Streets Paved with Gold: Urban Expressway Building and Global City Formation in Montreal, Toronto and Vancouver

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Abstract

Montreal, Toronto and Vancouver are Canada's most significant locations of global city formation today. Their distinctive spatial development and mobility mix were greatly influenced by decisions regarding inner-city expressway building. This article explores the hypothesis that choices made regarding how to move motor vehicles through Canada's three major metropolitan areas between 1960 and 1980 can be better understood by examining the dynamics of global city formation in these jurisdictions.

Montreal implemented a comprehensive expressway network to align with its status as Canada's leading global city during the 1960s. Toronto's attempt to complete an expressway network was partial, reflecting fragmentary global city aspirations during the 1970s. Vancouver, where global city ambitions only began to form during the 1980s, cancelled urban expressway plans and became Canada's 'freeway-free' major city. New insight into the structure of these cities can be gained when a global city analytical framework is applied to their urban expressway development experience.

Keywords: global cities, urban development policy, urban highway conflicts, urban transportation

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Résumé
Aujourd'hui, Montréal, Toronto et Vancouver sont les villes globales au Canada. Leur développement spatial particulier et la mixité caractéristique de leurs moyens de mobilité ont été largement influencés par décisions prises dans le cadre de la construction d'autoroutes urbaines. Cet article examine l'hypothèse selon laquelle les choix relatifs au trafic automobile dans les trois grandes métropoles canadiennes entre 1960 et 1980, sont compréhensibles en étudiant les dynamiques de formation des villes mondiales dans chacune de ces juridictions.

Dans les années 1960, Montréal a mis en place un réseau autoroutier complet pour affirmer son statut de ville mondiale de premier plan. La tentative partielle de Toronto reflétait son aspiration moyenne à devenir une ville mondiale au cours des années 1970. Vancouver, dont les ambitions de ville mondiale datent seulement des années 1980, a quant à elle annulé ses projets d'autoroutes urbaines et est devenue la grande ville canadienne sans autoroutes. Ce développement autoroutier inégal nous offre l'occasion de comprendre pourquoi les dynamiques spatiales de ces villes ont évolué selon des trajectoires différentes. Notamment en analysant le développement des autoroutes urbaines à la lumière des perspectives propres à chaque métropole, sur son statut de ville globale émergente.

Mots clés: villes mondiales, politique de développement urbain, conflits d'autoroutes urbaines

Introduction

Freeways or 'expressways' are important elements in shaping urban form and transportation patterns in cities (Mumford 1963; Newman and Kenworthy 1999). Four decades after distinct quantities and configurations of expressways were built in Montreal, Toronto and Vancouver, the urban transportation and development impacts have become apparent (Germain and Rose 2000; Frisken 1994; Kaplan 1982; Raad and Kenworthy 1999). We argue here that these development trajectories can be better understood by re-examining the forces that have shaped urban expressway construction in the 1960s and 1970s.

While the effect of expressways on Canadian land use has resembled experiences across North America, the degree to which Canada's three largest metropolitan centres have arrived at different balances of preserving urban space and building expressway infrastructure during the 20th century calls for explanation. This article applies global city theory to develop a new perspective on these variations. We propose that the different mobility development paths followed by Montreal, Toronto and Vancouver depend on the timing of their integration into global cultural, financial and communication networks, which influenced both their capacity and motivation to deploy urban expressways. Our close examination of these three cities at the specific historical juncture when expressways entered the urban transportation agenda both illuminates their divergent paths, and sheds light on the spatial and social constructions of each mobility trajectory.

The characteristic global city formations of Canada's three major cities have been widely acknowledged domestically (Lightbody 2005) and internationally (Globalization

and World Cities Research Network 2012) and Canada's major cities have long been recognised as having a distinctive set of characteristics (Goldberg and Mercer 1986). Each city regularly appears highly ranked in global 'best city' polls and all three are frequently cited by urbanists, planners and politicians as worth emulating (Economist 2011; Mercer 2014; Harcourt and Cameron 2007). Although still more auto-dependent than most European and Asian cities, Vancouver, Montreal and Toronto each exhibit lower automobile use and higher reliance on sustainable transport options (*e.g.*, bike, walk, public transit) than any major U.S. city aside from New York (Statistics Canada 2006; Newman and Kenworthy 1999). When one compares whole metropolitan areas, as opposed to just the core, each of these three perform better in sustainable transport metrics than even the New York Tri-State metropolitan area (Kenworthy and Laube 2001).

Even without a national expressway building program to foster policy convergence, as occurred in the United States (Squires 2008), another source of exogenous influence in shaping Canada's big city expressway development has been the drive to attain, retain, or forgo a recognized place among global cities. Previous research into Canada's urban highway building has examined local and provincial policy dynamics (Frisken 1994; Kaplan 1982; Bourne 2000; Pendakur 1972; Lee 2007; Leo 1977; Colcord 1987), including the role of community organizing, citizen activism, municipal politics and provincial development agendas. These assessments, however, paid little attention to the role that global linkages and aspirations might have in Canada's urban transportation decision-making. Differing approaches to global city formation in Montreal, Toronto and Vancouver can be seen to have affected critical decisions that were taken about how to respond to growing urban automobile travel during the 1960s and 1970s.

Variations in expressway development

Across many fields of enquiry, Canadian researchers have investigated developments, trends and outcomes in Montreal, Toronto and Vancouver, focusing on these three cities as legitimate fields for urban research on a global scale. In a study of housing price inflation on home ownership in Canadian cities, Harris (1986:302) wrote that "Montreal, Toronto, and Vancouver have been selected in part for their intrinsic importance." A considerable body of urban research has accumulated that compares and contrasts these cities to reveal important insights into subjects as diverse as: immigration patterns (Hou and Bourne 2006; McDonald 2004; Newbold 1996); housing (Mah and Hackworth 2011; Skaburskis and Moos 2008; Haan 2005; Downs 1997); growth management (Turcotte and Vézina 2010; Shearmur et al. 2007; Tomalty 1997), and quality of life (Murdie 2008; Frenette and Sceviour 2004; Mason 2003). We join this analytical trajectory in search of insights into the relationship between expressway building and the global city dynamics in Canada's three largest cities.

While the kind of major road infrastructure needed to move vehicles rapidly through a city can be expected to exert a significant impact on urban form and function, the effects of Canada's urban road building can be harder to identify due to the inconsistent terminology that has been applied to their design. Unlike nationally planned and financed highway networks (e.g., the German autobahn and U.S. Interstate Highways[1]), specifications that distinguish an "expressway" from other road

configurations are not officially promulgated in Canada. Canadian expressways often blend into boulevards and other major arterial roads when they transect urban areas. Understanding how the expressway infrastructure that reshaped urban development around the world has influenced Canada's cities requires a clear and comparable measurement of the extent to which Canadian municipalities introduced controlled access (i.e., no direct entry from adjacent property), fully grade-separated automotive infrastructure into their urban space.

