URBANARIUM FOR SMART CITIES



FIRST PRIZE AND PLANNERS PRIZE

TITLE: micro**op**

TEAM: Haeccity Studio Architecture Inc.

PRESENTERS: Travis Hanks & Shirley Shen, Haeccity

CITY OF VANCOUVER COUNCIL PRESENTATION NOVEMBER 14 2018



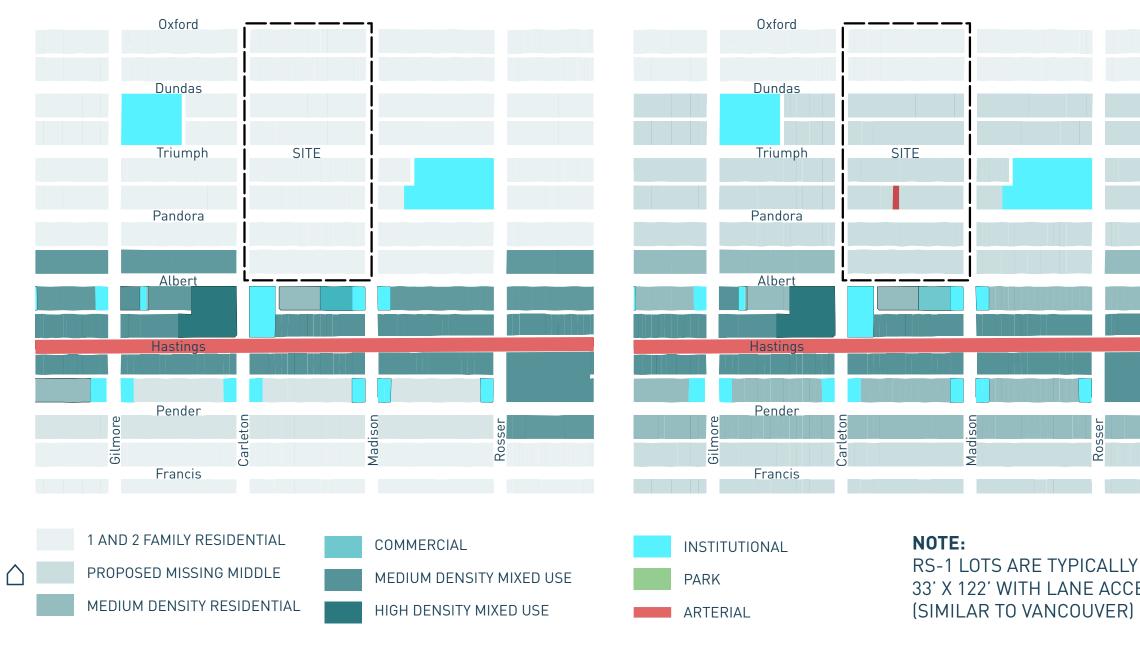
CTOOD URBANARIUM MISSING MIDDLE COMPETITION



PROPOSED LAND USE - BURNABY

EXISTING

PROPOSED



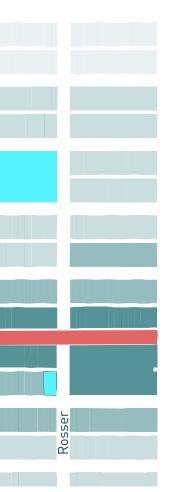


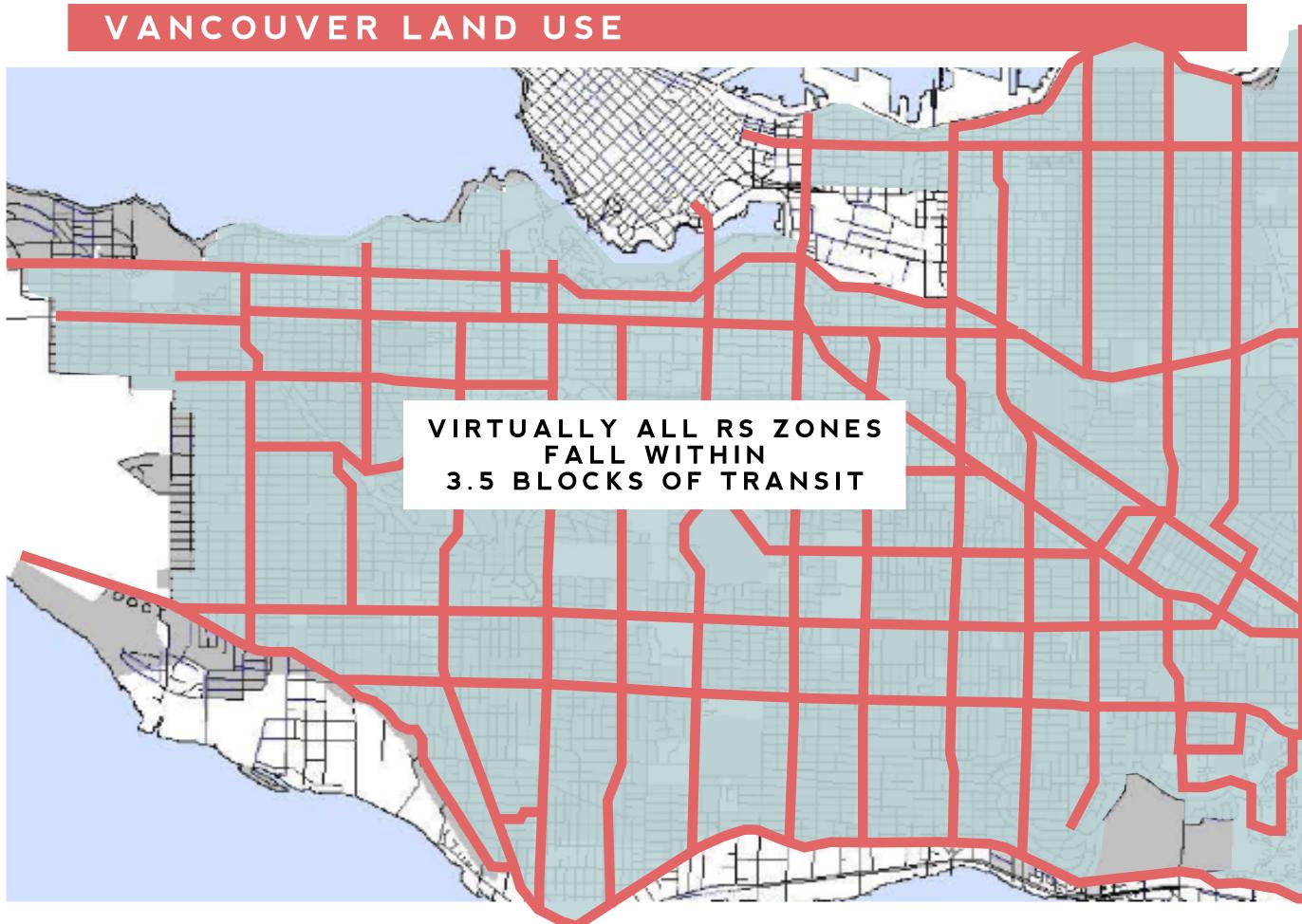
COUNTER SPECULATIVE DEVELOPMENT

INCENTIVIZE AFFORDABLE HOUSING

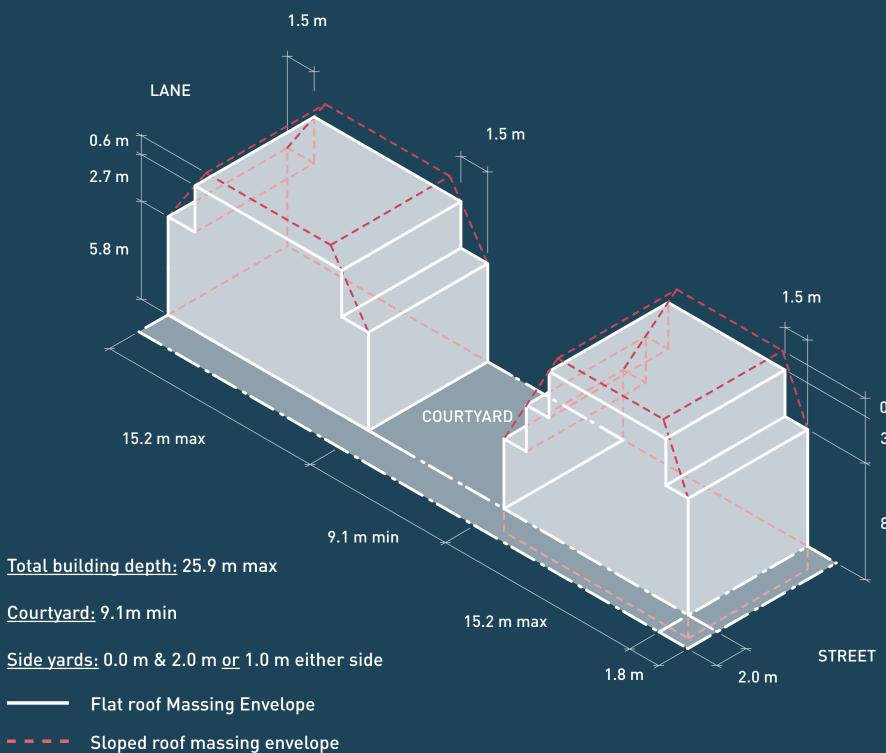
Ν

33' X 122' WITH LANE ACCESS



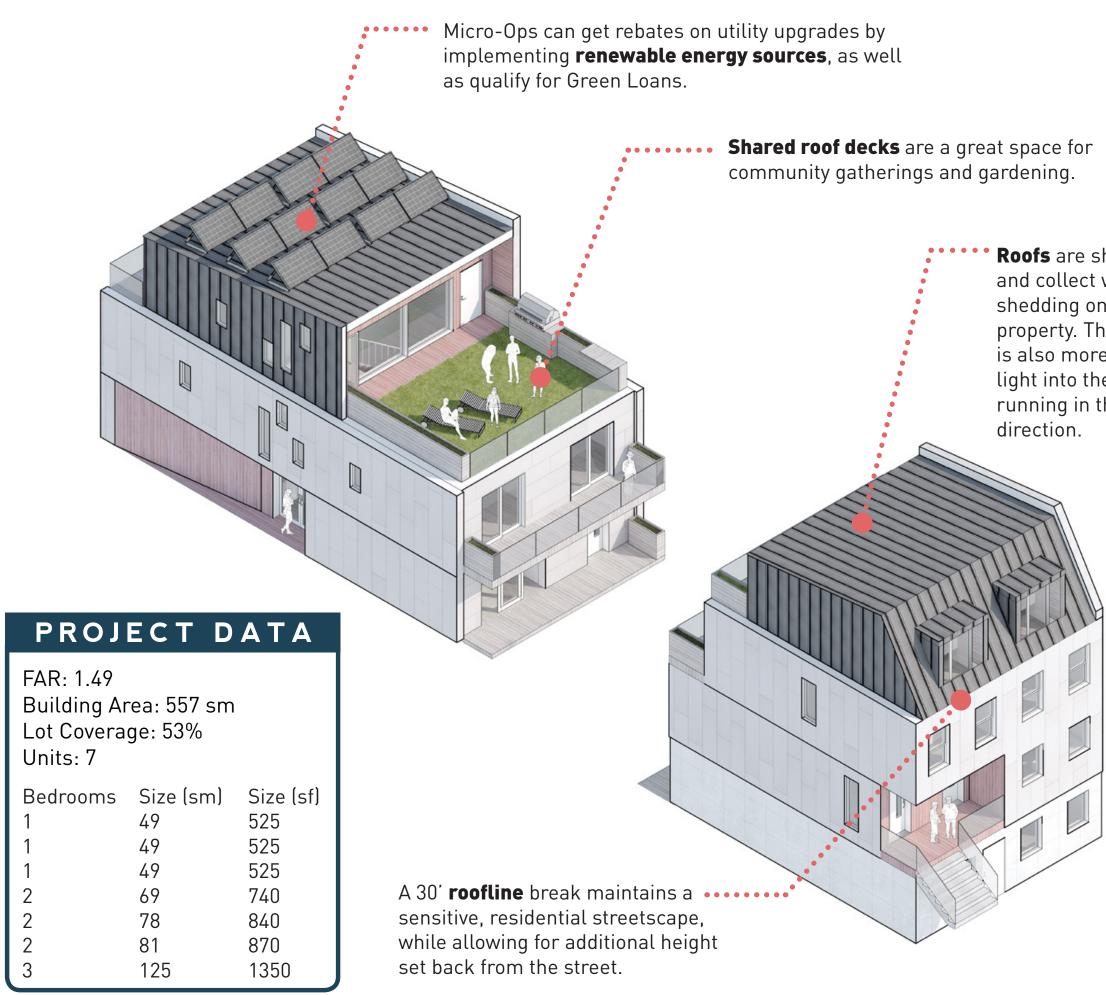


"Renewal" zones will continue to allow 1 and 2 family buildings, but will prioritize development that transitions toward village communities of taller, more compact forms. Live/work uses off lanes and commercial activity at block ends are encouraged.

