

# Developments in urban design practice in Montreal: a morphological perspective

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**Abstract.** *Montreal, a UNESCO city of design, has experienced a wide range of urban design methods. Three projects representative of the development of Montreal's design practices and their links with major schools of thought are examined. Morphological analysis makes it possible to understand the physical-spatial mode of organization of the projects and their relationship to Montreal's urban form.*

*Keywords: urban morphology, urban design, planned fabric, schools of thought, Montreal*

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In this article three urban design projects in Montreal, completed between 1966 and 2004, are examined. The aim is to identify the theoretical and methodological bases of their conception and assess the impact of their development on Montreal's urban form. These projects were considered by some to be exemplary at the time of their completion. Each represented an experiment and a laboratory for urban design.

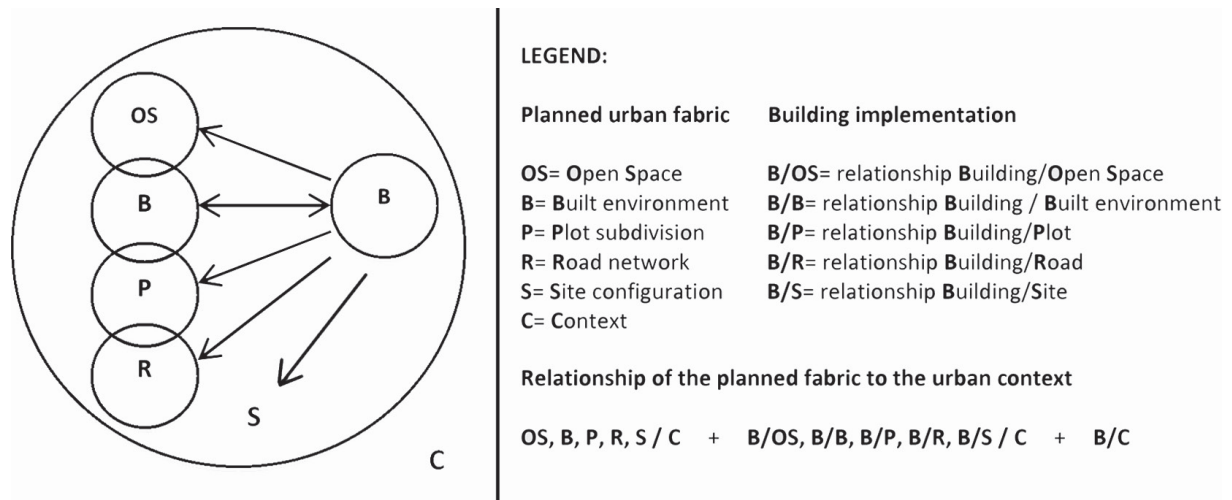
Two trends in Canadian urban planning became evident in the post-war era. First, after the 1950s, changes in the planning of urban form were associated with international developments – namely, the urban renewal paradigm. Secondly, there was a growing awareness from the 1980s onward of modes of structuring the form of historical urban fabric. Both trends have had a decisive impact on contemporary urban design practice in Montreal.

There is a need to reflect on the disciplines of urban history and urban morphology and provide an in-depth analysis of these changes in relation to three objectives. First,

knowledge should be developed to provide expertise for those who are called upon to design urban fabric. Secondly, it should be ensured that changes to the existing urban fabric are made in the context of heritage and sustainable development. Thirdly, it is necessary to develop more specific knowledge of the design and execution of the physical arrangements enabling control of the formal organization of urban growth (Choay and Merlin, 1988).

## Methodology

Moudon (1992) laid down a theoretical framework that draws on nine scientific disciplines to establish the basis for rigorous urban design practice. These nine disciplines focus specifically on the physical and spatial dimensions of the city and provide the knowledge required to understand interactions between human beings and the built environment, thus ensuring that urban form may be shaped in a lucid and informed manner. This article aims



**Figure 1. Structure of the planned fabric in relation to urban context.**

to contribute to the understanding of urban design practices in Montreal, drawing on theoretical notions and methodological tools from the French school of typomorphology (Allain, 2004; Lévy, 1992; Panerai *et al.*, 1980).

Urban design extends beyond the scope of architectural conception to intervene at the scale of one or several urban blocks and, indeed, of the urban fabric in general. Figure 1 illustrates the product of urban design, that is the planned fabric and its relationship to the urban context. The design process begins with a site (S) on which the following components are superimposed: a road network (R), plot subdivision (P), built environment (B), and a network of open spaces (OS). The specific interrelation of these components (site, road network, plot subdivision, built environment, open spaces), together understood as morphological units, defines and determines a given type of historical urban fabric (Lévy, 1992). The organization of these components varies depending on the discourses and schools of thought that promote the practice of urban design in line with the societal demands and values of the time.

In addition to the components themselves, Figure 1 also shows the importance of the method of implantation at the level of the built environment (B). This refers to the way in which buildings are positioned on the site (Building/Site), their position in relation to

roads (Building/Road), their adaptation to the shape of the plot (Building/Plot) and their layout relative to open spaces (Building/Open Spaces) (Lévy, 1988). Finally, the planned fabric fits within a context (C), forming one of the essential constituent units that together define a larger-scale element, namely the structure of a neighbourhood or a city. The relationships between the constituent units of the planned fabric, implantation and the buildings' architecture, on the one hand, and the context (C), on the other, determines the contribution that an urban design project makes to the configuration of the neighbourhood or the city as a whole. This relationship, in connection with the dialectic between morphological and spatial continuity and discontinuity, is addressed in depth in this article. The research focuses 'more on relations between objects, more on linkages, contexts, and in between places, than on the objects themselves' (Scott Brown, 2009). The conceptual framework applied here was gradually developed in Montreal, notably influenced by Melvin Charney's teaching at the Université de Montréal Architecture School from 1980 to 1990 (Charney *et al.*, 1992). The Atelier d'architecture urbaine developed an overall awareness and understanding of Montreal's traditional urban form, setting it within a larger international perspective and drawing on the French and Italian morphological schools.