We have selected the *expressway* as the road infrastructure category that reveals the clearest evidence for a priority on motor vehicle movement through an urban area. Expressway infrastructure has been clearly defined by the Transportation Association of Canada (TAC 1995), a non-governmental organization that promulgates "technical guidelines and best practices" in transport infrastructure (Transportation Association of Canada n.d.). TAC's *Urban Supplement to the Geometric Design Guide for Canadian Roads* recommends a specific set of physical characteristics for expressways. These include grade separation, traffic volume, restricted access to adjacent lands, and minimum traffic speed[2] (Transportation Association of Canada 1995: U.A. 16 – 17).

Applying the TAC definition, we then measured centre-line length for expressway infrastructure on street maps published by Perly (1990), Rolph-McNally Ltd. (1983), and the City of Vancouver's Planning Department (1991).[3] These maps provided sufficient detail to differentiate expressways from other road infrastructure. We assembled a chronology of all expressway infrastructure that was inaugurated within each city's municipal boundary, beginning in 1958 when infrastructure that met the TAC expressway definition was first introduced in Toronto.[4] We then worked backwards, calculating a total municipal expressway length derived from maps published between 1988 and 1991, when expressway networks had stopped growing within all three cities' boundaries, although expressway construction has continued in the suburban periphery of each metropolitan area. We subtracted the length of each new expressway segment from the city's total in the year that it opened. Since Montreal's urban boundaries changed between 1960 and 1976, we measured the expressway length within the current municipal boundary in effect during each year.[5] Toronto and Vancouver's boundaries were unchanged throughout the period we have examined.

Figure 1 shows the development of expressways within the municipal boundaries of Montreal. After the initial segments of the Autoroute des Laurentides, the Trans-Canada Highway, the Decarie Expressway and the Metropolitan Expressway (Autoroute Métropolitaine) were opened between 1958 and 1966, these yielded slightly over 15 kilometres of urban expressway. But by 1967, when the International and Universal Exposition (Expo 67) opened, over 31 more kilometres had been added through extending the Decarie Expressway and the Trans-Canada Highway, initiating the Bonaventure Expressway, and completing Autoroute 15 to the U.S. border. Following this burst of development, there was ongoing construction of the Ville-Marie Expressway ahead of the 21st Olympiad which added 8.8 kilometres to Montreal's expressway network by 1976.

Figure 1 – Montreal Expressway Length, 1958 - 1988 (route-km)

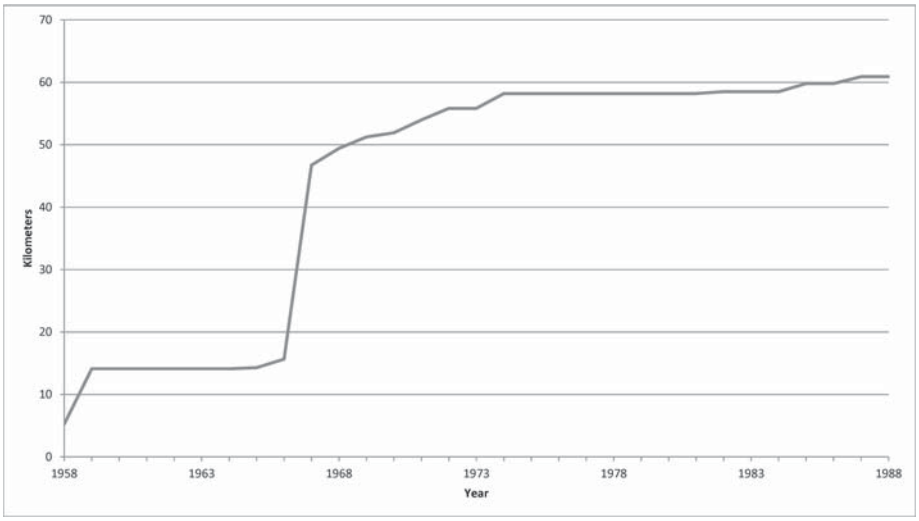
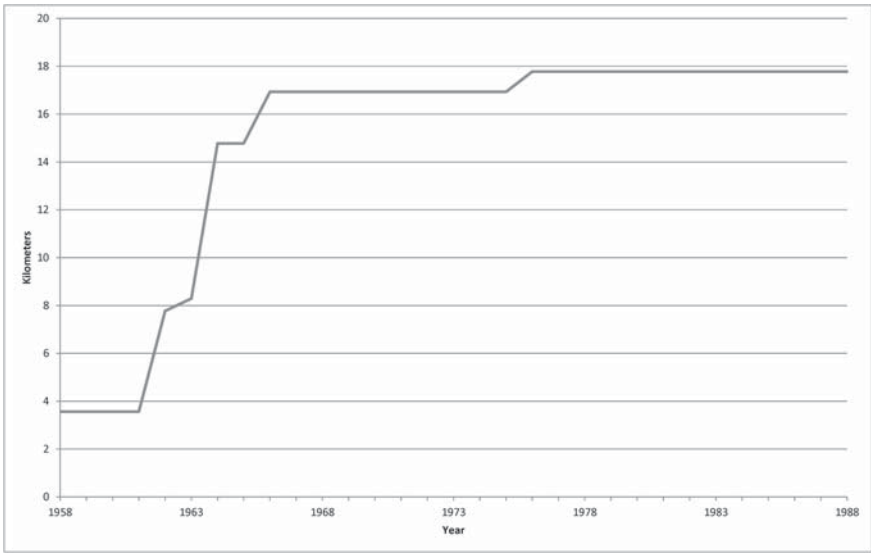