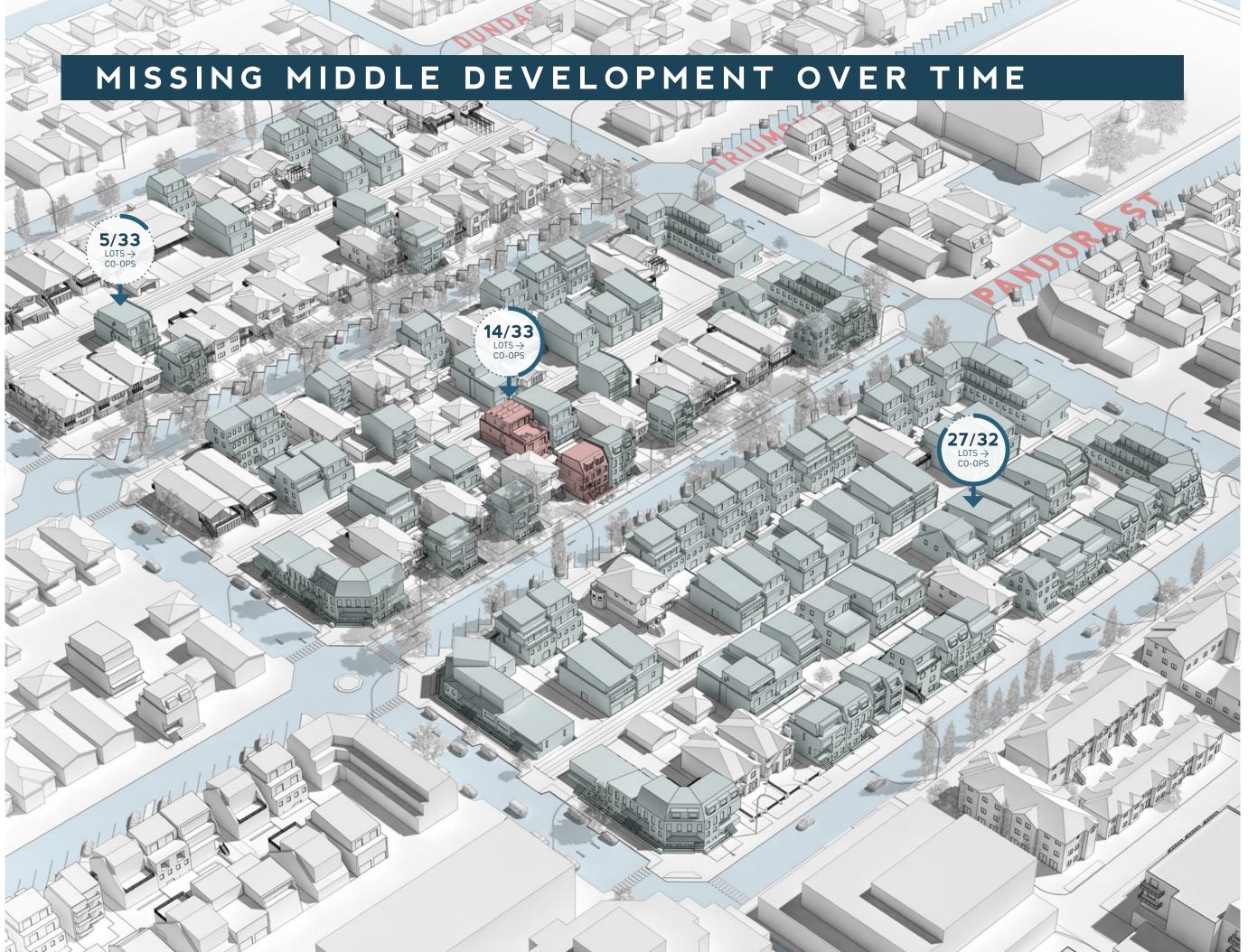


0.6 m 3.7 m

8.3 m



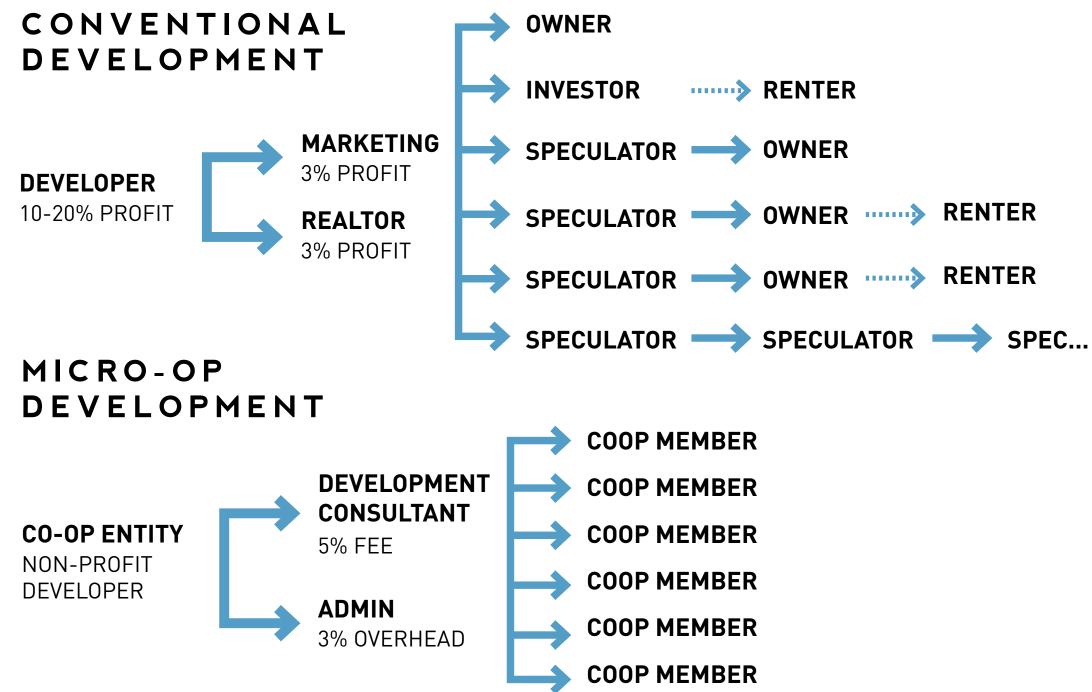
Roofs are shaped to control and collect water instead of shedding onto neighbouring property. This orientation is also more suited to bring light into the centre of lots running in the North-South





STREET VIEW

COOPERATIVE TENURE & DELIVERY









MICRO-OP ECONOMY

HOUSEHOLD	INCOME \$ / MONTH	HOUSING + TRANSPORTATION COST \$ / MONTH (% OF AFTER TAX INCOME)	CO-OP INCOME \$11,100 / MONTH
	\$7,500	\$1,800 rent (24%) \$500 carshare (7%)	
	\$6,400	\$1,600 (25%) \$500 carshare (8%)	
	\$5,800	\$1,500 (26%) \$400 carshare (7%)	
	\$4,200	\$1,400 (34%) \$400 carshare (10%)	
M	\$4,000	\$950 (24%) \$150 carshare (4%)	
?	\$3,300	\$850 (26%) \$150 carshare (5%)	
X	\$2,100	\$800 (38%) \$100 carshare (5%)	

