experiences' *Sociological Quarterly* 37, 2, 199-127
- GOBER, P. 2000 'Immigration and North American cities.' *Urban Geography*. 21, 83-90
- HAGE, C. 1998 *White Nation: Fantasies of White Supremacy in a Multicultural Society* (Annandale, Australia: Pluto Press)
- HAWKINS, F. 1998 *Canada and Immigration: Public Policy and Public Concern*, 2nd ed. (Kingston and Montréal: McGill-Queen's University Press)
- HENRY, F. 1989 *Housing and Racial Discrimination in Canada*, Toronto (Ontario: Policy & Research, Multiculturalism and Citizenship)
- HIEBERT, D. 1994 'Canadian immigration: policy, politics, geography' *The Canadian Geographer* 38, 254-258
- . 1999 'Immigration and the changing social geography of greater Vancouver' *BC Studies* 121, 35-82
- HIEBERT, D., CREESE G., DYKE, I. L., HUTTON, T., LEY, D., MCLAREN, A. T., PRATT, G. 1998 'Immigrant Experiences in Greater Vancouver: Focus Group Narratives' *Research on Immigration and Integration in the Metropolis: Working Paper Series*, #98-15. Vancouver Centre of Excellence [http://riim.metropolis.net/Virtual%20Library/1998/wp9815.pdf]. Accessed October 2000
- HOWENSTINE, E. 1996 'Ethnic Change and Segregation in Chicago' in *Ethnicity: Geographic Perspectives on Ethnic Change in Modern Cities* eds. C. C. Rosenbaum, H. D. Laux and G. Thieme, (Langham, Maryland: Rowman and Littlefield) 31-49
- KALBACH, W. E. 1990 'Ethnic residential segregation and its significance for the individual in an urban setting' in *Ethnicity Identity and Equality*, ed. R. Breton, W.W. Isajiw, W.E. Kalbach and J.G. Reitz (Toronto: University of Toronto Press) 92-134
- KAPLAN, D. H. and HOLLOWAY, S. R. 1998 *Segregation in Cities* (Washington, DC: Association of American Geographers)
- KELLY, N. and TREBLOCK M. 1998 *The Making of the Mosaic: A History of Canadian Immigration Policy* (Toronto: University of Toronto Press)
- KOBAYASHI, A. and PEAK, L. 1994 'Unnatural discourse: 'race' and gender in geography' *Gender, Place and Culture* 1, 225-243
- LEY, D. 1995 'Between Europe and Asia: the case of the missing Sequoias' *Ecumene* 2, 184-210
- . 1996 *The New Middle Class and the Remaking of the Central City* (New York: Oxford University Press)
- . 1999 'Myths and meanings of immigration and the metropolis' *The Canadian Geographer* 43, 2-19
- LIN, J. 1998 'Globalization and the revalorization of ethnic places in immigrant gateway cities' *Urban Affairs Review* 34, 313-340
- MAJURY, N. 1994 'Signs of the times: Kerrisdale, a neighbourhood in transition, *The Canadian Geographer* 38, 265-270
- MASSEY, D.S. and DENTON, N. A. 1988 'The dimensions of residential segregation' *Social Forces* 67, 281-315
- MERCER, J. 1988 'New faces on the block: Asian Canadians' *The Canadian Geographer* 32, 360-362
- MITCHELL, K. 2000 'Flexible circulation in the Pacific Rim: capitalisms in cultural context, *Economic Geography* 71, 364-382
- NASH, A. 1994 'Some recent developments in Canadian immigration policy. *The Canadian Geographer* 38, 258-261
- ONG, A. 2000 *Flexible Citizenship: The Cultural Logics of Transnationality* (Durham, NC: Duke University Press)
- OUSTON, R. 1999 'Vancouver 'coolest' to immigrants' *Vancouver Sun*, Top Stories: Tuesday 12 October, [http://www.vancouversun.com/]
- PAGE, M. 1992 'Three conceptions of integration in a Canadian pluri-ethnic society' *Canadian Ethnic Studies* 24, 35-51
- PARK, R. E. 1926 The urban community as a spacial pattern and a moral order' in *The Urban Community* E. W. Burgess, eds. (Chicago: Chicago University Press), 3-18
- PEACH, C. 1996a 'Does Britain have ghettos?' *Transactions, Institute of British Geographers* 21, 216-235
- . 1996b 'Good segregation, bad segregation' *Planning Perspectives* 11, 379-398
- . 1996c 'The meaning of segregation' *Planning Practice and Research* 11, 137-151