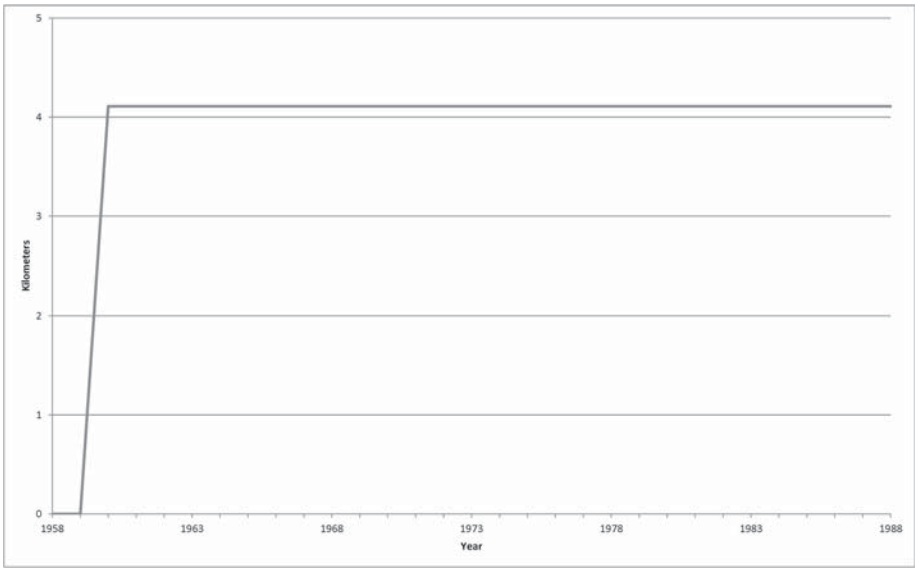
Figure 2 highlights a much more modest development trajectory in Toronto. In 1958, the 3.6 kilometres (km) of urban expressway that had been built could hardly be described as a network. By 1967, 13.4 km had been added through construction of the Gardiner Expressway and the Don Valley Parkway. Only a further 0.85 km were added to Toronto's network in 1976 with the conversion of the aborted Spadina Expressway into the Allen Expressway at the municipality's northern edge.

Figure 2 – Toronto Expressway Length, 1958 - 1988 (route-km)



Vancouver reveals itself in Figure 3 to be virtually a control case for urban development without expressway building. In 1960, 4.1 km of expressway was built through the city's northeast corner to connect the Trans-Canada Highway with the Ironworkers' Memorial Bridge to North Vancouver. There has been no further expressway construction within the city's boundaries since that time.

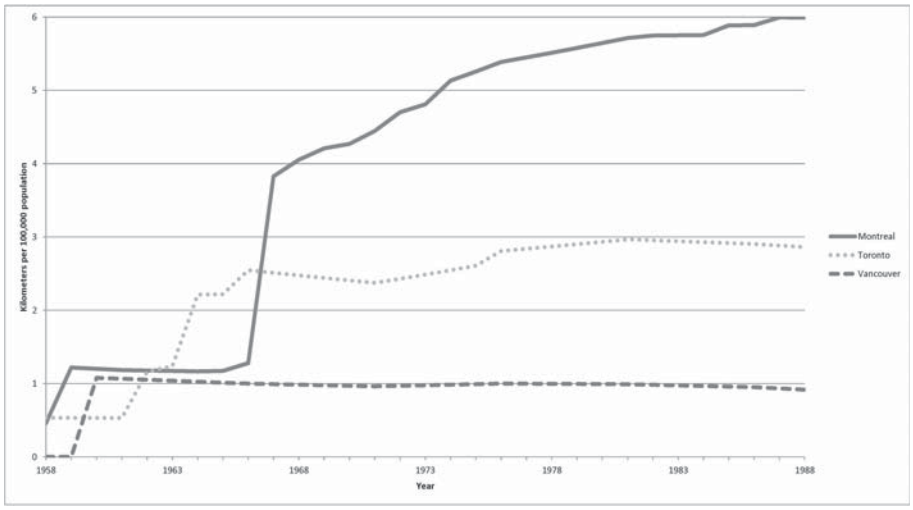
Figure 3 – Vancouver Expressway Length, 1958 - 1988 (route-km)



Taken together, Figures 1 through 3 reveal unmistakable differences in the expressway development within Canada's three largest cities. These data show that Montreal built more expressways, compared to Toronto and Vancouver. Vancouver built almost nothing, and Toronto created an intermediate sized network. In both Toronto and Vancouver, expressway building had levelled off by the 1970s, while it continued to grow in Montreal, albeit more slowly.

The relationship between these expressways and urban development is highlighted by calculating the length of expressway infrastructure per 100,000 population, as presented in Figure 4. Here, the different trajectories are most clearly revealed. While Vancouver never increased its expressway supply beyond a minimal level, Toronto did add expressway infrastructure through the 1960s and then levelled off at roughly half of Montreal's expressway provision per 100,000 inhabitants. Montreal expanded its urban expressways through the 1970s, and because of population decline during the late 1970s and early 1980s, discussed further below, attained the highest per capita level of expressway infrastructure among the three cities. Such variation raises the question of why Canada's largest cities pursued such different approaches to urban mobility, a conundrum which we explore in detail in the next three sections.

Figure 4 – Expressway length (route-km) per 100,000 population in Montreal, Toronto, and Vancouver



Montreal's ambitious urban expressway agenda

Montreal's distinctive modernization mode was both enabled and shaped by Quebec's break from a traditional society dominated by the Catholic church and a small parochial elite (Colcord 1987; Germain and Rose 2000). The 1960s saw the launch of a Quiet Revolution, characterised by Quebecers' determination to assert their control over economic and social development (Charbonneau, Hamel, and Barcelo 1994; Colcord 1987). From 1954 to 1986 (with a three-year break in 1957) Montreal was led by a mayor who orchestrated the most ambitious urban growth agenda that Canada had ever seen. Mayor Jean Drapeau came to see his mission as advancing Montreal to the top tier of world cities, and identified mobility as an essential element of such a strategy. Speaking to the Canadian Club of Montreal in 1978, he noted "… the way transport is assured may change but transport itself remains one of the factors which has the most impact on the possibility for a city to become and remain a metropolis." (Drapeau 1978: 10). And Drapeau had no doubt about the scale of infrastructure needed to facilitate metropolitan mobility: the bigger the better. Addressing the Montreal Chamber of Commerce, Mayor Drapeau insisted that "Without greatness, there is no metropolis." (Drapeau 1985: 7). To bolster his claim that grandeur underlay success, Drapeau suggested that suburban Quebecers would, when traveling abroad, always identify themselves as being from Montreal and not Quebec, let alone Canada. Montreal's metropolitan development thus contributed much to Canada's identity because, "The reality of a great metropolis is to become [synonymous] with its country." (Drapeau 1985: 8).

If grandeur was a key ingredient of metropolitan development, then mega events and mega projects were an effective means to attain such outcomes. Drapeau held a

fervent belief that spectacular urban development projects and events were the best means of advancing Montreal's prospects. He sloughed off criticism for devoting time and effort to special events and legacy projects instead of focusing on the needs of Montreal's underprivileged, stating: "The ugliness of the slums in which people live doesn't matter if we can make them stand wide-eyed in admiration of works of art they don't understand." (Germain and Rose 2000: 84).