### Choice and location of case studies

The case studies focus on three projects completed on the Island of Montreal by renowned local and American architects and urban planners. All have been the subject of publications in specialized journals. Each project represents a particular phase of urban development: modernist (1956–1975), post-modernist (1975–1995), and contemporary (1995–2015). The Îlots Saint-Martin housing complex, built between 1966 and 1968 in a working-class borough situated west of the historic district of Montreal (Figure 2A), represents the modernist urban renewal phase. The Bois-Franc neighbourhood, built between

1989 and 1993 at the transition between the borough fabric and the suburban fabric of the western points of the Island of Montreal (Figure 2B), represents the postmodern new urbanism phase. The Quartier International de Montréal, built between 2000 and 2004 at the boundary between the historic district of Montreal and the early boroughs (Figure 2C), represents the contemporary phase.

The development concepts underlying the three projects have been reconstructed by examining reports submitted by architects and planners at the Centre de documentation du Service d'urbanisme de la Ville de Montréal. The Îlots Saint-Martin complex moves beyond the modernist approach and 'urban

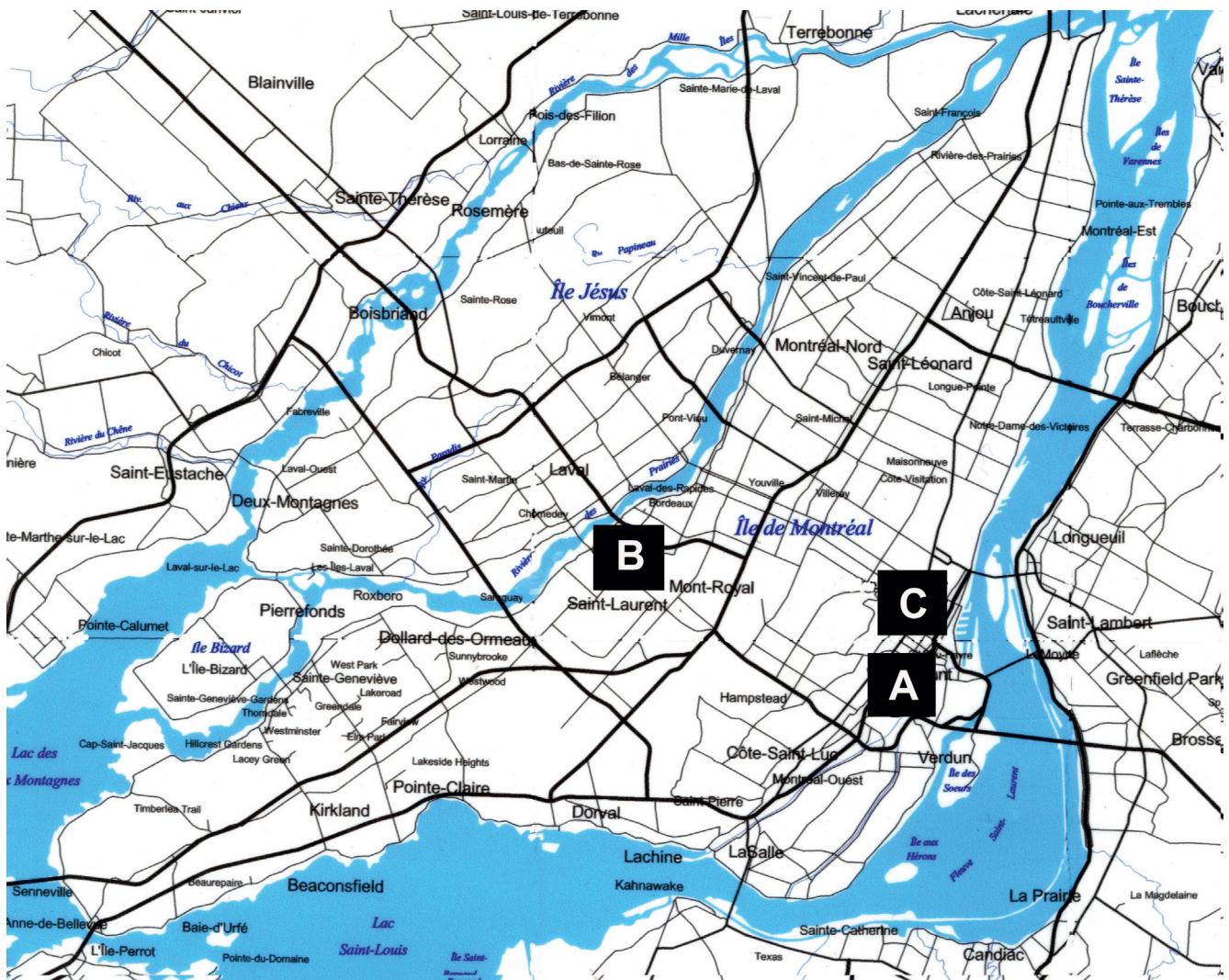
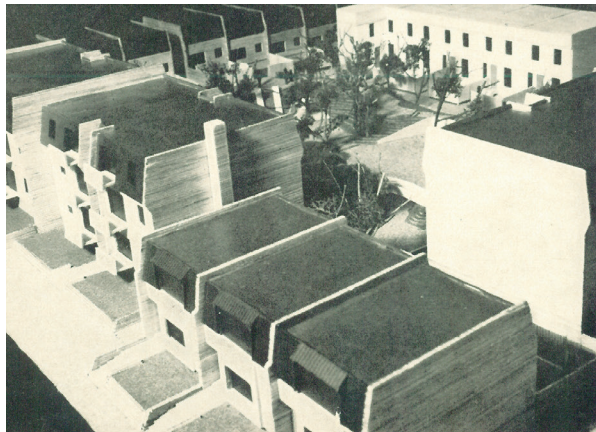
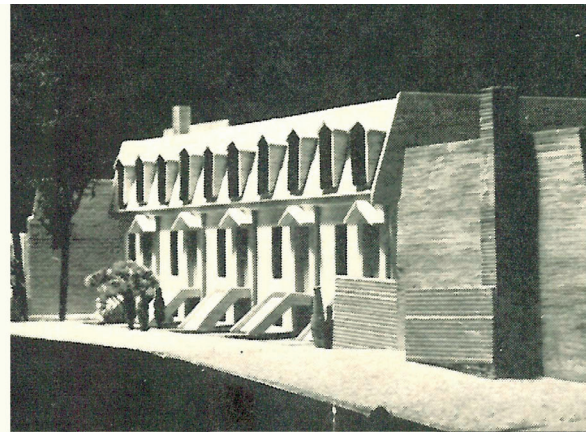


