


*innovation
in sustainability*

High-rise Housing:
What Works and What Doesn't Work?
And is High-rise Housing Always "Sustainable"?

Dr Wendy Sarkissian FPIA




**LIVING IN FALSE CREEK NORTH:
FROM THE RESIDENTS' PERSPECTIVE
POST-OCCUPANCY EVALUATION**



Dr Wendy Sarkissian
Research Director
Nancy Hofer
Research Manager
2007-2008

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Thanks to Nancy Hofer

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**FALSE CREEK NORTH,
VANCOUVER**



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Major Question


What works and what doesn't work from the residents' perspectives?

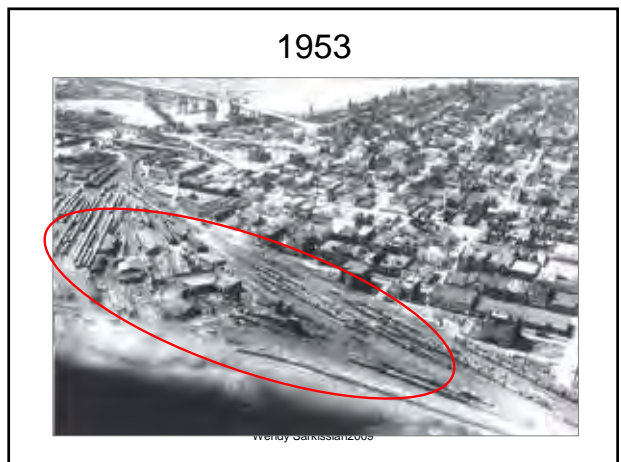
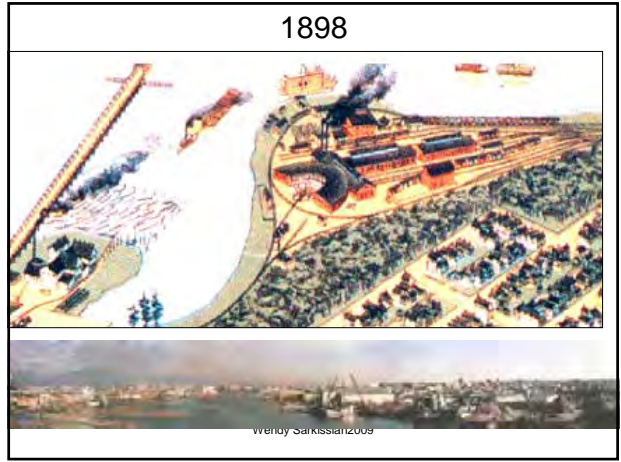


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**False Creek North
What is it?**

- Just a housing site in the central City of Vancouver?
- An icon?
- A national treasure?
- More than just CBD housing?
- Sustainable?





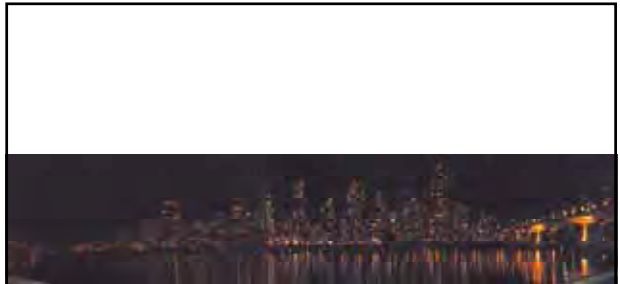




FALSE CREEK NORTH, VANCOUVER



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Organizing Principles, 1990

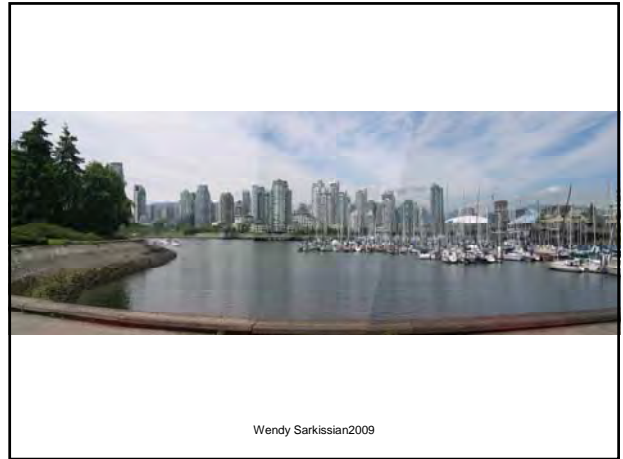
1. Integrate with the city
2. Build on the setting
3. Maintain the sense of substantial water basin
4. Use streets as an organizing device
5. Create lively places having strong imageability
6. Create neighbourhoods
7. Plan for all age groups with a particular emphasis on children