CO-OP EXPENSES / MONTH

MORTGAGE \$8,885

OPERATIONS \$1,000

CONTINGENCY FUND \$500

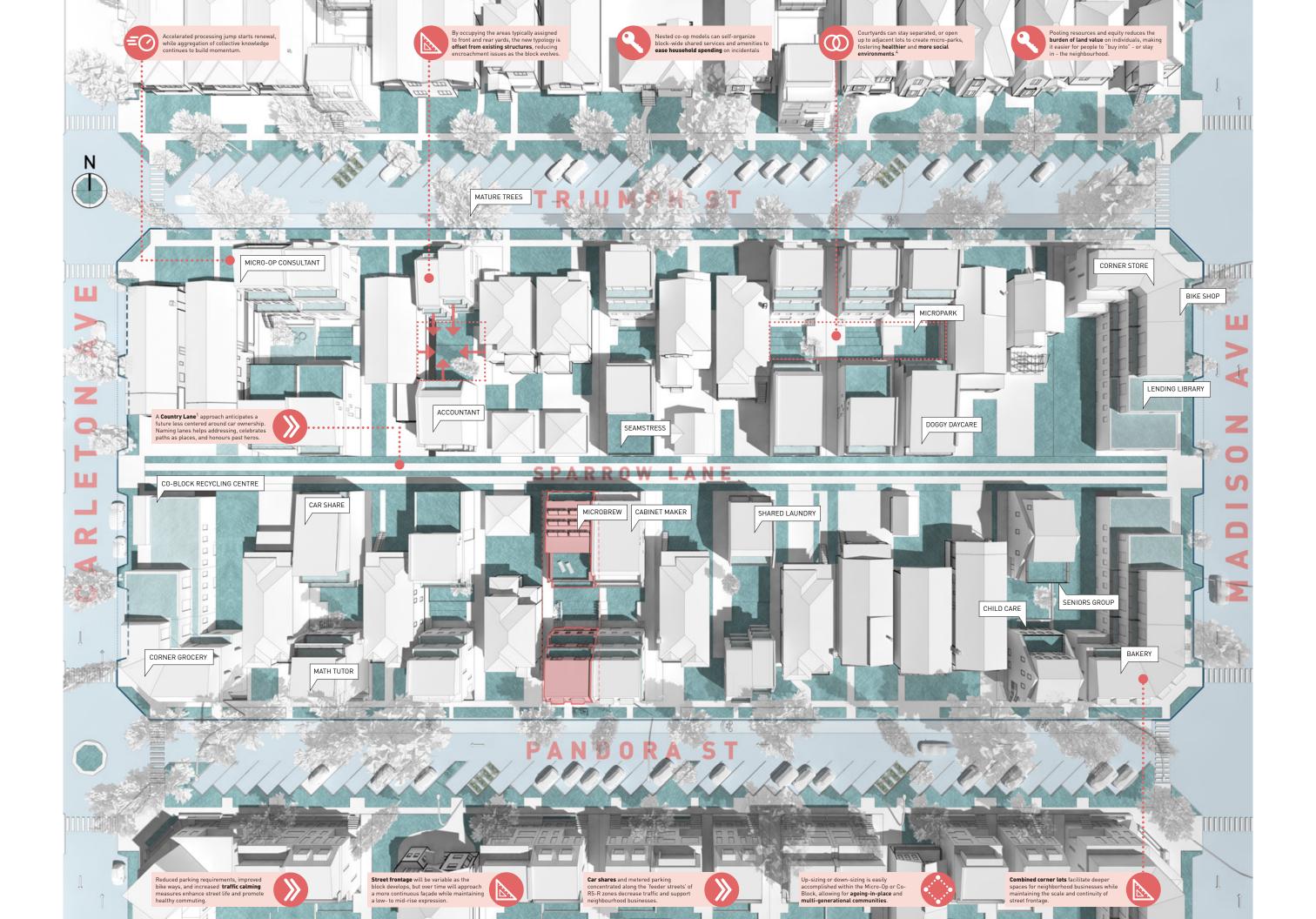
PROPERTY TAXES \$350

DETERMINING OPTIMAL DENSITY

DEVELOPMENT TYPE		igle Family House	ngle Family ndary Suite + Laneway	5 Unit Micro-Op	6 Unit Micro-Op		7 Unit Micro-Op		8 Unit Micro-Op
						0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
Number of Households		1	3	5	6	•	7	•	8
FSR		0.60	0.76	1.25	1.40	•	1.49	0 0 0	1.50
Buildable Area		224 sm	284 sm	468 sm	524 sm		557 sm	0 0 0	561 sm
Property Cost (i)	\$	1,531,000	\$ 1,531,000	\$ 1,536,000	\$ 1,536,000	\$	1,536,000	\$	1,536,000
Construction Cost (ii)	\$	0	\$ 425,000	\$ 1,154,725	\$ 1,293,292	\$	1,376,300	\$	1,385,670
Soft Cost + Escalation (iii + iv)	\$	0	\$ 144,670	\$ 378,973	\$ 427,820	\$	457,082	\$	460,386
Total Development Cost	\$	1,531,000	\$ 2,100,670	\$ 3,123,698	\$ 3,311,112	\$	3,423,382	\$	3,436,056
Cost / Unit	\$	1,531,000	\$ 700,223	\$ 624,740	\$ 551,852	\$	489,055	\$	429,507
Average Area / Unit		224 sm	95 sm	94 sm	87 sm	•	80 sm	0 0 0	70 sm
Amortization Period		25 years	25 years	50 years	50 years	•	50 years	0 0 0	50 years
Down Payment @ 20%	\$	306,200	\$ 420,134	\$ 624,740	\$ 662,222	\$	684,676	\$	687,211
Mortgage Payment / mo	\$	5,834	\$ 8,004	\$ 8,107	\$ 8,594	\$	8,885	\$	8,918
Operational Cost / mo	\$	1,000	\$ 1,300	\$ 1,688	\$ 1,789	\$	1,850	\$	1,857
Total Housing Cost / mo	\$	6,834	\$ 9,304	\$ 9,795	\$ 10,383	\$	10,735	\$	10,775
Housing Cost / mo / Household	\$	6,834	\$ 3,101	\$ 1,959	\$ 1,731	\$	1,534	\$	1,347
Median A-T Household Income / mo	\$	4,759	\$ 4,759	\$ 4,759	\$ 4,759	\$	4,759	\$	4,759
% Income on Housing		144	65	41	36	•	32	- 0 0	28

UNAFFORDABLE

AFFORDABLE



COURTYARD VIEW



LANE VIEW





LANE VIEW, WEST END MISSING MIDDLE HOUSING



CHOICE, COMMUNITY & QUALITY OF LIFE



Thank you

FOR FURTHER INFORMATION PLEASE CONTACT

Travis Hanks, Architect AIBC

Principal / Co-founder, Haeccity Studio Architecture thanks@haeccity.com

Shirley Shen, Architect Washington State

Director / Co-founder, Haeccity Studio Architecture sashen@haeccity.com

SECOND PRIZE

TITLE: People's Playbook

TEAM: Charles Montgomery, Elsa Snyder, Harley Grusko, Kathy McGrenera, Leslie Sheih, Mark Shieh, Michelle Hoar, Rufina Wu, Wilmer Lau

> **PRESENTERS:** Leslie Shieh, Tomo Spaces & Harley Grusko, MA+HG Architects

People's Playbook

Collective Solutions for Inclusive, Social Neighbourhoods

Charles Montgomery Elsa Snyder Harley Grusko Kathy McGrenera Leslie Shieh Mark Shieh Michelle Hoar Rufina Wu Wilmer Lau

Missing Middle Competition, Port Coquitlam. Presentation to Vancouver City Council. harley@mahg.ca, ls@tomospaces.com







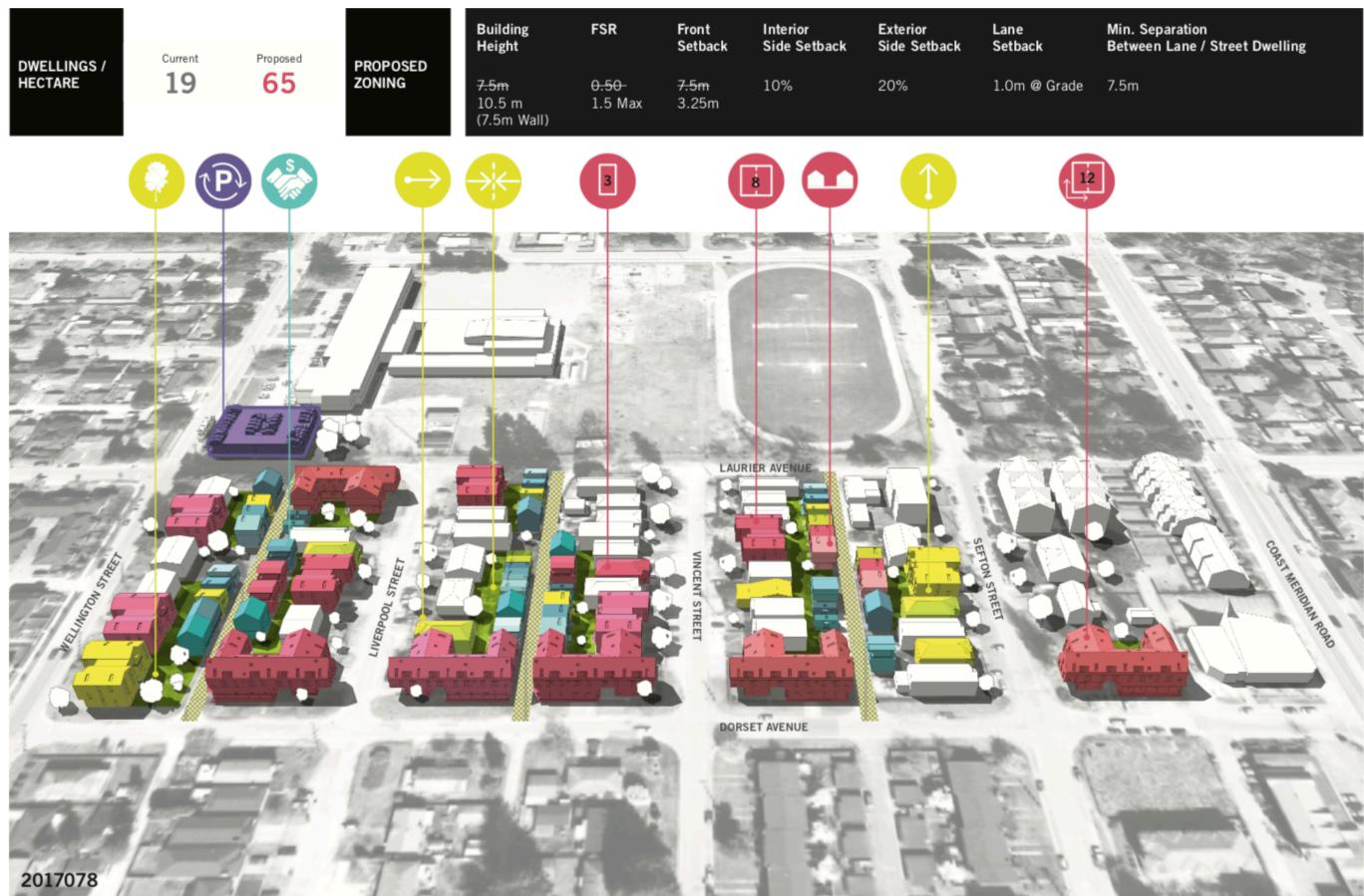


How might we create more right supply and more options for diverse middleincome families?



Let's empower more people to become makers of their own neighbourhoods.





PLAY 1



THE PLAYERS



MEET MARYAM

Maryam is a widower in her 70s. She has lived in Port Coquitlam for 30 years. She paid off her mortgage five years ago. She is land-rich but cash poor. She would like to live independently but is feeling increasingly vulnerable, both socially and financially. She has a part-time caretaker, Reyna, who currently rents and travels an hour by transit to care for Maryam.

Maryam renovates her home into two 2-bedroom strata units. She keeps one unit for herself and sells the other at market value to a young professional couple who is priced out of the single family home market.

Maryam sells a portion of her land to the PoCo CLT. PoCo CLT builds a 2-bedroom coach house and rents it to Reyna and her two school-aged kids.

OWNERS' FINANCIAL POSITION POST DEVELOPMENT

After renovation and sales, Maryam's own strata unit has a market value of \$595,000 (current \$690,000) and she receives approximately \$193,000 cash proceeds.

25 YEARS ON

Reyna continues to care for Maryam. When Maryam passed away at home, she left no heirs. In her will, Maryam gave PoCo CLT first right of refusal to buy her 2-bedroom strata unit, which it does, doubling the amount of permanently affordable housing on the lot.