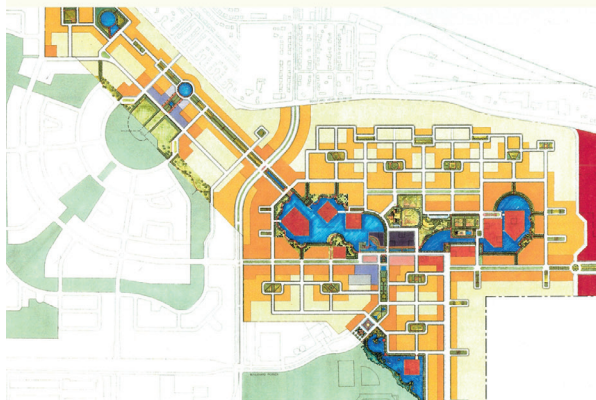
Figure 2. (A) Îlots Saint-Martin. (B) Bois-Franc neighbourhood. (C) Quartier International de Montréal.



**A. Model around semi-public courtyards**



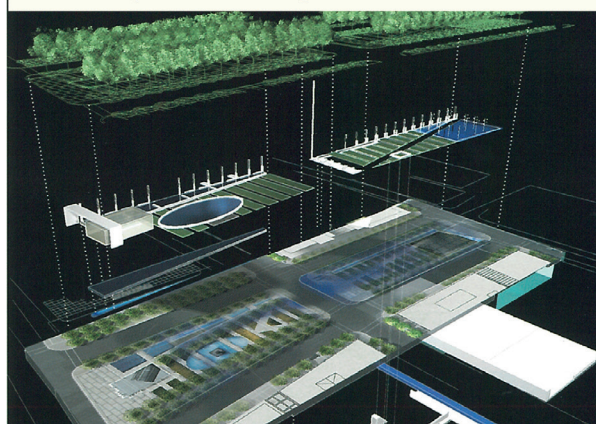
**B. Integration of existing row houses**



**C. Comprehensive plan**



**D. Perspective drawing of the project**



**E. Levels of the restructured square**



**F. Comprehensive plan**

**Figure 3. Îlots Saint-Martin (A, B), Bois-Franc neighbourhood (C, D) and Quartier International de Montréal (E, F).**

renewal' paradigm by applying Philadelphia's model of restoring existing buildings (Figure 3A, B). The Bois-Franc neighbourhood followed a postmodernist approach largely influenced by the 'New Urbanism' school, freely

applying a historical model (Ellin, 1999) (Figure 3C, D). The Quartier International de Montréal was inaugurated in 2004 and tackles the reconstruction of the city by mediating between historical local features and

international architectural models (Ellin, 1999) (Figure 3E, F).

### **The modernist city: Îlots Saint-Martin (1966–1968)**

#### *Design concept*

The functionalist ideology in vogue since the beginning of the twentieth century reached its zenith in Montreal in the 1960s, a time when the city was undergoing intensive modernization (Lortie, 2004). Functionalist precepts formed the basis of training programmes and were therefore rooted in the practices of both architecture and urban design in Montreal (Legault, 2002). The urban renewal model guided interventions in the historical boroughs of the city, treading a path similar to that taken in Europe following wartime destruction or other forms of demolition. In 1966, the Service de l'urbanisme de la Ville de Montréal designated Petite Bourgogne, a working-class neighbourhood located in south-west Montreal, as an urban renewal zone. The goal was to improve the living conditions in a district experiencing deindustrialization and decline. The recently established Service de l'habitation was responsible for restructuring two city blocks for the purpose of building 142 subsidized housing units. To this end, it enlisted the services of Ouellet, Reeves et Alain Architectes to develop a comprehensive plan. This project reflects the progressive ideology of the Athens Charter and its design principles, which were firmly rooted in the ideas of architects trained in Quebec's schools of architecture in the late 1950s and early 1960s (Legault, 2002). The designers' arguments were largely based on an analysis of local socio-economic data and field observations. In their report (Ville de Montréal, 1966), the architects concluded that rental prices in the sector took up too great a share of available household income. The new subsidized housing units represented an attempt by the public authorities to financially assist households and counter the perceived physical deterioration of the neighbourhood,

thus improving the living conditions of Petite Bourgogne's residents. In this way the state took on the mission of mitigating social disparities and impoverishment during a phase of industrial decline.