The Vancouver Model



Residential entrances

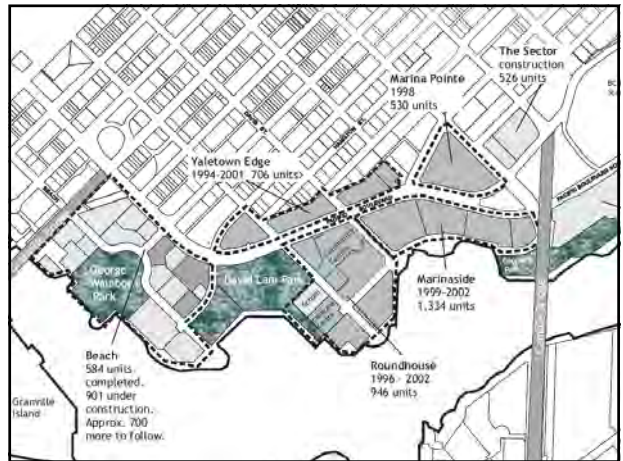


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Rapid Transit



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FALSE CREEK NORTH: THE CASE STUDY

Site area	67ha
Population	10,570 in 2006
Density	390 units per hectare in 2006
Built form	No building, except one, shall exceed 91 metres Exception shall not exceed 110 metres
Affordable housing	361 of 1380 projected units built
Dwelling mix	Tenure mix (ownership, rental, social housing & co-operative housing) & specific proportion of housing allocated to households with children
Open Space	1.0 hectares per 1,000 residents or 25% of total site



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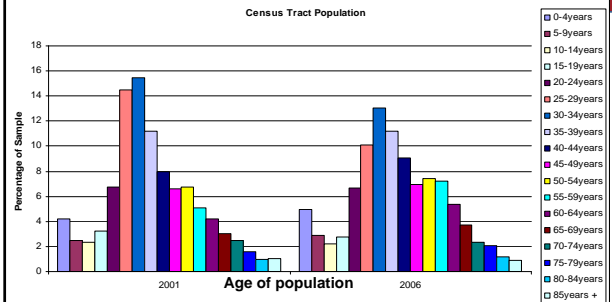
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COMMUNITY PROFILE



50% speak English as primary language followed by either Mandarin or Cantonese
Significantly higher income in FCN than rest of region

SOCIAL and TENURE MIX



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RESEARCH PROCESS

3-part research program 2007-2008:

Term 1: Learning about POEs & site; research questions, methods

Term 2: Experiencing the public realm

Terms 3&4: Implementation & analysis



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RESEARCH TOPIC AREAS

1. Sense of community
2. Shops, services & amenities
3. Parks & public open spaces
4. Mobility & transportation
5. Community safety
6. Residential building
7. Dwelling unit
8. Perceived sustainability
9. Factors influencing decision to live in FCN



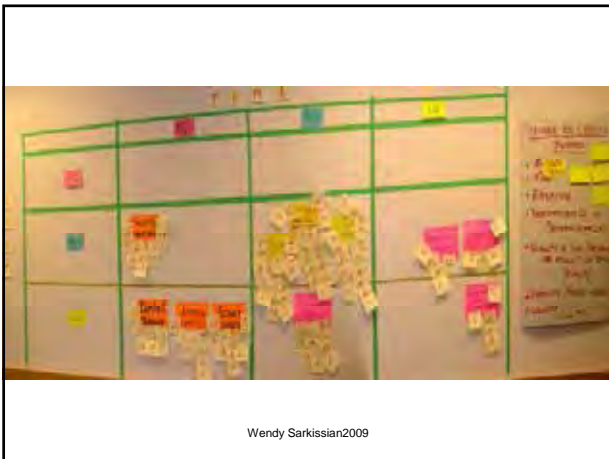
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THE 5 METHODS

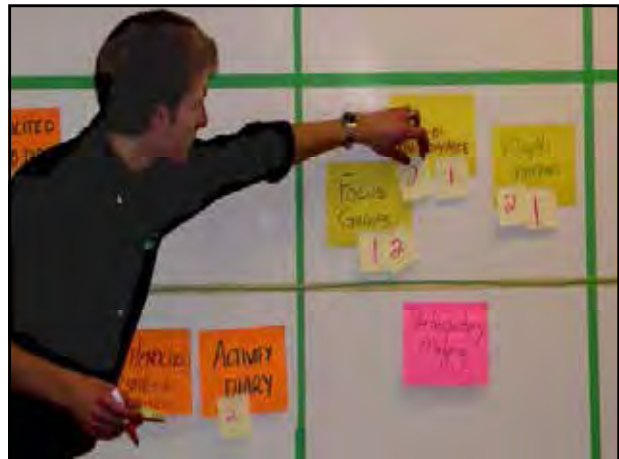
1. Mail-out survey questionnaire
2. Community event: *Have YOUR Say!* day
3. World Café group discussion
4. *Week with a Camera* Photo-collage exercise with elementary students
5. In-depth interviews



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RESIDENT SURVEY

- mail-back questionnaire
- random selection
- 4000 sample (households): of 10,570 population
- 497 respondents
- 12.4% response rate
- 95% confidence level
- margin of error: +/- 4%



