**Ethnologies**

ethnologies

# Vernacular Architecture and Urban Design : A Strategy for Place-Making in St. John's, Newfoundland

Robert Mellin

Volume 17, numéro 2, 1995

Vernacular Architecture
Architecture vernaculaire

URI : https://id.erudit.org/iderudit/1087491ar
DOI : https://doi.org/10.7202/1087491ar

Aller au sommaire du numéro

Éditeur(s)

Association Canadienne d'Ethnologie et de Folklore

ISSN

1481-5974 (imprimé)
1708-0401 (numérique)

Découvrir la revue

Citer cet article

Mellin, R. (1995). Vernacular Architecture and Urban Design : A Strategy for Place-Making in St. John's, Newfoundland. *Ethnologies*, *17*(2), 125–138. https://doi.org/10.7202/1087491ar

Résumé de l'article

Depuis quelques années, plusieurs urbanistes se servent d'analyses quantitatives et qualitatives du patrimoine architectural lorsqu'ils se mettent à élaborer de nouvelles stratégies en politique du logement. En s'appuyant sur des renseignements détaillés tirés de l'architecture vernaculaire des vieux quartiers résidentiels de Saint-Jean, Terre-Neuve, l'auteur propose une méthodologie qui tient compte à la fois de l'héritage bâti et des besoins actuels en milieu urbain. Il fait appel à certaines valeurs sociales ainsi qu'à plusieurs pratiques traditionnelles comme points de départ pour une meilleure planification: histoire, paysage, priorités humaines, et contraintes économiques y ont la place qui leur revient.

# VERNACULAR ARCHITECTURE AND URBAN DESIGN: A STRATEGY FOR PLACE-MAKING IN ST. JOHN'S, NEWFOUNDLAND

**Robert MELLIN**

In recent years, studies of vernacular architecture have often been included in the urban design process.[1] In this paper, I describe methods that can be used for both the qualitative and quantitative analysis of vernacular architecture in urban areas through a case study of the older residential neighbourhoods in St. John's, Newfoundland. [2] Three priorities inspired the case study on St. John's: first, to document what was left of the physical form of the older residential neighbourhoods by formulating a neighbourhood and housing typology (the older residential areas in St. John's are quickly being eroded by unsympathetic new development and little may remain for documentation after a few years); second, to analyze and interpret details of urban and house form that contribute to the character of these neighbourhoods; and third, to demonstrate that nearly all the ingredients that could contribute to sensible planning for new residential areas in St. John's are contained in the older residential areas.

## The Downtown Residential Area of St. John's

Older downtown residential neighbourhoods in St. John's are composed mostly of row houses lining the perimeter of blocks with some larger detached houses, duplex houses, and terrace houses (Fig. 1). Until well into the twentieth century, there were no regulations that would prevent buildings from taking up the entire area of the building lot and attached houses were built without fire separations. The houses on the perimeters of the blocks form inner "courtyards" of various sizes with right of ways, lanes, or easements for access. Lanes to the courtyards either went between or under the houses and these often linked with access points to adjacent blocks to form a network of pedestrian paths (Fig. 2).

Today, the open space of the courtyards is usually subdivided into fenced private yards with the occasional outbuilding. However, the use of this open space and the use of the buildings in the neighbourhood changed over the years. The St. John's insurance atlases show that at one time there was a dynamic mixture of residential (mostly attached dwellings), commercial (stores), and light industrial (small factories, workshops, fabrication yards, and storage yards) in these

1. For example, see Katz, Peter. 1994. *The New Urbanism: Toward an Architecture of Community* New York: McGraw Hill.
2. Mellin, Robert. 1995. *A City of Towns: Alternatives for the Planning and Design of Housing in St. John's, Newfoundland.* Ottawa: CMHC.

downtown neighbourhoods. The construction of outbuildings and workshops was permitted.