SOCIAL RATIONALE

• PoCo CLT helps Maryam navigate redevelopment processes

• Maryam maintains social bonds with friends and neighbours

• Reyna removes two hours of commuting per day, cutting costs and leaving more time with family and friends

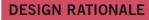
• A young couple is able to purchase the 2-bedroom strata unit, adding age diversity to the neighbourhood

AFFORDABILITY RATIONALE

• The sale of the coach house and one bedroom strata unit provides Maryam with financial security

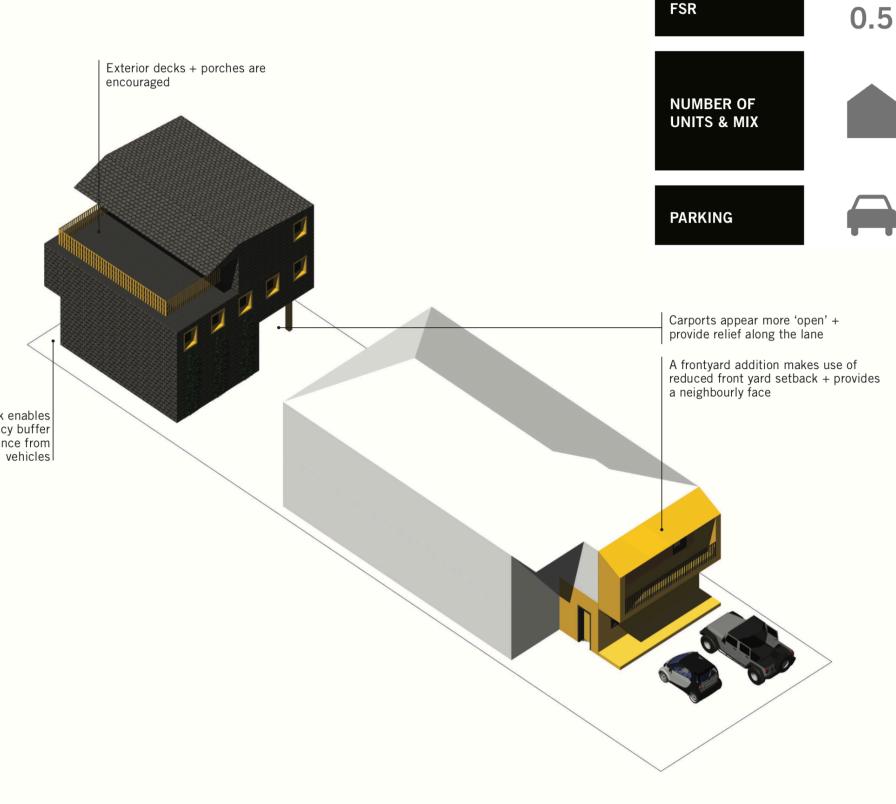
• PoCo CLT owns and manages the coach house. Monthly rent is \$1,125 (30% of income for household making below-median \$45,000/year).

1m setback enables a privacy buffer + clearance from vehicles

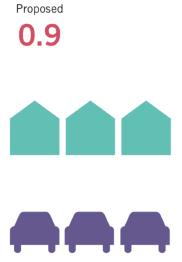


• Prioritizes the retention of neighbourhood 'built' character and resident 'characters'

• Encourages aging in place and the inclusion of new mixed income residents to the neighbourhood.



2017078



Current

Original home renovated to include two 2-bedroom strata units

New 2-bedroom coach house, strata titled, owned by PoCo $\ensuremath{\mathsf{CLT}}$

PLAY 2

THE PLAYERS



MEET THE FRANK FAMILY AND WONG FAMILY

The Frank Family and Wong Family are neighbours. The Franks are downsizing whereas the Wongs are a growing young family.

They assemble their two single family lots and build a main home with four strata units, and a lane-facing townhouse complex with three strata units. In the main house, the Franks have a 2-bedroom unit and offer a 3-bedroom unit to their adult son and his family. The Wongs have a 3-bedroom unit and offer a 2-bedroom unit to grandparents.

Two of the townhouse units are owned by PoCo CLT and rented to working families, and the third unit is owned by close friends of the Wongs.

There is a large middle yard shared by all residents. In good weather, the yard is alive with kids playing and neighbours socializing.

OWNERS' FINANCIAL POSITION POST DEVELOPMENT

After the redevelopment, the Frank Family and Wong Family's own strata units has a market value of \$879,000 each (current \$690,000). Each family receives approximately \$91,000 cash proceeds.

25 YEARS ON

The Wongs' eldest daughter and her family buys the townhome unit from the family friends. The Wong grandparents have passed, and the Wong parents move into their 2-bedroom unit, while their younger son's family moves into the 3-bedroom. Much more of their type of redevelopment has occurred in the neighbourhood, which has resulted in livelier main streets and vibrant, activated laneway streets.



SOCIAL RATIONALE

• The Franks and Wongs are brought closer with extended family. All family members benefit from support for aging in place, childminding, and other types of emotional and financial support.

• Both families get to maintain existing social bonds with local friends and schoolmates, and extend them to their expanded family group.

AFFORDABILITY RATIONALE

• Main household's costs are reduced through sharing of resources, childcare and eldercare.

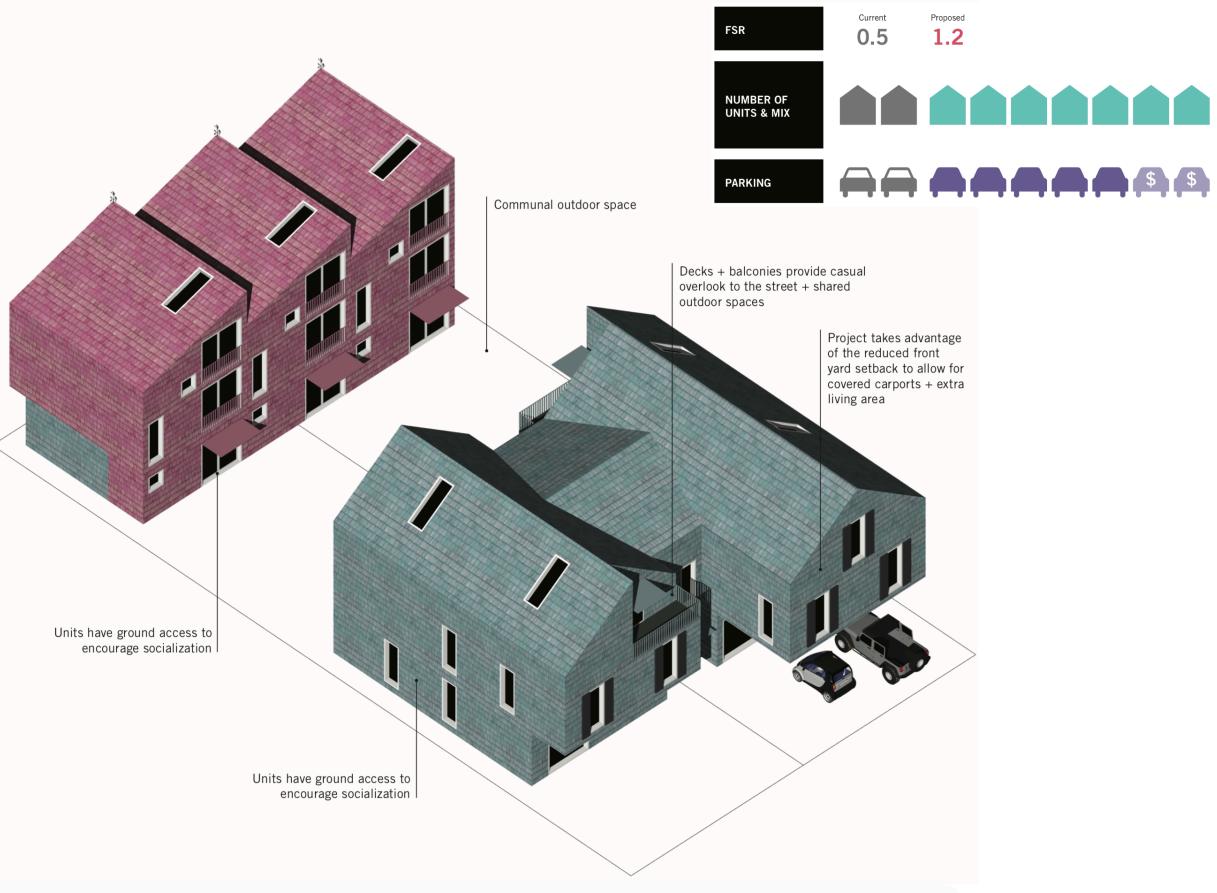
• PoCo CLT owns and manages two townhouse units. Monthly rent is \$1,250 (30% of income for household making less than median \$50,000/year).

DESIGN RATIONALE

• Neighbours develop and build themselves, in partnership with PoCo CLT, who helps navigate redevelopment processes

• Back-end of single-family lot is maximized for family-friendly housing

• By building main house higher and shallower, and decreasing front setback, more shared middle yard space is created.



New main house: Two 3-bedroom and two 2-bedrooms strata units Three new townhouse strata units (two units owned by PoCo CLT)

PLAY 3



THE PLAYERS



MEET THE LOWE FAMILY, THE KENT FAMILY, AND THE POCO COHOUSING GROUP

The Lowe Family and Kent Family have been neighbours for over 20 years. Both couples' adult children live far away and visit during holidays. When they retire, they hope to travel more and visit their children for extended periods of time. They would like to stay in the neighbourhood but their houses are too big.

The PoCo Cohousing Group has been looking for property that is close to transit and an elementary school. The group is increasingly faced with escalating land prices and have not been able to find a property.

The Lowes and Kents decide to assemble their adjacent lots (one of which is a corner lot), sell the combined lot to the PoCo Cohousing Group, and join as members, for a total of ten households. The two remaining units are sold to PoCo CLT as long-term affordable rental housing, and PoCo CLT becomes a voting member of the cohousing group.

The twelve resulting households share a central courtyard, and a 700sf indoor common house that combines shared laundry, kitchen, and a multi-purpose room where kids play and where gatherings and regular shared meals are held. The mix of singles, couples, families and seniors makes for a vibrant and supportive community.

OWNERS' FINANCIAL POSITION POST DEVELOPMENT

After the redevelopment, the Lowe Family and Kent Family's own strata units has a market value of \$700,000 (current \$690,000). Each family also receives approximately \$382,000 cash proceeds.

25 YEARS ON

Ten years after the redevelopment, when one of the 2-bedroom units goes on the market, one of the Lowe's children moves in with her wife and two young kids.

Fifteen years after the redevelopment, the cohousing group's immediate neighbours - who had become friends with many of the residents - decide to redevelop their home, build a coach house in partnership with PoCo CLT, and take down their fence to create a larger shared courtyard with the co-housing complex.

Where 25 years ago there had only been three households on three lots, there are now 15, happily socializing, sharing and supporting each other through the phases of their lives. During that time, cohousing has become a popular form of redevelopment in Port Coquitlam, and all of them contain at least two units of long-term, affordable rental housing.

SOCIAL RATIONALE

• The Lowes and Kents are able to maintain their existing neighbourhood social bonds while building a new, supportive, and diverse community around them comprised of seniors, singles, couples and families with children

• An intentional community model of housing is established into the neighbourhood, giving other neighbours new ideas for their properties.

AFFORDABILITY RATIONALE

• Smaller units sizes reduce costs, allowing people to buy into formerly inaccessible neighbourhood

 Many households' costs reduced by sharing resources, childcare or eldercare.

• PoCo CLT owns and manages 2 of the units. Monthly rent is \$1,000 per unit (30% of income for household making \$40K/year).