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	FCN POE Survey 2007	False Creek North
Male/Female split	44/56%	51/49%
Age		
Average	47	38
18 or younger	14%	13%
75 or older	4%	4%
Owner/Renters split	75/25	50/50
Average # of persons per household	1.9	1.9
Average # of bedrooms	1.8	1.6
English spoken at home	84%	60%
Income		
More than \$80,000	64%	37%
Less than \$20,000	5%	18%
Moved in the past 5 years	70%	80%

Demographic Profile Comparison

SENSE OF COMMUNITY

Sense of community depends on:

- personality
- definition of term

More evident in older buildings & co-operatives

- & certain clusters:
 - dog owners
 - strata councils
 - and/or parents with young children

Some residents seek:

- more programmed activities
- more public areas for unforced social encounters



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SHOPS, SERVICES & AMENITIES

Meet needs of some respondents, but not majority

Primary outstanding need: greater diversity of affordable shops & services

Roundhouse Community Centre: well-loved community hub


BUT:

Inadequate activities for seniors & youth

School/daycare:

- perceived as a challenge by more than 50% of respondents with children
- Number of negative comments

Noise from mix of use: concern to some




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LOCAL RETAIL




PARKS AND PUBLIC OPEN SPACES

Most residents overwhelmingly satisfied with local parks

Regular use by residents

Less satisfied: families & lower income groups

Needs:

- Play equipment:
 - more varied
 - adventurous
- places for teenagers

Dogs in public parks: polarizing & emotional topic






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Dogs in public parks: polarizing & emotional topic

What could be changed to better serve your recreational / leisure needs?		
	number of responses	percent of total responses
no changes	170	28.1%
more amenities for relaxation	162	24.9%
other	103	15.8%
more recreational activities for adults	94	14.4%
more park or open space	78	12.0%
more recreational activities for children	44	6.8%
Total	651	100%

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COMMENTS ON PARKS

- They've done a spectacular job.
- One of the best things about False Creek North is that you can round a corner and see a vista and you feel alone.
- The art reflects an industrial use of the residential area and is too hard-edged for a pastoral park. Steel is cold, no matter what colour you paint it.
- A small number of dogs can usurp a park.
- One friend in Coquitlam has a backyard so he can play anytime he wants. Not here. (youth respondent)

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Dogs and Parks

There are more dogs than kids in this place.

We need more areas for our dogs and less playgrounds. Currently there are 4 playgrounds between Cambie and Granville along the Seawall and the only "authorized" dog park is a gross dirty strip of beach under the Burrard Street bridge.

The other dog park at Coopers is much too small, and does not drain well. Most of the demographic in this neighbourhood is double income, no kids, but have a dog. The City should make changes reflective of this.

Female, age 37

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Parks and plazas



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Park Recommendations

- Keep "open" landscaping (views, safety)
- More space for dogs
- Rubbish and recycling bins
- Smaller parks: connections between large green spaces
- Break up density with smaller parks
- Amenities:
 - "Like a backyard"
 - Weather protection
 - Public barbecues
 - Chairs
 - Benches
 - Gardening
 - Seating that supports conversation (sociopetal)
 - Age-specific play
 - Age-specific recreation
 - Youth activities and facilities

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Shared Open Space

What does "semi-private garden" mean?

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Shared Open Space

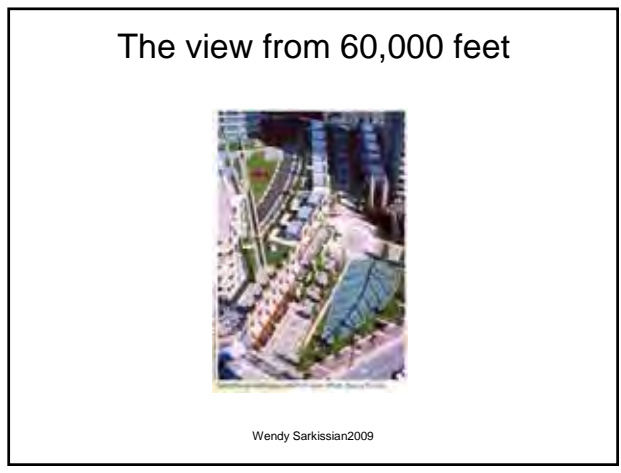
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Shared Open Space
and children's play



Views



The view from 60,000 feet



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Seating



Seating

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Seating



Adirondack Chairs



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Comments by Prof. Galen Cranz

- Not true Adirondacks but someone's interpretation
- Will be uncomfortable for many reasons:
 1. **Postural:** relation between thigh and spine, spine and head, feet and thigh and back
 2. **Material:** metal is cold to sit on in cold weather and hot in summer



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MOBILITY AND TRANSPORTATION

- Adults & children praise walkability
- Nearly 2/3 of respondents walk more than 10 minutes to meet daily needs



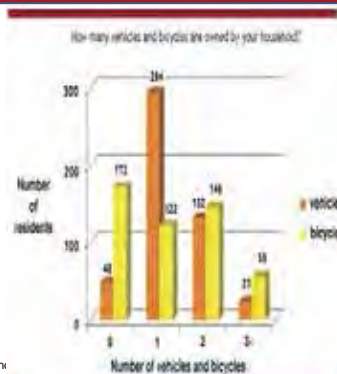
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BUT