- PENDAKUR, K and PENDAKUR, R. 1998 'The colour of money: earnings differentials across ethnic groups' *Canadian Journal of Economics* 31, 518-548
- POULSEN, M. F. and JOHNSTON, R. J. 2000 'The ghetto model and ethnic concentration in Australian cities' *Urban Geography* 21, 26-44
- RAY, B. 1994 'Immigrant settlement and housing in metropolitan Toronto' *The Canadian Geographer* 38, 262-265
- . 1998 *A Comparative Study of Immigrant Housing, Neighbourhoods and Social Networks in Toronto and Montréal*, CMHC Report (Department of Geography, McGill University)

- _____. 1999 'Plural Geographies in Canadian cities: interpreting immigrant residential spaces in Toronto and Montreal' *Canadian Journal of Regional Science* 22, 65-86
- RAY, B. K., HALSETH G. and JOHNSON, B. 1997 'The changing 'face' of the suburbs: issues of ethnicity and residential change in suburban Vancouver' *International Journal of Urban and Regional Research* 21, 75-99
- RAY, B. K. and MOORE, E. 1991 'Access to homeownership among immigrant groups in Canada' *Canadian Review of Sociology and Anthropology* 28, 1-27
- ROSEMAN, C. C., LAUX, H. D. and THIEME G., eds. 1996 *EthniCity: Geographic Perspectives on Ethnic Change in Modern Cities* (Lanham, Maryland: Rowman and Littlefield)
- SAMUEL, J. T. 1988 'Immigration and visible minorities in the year 2001: A projection' *Canadian Ethnic Studies* 20, 92-100
- SARRE, P. 1986 'Choice and constraint in ethnic minority housing: a structurationist view' *Housing Studies* 1, 71-86
- SARRE, P., PHILLIPS, D. and SKELLINGTON, R. 1989 *Ethnic Minority Housing: Explanations and Policies* (Aldershot, England: Gower Publishing)
- SASSEN, S. 1988 *The Mobility of Labor and Capital* (New York: Cambridge University Press)
- SHARPE, B. 1985 'Visible Minorities in Ontario and Toronto' in *Ethnicity Problems in Canada and Other Northern Lands* A. Pletsch, ed. (Marburger Geographische Schriften Volume 97), 256-267
- SIBLEY, D. 1995 *Geographies of Exclusion: Society and Difference in the West* (London: Routledge)
- SMITH, S. 1989 *The Politics of "Race" and Residence: Citizenship, Segregation, and White Supremacy in Britain* (Cambridge: Polity Press)
- STANBURY, W. T., TODD, J. D. and BANKS, D. G. 1990 *The Housing Crisis: The Effects of Local Government Regulation* (Vancouver: The Laurier Institute)
- STATISTICS CANADA 1999a *1996 Census of Canada: The Nation Series in Beyond 20/20 Format*. Total Population by Visible Minority Population (14) and Sex for Canada, Provinces, Territories and Census Metropolitan Areas, 1996 Census (20% Sample Data), n04 0217.ivt.
- _____. 1999b *1996 Census of Canada: The Nation Series in Beyond 20/20 Format*. Total Population by Aboriginal Identity and Registered Indian Status Showing Indian Band /First Nation Membership for Canada, Provinces, Territories and Census Metropolitan Areas, 1996 Census (20% Sample Data) n01 1301.ivt.
- STEINBERG, S. 1981 *The Ethnic Myth: Race, Ethnicity, and Class in America* (New York: Atheneum)
- TEIXEIRA, C. 1995 'Ethnicity, housing search and the role of the real estate agent: A study of Portuguese and non-Portuguese real estate agents in Toronto' *Professional Geographer* 47, 176-183
- THE HOUSING CENTRE. 1993 *Vancouver Non-Market Housing Inventory 1953-1992* (Vancouver: Housing & Properties Department)
- VAN KEMPEN, R. and ÖZÜCKREN S. A. 1998 'Ethnic segregation in cities: new forms and explanations in a dynamic world' *Urban Studies* 35, 1631-1856
- WALLINGER, R. 1987 'Immigration and urban change' *Annual Review of Sociology* 15, 211-232
- WAERS, J. L. 2000 *Flexible Families? The Experiences of Astronaut and Satellite Households Among Recent Chinese Immigrants to Vancouver, British Columbia*. MA Thesis: University of British Columbia.
- WONG, D. W. S. 1997 'Spatial dependency of segregation indices' *The Canadian Geographer* 41, 128-136

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