Between 1889 and the present day, the layout of the streets in the city changed little and the main pedestrian paths and vehicular access points through the blocks were maintained. The most apparent changes over time were: (1) an increase in the number of stories for the houses and increased house size; (2) a decrease in the number of small general stores on the perimeter of the block; (3) increased building volume for additions to houses, housing infill, public buildings, and commercial buildings; (4) a decline in light manufacturing activity; and (5) an increase in diversity of non-residential uses for buildings on the perimeters of blocks. The change in house size reflects the rebuilding of St. John's after the great fire of 1892.

The open spaces of the courtyards were used for various purposes over the years, from the storage of materials for manufacturing (staves, lumber) to enclosed private gardens. In 1889, most of the commercial use of buildings around the perimeter of the blocks was for small stores selling groceries and other goods. Shown on the insurance atlas for Gower Street (Fig. 3) for the same year, small buildings on the interior of the blocks included premises for carpenters, coopers, and blacksmiths. In later years, larger outbuildings were added to the courtyards for garages, carpenters, blacksmiths, and an ornamental iron works and more diversity is apparent in the non-residential uses of the buildings lining the perimeters of the blocks .

The 1889 insurance atlas for the Henry Street area (Fig. 4) provides a sense of the character of St. John's before the fire of 1892. After the fire there were major changes to buildings and to the locations and widths of streets and paths. The 1889 insurance atlas shows a very irregular block geometry, with variations in building setbacks from the street. These setbacks are irregular to the extent that the width and geometry of the street space is constantly varied. For example, along Queen's Road the street is sometimes narrow, sometimes wide, and there is a funneling or spatial compression effect at the approach to several intersections. Buildings often intrude in the street space, and these buildings would have been landmarks for the users of these streets. As for the Gower Street area, there is a mixture of residential and commercial uses, and similar use was made of the courtyard areas. However, the Henry Street area had a higher concentration of non-residential uses.

The 1907 Henry Street insurance atlas (Fig. 5) shows many post-Great Fire changes: the blocks are larger and fewer in number, the houses are larger, the streets are wider, the buildings have uniform setbacks from the street, there is less variation in street width along the length of particular streets, and houses were not replaced on the Queen's Road / Gower Street "island."

Although an irregular grid pattern is evident in the Gower Street residential area, analysis of all the older residential areas based solely on the grid would

misinterpret the character of old St. John's. The Henry Street area in the East End and the Atlantic Avenue area in the West End provide evidence of an earlier, different, and more complex kind of distribution of houses, public buildings, and streets. These areas defy description by a "grid," and they were shaped by paths or lanes that were eventually upgraded to permanent roads, by availability of land (including the subdivision of planters' estates), by topography, by the great fires of the nineteenth century, and by the presence of institutional grounds or monumental buildings (land and buildings owned by government or the churches).

For those parts of the downtown residential areas that do have a fairly regular grid pattern of streets, the grid is not homogeneous. There is still a sense of hierarchy and difference within the grid, but the grid provides helpful orientation and diffuses traffic. Recent interventions and realignments by the City of St. John's traffic engineers tend to work against the logic of an urban grid. For example, in the West End near City Hall, large, curvilinear streets (more appropriate as feeder roads for new suburban cul-de-sacs) have recently intruded through older residential areas as expedient collectors for fast-moving vehicular traffic. The traffic moves faster along the street, but also results in more traffic jams because there are fewer intersections. The net result is the destruction of pedestrian scale neighbourhoods, barriers between residential neighbourhoods and the main downtown shopping streets (which contribute to the decline of Water Street), and the unfortunate suburbanization of downtown St. John's.