The project planned to expropriate and demolish most of the two blocks of housing stock. However, it included the renovation of four rows of neighbourhood-style row houses. Such a display of heritage sensitivity within a comprehensive project was something of an innovation compared to previous urban renewal schemes. The approach drew on the field-survey work carried out during the conceptual phase of the project, when the architects identified homogeneous building complexes that had the potential to be renovated (Ouellet, Reeves et Alain Architectes, 1967). The design process was also based on a study of the make-up of the neighbourhood's households and an identification of their needs. This approach is a clear reflection of the era's modernist vision, whereby housing is one of the primary components of the functionalist city and a 'machine for living' (Le Corbusier, 1923) required for the population's well-being.

The proposed housing types included row houses, apartment buildings (with one-, two- and three-bedroom units), and four- or five-bedroom units on two floors, that is the ground floor and basement. The comprehensive plan reflects a desire to maintain continuity with the character of the district. Buildings typical of the neighbourhood and regarded by the architects as of sufficient architectural value were integrated in the plan. Furthermore, a former community bathhouse, a community centre, the street network and the public space of an existing square were also preserved. The survey undertaken to define the restoration potential of existing buildings had enabled the designers to acquaint themselves with the composition of the built vernacular (Ouellet, Reeves et Alain Architectes, 1967), and they sought to achieve a certain architectural kinship between the scale of the neighbourhood's preserved row-house typologies and the architectural design of new constructions. This interpretation of the mode of composition

of the existing built framework remained superficial however, focusing on ensuring the continuity of the image of the built environment by adhering to building heights of two to three floors and using an appropriate architectural language for building crowns. The 'urban island' nature of the built fabric and the dominant parcelling of plots were abandoned, erased by a desire to attribute a more collective status to the free spaces of the project. At the level of architectural language, a new approach to the built environment can be noted. The restoration of the neighbourhood's row houses involved providing them with the qualities of modern comfort, while new constructions cited the built vernacular, for instance with false mansard crowns. This was seen to justify the demolitions required in order to impose a new spatial order on Montreal's existing urban fabric. This desired continuity was based on a reinterpretation of the image of the built environment (for example, volume measurement, horizontal and vertical cuts, materials) and not on a morphological analysis of the fabric of the district.

#### *Project execution analysis*

The architects drew up a comprehensive plan for an open area with paths, grassy areas and trees (Figure 4A), despite the fact that the neighbourhood's existing road network intersected it (Figure 4B). The layout of the buildings was justified by an effort to optimize the level of sunshine for each unit by aligning them with the orientation of Montreal's orthogonal grid. An east-west alignment was favoured, which, according to the architects, would provide more sunshine to housing units facing two sides. The orientation of the housing units was unrestricted as all the former plots were owned by one governmental department, the Office municipal d'habitation du Montréal (Figure 4C). The modernist approach and its hygienic vision of space were also reflected in the arrangement of the courtyards to provide maximum levels of sunshine. The tenets of functionalist urbanism encouraged architects to avoid the systematic locating of housing

units along streets. A number of buildings were instead oriented on to passageways, or on to six semi-public interior courtyards, sited on concrete slabs (Figure 4D). The site was previously occupied by row houses on dead-end streets, which helps to explain the use of this type of organization to service off-street buildings. The comprehensive plan was characterized by the separation of spaces set aside for pedestrian traffic and those reserved for cars. This functional segregation of traffic has created an internal network of courtyards, passageways and footpaths throughout each block and an above-the-street urban design in the northern and southern parts of the project (cars below, pedestrians above) (Figures 4E, F, G, H).

#### *Reception of the project in periodicals and publications*

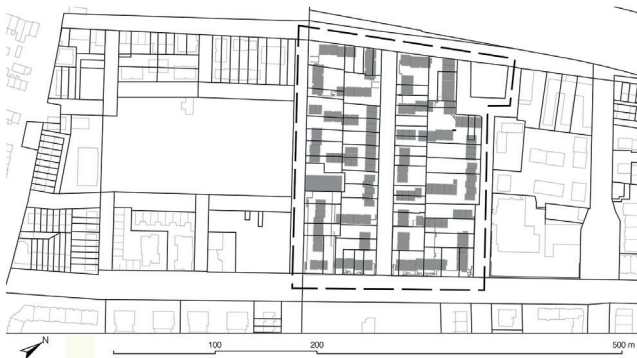
In 1970 the Îlots Saint-Martin received the Massey Medal, one of the highest honours in Canadian architecture. In an article appearing in the journal *Canadian Architect* in August 1971, however, the architect Raymond Affleck notes that there is a contradiction between architectural excellence and a total negation of the notion of place in the execution of the project (Affleck, 1971). In a special issue of the journal *ARQ: Architecture Québec* focusing on the work of the architect Jean Ouellet, the urban planner Michel Barcelo talks about the revolutionary nature of the Îlots Saint-Martin as a downtown social housing project (Barcelo, 1998). However, he also points out that this urban design leaves us with an urban composition in which street buildings alternate with perpendicular off-street buildings, and with new roadways and public pedestrian areas that are quite difficult to recognize or identify. In his opinion, the main shortcoming of this urban design project is that pedestrian traffic on the street was not conceived as belonging to the same network as pedestrian traffic within the project area itself. Overall, in spite of efforts to introduce certain adaptations to the precepts of modernist urban planning, this first urban design



**A. Paths, grassy areas, trees and a slope on the north-south axis**



**B. Preserved orthogonal street network and a public square**



**C. All plots owned by the Office municipal d'habitation de Montréal**



**D. Walk-up, row houses and six semi-public courtyards and passageways**



**E. Buildings with grassed embankments, support walls and stairs**



**F. Discontinuity of the alignment of façades onto the street**



**G. Rear yard of the row-house typology giving onto semi-public courtyard**



**H. Restricted opening onto courtyard and poor use of the public spaces**

**Figure 4. Components of the planned fabric and building implantation mode of Îlots Saint-Martin (plans from the updated cartographic database, Ville de Montréal, 2002; photographs by M. Gilles, 2015).**

and social housing project carried out by the Service de l'habitation embodies the values of modernity, comfort and sunlight typical of the functionalist approach – values that remain ill-fitted to the inherited urban fabric.