To enable such spectacular development, Mayor Drapeau had to entice provincial and federal governments to fund much of the new infrastructure that would be needed, including urban expressways (Charbonneau, Hamel, and Barcelo 1994; Colcord 1987; Frisken 1994; Germain and Rose 2000; Kaplan 1982). Drapeau devoted up to half of Montreal's budget to road improvements in the years leading up to Expo 67 and used this event to maneuver the Provincial and Federal governments into funding expressways (Frisken 1994). The Province of Quebec spent $500 million, equivalent to $3.5 billion in 2014 dollars, on expressway infrastructure for Expo 67 (McKenna and Purcell 1980: 150; Manuel 2014). Quebec invested in Montreal's expressway agenda because the infrastructure that sped motor vehicles within the city would also spur suburban growth by opening up vast areas to residential development (Charbonneau, Hamel, and Barcelo 1994). While Ottawa had previously refused to pay for expressways in Montreal, Drapeau leveraged Expo and the 1976 Olympics to squeeze infrastructure funding out of the national treasury (Kaplan 1982).

Expressway building had to unfold rapidly in order to meet the fixed Expo 67 deadline, meaning that construction occurred with very little community impact assessment and mitigation (Germain and Rose 2000). The Ville-Marie Autoroute 720 began digging through downtown Montreal in 1965, along with site clearance for the sprawling Turcot interchange between Autoroutes 15 and 20. These two projects demolished 850 inner city homes. The Bonaventure Autoroute 10 also broke ground in 1965 to provide primary access to the Expo site and opened in April 1967, just a week ahead of the World's Fair. The Decarie Autoroute 15 began demolitions in 1964, with construction following in 1965 and the expressway entering service in 1967, five days before Expo's opening. Similarly, the Cote-de-Liesse spur to Autoroute 20, which expanded access to Dorval Airport, began construction in 1965 and was completed in 1966.[6]

Given the imperative of impending international mega events in Montreal, protests against the destruction of homes and the fracturing of neighbourhoods had limited impact on the governments that sponsored these projects. In contrast to Toronto and Vancouver, local opposition prompted little alteration in the timing or outcomes of expressway building. The only significant community input was that resident and merchant groups succeeded in having the Ville Marie Expressway moved away from the waterfront as it approached the downtown core so as to reduce disruption of the port and the Old City (Kaplan 1982). Montreal faced the fewest political or fiscal constraints on its expressway development among Canada's three largest cities because of the development dynamics fostered by its global city salesmanship. It thus realized the purest articulation of the postwar automotive mobility paradigm then in vogue among global cities.

Montreal's network of controlled access, high capacity urban expressways was intended to cement the city's position as a modern metropolis. While Expo 67 and

the 1976 Olympics garnered global attention while they unfolded, these mega events left Montreal with the legacy of Canada's most extensive urban expressway network. Writing in *The Nation*, Erwin Galantay suggested that the spirit of Expo 67 would be carried forward by its infrastructure legacy: "The excitement and élan of Expo will not vanish from Montreal when the temporary buildings are dismantled.… the new bridges and highways will remain as substantial souvenirs." (Galantay 1967: 562).

Toronto's change of heart in the midst of expressway building

Although Toronto would not eventually keep up with Montreal, it got off to an early lead in building urban expressways, launching its first such infrastructure years ahead of Montreal. But in contrast to "La Métropole," Toronto's initial expressway routes traversed undeveloped natural spaces (*e.g.*, ravines) and lightly populated industrial areas. The Gardiner Expressway was opened in 1958 as the Lakeshore Expressway and then renamed after Metropolitan Toronto's first chairman upon its completion in 1964. This elevated expressway originated just south of Toronto's financial district at Bay and King Streets, and ran through industrial land, rail yards, and port facilities to connect with the western suburbs of Mississauga and Oakville. The Don Valley Parkway (DVP) was completed in 1964, connecting northeast suburbs including the master planned bedroom community of Don Mills to Toronto's centre (Solomon 2007; Robinson 2011).

Ontario could fund expressways in and around Toronto during the 1960s without Ottawa's assistance. But unlike Montreal, where the looming deadline of Expo 67 demanded parallel construction of multiple routes, Toronto's projects were implemented sequentially and incrementally (Filion 2000; Solomon 2007; Osbaldeston 2009). By the time that transportation development plans targeted established neighbourhoods for necessary route segments, Toronto's residents had more direct experience of the expressways' urban impact than did Montrealers at the time their infrastructure was being advanced.

The Spadina Expressway was the next major addition to Toronto's network. Its construction began in 1963, as the Gardiner and DVP were nearing completion. Planned to improve access between Toronto and the fast developing suburb of North York, Spadina's design included an inner-city ring of feeder expressways. Local opposition began to consolidate during the planning for this extension of the expressway network. While the Gardiner and Don Valley Expressways had managed to avoid disrupting established communities, Spadina and its feeder expressways would be built through iconic neighbourhoods including Kensington Market, the Annex, Chinatown and Forest Hill, home to a gentrifying middle class (Ley 1988; Ley 1994).

Expressway opponents, including Jane Jacobs, soon came together under the umbrella of the *Stop Spadina and Save Our City (SSSOC)* coalition. Because Toronto was not explicitly pursuing a global city development agenda as Montreal had done, the debate over the Spadina Expressway focused on the best way to meet local and regional mobility needs, rather than meeting elite expectations on what infrastructure a "world-class city" needed. Responding to protests about the negative neighbourhood impact from expressway building, Metro Toronto produced its own transportation plan in 1966, weighing expressway development with subway and express bus alternatives.

This plan recommended a 'balanced' approach that would complete the Spadina Expressway, and shift subsequent expansion projects to deliver transit infrastructure. But opponents seized on Metro's recommendations to argue that the mobility benefits from rapid transit infrastructure developed after completing Spadina would also apply if transit was built instead of this expressway, with the added benefit of preventing the expressway's damage to inner city neighbourhoods (Nowlan and Nowlan 1970; Wellman 2006).

By 1969, construction delays and cost inflation led to the Spadina project exhausting its budget allocation. As Ontario's Transportation Ministry moved to grant additional funds to Metro Toronto, SSSOC challenged the decision and construction was halted pending a Cabinet review. Before that review could be completed, Bill Davis took office as Ontario's new Premier and cancelled the project. In 1971, he delivered what came to be known in urban planning circles as the 'cities are for people' speech in Ontario's Legislature, stating: "If we are building a transportation system to serve the automobile, the Spadina Expressway would be a good place to start. But if we are building a transportation system to serve people, the Spadina Expressway is a good place to stop." (Sewell 1993: 179).