The downtown residential grid is sympathetic to pedestrian traffic. All streets have sidewalks, the streets are not wide, the typical curb radius is not large, and there are many pedestrian paths that provide short-cuts or alternatives to the use of the main streets. The small curb radius makes it safer to cross the street at intersections. Present-day, on-street parking helps to protect pedestrians from water and slush, and also promotes slower vehicular speeds.[3] The link between the St. John's grid and topography has been studied by architect Joe Carter:

> Long "contour" streets ranged themselves like a giant staircase up the slopes at approximately 15 metre vertical intervals. These roughly parallel "contour" streets were joined one to another by shorter "ladder" streets. The attack of the "ladder" street up the slope was in the optimum location (balanced between time and energy) for foot power to negotiate the 1:12 slope. The irregular quadrangles that irritate modern traffic engineers were not random at all but were the logical outcome of energy-conscious people and animals.[4]

3. In various articles about their town planning ideas, Andres Duany and Elizabeth Plater-Zyberk have advocated grid-pattern street layouts, sidewalks with a small curb radius, and on-street parking: see Duany, A. and E. Plater-Zyberk. 1991. *Towns and Town-Making Principles*. New York: Rizzoli.

4. Carter, Joe. "Municipal Non-Profit Housing, St. John's, Newfoundland: Analysis of Development Alternatives," report for Canada Mortgage and Housing Corporation, pp. 4-5.

A distinguishing feature of most of the downtown residential area is the lack of any front setback for houses and other buildings. Houses were constructed in common agreement that the building line and block form would be maintained and enhanced. Enhancement took place at the corners, which were acknowledged by the special form of either houses or stores. Houses often had windows on the side wall at corners, or even side-wall bay windows. Stores often had angled corner entrances with upper floors projecting above the corners. There was agreement and purpose that the form of the block should be preserved, which resulted in a consistent character for the space of the street and the space of the courtyard.

On streets where the houses had slight setbacks, these were rarely deeper than the area required to accommodate steps to the main floor or a very small front porch. Larger, attached houses near the old downtown area often had setbacks that would allow a small ornamental front garden in addition to a well-built, formal stair. Examples of these houses are present along Rennie's Mill Road and Military Road in the East End of St. John's. For these houses also, there was common agreement that building lines should be maintained through uniform setbacks, and that fences (wood or ornamental wrought iron), retaining walls, gates, and trees should be maintained along the sidewalk. These elements, the stairs, fences, and retaining walls, as well as the regular planting of trees, all contributed to the enhancement of the block. Large, single detached homes near downtown residential areas often had large front gardens (even for the largest homes near the downtown, the back yard was usually deeper than the front yard), but for less expensive homes shallow setbacks prevailed until the 1930s .

The front of the house was the formal, public side, identified by special details and ornament on the house facade and by such architectural elements as porches, bay windows, and dormers. The back of the house was the informal, private side, with little or no architectural ornament and utilitarian windows and doors. The informality of the back of the house is also an expression of the attitude of the builders towards additions. Informal additions of many different sizes and shapes were made to the backs of houses in the downtown residential neighbourhoods. These additions were made to "core" houses which were largely identical in size and plan on particular blocks. Additions could be made to this core house for back kitchens or extra bedroom space as needed.

In the Newfoundland outport prior to confederation, there was no such thing as a mortgage. A core-house was built first, around which additions were clustered over time depending on the needs of the family. For example, on the North-East coast, most core-houses were either of the hall and parlour type, or center hall type[5]. Back kitchens, back porches, side porches, pantries, and general

5 . Mellin, Robert. 1990. *Folk Housing in Tilting, Fogo Island Newfoundland*, Ph.D. dissertation, University of Pennsylvania.

stores were eventually added to most houses. The core house was modest in area and could be constructed by the owner in a year or two with part-time work. Most of the labour was done by the owner. Lumber was cut and processed locally or by the house-builder and this helped to reduce the cost. The core house was egalitarian: it strengthened bonds between neighbours because it gave the impression that the residents of the community had basically the same material status of living. Although the core houses were nearly all the same, this did not eliminate individual expression and variety of form. Individual expression was possible through house siting, outbuildings, paint colours, ornament, landscaping (fence and gate construction, for example), and through additions to the house. The Newfoundland outport house provides an excellent model for new, affordable housing design in St. John's. Present in this model are many of the ideas popularized in recent affordable housing design practice.