### **The postmodern city: the Bois-Franc neighbourhood (1988–1993)**

#### *Design concept*

This phase, stemming from the international postmodernist movement, is characterized by a formal opposition to the functionalist approach of modernist urban planning. The period was influenced by what Ellin has defined as 'the Anglo-American axis of urban design theory' (Ellin, 1999). It is rooted in Robert Venturi's work, which integrates the history of architecture, popular culture (including vernacular architecture), and the need to take context into account (Venturi, 1968; Venturi *et al.*, 1972). Among the schools of thought in urban design associated with postmodernism, New Urbanism asserts that the ideal of communal life must replace the inward-looking attitude inherent in the suburban-home model, and thus offers an antidote to the suburban environment (Katz, 1994). New Urbanism in the United States claimed that historical precedents should guide urban and architectural design, providing practical and meaningful solutions. The rediscovery of the historical form of the city was a tradition from which designers drew freely (Ellin, 1999), with both European and North American cities often serving as models, since these forms had re-established a certain pedigree (Venturi *et al.*, 1972).

In Montreal, the post-Expo (1967) and post-Olympic (1976) periods were difficult economically and culturally and characterized by the need to tackle the legacy of the modernist and functionalist movements in architecture. The Bois-Franc neighbourhood, located in the north-west part of the Island of Montreal, was planned in the mid-1980s. The advent of the project was made possible by the decommissioning of an airport belonging

to the multinational company Bombardier. Bombardier Immobilier hired the firm Daniel Arbour et Associés for the urban design of the project, and the project manager was Louis Sauer (Sauer, 1994), a renowned American architect and urban designer, architectural practitioner, researcher and teacher. He was the Chair of the School of Architecture at Carnegie Mellon University in Pittsburgh and concluded his career in Montreal.

Two factors were taken into consideration when drawing up the comprehensive development plan for the neighbourhood. First of all, a regulatory constraint imposed by the municipal authorities forced the designers to ensure rainwater retention on the site of the project itself. The solution chosen by Sauer and his team was to create a basin system. Created from scratch, this water system became one of the strongest structuring elements both of the plan as a whole and of its various components. Just like the canals of Venice and Amsterdam, these basins (linked with a network of public spaces) were intended to function as the central components of the new neighbourhood (Daniel Arbour et Associés, 1992). Secondly, the absence of any on-site ordering element – the airstrip was ignored – provided Sauer with the opportunity to draw his references from an urban ideal, namely Savannah, established in 1733 in Georgia. This archetype served as a reference for a system of urban blocks structured around public squares.

This was an appropriate choice for Montreal, where squares were characteristic of the boroughs in the late-nineteenth and early-twentieth centuries. These urban blocks provided a model for the basic planned units of the urban fabric, which were designed to house 400 to 600 people. The repetition of this pattern on the Bois-Franc site halted at the edge of the basins, ensuring a compromise between the regularity of the design and the distortions caused by the geometric shapes of the basins and the irregular limits of the site. In the proposed comprehensive plan, north-south streets link the various squares and lead to the group of central basins. The east-west links are set out in series, thus ensuring privacy for the neighbourhood units as well as

detering transit traffic, thereby integrating functionalist considerations into the project. The comprehensive plan includes a vast array of urban features, such as promenades, esplanades, squares and parks – an eclecticism that illustrates the groupings of the postmodernist phase. In the end, however, only the southern part of the development plan was completed in line with Sauer's design criteria. Subsequent development phases gradually strayed further from the comprehensive plan, since Bombardier Immobilier transferred the land to other developers (Figure 5A).

#### *Project execution analysis*

This design reflects a desire to establish a hierarchical road network like that in the traditional city, with arterial roads (peripheral), collector roads (boulevards, esplanades and avenues), local streets (servicing urban blocks), small squares, and private streets (Figure 5A, B). Sectional studies of the template of every road were carried out, leading to the space within the public right-of-way being divided into areas reserved for cars, bicycles, pedestrians and roadside trees. Unfortunately the road network is cut off, making the hierarchy harder to follow. The choice of building type was also based on the hierarchical level of each road. A strong connection between buildings and open space was ensured by building semi-detached housing and by linking the plot subdivisions, the building type (for example, townhouse, plex housing, apartment buildings) and both the street and the adjoining open spaces (Figure 5C, D). An interesting aspect of the comprehensive development plan is the importance accorded to the role of the built environment in defining street, avenue, boulevard, and public-square space (Figure 5E, F, G, H).