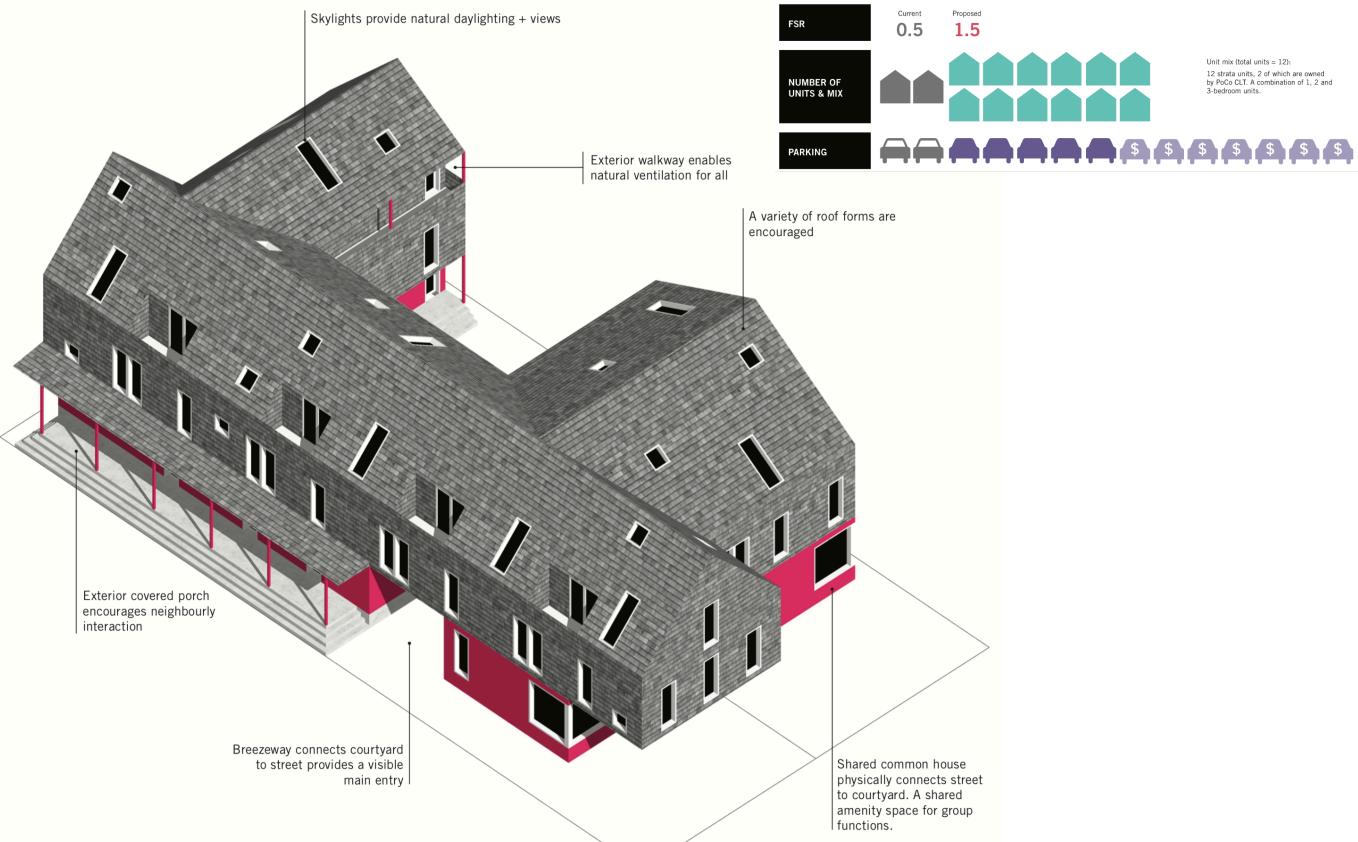
DESIGN RATIONALE

• Focuses on opportunities of lots at end-blocks, combined with cohousing, to receive more density

 Incorporates social design with shared indoor and outdoor spaces, and exterior hallways that connect non-ground units

• Prioritizes the retention of neighbourhood residents and includes new mixed-income residents

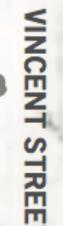
• Encourages neighbours and small groups to develop and build themselves



Offer bonus density in RS districts, for right supply and diverse tenure.

Not to create Golden Tickets for more property owners, but to create incentives for more missing-middle and tenure options.

STREET



DORSET AVENUE



Decouple parking requirements from individual property. So that we solve parking and transportation issues at the neighborhood scale.







age-in-place families.





THIRD PRIZE

TITLE: Missing Middle // e-Co-housing Possibilities

TEAM: ALT FORMA

PRESENTERS: Cedric Yu, ALT FORMA



"Missing Middle // e-Co-housing Possibilities"

Council Presentation: Nov 14 2018

ALT **FORMA**

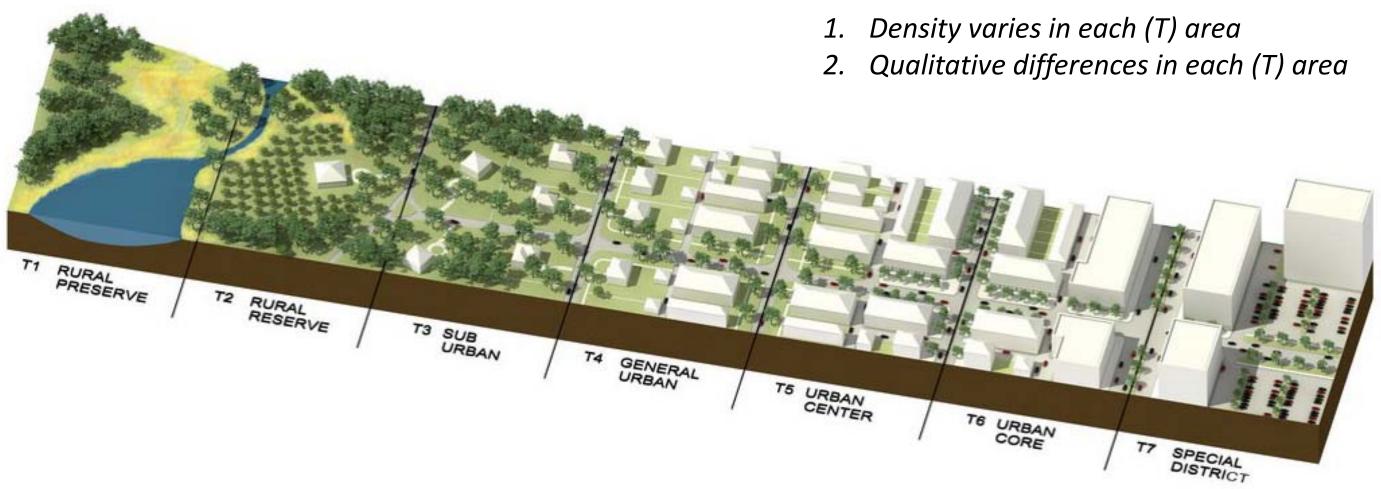
cyu@altforma.com



Cedric Jacques Yu M. Architecture, M.Sc. Urbanism

1. WHY LOOK AT URBAN FORM?

Urban form provides varying possibilities, arrangements, and potential for housing, work, and leisure needs.

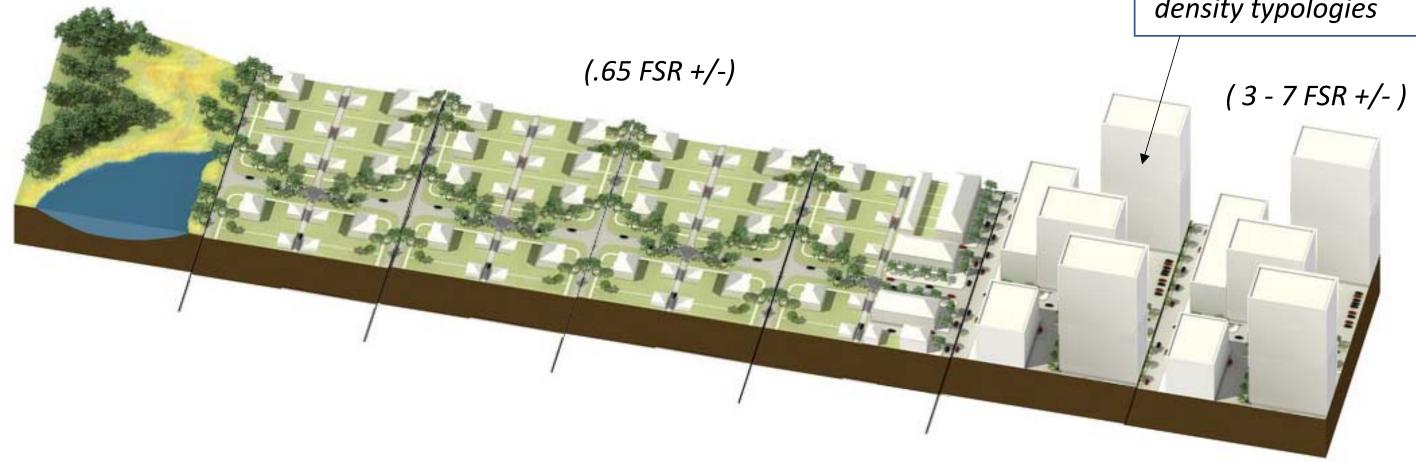


A DIVERSE HOUSING STOCK IS ESSENTIAL TO SATISFY **DIFFERING NEEDS & DESIRES OF THE POPULATION**

2. SNAPSHOT OF VANCOUVER - (CASE OF THE MISSING MIDDLE)

Bartholomew plan 1929-

70% of Vancouver land base is zoned low-density (around .65 FSR +/-)