The downtown residential areas of St. John's also had their equivalents of the incrementally constructed outport houses. At present, no housing developments or house designs permit homeowners to enter the housing market at a very modest level (low-cost, affordable, small building area) and establish equity on the same property over a long period of time by gradually making improvements and additions. The only alternative promoted by the present-day marketplace is to buy a house that is complete (with regard to its ultimate floor area).

The courtyards created by attached houses in the downtown residential areas serve as acoustical screens and wind screens. There is a contrast between the resonant sounds of the street and the muted sounds of the courtyards. One of the strongest visual impressions of these neighbourhoods is the contrast between the informal, verdant space of the courtyards behind the houses and the formal space of the street. The trees in the courtyard also contribute to the impression of spatial contrast. The street space appears constrained, but the trees in the courtyards create a sense of spatial depth. Painted wooden picket fences around the yards also contribute to the sense of spatial depth, dividing the open space into a series of "outdoor rooms."[6]

The enclosed gardens at the rear of the houses are private and green. The micro-climate thus formed, with its greatly reduced wind velocity, allows the growth of deciduous trees that are about one storey taller than the three-storey wall of houses that surrounds them. From many windows in old St. John's it is possible to look at a plant hardiness zone in the foreground equivalent to southern Ontario, and on to one on the Southside Hills equivalent to the Keewatin.[7]

Most of the houses in the downtown residential area conform to the two-thirds Georgian plan: a front room and back room flanked by a hallway containing a stair. When the town was rebuilt after the great fire of 1892, the low pitch (nearly

6. I am indebted to Norbert Schoenauer for his concept of outdoor rooms: N. Schoenauer (lecture), McGill University, Montreal, 1984.

7. Carter, Joe. Municipal Non-Profit Housing, p. 6.

flat) felt and tar roof became the standard for construction, often enhanced with a mansard roof. House dimensions varied considerably in length, width, and height, based on the means of the owner or the availability or shape of the land. The builders of these houses were willing to make use of irregular lots. This is especially evident at the corners of blocks, where the shape of the house often conformed to the angle of the intersection of the street. Today, in new housing there is reluctance to permit any distortion of the geometry of the house to conform to the shape of the land. This is partly due to the extra cost and to a dislike of the irregular, but mainly to the present-day absence of concern for the visual considerations that the builders once had in artfully crafting the perimeter of the block.

Acceptance of irregularities was evident in the extensive use of cantilevered second floors. One could speculate on the acceptance in the minds of the builders and city authorities of the concept of "aerial rights": the possibility of building over sidewalks, cantilevered bay windows and projections over corners, over alleys, over lanes, and nearly over property lines. In some cases, the builders simply thought the appearance of a second-floor cantilever enhanced the status of the building.

The vitality of the downtown area provided by distorted geometry, the irregular, and even the misbehaved (features that make St. John's a memorable place), is slowly being eliminated in favour of regularity and efficiency. At one time, the outrageous was permitted, but no longer. Recently an order was approved for the demolition of the Crown Taxi stand on Springdale Street in the West End. This building was a local landmark and a tourist attraction, one of many small taxi stands around the city that spontaneously appeared with the introduction of the automobile. Perhaps the smallest commercial building in St. John's (it had electrical and telephone service), Crown Taxi squatted on the pavement of Springdale Street, clinging for support to a utility pole (Fig. 6).