- Residents have not given up car ownership
- Automobile still most common regular mode of travel to work

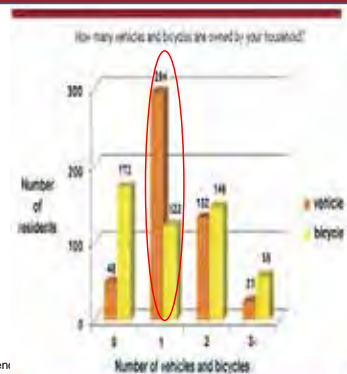


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Owing a Car

I have lived here almost 10 years now and have watched the area change. On the good side is more Seawall, shops and restaurants, on the bad side is more noise, and, incredibly, city mandated bottle necks at intersections causing congestion, delays, air pollution and stressed drivers, which is good for no one.

*No matter what utopian city planners/bureaucrats believe, people still want to own a car. I walk wherever I can for shopping and recreation but **I NEED my car** for work.*

When the subway comes, I will use it where I can.

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Male, age 53



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COMMUNITY SAFETY

- Community safety not seen as a major problem
- Some locations seen as somewhat unsafe

Perceived threats:

- homeless people
- drug users
- poor park lighting
- lighting along Seawall
- dogs & traffic along Pacific Boulevard
- Lower income residents feel less safe in their buildings

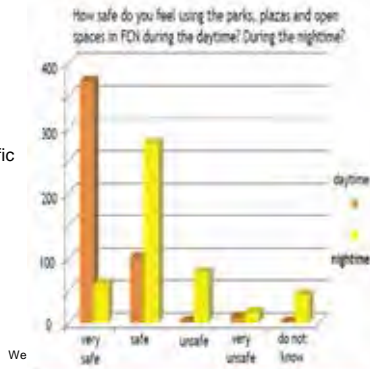


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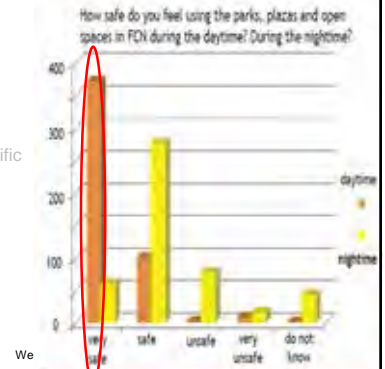


We

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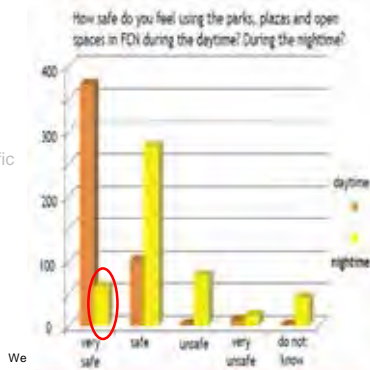


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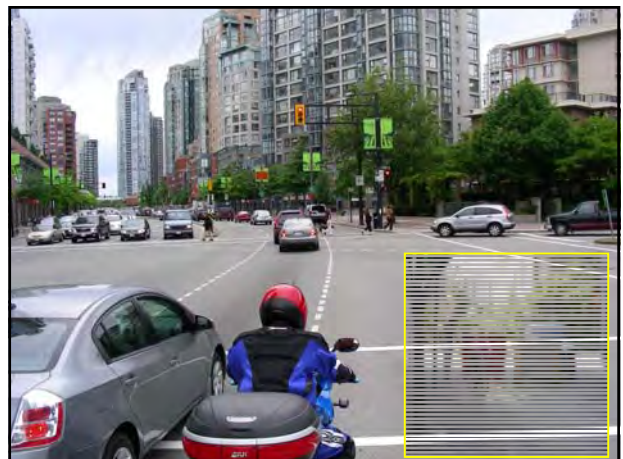
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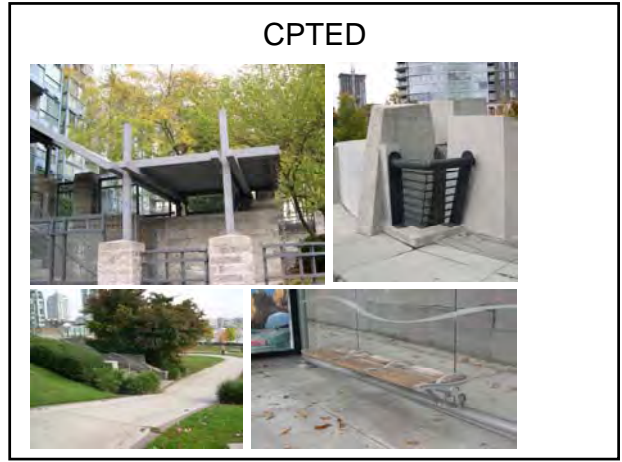
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We





Community Safety

homeless people and drug addicts hassling people and trading their stolen wares.