Following the Premier's decision, the southern half of the Spadina Expressway route was abandoned along with the planned inner-ring of connecting expressways. Some of the transit funding that had been identified in Metro Toronto's 'balanced' transportation plan was also expended. Forty years later, Toronto is marked by both a patchwork of expressway routes and an incomplete rapid transit network, but the corridor that the Spadina Expressway would have destroyed is now a vital urban neighbourhood served by subway and light rail lines. Unlike the mobility balance envisioned by Metro planners in the 1960s, in which transit and expressways would complement one another, Toronto's infrastructure decisions during the 1970s have yielded an outcome in which neither autos, nor transit, are viewed as effectively meeting urban mobility needs (Toronto Board of Trade 2010: 39), though within a North American perspective Toronto still performs better than most cities in balancing public transit with the automobile.

Vancouver's detour around the urban expressway building agenda

Vancouver's elite had long dreamed of remaking their city on a grander scale (Berelowitz 2005; Pendakur 1972). By 1957, an agenda for urban renewal, 'blight' removal, slum clearance and transportation improvement had been formally presented in the Vancouver Redevelopment Study (City of Vancouver 1957). This report proposed extensive neighbourhood reconfiguration and expressway construction following the model then being widely pursued across the United States. Proposed construction would extend the existing Trans-Canada Highway through the city's heart, bisecting the historic Strathcona and Chinatown neighbourhoods and then cutting through Gastown and running along the downtown waterfront.

During the 1960s, expressway development preparations began by municipal acquisition of real estate along the planned route. Across North America, postwar 'slum clearance' efforts sought to reshape cities through purchasing and tearing down older buildings that were seen to have outlived their usefulness. In 1970, Vancouver's

most significant demolitions for expressway building occurred when the historically black community of Hogan's Alley was destroyed to make room for the Georgia and Dunsmuir Viaducts. These short feeders to a future elevated expressway were completed in 1972. To the municipal officials who had approved their construction, the Dunsmuir and Georgia viaducts represented the first phase of modern expressways that would speed vehicles to and through the central business district and along the city's waterfront. But the rest of the planned expressway development never occurred.

Since Vancouver's expressway plans triggered protest from a range of Chinatown businesspeople, Strathcona residents, neighbourhood groups, civic activists, and some local politicians, as had occurred in other Canadian and North American cities, many have claimed that the absence of expressways represents a victory for community power over technocratic planning and elite development preferences. Jo-Ann Lee offers a representative interpretation of Vancouver's detour from the North American urban trajectory:

> Against all odds, politically marginalized residents and their supporters from diverse ethnic and class backgrounds, formed a neighbourhood organization, the Strathcona Property Owners and Tenants Association (SPOTA). Their last-ditch struggle to defend their homes, ways of life, and rights to place helped put a stop to a tri-level government program of 'slum clearance.' (Lee 2007: 382)

But Vancouver's policy reversal looks less surprising when the resources needed for expressway building are taken into account. Christopher Leo (1977: 43) has written that: "From the viewpoint of Vancouver's expressway backers, anti-expressway groups were, if anything, a somewhat less galling obstacle than was the pinch of finance."

Investing in urban infrastructure was not a priority of British Columbia's government during the Strathcona Expressway's gestation period. From 1952 to 1972, Premier W.A.C. Bennett allocated billions to build highway, railroad, and hydro-electric infrastructure across British Columbia's hinterland to advance his Social Credit Party's agenda of economic growth through natural resource development. Rural infrastructure was seen to have a high payoff, in both economic and political terms. Attorney General Robert Bonner, who represented Vancouver in the Legislative Assembly during these years, claimed that rural infrastructure would do more for Vancouver because:

> … the opening up of the interior, and development of power and major investment which was being attracted, was securing a much more rapid improvement in the lot of people than would have otherwise been the case…. People were getting jobs and opportunities in Vancouver and salary improvements; and we were witnessing an expansion of the city not because of what was going on in Vancouver, but what was going on everywhere else. (Mitchell 1983: 354)

Unlike Montreal or Toronto, Vancouver's expressway proponents had difficulty making a case that either national or provincial prosperity would be advanced by an inner-city expressway. Since 1972, no expressway infrastructure has been built in the City of Vancouver and land that had been planned for freeway interchanges and bridge access was turned into neighbourhoods such as False Creek and Coal Harbour. Over subsequent decades, the city's population grew from 409,734 in 1976 to 578,041 in 2006 (City of Vancouver 2011), the downtown core was built out, alternative road and transit infrastructure were developed and a vision of the city that embraces a 'bright green future' has become entrenched (City of Vancouver 2013).

When the infrastructure trajectories that Montreal, Toronto and Vancouver have pursued are compared through the commonly used lenses of transportation policy and community development, these outcomes appear quite idiosyncratic. The results can be explained in part by Canada's lack of a national transportation infrastructure development program, like the one that produced the U.S. Interstate Highway system and facilitated sprawl around urban areas. But if one takes into account the global attributes and aspirations of Montreal, Toronto and Vancouver at the time that expressways were on their policy agendas, we submit that another layer of understanding emerges about why one city's expressway plan was built out into a full network, another was scaled back considerably, and a third was abandoned almost entirely.

Considering the 'Global City' development dynamics of Montreal, Toronto and Vancouver

For a generation now, global city theory has provided a conceptual framework, perhaps *the* conceptual framework, for understanding urban development and reconfiguration in a post-industrial age. Drawing on Hall (1966), Friedmann (1986) and others with roots as deep as the early 1900's (Geddes 1950), contemporary global city literature has sought to explain the relationship between urban development and global economic, social and cultural networks. Sassen (1991), Castells (2000), Abu-Lughod (1999), Beaverstock, Taylor and Smith (1999), and many others have extended foundational insights into a full-fledged school of urban analysis focused on the interaction between global and local influences on cities.

The past several decades have seen a profusion of global city research that assembles information, augments interpretation, and accumulates data to build and reshape the theory of how global forces can change cities. While the initial phases of global city theory provide a sound base to build on, most of the subsequent attempts to capture and refine understandings of global city positioning, linkages and outcomes have focused on events and trends subsequent to the 1980s. We believe that examining the global influences on Montreal, Toronto and Vancouver back into the 1960s and 1970s can add valuable insight into their development then and since.