#### *Reception of the project in periodicals and publications*

The Bois-Franc neighbourhood received no awards or distinctions, but was a successful

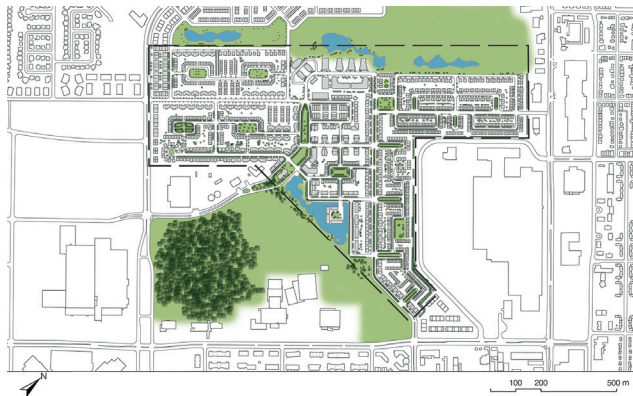
real estate investment. In 1998, an article in the journal *Québec Habitation* highlighted the quality and diversity of the 700 units built since the launching of the project (Gauvreau, 1998). Other elements emphasized included the remarkable basin achievement, the sophisticated red brick architecture influenced by neo-Victorian and neo-classical styles, and the closeness of the neighbourhood to major arterial roads, buses, subway stations and suburban trains. In a 2002 edition of the same publication, the author pointed out that notwithstanding its 3200 completed units, the neighbourhood squares remain the project's most important components (Nolin, 2002). The reduction in the volume of car traffic and associated improvements in the quality of pedestrian activity were also praised.

In a 1996 edition of the journal *ARQ: Architecture Québec*, Borkus Bergmann nevertheless argued that the Bombardier real estate company opted for a conventional and commercial form of urbanity and architecture, hence missing out on a unique opportunity to develop an exemplary, forward-looking project (Bergmann, 1996). It should be noted that Bergmann's vision of what the project could have been reflects his preferences, still linked to the work of Team X in the 1960s and 1970s. We are dealing here with a battle between two historical references. The implementation of this ambitious urban design project was hindered by the economic crisis and the complexity of the project's design, which aimed to create distinctive neighbourhoods. The desired central focus created by the collection of basins, leafy promenades and high-rise towers never materialized. It is as though the plethora of images prevented the site from attaining a meaningful and structured identity.

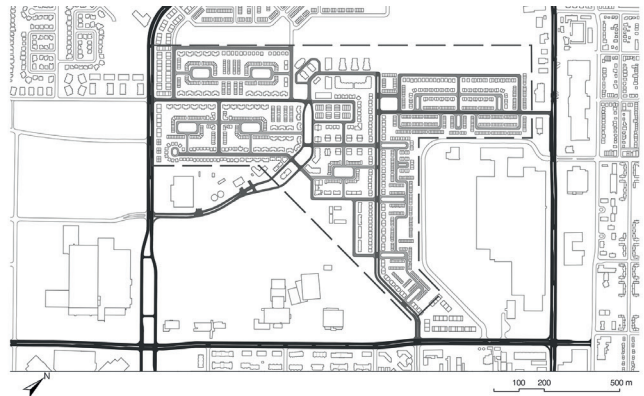
#### **The contemporary city: the Quartier International, Montreal's international district (2000–2004)**

##### *Design concept*

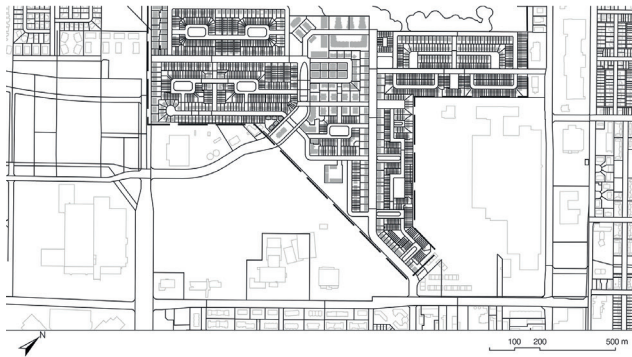
Montreal has a mixed French and Anglo-Saxon heritage and draws on both American



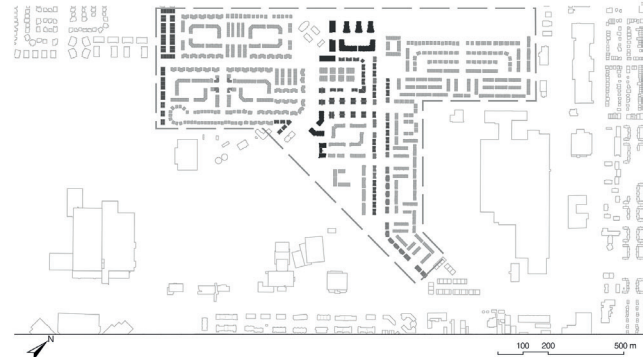
**A. A single basin is integrated into the project**



**B. Gateway boulevards, avenues and local streets**



**C. Large plots on major roads, narrow plots on squares**



**D. Detached, semi-detached, row houses, plexes, walk-ups, apartments and neighbourhood squares**



**E. Main façades facing basin**



**F. Main façades giving form to the streets**



**G. Plot size based on the typology and location**



**H. Buildings defining neighbourhood squares**

**Figure 5. Components of the planned fabric and building implantation mode of Bois-Franc neighbourhood (plans from the updated cartographic database, Ville de Montréal, 2002; photographs by the author, 2012).**

and European influences. The postmodernist trend freely followed examples of New Urbanism from the USA. The following phase represents a return to European sources of urban design and is influenced in particular by the Movement for the Reconstruction of the European City (Ellin, 1999). This movement, described as neo-rationalist by Ellin, is rooted in the typomorphological school, of which Aldo Rossi is one of the most prominent authors (Rossi, 1984). The values promoted by the movement include 'the physical and social preservation of historical centers as desirable models of collective life; the conception of urban space as the primary organizing element of urban morphology; typological and morphological studies as bases for a new architectural discipline' (Krier quoted in Ellin, 1999, p. 29).