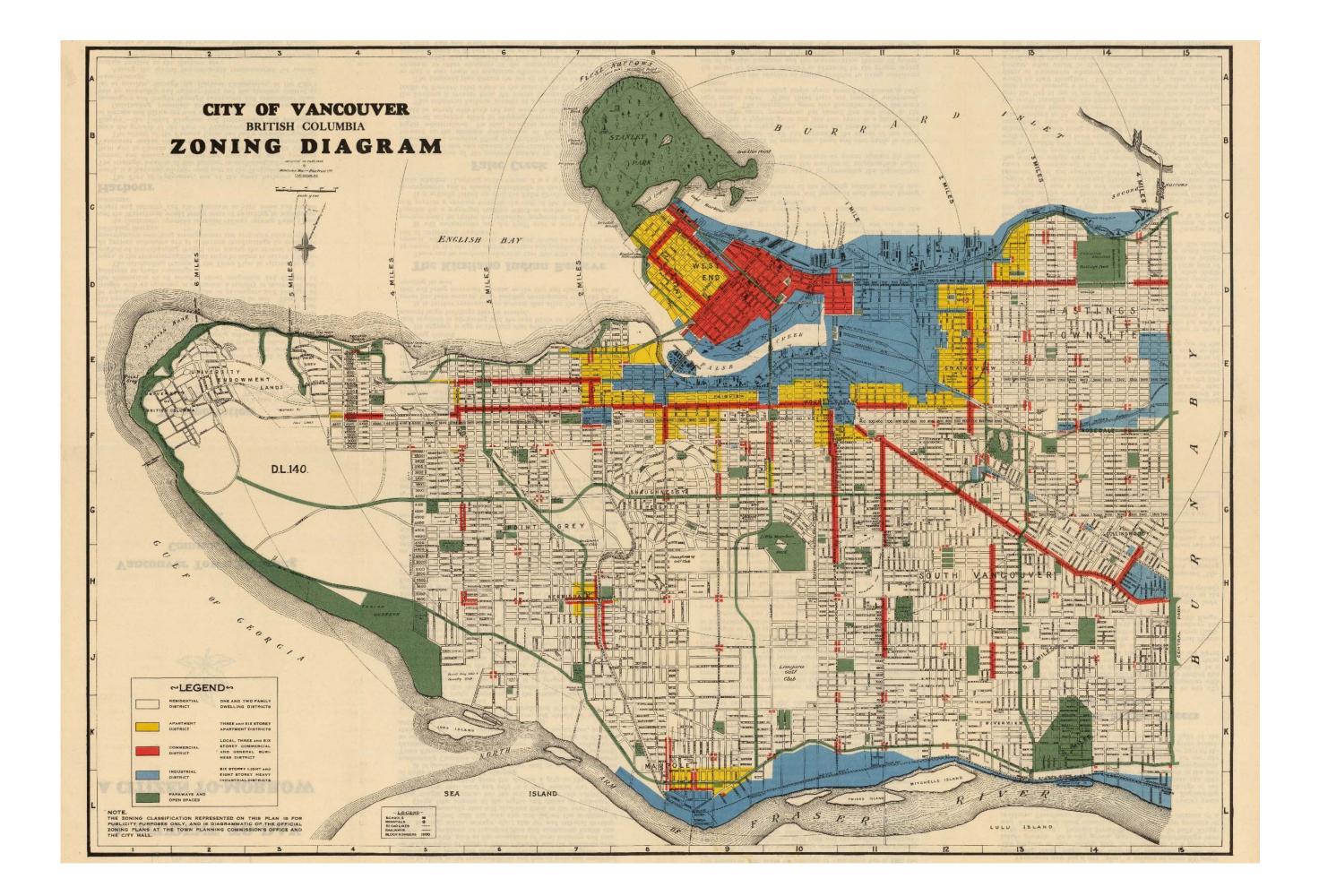


Population – GVR (1927) = 300,000 +/-(2016) = 2,400,000 +/-

(2041 Projection) = 3,450,000 +/-

Increased growth forecast necessitates **replenished + new housing** stock

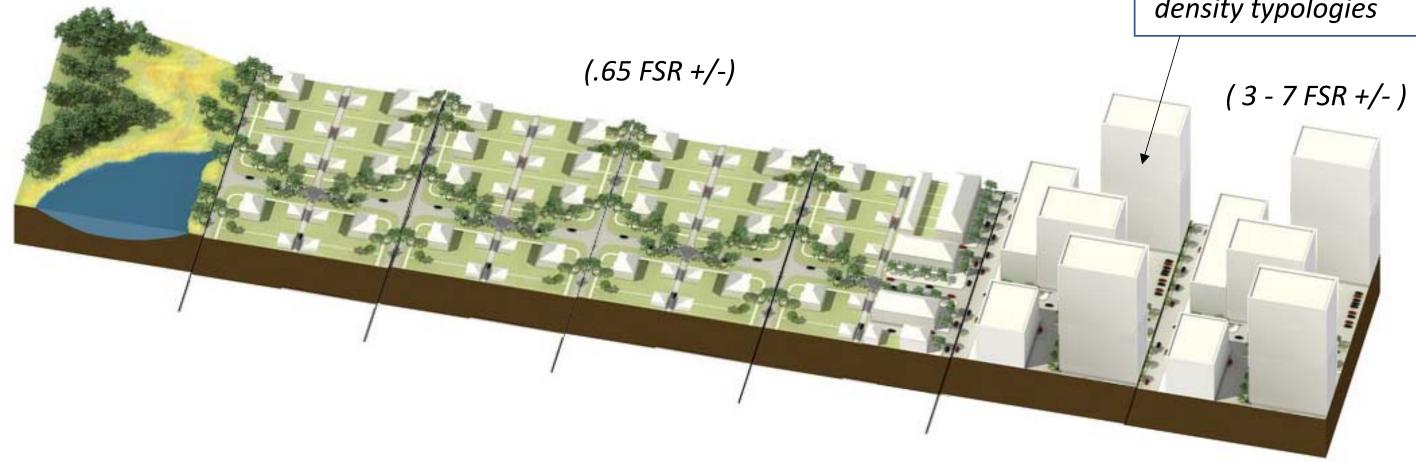
Limited land (high cost) and increasing growth places pressure for high density typologies



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3. TYPICAL STRATEGY OF DENSIFICATION

Neighborhood by neighborhood, site by site basis Supply side measures alone are not enough

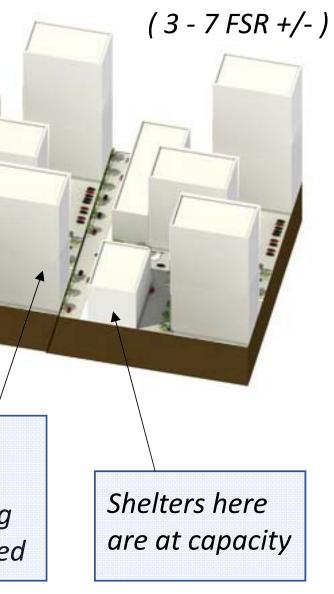
<u>**Rezonings</u>** alone will not address all supply needs But remain an important tool in planning and should not disappear</u> *Oh yeah, co-op lease is lapsing here*

(.65 FSR +/-)

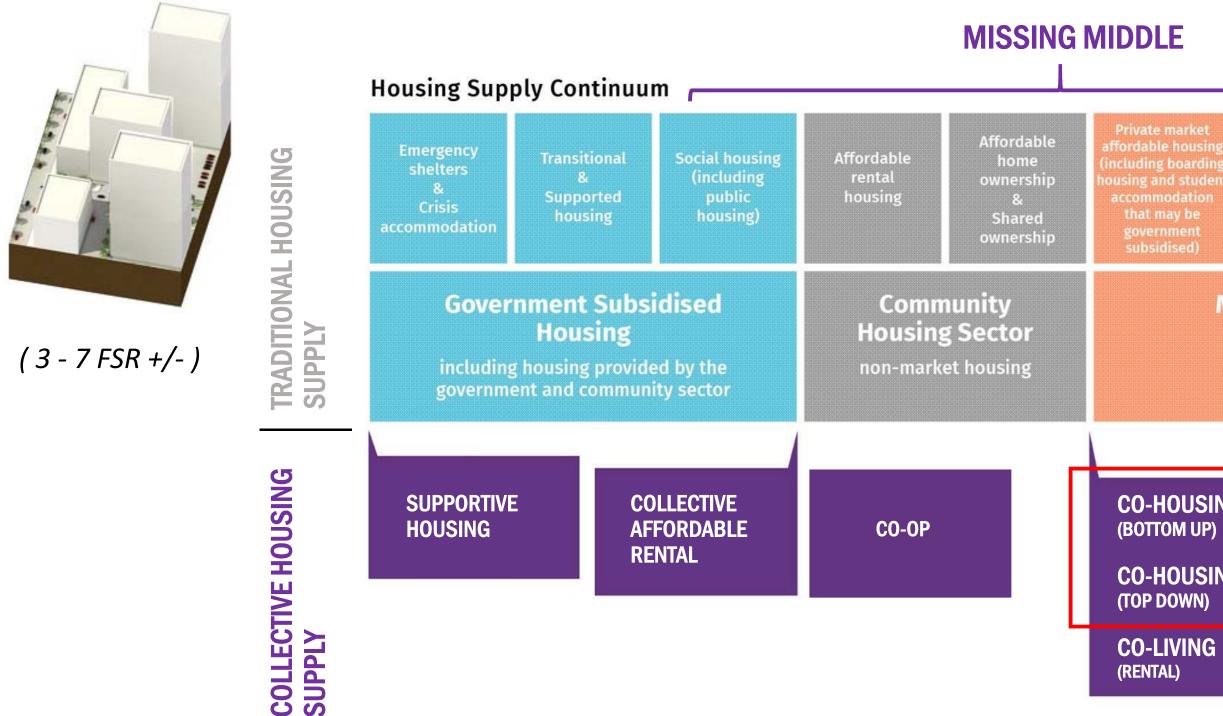
these renters are being renovicted

REZONING

Lengthy and costly process
C.A.Cs intended for public good
80% Market / 20% Non-market



4. UNPACKING FORM AND PROGRAM IN URBAN OFFERING



Private market rental housing

ownership

Market Housing

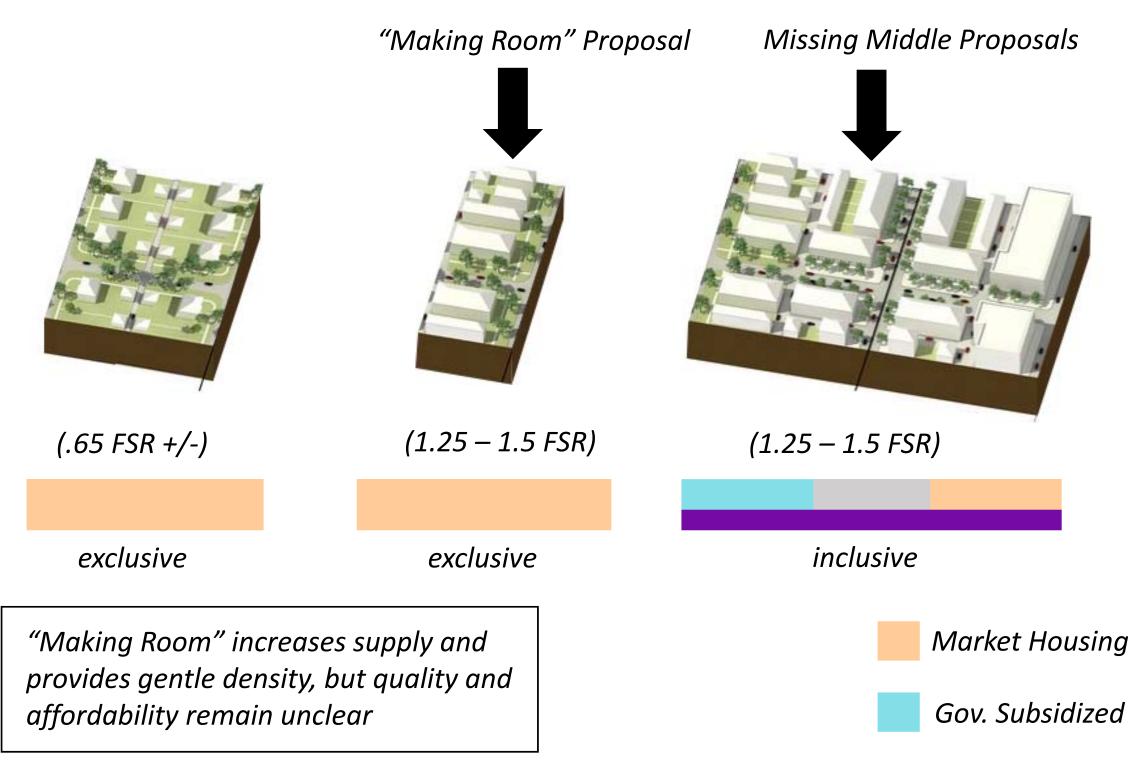
CO-HOUSING

CO-HOUSING

ELDERLY COLLECTIVE / **MULTI-GEN**

4. MISSING MIDDLE – (Gentle Densification in Low Density Areas)

Parsing out the density





(3 - 7 FSR +/-)

