

Housing that sustains: A case study of Bain Co-op and its historic buildings

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Justan Van Effen Complex, Rotterdam, built 1919-1922



Bain Co-op, built 1913-1923



8 House, Copenhagen, built 2008



1913 2017



A case study on a housing co-operative in Toronto

and its historic buildings explores liveability and sustainability in multi-residential housing. It includes an analysis of the history of co-operative housing in Canada, public health and housing, and housing design methodologies that contribute to liveability and sustainability.

Methodology

Data gathered through interviews with experts in the housing sector on the characteristics of liveability, as well as a resident survey on indicators of community sustainability and individual wellbeing within Bain Co-op, referencing particularly Dempsey et al. (2011: 294) who outline five dimensions of community sustainability:

- 1) social interaction/social networks in the community;
- 2) participation in collective groups and networks in the community;
- 3) community stability;
- 4) pride/sense of place; and
- 5) safety and security.

Results

Questionnaire responses from residents of Bain Apartments Co-operative reveal lived reactions to the spaces and places of Bain Co-op. Members discuss how the design of common spaces influence the frequency and nature of their relations with neighbours.

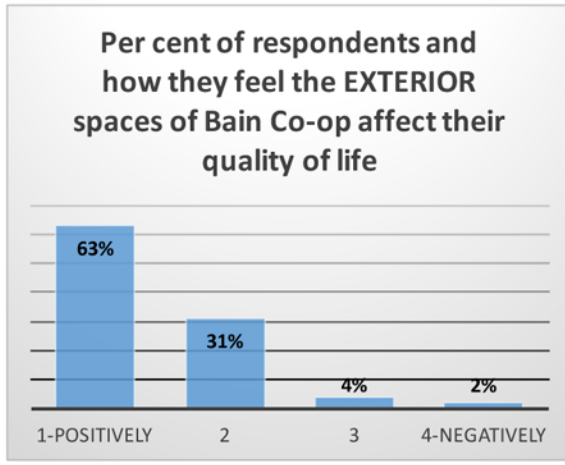
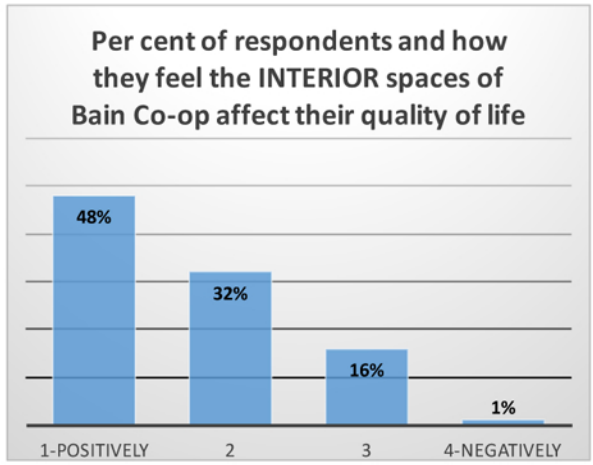
How have you gotten to know people in the co-op?

Courtyard	87%
Social events	77%
Committees	61%
Stoop	57%
Other	42%

**9 GREEN COURTS,
27 HOUSING BLOCKS,
33 ACCESS POINTS
FROM THE STREET**

65% of residents have on occasion found employment through their social connections formed in the co-op