The Quartier International project was initiated by the urban design firm Daoust Lestage and an architectural firm, Provencher Roy. It was undertaken in 2000, by way of a public and private partnership called Quartier International de Montréal. The approach developed by the designers primarily involved an analysis of the problems affecting the urban fabric of this central part of Montreal. Most were legacies of the destructive modernization of the 1960s and early 1970s: the rupture caused by the Ville-Marie expressway, the many vacant plots and surface parking lots, and the presence of a large, inward-looking building with few links to its immediate context, the Palais des congrès (Gauthier Guité Daoust Lestage Inc. and Provencher Roy et Associés, 1999).

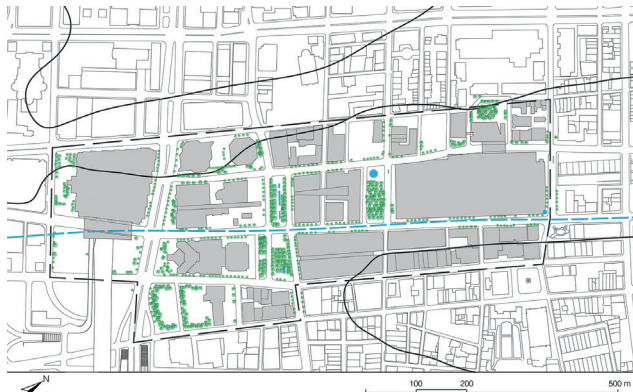
The devalued urban spaces being addressed were leftovers, as it were, from the expropriation of the expressway. A formal historical analysis of the development and transformation of the area revealed the presence of a network of spaces which, following the dismantling of the fortifications of Old Montreal, had embodied the transition between the old city and its first boroughs. Victoria Square, built in the nineteenth century, was part of this network. For designers, this was a 'trame historique sur laquelle peut s'appuyer l'opération de réaménagement urbain' (Gauthier Guité

Daoust Lestage Inc. and Provencher Roy et Associés, 1999) and it justified both a restructuring of the square and the building of a new public square: place Jean-Paul Riopelle. The strategy, marked by a 'volonté de puiser à même les règles de composition d'hier (émergence historique)' (Gauthier Guité Daoust Lestage Inc. and Provencher Roy et Associés, 1999), made it possible to reconnect the north-south links severed by the expressway.

The approach used was primarily based on a definition of urban space as a backdrop for major real estate investment. The quality of the development of these public areas led to an increase in the value of adjacent plots. The construction of new buildings was intended to provide funding for these new spaces through property taxes generated by the value added in the area. The project was characterized by a definition of urban voids as emerging forms of the city. The built environment was conceived as an essential complement to the contours of these recognizable public areas. As such, the project designers drew upon the building traditions of traditional European cities.

#### *Project execution analysis*

The construction of a new head office for the Caisse de dépôt et placement du Québec, rising above the highway, established a set of new blocks that gave form to the public spaces (Figure 6A, B, C). A new public square and Victoria Square re-established the north-south public space network of this part of Montreal, though some of the edges of the urban spaces had not yet been defined (Figure 6D, E). A network was also laid out, linking the two sections of Montreal's underground city by connecting the shopping malls of the blocks of large buildings to the subway stations and underground parking (Figure 6F, G). The Palais des congrès de Montréal was extended, with the intention of giving the building an entrance façade onto the new place Jean-Paul Riopelle (Figure 6H).



**A. Project located in the middle of two slopes and the presence of vegetation and rows of trees**



**B. North-south road network and expressway**



**C. Plot division linked to development at the scale of the 'urban island'**



**D. Towers, intermediate buildings, gallery buildings, row houses, old and new urban squares**



**E. Adaptation of buildings to the topography by way of a pedestal**



**F. Inward-looking nature of gallery buildings affecting the relation of their main floor to the streets**



**G. Buildings extend beyond the division and intervention framework of the plots**



**H. Façade of Palais des Congrès on the new place Jean-Paul Riopelle**

**Figure 6. Components of the planned fabric and building implantation mode of Quartier International (from the updated cartographic database, Ville de Montréal, 2002; photographs by M. Gilles and S. Poulin 2015).**

### *Reception of the project in periodicals and publications*

The Quartier International de Montréal received 20 Canadian and Quebec awards of excellence for its design and the quality of its implementation management. In a special 2005 edition of the journal *Continuité* dedicated to new urban spaces, Renée Daoust, the project designer, stated that this was the most important restructuring initiative in downtown Montreal (Daoust, 2006). Further afield in North America, Mehrotra and Rose, writing about the project in the *Harvard Design Magazine*, made the following observation: 'First, it challenges the role of the urban designer in the city .... Second, ... it involves alteration, repair and preservation, [and] additions – all working simultaneously but reinforcing cohesively the urban form of the place – and in that way it enriches the historic fabric of Montreal' (Mehrotra and Rose, 2014). The project's main asset thus lies in the urban designers' capacity to cohesively structure the existing fragments of the city while creating an urban fabric that re-establishes continuity between the old city centre of Montreal and its first boroughs.

### **Conclusion**

Each project presents its own urban design approach related to the theories and schools of thought that have developed in the field of urban design since 1956. The Îlots Saint-Martin ensemble shows a modernist approach with a nascent sensitivity to the heritage of the traditional city, featuring an internal network that is in part aligned with the streets and above-the-street urban planning. The Bois-Franc neighbourhood is representative of a postmodernist approach to urban design with references borrowed from the urban tradition of North American cities, yet it is somewhat disconnected from the local context. The organization of this planned fabric is characterized by the meshing of the built environment with the streets and squares. The Quartier International de Montréal is the

product of a contemporary approach related to the Movement for the Reconstruction of the European City. It incorporated a study of the existing urban form, the continuation of the grid, and the consolidation and extension of Montreal's existing network of public spaces. These projects represent three different approaches to urban design. It follows that they vary in the extent to which they take the site configuration into account and the way they organize the road network, determine a system of plot subdivision, and create built forms within a specific mode of implantation and system of open spaces. Table 1 highlights the various levels at which the three projects are related to their immediate context and to Montreal's urban form, thus reinforcing integration within the city form.