Beyond shedding light on the urban expressway variation among Canada's three largest cities, interrogating the influence of global city dynamics during this prologue to contemporary global city networks may help address some critiques of this paradigm. These include the exclusion of smaller peripheral cities from the analysis entirely (Simon 1995; Robinson 2002); the need to recognize that all cities exhibit a common subset of global city characteristics (Amin and Graham 1997); the

challenge of explaining the heterogeneous global city formation processes that cities undergo (Thrift 1996); providing a deeper analysis of the inter-relationship between cities, regions and states (Smith 2001); and the call to expand the global city paradigm beyond narrowly specified economic indicators (King 1991).

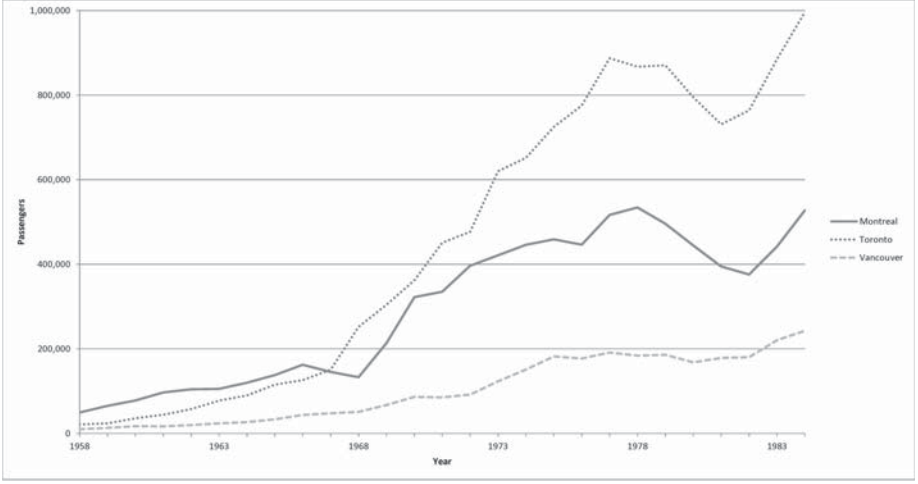
These critiques might be summarized as suggesting that global city theory can continue to be enriched by research that builds greater *variety*, *difference* and *specificity of place* into the analysis. We contribute to that diversity by highlighting how specific global influences have differentiated the urban expressway construction in Montreal, Toronto and Vancouver. As the primary and secondary data that we present below make clear, Canada's three biggest metropolitan areas occupied distinctly differing points in their global city formation at the time they faced choices on building urban expressway infrastructure, and they made substantially different decisions about how to proceed.

Building on its historical relationship with Europe and its commercial ties to the United States, Montreal was Canada's biggest node in the global economy during the 1960s, when urban expressway building was in full swing across North America. Through the 1960s, Montreal was recognized as Canada's pre-eminent city and its primary point of contact with the centres of money and power in Europe and the Americas. "It was natural for industrialists and bankers (from New York and Boston) to come first to Montreal in search of attractive investments; they would continue to Toronto only if they had not found what they were looking for …." (Martin 1979: 21-22) Montreal was Canada's hub for investment capital to flow into the country through the mid-1960s, when Toronto's economic influence began to surpass it. During the 1970s, "The massive shift of Canadian head offices out of Montreal (mainly to Toronto) … accelerated in the immediate aftermath of the election of the first indépendantiste Parti Québécois government in 1976 …." (Germain and Rose 2000: 2).

Airport passenger arrivals data presented in Figure 5 reveal that Montreal was the primary point of contact for Canadians returning from overseas until 1967 when Toronto surpassed it, and through the 1970s Toronto's lead became significant. Similarly, as Figure 6 demonstrates, Montreal was the top port of entry for non-immigrant international visitors to Canada until 1969, when Toronto's international arrivals first began to exceed Montreal. As late as 1967, Toronto received fewer than half of the international travelers arriving in Montreal, when the world's attention was focused on Expo 67, a combined World's Fair and celebration of Canada's centennial that had a profound influence on Montreal's expressway network, as previously noted.

These data underline the claim that Montreal was Canada's pre-eminent global city with its most substantive international connectivity through the 1960s when it gave way to its Anglophone rival. This global city formation was both spurred by and resulted in its comprehensive inner-city expressway building efforts that Toronto did not have the capacity to replicate. These data support the claim that Montreal was Canada's pre-eminent global city with its highest density of international connectivity through the 1960s, after which Toronto took the lead as Canada's most globally connected metropolis. But by the time that Toronto had become Canada's leading pre-eminent centre of global industry and finance, the decision to stop further inner city expressway building had already been taken.

Figure 5 – Canadian residents returning from overseas air travel by port of entry, 1958 – 1984

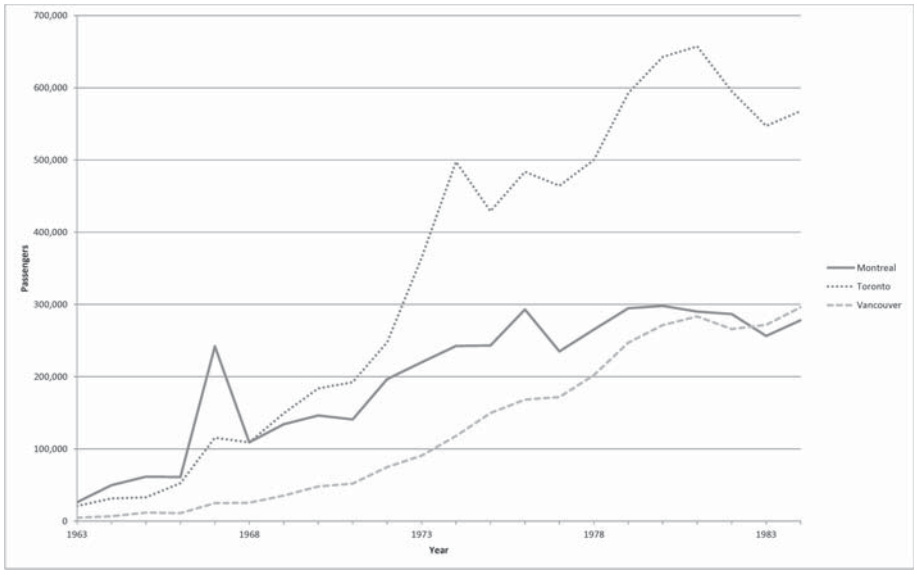


Source: Dominion Bureau of Statistics: Call #66-201 (1958-1970); Statistics Canada: Call #66-201 (1971-1972); Statistics Canada: Call #66-001 (1973-1984).