... aggressive panhandlers and people sleeping etc that I don't feel all that comfortable at night.

No police presence, too many "crazy" people from Downtown Eastside.

Many street people have started to hang around Yaletown. ... many of them are on crystal meth - they are unpredictable.

Drug-dealing in David Lam Park - other undesirable persons who congregate in low visibility locations.

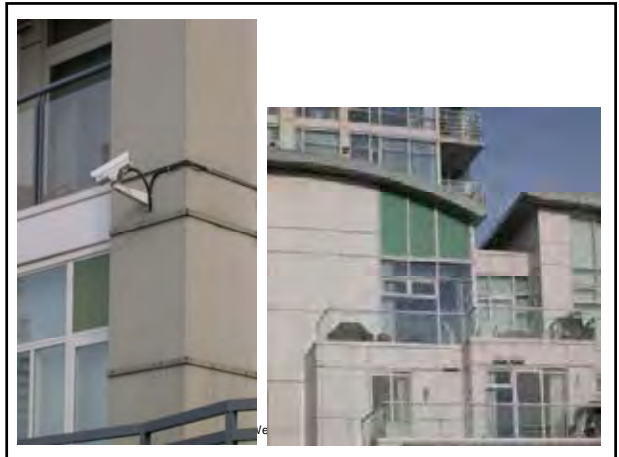
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The fountain that invites vandalism...



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RESIDENTIAL BUILDINGS

Overall satisfaction with buildings

Need attention:

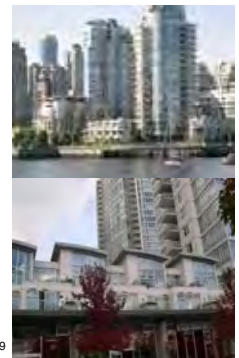
- visitor parking
- lift numbers
- insufficient & uncreative storage in building spaces
- underused indoor & outdoor amenities

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RESIDENTIAL BUILDINGS

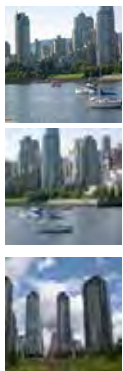
Families: lower overall satisfaction than residents without children

Residents need: semi-private spaces (interior & exterior) for informal recreation



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RESIDENTIAL BUILDINGS



Condo living is not for everyone and it is quite a change from living in a house. The City of Vancouver could do more to make it easier for residents to recycle and cut down on garbage, i.e. fewer plastic bags, and recycling of all plastics, metals, and wood.

Male, age 69

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RESIDENTIAL BUILDINGS



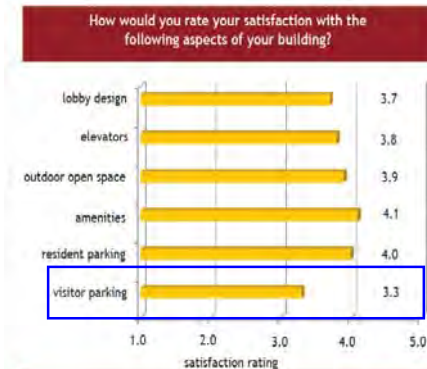
RESIDENTIAL BUILDINGS



RESIDENTIAL BUILDINGS



RESIDENTIAL BUILDINGS



Buildings

- Visitor parking
- Common spaces
- Amenity spaces
- Lifts
- Personal storage
- Bicycle storage
- Children's play
- Lobbies
- Intercoms in amenity rooms
- Conflicts in parking areas: rubbish, cars, visitors
- Co-op cars
- Install outdoor furniture & facilities: benches & barbecues in shared outdoor areas
- Indoor and outdoor building amenity space:
 - needs of families
 - unforced informal break areas
 - spontaneous use

Visitor Parking

- *It is a major pain to use visitor parking. You have to go outside, meet your guests and escort them to their spot through the garage. Three buildings share this parking area.*
- *[There] doesn't ever appear to be enough visitor parking, especially during a Lions or Canucks game. Are people using our parking (friends of people in the building) during events?*
- *I don't know how the City allowed the developer to allocate less than 20 visitor parking spaces for two towers of residence.*
- *Not enough visitor parking.*
- *There's not enough space. There are about 10 visitors parking and 3 of them are reserved for handicapped—I've never seen anyone park there.*
- *Would like to have a different system for guest parking. [It's] too hard now to go and get a pass each time for guest. I think residents should be able to call security and book out a space or tell them which guest space number is being used.*

Lifts

- *2 elevators for 25 floors is insufficient.*
- *Elevator programming is very inefficient and frustrating.*
- *How can a 30+ floor [building] only have 2 elevators- unacceptable.*
- *Our building somehow falls within the 1 elevator bylaw—seriously ridiculous when people move in or renovate the condos every week. Should be required to have 2 elevators.*
- *2 elevators in a building of this size is not practical or safe.*

DWELLING UNITS 1

Generally satisfied with dwelling unit

Improvements needed:

- bulk storage
- specific storage
- balcony/outdoor space
- Kitchens
- insufficient and/or inflexible space



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DWELLING UNITS 2

Generally satisfied with dwelling unit

Improvements needed:

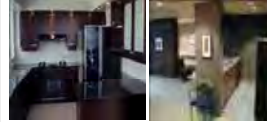
- bulk storage
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- balcony/outdoor space
- kitchens

Families with children:

- equally satisfied with unit layout
- dissatisfied with unit size & certain rooms

Owner occupier satisfaction increases with:

unit suitable for renovations



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DWELLING UNITS 3

Generally satisfied with dwelling unit



Families with children:

- equally satisfied with unit layout
- dissatisfied with unit size & certain rooms

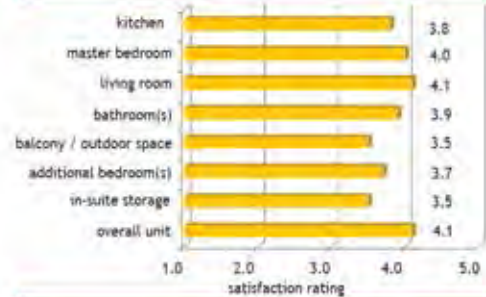
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DWELLING UNITS 4

How would you rate your satisfaction with the following aspects of your dwelling unit?



DWELLING UNITS 5

How would you rate your satisfaction with the following aspects of your dwelling unit?



DWELLING UNITS 6

How would you rate your satisfaction with the following aspects of your dwelling unit?



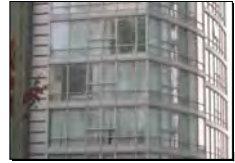
DWELLING UNITS

Storage!!!

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DWELLING UNITS 7

- Open plan vs. separate kitchen: matter of personal taste
- Open balconies appreciated
- Enclosed balconies: mixed views
- Bulk & specific storage lacking
- Noise from **within** unit or building generally not a problem
- Noise from **outside** a problem
- Few residents report visual privacy problems
- Heat from sun unbearable in some units



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Unit Design Issues

- *More openable windows for air circulation.*
- *Greater cupboard space in kitchen.*
- *Better quality products and fixtures instead of cheap fixtures that break easily.*
- *More closet space would be nice.*
- *Straight (right angle) walls would make my suite feel 30 percent bigger.*
- *Add linen closets!*
- *9 foot ceilings make the suite feel so much bigger.*

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Units

- Wide entrances: sense of entry and accessibility
- In-suite storage
- Outdoor balconies
- Thermal comfort
- Openable windows
- Avoid L-shaped units with wasted hallway space
- Range of sizes
- Conventional room dimensions
- Avoid angled or odd-shaped walls
- Pocket doors
- Linen closet
- Overhead lighting fixtures
- Power outlets reflect furnishability
- Same level of insulation in all buildings
- Window insulation for noisy locations

Kitchens

- Kitchen storage
- Remodelling
 - Closed plan: walls not load-bearing
 - Open plan: allow for future walls
- Pantry

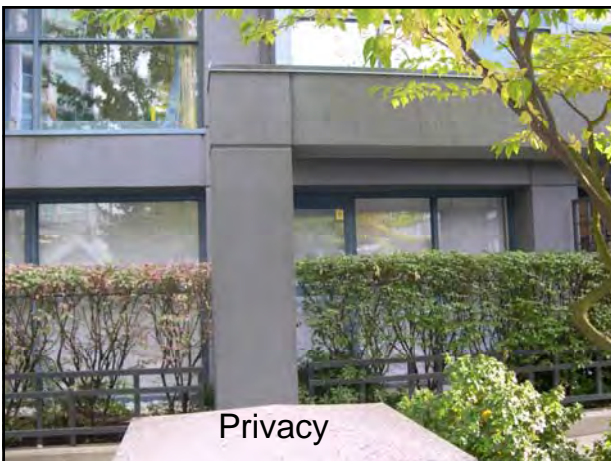
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Bedrooms

- No floor-to-ceiling windows
- Optional standard-sized panels
- Walk-in closets (man can turn around)
- Reflective or semi-reflective glass
- Visual and acoustic privacy
- Not located adjacent to each other
- Locate away from busy streets

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Windows and Privacy



Balconies



Balconies

- Enclosed balconies
- Drainage to open balconies
- Lucite or clear glass
- Ease of cleaning

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Private Open Space



Private Open Space



Private Open Space



Private Open Space



SUITABILITY FOR FAMILIES

1. Children happy living in neighbourhood
2. Parents: more time to spend with family
3. Major challenge for parents: child care & schools
4. Affordable & family-oriented shops lacking
5. Inadequate in-unit space in the unit: a challenge
6. Inadequate activities for older children & teens

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CHILDREN'S PLAY: SHARED USE OF PARKS



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Joint Use of Parks with School