The modern ensemble of Îlots Saint-Martin is related to the urban form of Montreal at the level of the general road system and at the scale of its built environment (Table 1). This project reflects a desire to ensure continuity of the existing streets and spaces of the typical orthogonal grid that characterizes the boroughs of Montreal. In this respect, the project constitutes a positive evolution away from the intentions of the designers of Habitations Jeanne-Mance, a social housing complex built in 1957, who advocated erasing the existing orthogonal grid of Montreal and used design solutions and building types similar to those developed for council estate projects in the United Kingdom. In terms of the general design of the built forms, the designers of Îlots Saint-Martin selected the typology of the apartment block, incorporating and reinterpreting the row house template of the Petite Bourgogne neighbourhood. In this way they established a link to the scale and architectural language of the context. As regards the relationship of the Îlots Saint-Martin to the immediate surroundings, the project is connected to the road system, and it helps to maintain existing urban spaces. However, the whole area demonstrates no continuity with the urban development traditions of the surrounding context in terms of the method of implantation (for example, relation of building to site, road network and

**Table 1. Relationship of the projects to the morphological components of Montreal**

| <b>Morphological components</b>       | <b>Îlot Saint-Martin (1966–68)</b>                          | <b>Bois-Franc neighbourhood (1989–93)</b>                    | <b>Quartier International de Montréal (2000–04)</b>     |
|---------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------|
| Site configuration                    | Three plateaux of semi-public courtyards                    | Creation of a basin hydrography                              | Reinstatement of former site configuration              |
| Road network                          | Continuity of the existing streets                          | Boulevards, avenues and local streets                        | Continuation of the orthogonal grid                     |
| Plot subdivision                      | Grouping of former plots in one single property             | Plots defined according to the hierarchy of roadways         | Land division according to the scale of ‘urban islands’ |
| Built environment                     | Row houses reinterpretation                                 | Plexes, row houses, semi-detacheds and apartments            | Introverted buildings forming ‘urban islands’           |
| Open spaces                           | Autonomous network of courtyards and passageways            | Parks and inward-looking squares                             | New square and restructuring of an existing one         |
| Relationship building /site           | Artificial ground isolated from boundary roads              | Façades overlooking waterways                                | Continuity between floor level, streets and squares     |
| Relationship building /road           | Withdrawals of buildings from streets and passageways       | Relationship between typology and roadway hierarchy          | Built ‘urban islands’ define the adjacent streets       |
| Relationship building /plot           | Buildings are put in place without abutting strips          | Typology and its position in the grid determine plot size    | Buildings extend beyond the division of the plots       |
| Relationship building / open spaces   | Elevated segments prevent a definition of collective spaces | Buildings define the form of urban spaces                    | Shape of open spaces defines the built form             |
| Relationship to the immediate context | Maintains the road network and an existing square           | Project completely detached from the adjacent context        | Linked by road network and consolidates open spaces     |
| Relationship to Montreal’s urban form | Project organized as a separate whole                       | Project reinterprets the figure of the street and the square | Project as a new part of Montreal’s urban form          |

Weak Relationship    Medium Relationship    Strong Relationship



plot subdivision) and the structure of open spaces.

Turning to the Bois-Franc neighbourhood, an ensemble influenced by postmodernism, the urban design scheme is related to the urban form of Montreal through the relationship of

the buildings to the road hierarchy and to the plot subdivision system. The built fabric also reinterprets the typologies usually found in Montreal. This reflects a decision to use plot subdivision as a way of organizing built form, an approach that is typical of vernacular urban

form in Montreal, which is characterized by 7.5 metre-wide plots. The Bois-Franc neighbourhood represents an attempt to re-establish the types of plexes, row houses, semi-detached houses and apartment buildings typical of Montreal's built environment in the nineteenth and twentieth centuries. This design option is also a way of promoting a sense of community and urbanity in the project, which is a leitmotif of New Urbanism. The urban design of the Bois-Franc project also reinterprets the streetscape and squares typical of Montreal's nineteenth- and twentieth-century urban form, but fails to establish any relationship with the immediate context. The contribution of this project is more at the level of Montreal's urban pattern as a whole (for example, building typology and average plot size) than in the establishment of any spatial continuity with the surroundings of the Bois-Franc neighbourhood. The urban design is structured by a collage of archetypes selected freely from historical references.

The contribution of the Quartier International de Montréal to the city's urban form is found in the general site configuration, the road network, open spaces, and the relationship of buildings to the site and to existing open spaces. The designers chose to re-establish the historical configuration of the site before construction of the underground highway. Daoust Lestage worked on the topography to avoid a disjunction between the ground-floor level and streets and squares. They also chose to reinstate a formal (Victoria Square) and informal (place Jean-Paul Riopelle) urban landscape. The Quartier International provides continuation of the peripheral and orthogonal grid of Montreal's road network. This option erases the barrier that resulted from the Ville-Marie underground highway. The urban spaces of the Quartier International de Montréal project are based on the restructuring of Victoria Square and reuse of this typical form to create a new square. Here the urban morphology of Montreal is rigorously reinterpreted.

It has been possible to uncover changes in methods of organizing the planned fabric, with approaches being increasingly based on a rigorous analysis of Montreal's built form,

thus helping to structure the urban fabric with an eye to promoting morphological and spatial continuity. Our research shows that the value of such spatial and morphological continuity has emerged as an important issue over the various phases of development of the urban design field in Montreal.

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