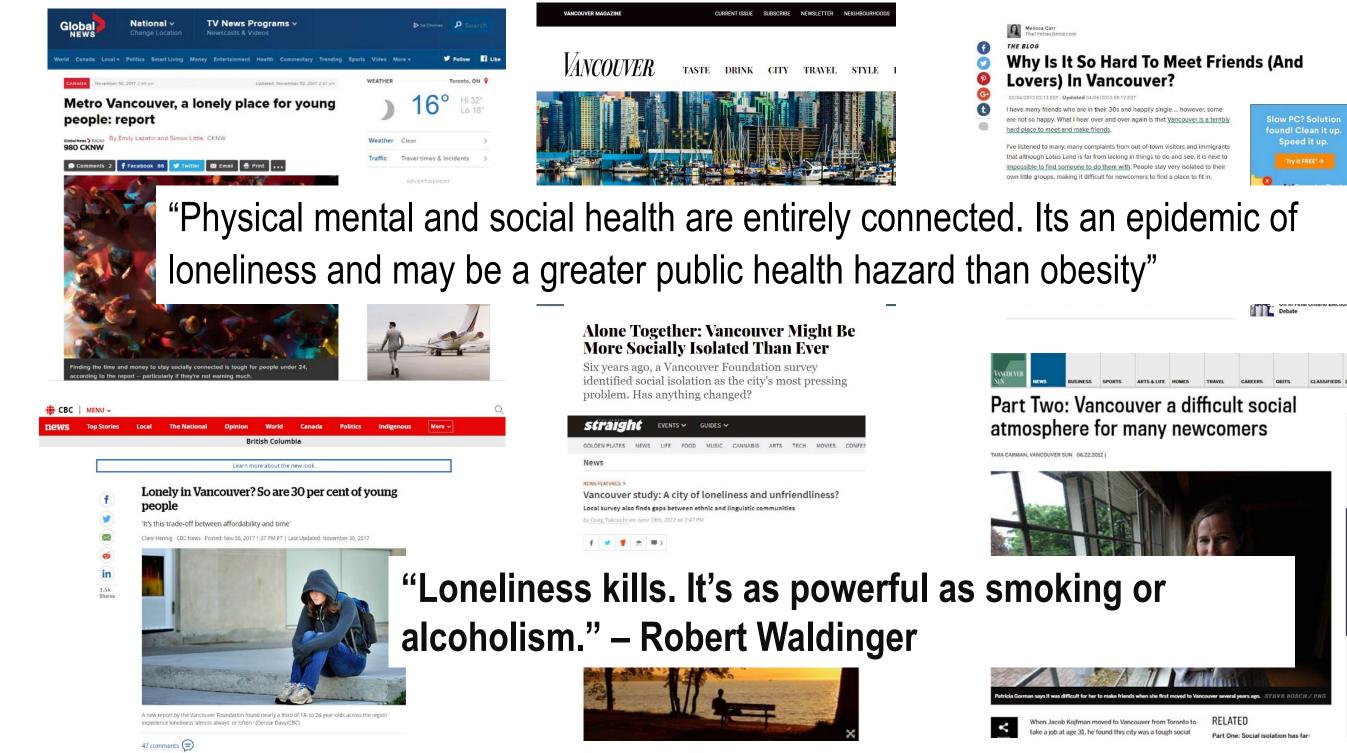
inclusive



Non Market



Collective Housing



Longest spanning Harvard study 80 years, has proved that embracing community helps us live longer, and be happier

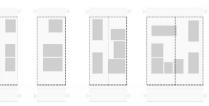


4. Co-Housing (Econ. / Social / Env. Sustainability)

- **OPPORTUNITY FOR COLLECTIVE /** RENTAL HOUSING IN NEW STOCK (5-8 BEDROOM RENTAL UNITS)
- OCCUPANCY LIMIT RELAXATION • (MAX 5 UNRELATED ADULTS)
- PARKING RELAXATION
- REDUCED SETBACK
- INCREASED HEIGHT
- MINIMUM STANDARDS FOR • **INDOOR & OUTDOOR SHARED SPACE MIX**

2 HOMES \rightarrow 17 HOMES MULTI-GEN + INCLUSIVE MIX + SUSTAINABILITY ADVANTAGES













LESS DEDICATED PRIVATE SPACE -BEDROOMS / BATHROOM



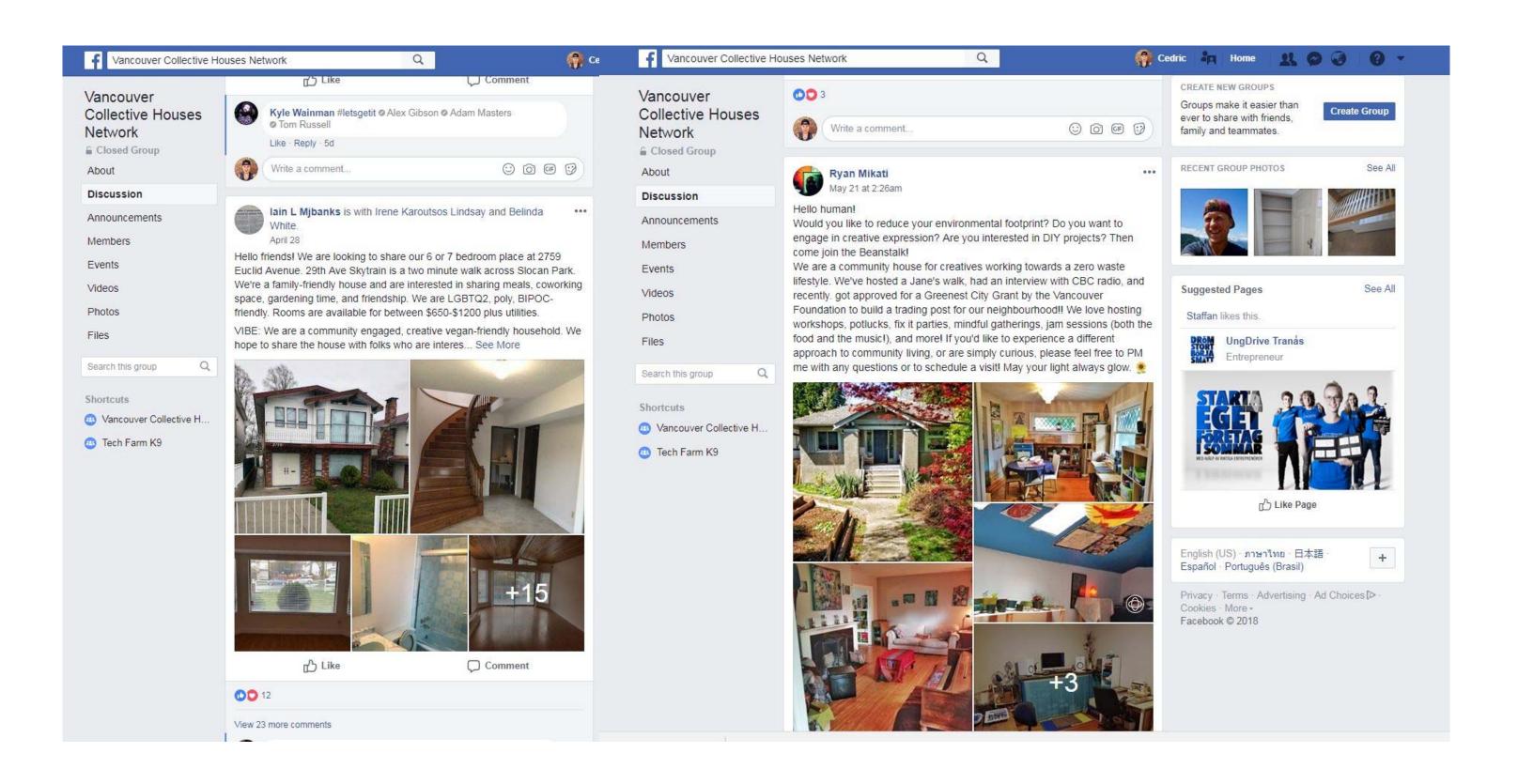


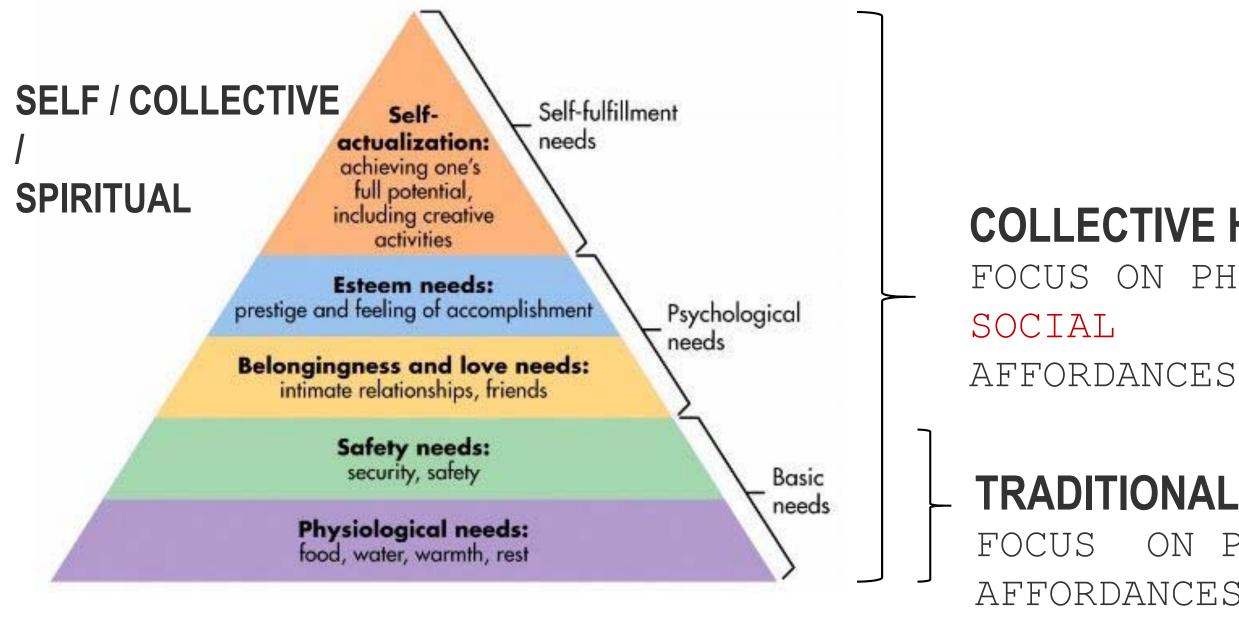


MORE SHARED AREAS -LIVING ROOM - KITCHEN - CO-WORKING - YOGA - ART



1. OWCH Senior Cohousing UK 2. Nevada City Cohousing 3. / 5. Frogsong Cohousing, CA 4. / 6. Silver Sage Village





HIERARCHY OF NEEDS



COLLECTIVE HOUSING FOCUS ON PHYSICAL AND

TRADITIONAL HOUSING ON PHYSICAL AFFORDANCES

Inclusive housing strategies

MISSING MIDDLE COMPETITION Resulting Recommendations

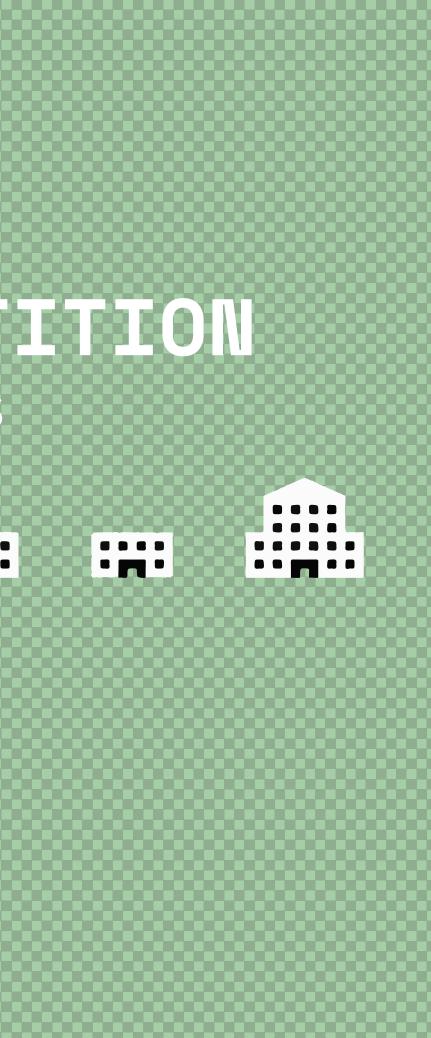








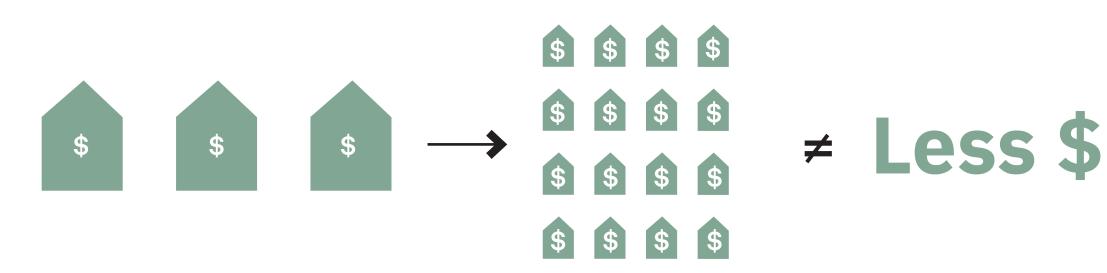
FOR SMART CITIES



ONE BIG PRINCIPLE

We can't densify out of the affordability challenge.