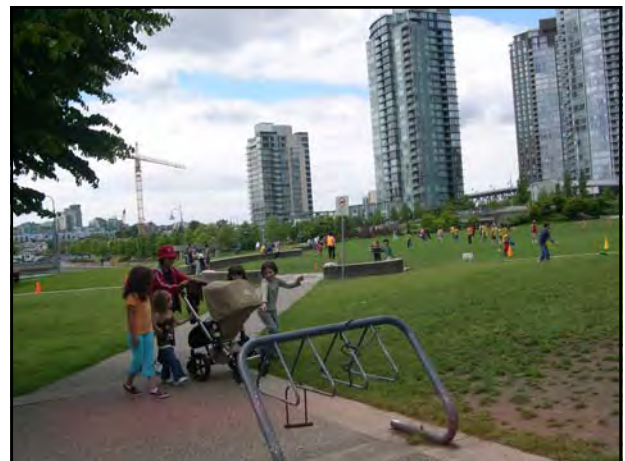
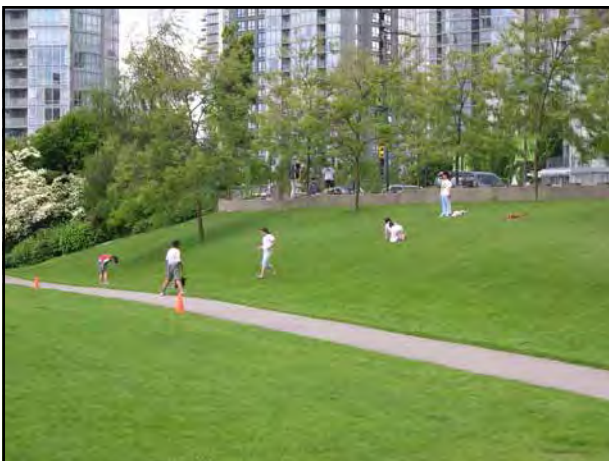
The children from this school [Elsie Roy] should not be allowed to destroy a valuable asset of Vancouver. The school has a play area, gym and two areas outside with swings etc. to play. Get these children... off of the field area!

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Joint Use of Parks with School

Letting the kids from school and daycare use this park for play area is wrong! They have designated areas at school and daycare to play. I have watched these kids dig holes in the field... Keep the kids off the field!

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ALL AGES CAN PLAY



Wendy Sarkissian2009

A Brilliant Decision

Looking back in hindsight, the decision to sell to one developer was brilliant. Concord's macro vision has protected and beautified much of the waterfront and has made it a spectacular downtown community.

Female, age 40

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Unaffordable Vancouver

This was a great neighbourhood - young and professional - but it's changing now. Prices are unaffordable for the professional working - also spaces too small for family.

Female, age 33

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5 PRIMARY RECOMMENDATIONS

- 1. SOCIAL INFRASTRUCTURE:** Articulate more strongly policy guidelines framing implementation of social infrastructure
- 2. CHILD CARE:** Guide allocation of space for daycare facilities with a realistic sense of demand & projected growth
- 3. PUBLIC SPACES:** Design more diverse public spaces catering to specific recreation & play needs of older children
- 4. AFFORDABLE HOUSING:** Aggressively foster affordable housing schemes targeting middle incomes to ensure diverse socio-economic mix
- 5. EARLY & AFFORDABLE RETAIL:** Target incorporation of more appropriate & affordable retail outlets from the development's early stages

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MY CONCLUSIONS

- LOCATION, LOCATION, LOCATION
- WONDERFUL VIEWS
- HALO EFFECT
- REPUTATION, STYLE, STATUS, MAXIMISING INVESTMENT & FEELING PROUD
- WALKING OR CYCLING TO WORK, RAPID TRANSIT
- UNSOPHISTICATED PUBLIC REALM RESPONSES
- MANY SMALL & ANNOYING PROBLEMS
- UNIT DESIGN NOT RESOLVED: STORAGE!
- TOO EXPENSIVE TO SHOP FOR GROCERIES
- SLOW ON AFORDABLE HOUSING
- WHY ARE SCHOOLS & CHILDCARE PLACES FULL?
- NOT REALLY **"SUSTAINABLE"**

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PERCEIVED SUSTAINABILITY

Environmental sustainability: considered *important* or *very important* by 50% of respondents

- Most support increased energy efficiency of appliances & building systems
- Tension in recycling room
- Diversity & affordability of local retail adds to social sustainability
- FCN's "carrying capacity"



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PERCEIVED SUSTAINABILITY



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1. Questions about sustainability of neighbourhood not specifically asked
2. Sustainability policies did not explicitly guide planning and design
3. Therefore could not be evaluated

PERCEIVED SUSTAINABILITY



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Some issues:

- Many children:
 - awareness of natural environment
 - concerns about water pollution & litter in neighbourhood
- Don't want to use energy-intensive air conditioning
- Some energy-efficient heating systems & water-saving toilets inefficient
- Most residents recycle but tension re: how to separate materials
- Mix of shopping that better reflects range of incomes & needs would increase social & economic sustainability
- Concern site may be approaching its limits