During the 1950's and 60's, when most of its expressways got built, Toronto showed considerable attributes supporting its reputation as Canada's 'Second City.' Toronto lagged behind Montreal in its global city aspirations and formation, and did not fully emerge as an international economic node in economic networks until the latter half of the 1970's. The election of the Parti Quebecois in 1976, with an avowed agenda to take Quebec out of Confederation triggered a wave of capital flight and marked the start of a relatively abrupt relocation of globally focused businesses and investment from Montreal (Albert 1980; Germain and Rose 2000; Semple and Green 1983; Semple and Smith 1981). This rebalancing of Canada's financial centre of gravity was concretised when the Bank of Montreal and the Royal Bank of Canada moved most of their operations to Toronto in 1975 and 1976 respectively, although their registered headquarters remained in Montreal. This meant that all five major Canadian banks (Royal Bank of Canada, Bank of Montreal, Scotia Bank, TD Canada Trust (Toronto Dominion Bank at the time) and the Canadian Imperial Bank of Commerce became functionally centred around Toronto's Bay Street (Rice and Semple 1993).

The financial sector's relocation from Montreal to Toronto was mirrored by corporate moves in other sectors. Between 1970 and 1981, Toronto saw huge gains in resource, manufacturing, service, utility and financial sector company headquarters, while during that same period of time Montreal haemorrhaged such corporate command centres. As shown in Figure 7, no other city in Canada (including Vancouver) exhibited significant aggregate gains or losses in corporate relocations during this period, meaning that Toronto's gain in corporate offices came overwhelmingly at Montreal's expense (Semple and Green 1983; Semple and Smith 1981).

Figure 6 – Visitors from overseas countries entering Canada through air travel by port of entry, 1963 – 1984



Source: Dominion Bureau of Statistics: Call #66-201 (1963-1970); Statistics Canada: Call #66-201 (1971-1972); Statistics Canada: Call #66-001 (1973-1984).

Stock exchange transaction data demonstrate a similar rebalancing between Montreal and Toronto during the 1960s and 1970s. The two cities were on relatively equal footing in terms of issues traded into the 1960s. Although there were considerably more issues traded in Toronto, more of Canada's major corporations were listed in Montreal. Both exchanges were among the busiest in North America with a 1958 ranking of "… second [Toronto] and fourth [Montreal], respectively, … in terms of share volume and third [Toronto] and sixth [Montreal] in terms of dollar volume" (Walter and Williamson 1960: 313). By 1976, Montreal accounted for only a quarter of stock market transactions in Canada, and its share fell further to about ten percent in 1982. Although Montreal's share of transactions on Canadian equity exchanges rose again to almost 20 percent, it was back down to ten percent in 1998 (Shearmur 2001: 222 - 224).

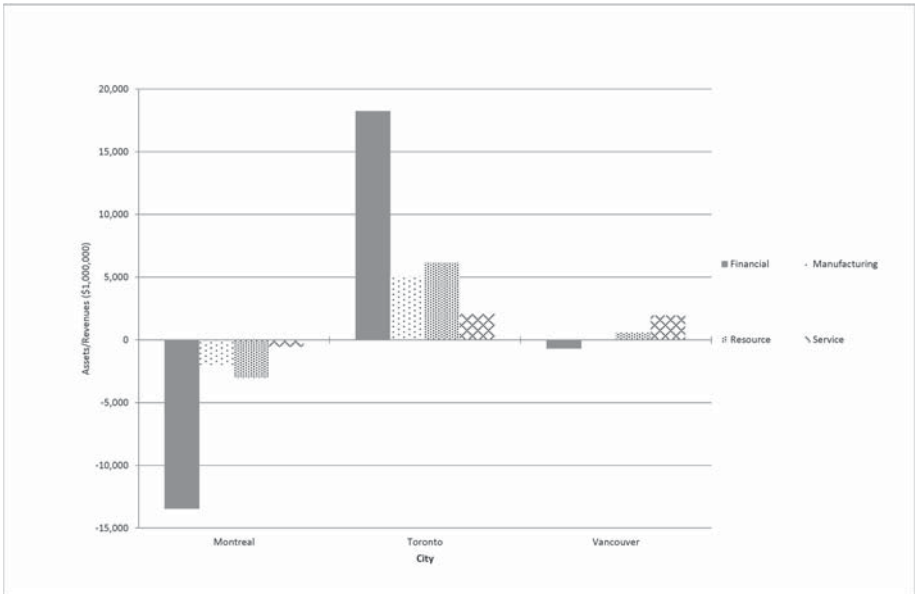
Courchene (2001) shows that Toronto's financial and corporate leadership functions were further entrenched following free trade agreements with the United States, and later Mexico (e.g., NAFTA). Beginning in the 1980s and accelerating through the 1990s, Greater Toronto became Canada's economic epicenter, the preferred location for Canadian subsidiary headquarters and by far the most globally integrated urban region:

> Toronto and the GTA had to make a key transition—from a national economic capital with a significant international reach to a full-blown global city intimately tied to NAFTA's emerg-

> ing geopolitical reality. …. As a percentage of Ontario's GDP, international exports increased from just above 30% in 1981 to over 50% in 1998, while interprovincial exports, also just above 30% in 1981, fell to under 20% in 1998. (Courchene 2001: 160)

While Toronto was fully connected into global economic networks only in the late 1970s, Vancouver had few global city attributes and fewer aspirations of attaining these until well into the 1980s and the hosting of Expo '86. Even afterwards, despite some international real estate investment, there is little evidence of global economic integration in corporate headquarters, financial services, stock exchange or foreign asset location, even through the 1980s (Olds 1995; Semple and Green 1983). Vancouver only became identifiable as a genuine global city aspirant during the 1990s, driven by infusions of Asian capital and initiatives by federal and provincial governments to create a 'Pacific Gateway' that would further the growth of Western Canada's trade, natural resource, real estate and tourism sectors. This gateway function would be fostered through major infrastructure investments to facilitate movement through Metro Vancouver's port facilities, already the biggest in Canada (Marr and Paterson 1980; Easterbrook and Aitken 1988; Pomfret 1993; Olds 1995; Todd 1998; Germain and Rose 2000).

Figure 7 – Corporate headquarter relocations by sector, 1970-1981[7]



Source: adapted from Semple and Green (1983).

As the above evidence demonstrates, inner-city expressway building was in high gear across North America at a time of differentiated economic and social transition in Canada's two largest cities and a period of economic stability in Canada's third

largest city. During the 1960s and 1970s, Montreal, Toronto and Vancouver were in very different places in their relationship with global economic and social forces. This became reflected in different local abilities, appetites, and agendas to assemble the capital necessary to build urban transportation infrastructure. With Canada lacking a national road funding mechanism, in the way that America's Interstate Highway program funded expressway building in all American cities[8], these differences in global city formation were translated into distinct outcomes in expressway infrastructure.