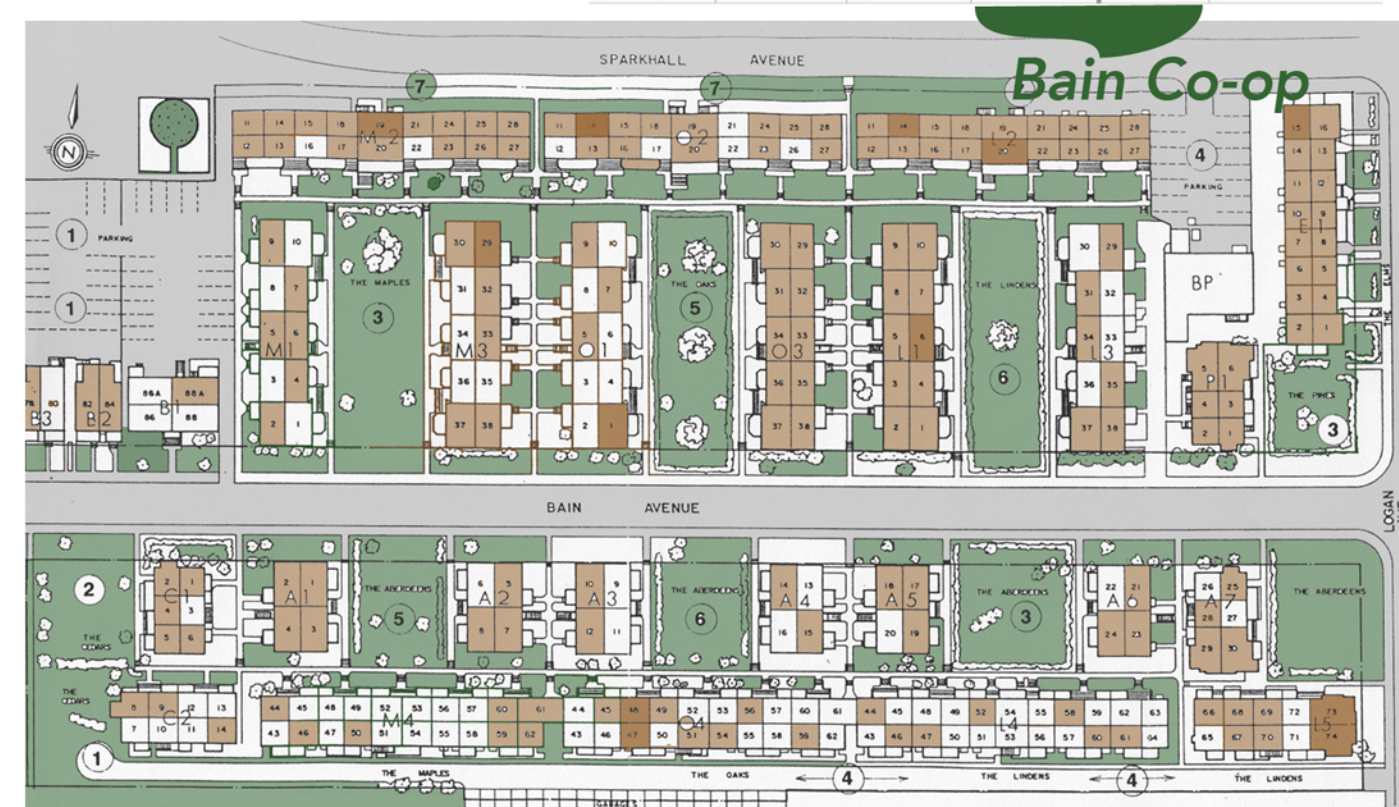
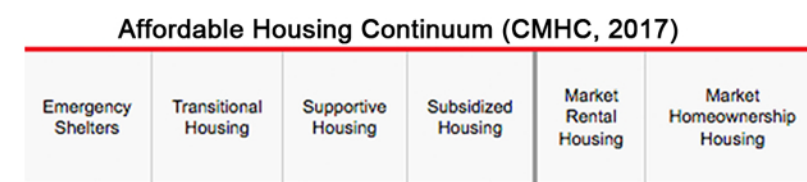
How residents feel about their interior and exterior spaces



Data gathered from residents revealed:

- Living under a co-operative tenure model is important to people, and contributes to resident feelings of security and control;
- Instances of knowing neighbours by name is relatively high;
- Female residents feel safe in the co-op;
- Elders feel social support in the co-op, but could use more mobility supports;
- The design of the co-op's outdoor spaces leads to a good deal of socialisation between neighbours;
- Greenspace in the co-op is readily accessible, and highly valued by residents;
- The indoor spaces of the co-op are appreciated for their connection to the outdoors (porches, green views), but are also sometimes found to be small and awkward;
- Resident perception of the need for their participation in the co-op's maintenance and governance is higher than actual rates of volunteering;
- Residents speak of the co-op as a village within the city.

**256 HOUSING UNITS
5 ACRES, 50% BUILT,
50% GREEN**



Time spent in a green space on co-op grounds during the summer

Hours per week	% of respondents
0 - 7	54
8 - 13	22
14 - 19	9
20 - 28	9
29 - 31	4
It varies according to projects I'm involved in.	2

Researchers suggest that an increase in average global temperatures will see a rise in feelings of aggression (Demezure et al., 2014). Whereas exposure to nature has been documented as promoting pleasant moods and restoring self-control resources (Zelenski, 2014). Access to nature has also been shown to correlate with lower incidents of disease, and to reduce the risk of mortality associated with income inequalities (Demezure et al., 2014; Zelenski, 2014).