REAL SUSTAINABILITY



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REAL SUSTAINABILITY




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REAL SUSTAINABILITY

Sustainability Indicator Criteria	Does FCN meet the criteria?
<i>Ecological impact</i>	
<i>Critical neighbourhood functions</i>	
<i>Resilient infrastructure</i>	
<i>Systems response</i>	



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23 Sustainability Indicator Criteria


<i>Indicators of ecological impact</i>	
1. Targets pertaining to resource use (water, energy, material throughput and food) are tied to ecological carrying capacity	
2. Energy and material use is optimized through efficient use	
3. Infrastructure can be easily maintained, i.e., are there essential components that require unique skills for maintenance?	
3. The infrastructure is durable, yet reversible, adaptable, reusable and ultimately recyclable	
5. The architecture and urban design reflect the unique climatic and material conditions (i.e., resource availability) of the area. Buildings are designed using passive design techniques to reduce energy requirements for lighting and ventilation, heating and cooling	
6. Land use is optimized by constraining development to strategically located brownfield areas.	
7. Green spaces are designed to permeate the city and connect with a regional greenspace, thus allowing ecological processes and species migration through the settlement and natural areas beyond.	
8. The site is ecologically restored as is appropriate for the site	
9. The 'transportation hierarchy' been reversed to prioritize non-motorized forms of transportation as well as public transit.	
10. Automobile use is actively discouraged.	
<i>Indicators of critical neighbourhood functions</i>	
11. The development strives for levels of autonomy in critical life-supporting functions such as food provision, water, energy and waste management. If not, these functions and resources planned for at another scale, preferably local, to meet the needs of the developer's inhabitants.	
12. Only renewable forms of energy are used	
13. Integrated design solutions are used to accomplish a number of functions at once	
14. Storage (i.e., backup) of critically important resources is integrated into the development ¹²	
15. Residents have the opportunity and are they encouraged to get involved in stewardship activities in their communities to promote social resilience.	
<i>Indicators of resilient infrastructure</i>	
16. The community is not located in an area particularly prone to natural disasters, including sea-levels rising	
17. The infrastructure is designed to withstand anticipated physical shocks, such as earthquakes	
18. Buildings designed to be flexible, convertible and expandable	
19. Buildings designed to be resilient to environmental health and safety hazards	

False Creek North Matched Against 23 Sustainability Indicator Criteria

<i>Indicators of ecological impact</i>	
1. Targets pertaining to resource use (water, energy, material throughput and food) are tied to ecological carrying capacity	
2. Energy and material use is optimized through efficient use	
3. Infrastructure can be easily maintained, i.e., are there essential components that require unique skills for maintenance?	
3. The infrastructure is durable, yet reversible, adaptable, reusable and ultimately recyclable	
5. The architecture and urban design reflect the unique climatic and material conditions (i.e., resource availability) of the area. Buildings are designed using passive design techniques to reduce energy requirements for lighting and ventilation, heating and cooling	
6. Land use is optimized by constraining development to strategically located brownfield areas.	
7. Green spaces are designed to permeate the city and connect with a regional greenspace, thus allowing ecological processes and species migration through the settlement and natural areas beyond.	
8. The site is ecologically restored as is appropriate for the site	
9. The 'transportation hierarchy' been reversed to prioritize non-motorized forms of transportation as well as public transit. TO SOME DEGREE	
10. Automobile use is actively discouraged.	
<i>Indicators of critical neighbourhood functions</i>	
11. The development strives for levels of autonomy in critical life-supporting functions such as food provision, water, energy and waste management. If not, these functions and resources planned for at another scale, preferably local, to meet the needs of the developer's inhabitants.	
12. Only renewable forms of energy are used	
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14. Storage (i.e., backup) of critically important resources is integrated into the development ¹²	
15. Residents have the opportunity and are they encouraged to get involved in stewardship activities in their communities to promote social resilience.	
<i>Indicators of resilient infrastructure</i>	
16. The community is not located in an area particularly prone to natural disasters, including sea-levels rising	
17. The infrastructure is designed to withstand anticipated physical shocks, such as earthquakes PROBABLY	
18. Buildings designed to be flexible, convertible and expandable	
19. Buildings designed to be resilient to environmental health and safety hazards	

REAL SUSTAINABILITY

Sustainability Indicator Criteria	Does FCN meet the criteria? (23)
<i>Ecological impact</i>	2
<i>Critical neighbourhood functions</i>	0
<i>Resilient infrastructure</i>	2
<i>Systems response</i>	1



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FURTHER RESEARCH

Plenty of questions & potential for future research:

- Sustainability analysis
- Trade-off analyses
- Comparing to outer suburbs & other developments
- Locating residents who have moved
- How to act on what we've learned?





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LIVING IN FALSE CREEK NORTH: FROM THE RESIDENTS' PERSPECTIVE, 2008

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False Creek North POE

www.pricetags.ca/pricetags/pricetags104.pdf

<http://kitchentablesustainability.com/resources/housing-density-and-sustainability-what-works-and-what-doesnt-work/>

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