Conclusion: What Canada's divergent urban expressway building reveals

The evidence presented above helps explain both how and why Montreal, Toronto and Vancouver pursued different paths in their expressway development during the 1960s and 1970s. In the absence of both a federal highway building program and a national urban planning framework, these differences reveal much about the effect that global networks of trade, finance, and communication had on expressway deployment in Canada's three largest cities. Indeed, the transportation outcomes in Montreal, Toronto and Vancouver cannot be fully explained without appreciating how the decisions about local transportation were influenced by global urbanization dynamics.

Building urban expressways requires significant sums of capital. Without an established federal funding source, Canada's municipalities had to obtain funding mainly from provincial governments. Each major Canadian city pursued expressway financing in ways that reflected its global city status, or lack thereof. Montreal's civic elite, led by Mayor Jean Drapeau, had no inhibition in aiming for the global gold that could be leveraged by becoming the host city for international mega-events like Expo 67 and the 1976 Summer Olympics. Such engagements precipitated commitments from the province of Quebec and the government of Canada to help fund the infrastructure that were seen as prerequisites for these events' success. Through the mega-project legacy, Montreal gained Canada's most complete urban expressway network, enabling mobility that matched its aspirations as a top tier global city.

Toronto's municipal leaders did not aim as far beyond their borders as Montreal in crafting a strategy to fund urban transportation infrastructure. Toronto looked to the Ontario government to help finance its expressway and rapid transit development. Toronto's leadership was not yet prepared to pursue the global engagement that their counterparts in Montreal had mastered as a means of securing funds from senior governments. Local opponents of the Spadina Expressway mounted an effective opposition that reshaped the provincial transportation agenda, and in the absence of any federal government commitment to expressway building, that change proved to be decisive in convincing the Ontario government to turn off the tap of funding for urban expressways.

Vancouver was peripheral among the global circuits of capital during the 1960s and 1970s. The British Columbia government, which financed virtually all of the province's road infrastructure at the time, had other priorities for the period that expressway building was on the city's agenda. The narrative behind Vancouver's rejecting urban expressways has subsequently been elevated into civic legend: the plucky everyday people who saved the city from itself. In many ways, this story is genuine and the courage, commitment and success of these efforts should be celebrated. But was the

civic activism that occurred in Vancouver really that much more potent than the protests in Toronto and Montreal? Or was it the politico-economic context in which those protests were made that differentiated the outcome?

While citizen opposition in Strathcona and Chinatown was certainly well-organized, the evidence points to a somewhat overlooked limitation on Vancouver's expressway development capacity. Vancouver's expressway proponents lacked both a global lever to secure capital and any level of priority for investment within British Columbia's provincial government. Once Vancouver emulated Montreal's global city development strategy by securing an Expo in 1986 and the 2010 Winter Olympics, the urban transportation agenda had changed. Vancouver's infrastructure legacy from Expo 86 is a rail transit corridor (SkyTrain) that connects the city with Burnaby and New Westminster, and the 2010 Olympics legacy is another rail transit corridor that serves Richmond and Vancouver International Airport with Canada's first airport train service, the Canada Line (Ferguson, *et. al.* 2011).

Canada's global city attributes and aspirations thus had a symbiotic relationship with urban expressway building during the second half of the 20th century. In the heady post-war years of the 1950s and 60s the automobile was in both the most rapid phase of its ascendency and also the least critiqued stage of its influence on the environment and culture. These mobility dynamics made the urban expressway a natural component of global city aspirations. When such global city aspirations predominated, the allure of international status and the flows of money, goods, and people that went along with it tipped the scales toward sinking public capital into urban expressways. When global city development agendas were nascent, and expressway protests were mounted by inner city populations, established neighbourhoods were largely left undisturbed. Transportation planners, elected officials and citizen activists each exerted influence on deliberations over adapting Canada's urban space to mass motorisation. But the different positions of global city formation during urban expressway building in the 1960s and 70s contributed to an important difference in the outcomes for, and subsequent trajectories of Canada's three largest cities.

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Notes

[1] For examples of precise definitions that are consistently applied across a national highway network, see the U.S. Federal Highway Administration's Highway Performance Monitoring System, Appendix B. Available at: http://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/appendixb.cfm Accessed May 11, 2014.

[2] As specified in the TAC manual, "Expressways carry large volumes of all types of vehicles at medium to high speeds …. Access to adjacent lands is prohibited to provide

a high level of service for through traffic. Expressways normally carry traffic volumes in excess of 10,000 vehicles per day.…. The normal range of design speed is 80 km/h to 110 km/h. The average running speed under free-flow conditions ranges from 60 km/h to 90 km/h."

[3] "ScaleMaster Pro" was used for cartographic measurement of the expressway lengths on each map. All scales were converted to metric measure. While calculating lane kilometres could have offered a more nuanced assessment of urban expressway construction patterns (though in our view unnecessary), the detailed engineering drawings required to obtain these measurements could not be obtained in their entirety from municipal archives.

[4] In Montreal, the chronology drew upon announcements of expressway openings in *The Montreal Gazette* (Hayes 1966; Hayes 1967) and a compilation of provincial autoroutes published by Quebec's Transport Ministry (Transports Quebec 2013; 2012). For Toronto, we relied upon attributed (Baker 1964) and unattributed coverage of expressway expansion in *The Globe and Mail* (1958; 1962; 1964; 1966; 1976). And in Vancouver, *The Globe and Mail* (1960) and the British Columbia Ministry of Transportation and Highways (2014) provided the date of the city's sole expressway opening.

[5] In 1963, Riviere des Praries was annexed by Montreal. In 1964, the village of Saraguay was annexed and in 1968, Ville St. Michel was absorbed by the City of Montreal. No further annexations occurred until 1982.

[6] A concise history of these expressway developments is available at *The Roads of Metro Montreal*, http://www.montrealroads.com/roads/, accessed July 4, 2013.

[7] Financial sector represented in $1,000,000 assets; Manufacturing, Resource, and Service sectors represented in $1,000,000 revenues.

[8] The post-war American highway-building phenomenon reached its fiscal apogee with the 1956 Federal-Aid Highway Act (also known as the Interstate Highway Act) which made $25 billion available between 1957 and 1969 for highway expansion. This funding would amount to approximately $1.9 trillion in 2010 dollars. Ninety percent of these superhighway costs were covered by the Federal treasury and the program was presided over by a massive highway building bureaucracy in the Federal Highway Administration (U.S. Department of Transportation 2008; Rose and Mohl 2012).

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