In the downtown residential area there are several small, extremely narrow row houses (less than ten feet wide: see Fig. 7). These provide historical evidence of the lower limit of house size in the downtown residential neighbourhoods of St. John's. Today, the City of St. John's would not allow houses with these dimensions to be constructed. However, houses such as these fit unobtrusively into the neighbourhood and as background buildings. They do not detract from the quality of the neighbourhood. In the downtown residential area, houses of various sizes are accommodated in an egalitarian manner, and the small, narrow-front houses do not seem out of scale with their neighbours. A major advantage of this type of row housing is the congenial mixture of residents with different income levels. The presence of small row houses in the downtown residential area is an indicator that at one time in St. John's the city was more tolerant of low-income families and their housing needs. These houses demonstrate possibilities for exploring new, affordable housing design for young families, low-income

families, or senior citizens. Allowing residents to construct small houses and later make additions to these houses permits the residents to establish equity over the long term and to participate as stakeholders in the affairs of the neighbourhood and city.

There are several examples of terrace houses in the downtown residential area of St. John's: houses placed together to form a larger composition through ornamentation, architectural elements, or roof lines (Fig. 8). Terrace houses created the impression of monumentality. In the downtown residential area, diversity was not constrained by the limits of the individual house, and the builders were obviously concerned with the appearance of the block as a whole. Blank end walls on houses located at corners were not generally desirable on intersections of two main streets, and an attempt was made to visually terminate the ends of blocks of houses by introducing fenestration and ornament.

Most of the houses in downtown St. John's residential neighbourhoods were constructed prior to the introduction of the automobile. Residents can now apply for on-street permit parking, and this arrangement seems to work fairly well near business areas. Parking in small clusters has been made available in many of the small residential courtyards that have access lanes or right of ways. This type of parking works well and does not consume all the open space of the courtyards. During the early days of the infill housing program, the city unfortunately advocated ground floor parking under the houses. This has detracted from the pedestrian-scale character of the streets on which they were constructed, and carried to an extreme would result in a city raised on Le Corbusier's "pilotis" with greatly reduced contact between neighbours, not to mention less-safe streets (Fig. 9). Also, ground floor parking under houses provides no real advantage since it eliminates the possibility of an on-street parking space next to the house. It is the harsh, vacant appearance of the street with ground-level parking that sadly indicates the collective loss of sensibility to the character of the older downtown residential neighbourhoods: propinquity.

## Research Process

Extensive use was made of computer-generated three-dimensional models of houses and neighbourhoods.[8] A graphic analysis detailed enough to provide a historical record of the form of various neighbourhoods was developed, and this information was placed in a format that would permit useful comparisons between older and newer residential neighbourhoods. A major advantage of using computer-generated representations of residential and urban form was the ease of making the material presented in the study accessible to persons who are not able to understand the three-dimensional implications of planning regulations. Se-

8. Architrion software on the Power Macintosh computer platform.

lected residential areas in the older part of the city were analyzed with regard to housing density, lot proportions, setbacks, street space, house types, house size, housing costs, development costs (neighbourhood affordability), solar orientation, block lengths, infrastructure lengths, planning regulations (zoning), landscape features (fences, flora, gardens), and other features such as pedestrian paths and alleys. For several residential areas, an overview of their historical development was presented. Contextual information was gathered to supplement the visual analysis of neighbourhood form from the following sources: provincial archives, maps, photographs, insurance atlases, and interviews with long-term residents of neighbourhoods. From the interviews, information was obtained on the history of the neighbourhood, its residents, its identity, and on such aspects as changes over time, the use of open space, and pedestrian access lanes. Houses were selected for the construction of computer-generated models to demonstrate the range of house sizes and house types found in the older residential areas. These models were used to represent the three-dimensional effects of house height, lot width, setbacks, and architectural elements (bay windows, dormer windows, porches, roofs, foundation height) on the appearance of the street.