**OVER 226 TREES
30% ARE NORWAY OR
MANITOBA MAPLES**

Liveability

Berkes and Jolly (2001) find that climate change adaptation strategies are greatly supported by cultural values that encourage generosity, reciprocity, and communitarianism. The IPCC (2014) concurs that the success of adaptation strategies is contingent upon societal values, particularly those that favour holistic environmental and social practices, and that systems of Indigenous, local and traditional knowledge offer a wealth of adaptation resources that remain, thus far, largely underutilized.

A hierarchy of liveability factors based on expert interviews

Tier 1	warm, dry, indoor plumbing, door that locks, privacy, financially and physically accessible, degree of acoustic control
Tier 2	enough living space, private/dedicated outdoor space, control over the heat
Tier 3	view of a green space or distant vista, recreation spaces, amenities

PRIDE, TRUST

Many resident-respondents felt that they live in a beautiful garden village that is unique within the city. When asked if and why they take pride in living in Bain Co-op, 32 per cent of residents used the word "beautiful" in their response. One respondent commented that "pride is evident in the care we take of our buildings and our gardens and the way we take care of each other."

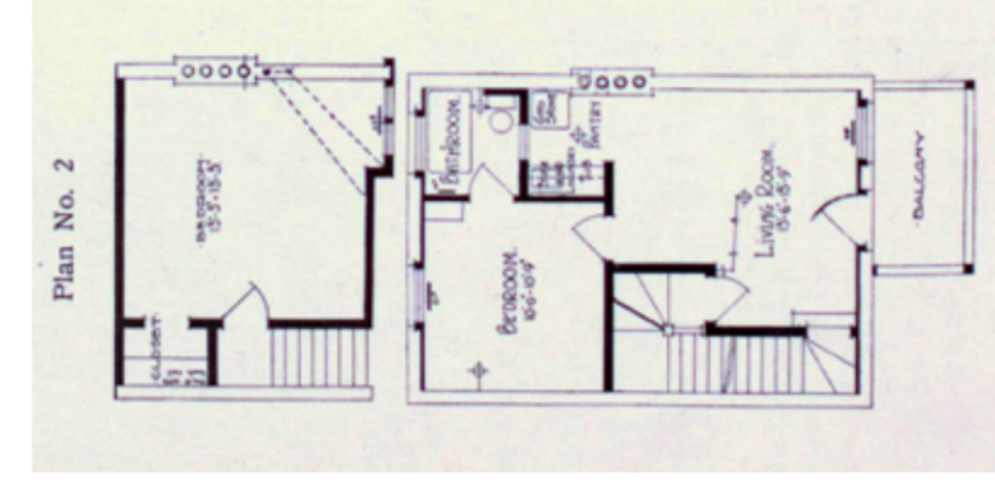
Bain Co-op residents know a lot of their neighbours, 50 per cent know between 11 and 40 neighbours by name. Residents in the South London, sustainable community of BedZED know on average 20 of their neighbours, while they cite the local average as being eight.

Residents that feel safe in the co-op

Feel safe	% of respondents
1 - yes a lot	69
2	24
3	7
4	0
5 - no not at all	0

Residents that feel they can trust their neighbours

Can trust neighbours	% of respondents
1 - yes a lot	20
2	54
3	22
4	2
5 - no not at all	2



Passive cooling techniques at work in Bain Co-op's buildings

Solar and Heat Protection	Microclimate: landscaping, vegetation, courtyards, trees, gardens Solar control: interior shading by front porches, roof overhangs sufficient to provide shading for upper windows
Thermal Moderation	Thermal mass: brick, concrete, soil volumes Night ventilation: windows, porches, breezeways, courtyards
Heat Dissipation	Natural ventilation: courtyards, breezeways, front doors, porches, windows Buoyancy driven stack ventilation: stacked stairwells with doors and windows open Ground cooling: stone/concrete basements in ground level apartments

PASSIVE VENTILATION

SOCIAL HOUSING

Stone (2008: 67) offers a broad yet fundamental definition of social housing, based on three criteria: "it is not owned or operated for profit, it cannot be sold for speculative gain, and it provides security of tenure for residents."



Dagmar Baur
March 17, 1941 - April 25, 2010
Community Builder
Plants, Good Food and Community Gardens
of Emerging Leaders and Social Justice

South Oaks want to thank you for all you have done to make our corner of Mother Earth into a place of Thank you.
The courtyard was a rubble-strewn wasteland. Our hands transformed it, and you welcomed us in. As long as we shall live in the South Oaks, that will be Dagmar's garden.
In the corner of our eye, we might spy you in the stool.
In cherry blossom time.