Each residential area was analyzed using the same format: an introductory text with photographs and a graphic analysis. The graphic analysis contained information on existing conditions (density, street area, sidewalk area, and heights of houses), streets and plots (block lengths and widths, street widths, street corner radii, setbacks, sidewalk widths, lane widths, plot area, plot ratio, and building area), houses (the range of house size found in particular neighbourhoods and the proportions of these houses, together with sectional data, axonometrics, perspectives of selected houses, and outbuilding placement), street views (perspectives), street sections (proportions, cone-of-vision studies), and solar studies (shadow casting). An affordability index was generated using the Bertaud Model[9] equations developed for use by the World Bank to compare the costs of different residential neighbourhoods. This mathematical model, first published in 1981 for use in large-scale, minimum-cost housing projects, was edited and updated for use on this project with a spreadsheet program. In addition to the neighbourhood analysis described above, a housing typology was presented with its own house construction affordability index.

From the analysis, it became apparent that the major factors influencing housing affordability were plot proportions, block lengths, block widths, and infrastructure lengths. Housing in the older residential areas of St John's is more affordable than housing in the newer suburban areas for this reason (higher densities, lower land and infrastructure costs). Without public subsidies for new suburban development (land banking, off-site infrastructure costs), housing in the

9. Bertaud, A. 1981. "The Bertaud Model: a Model for the Analysis of Alternatives for Low-Income Shelter in the Developing World." World Bank, Urban Development Department, Washington, D.C.

new, low-density suburban residential areas[10] would be prohibitively expensive. These subsidies are often ignored when calculating the true cost of present-day housing in suburbs. Housing in pre-Confederation St. John's (Newfoundland joined Canada in 1949) was developed largely without such subsidies, and this is reflected in housing and neighbourhood form. General principles or alternatives for new housing development were presented in the report, and these were all based on the best urban aspects of the existing, older residential areas (for example, St. John's was once a city composed of small towns, with courtyards, bridging between dwellings, outbuildings, grid-pattern streets, small houses, lanes and pedestrian paths, and mixed-use zoning).

This method can be used as the basis for an approach to the planning and design of housing in St. John's and in other cities: an approach grounded in the attempt to understand the meaning and values portrayed by the vernacular architecture of the older residential areas. The approach starts with ethnography in an attempt to understand how houses and neighbourhoods are perceived by the residents themselves. It continues with the comparison of form, discovering precedents and possibilities, providing the patient observer with solutions to sustainable town planning scale, affordable house construction, and subsidy-reduced development guidelines. The process concludes with comparisons of changes over time. In the St. John's study, these comparisons question the ultimate objectives of seemingly neutral design and planning standards. Out of this process, alternatives were proposed that may help to recapture the spirit of what was once an exceptional city: a harbour city nearly halfway across the North Atlantic, with painted wooden houses clustered together for warmth on a crazy-quilt pattern of streets, a city where the identity and well-being of the residents was strongly linked to the commerce, industry, buildings, and landmarks of its neighbourhoods and "towns."

10. Most suburban houses in St. John's are detached one- and two-storey houses.

*Figure 1.*

*Figure 2.*

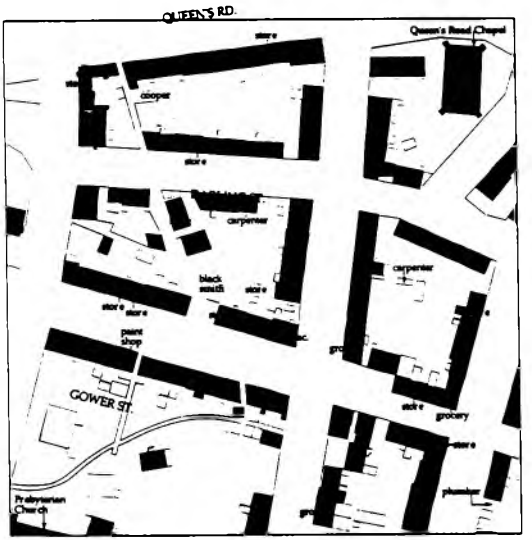


*Figure 3.*


*Figure 4.*


*Figure 5.*

*Figure 6.*

*Figure 7.*

*Figure 8.*

*Figure 9.*