To help address the affordability challenge through densifying single family neighbourhoods we need mechanisms to either extract financial value from densification to support other housing and / or to reduce the market desirability of units through covenants or other means.





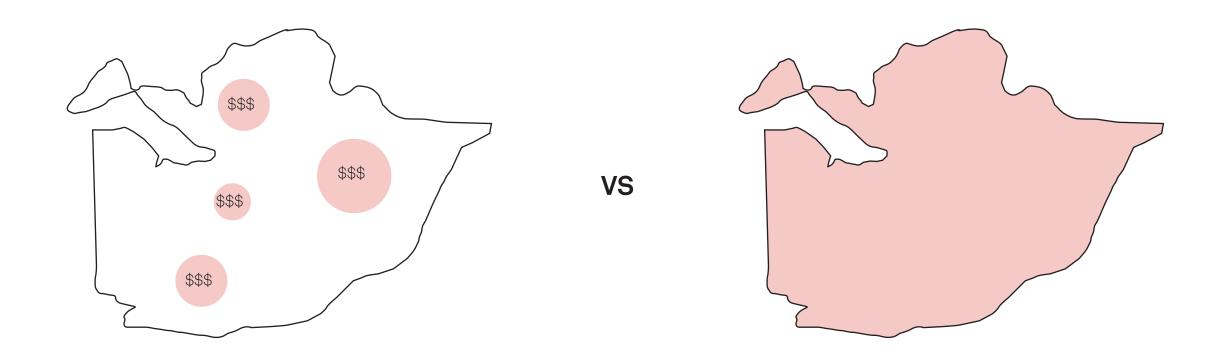
FOUR <u>ESSENTIAL</u> CITY POLICY CHANGES



Rezone broadly, not in pockets

Rezoning in small areas will simply bump up land values relative to lower zoned neighbours in other areas. Large scale rezoning reduces the risk of NIMBYism and reduces the "lottery winner" phenomenon.

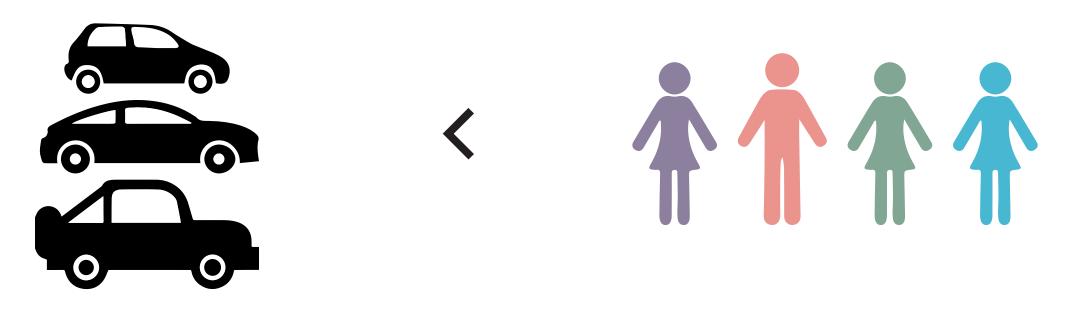
It's time to be bold on this issue!



Mandate a very low (best = zero) number of parking stalls on site

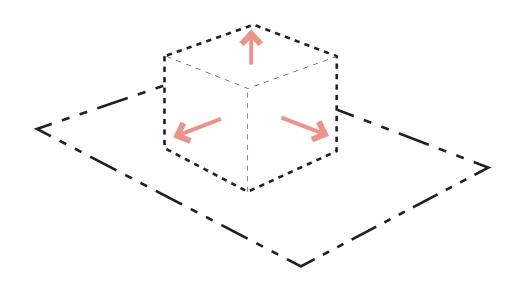
This allows better units, better site plans and lower construction cost. It keeps new units out of the speculative market, encourages transit use and walking. The people hardest hit by the affordability crisis, such as millennials, are least attached to the idea of owning cars.

It's also time to be bold on this issue!



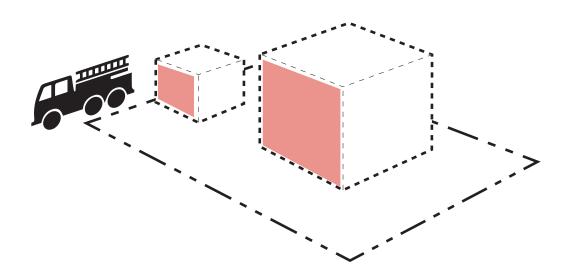
Make the buildable envelope bigger by reducing required setbacks and increasing allowable height

This allows better units, and way more design options.



Eliminate the Building Code requirement for Fire Department access through sites, by (among other strategies) allowing addressing off lanes

This change would eliminate the need for a fire protected corridor from street edge to site back. The requirement for this access is a big constraint.

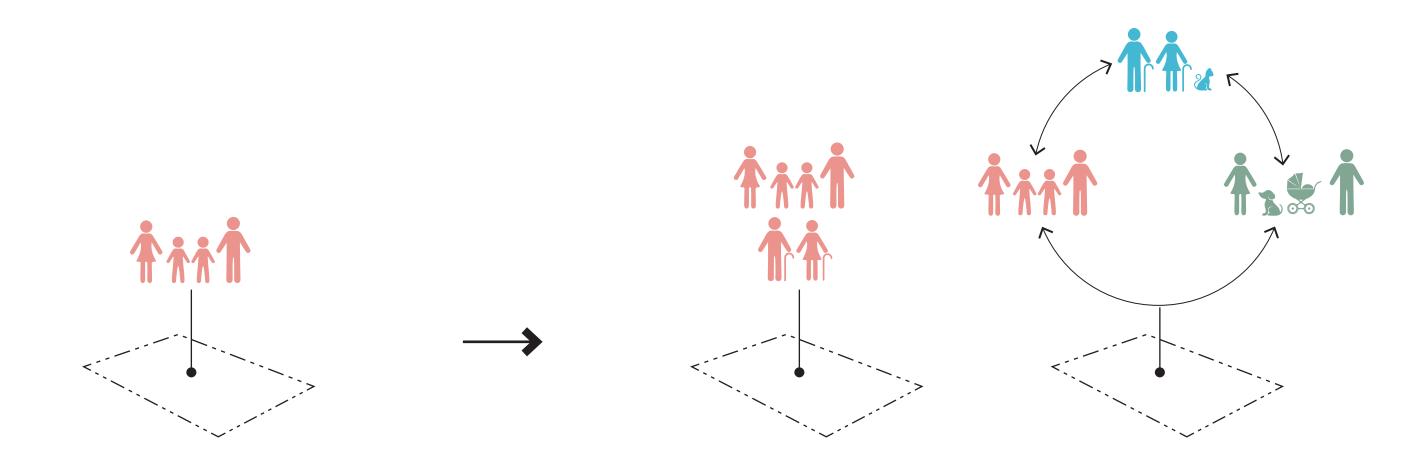


FOUR <u>IMPORTANT</u> CITY POLICY CHANGES



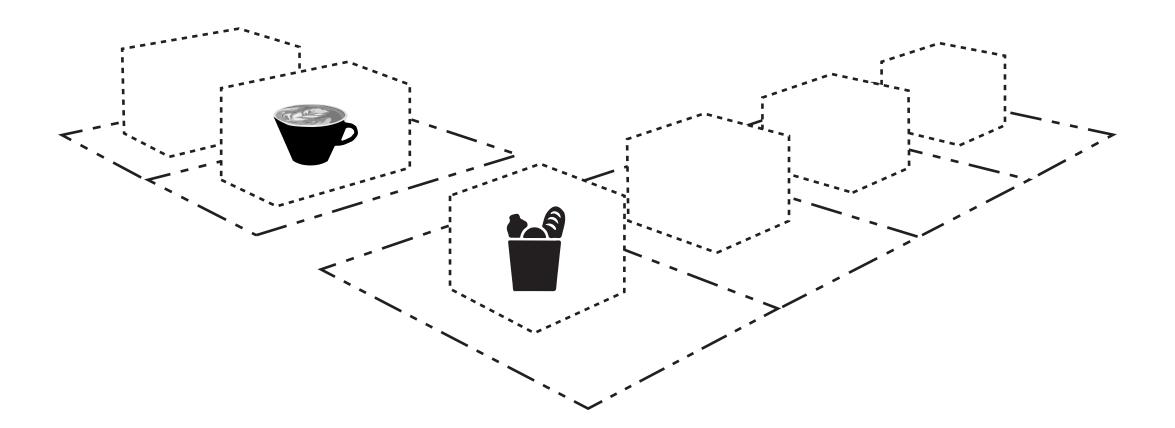
Remove implicit and explicit barriers to different forms of social organization such as co-housing and shared multi-generational living

This allows the opportunity to maximize the sharing of space and of financial and non financial resources



Reintroduce mixed use in single family zones by allowing both small commercial spaces and live work.

We zoned out the corner store – let's bring it back! And let artists or accountants set up shop as well.



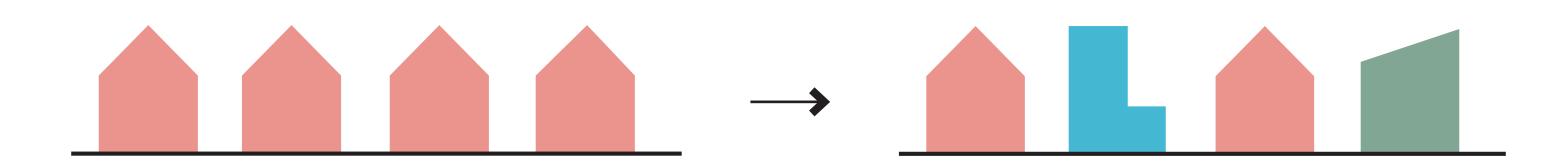
Reduce the emphasis on privacy of adjacent units as a key design constraint

The constraints on overlook of neighbours create a dramatic impediment to good design in existing neighbourhoods.



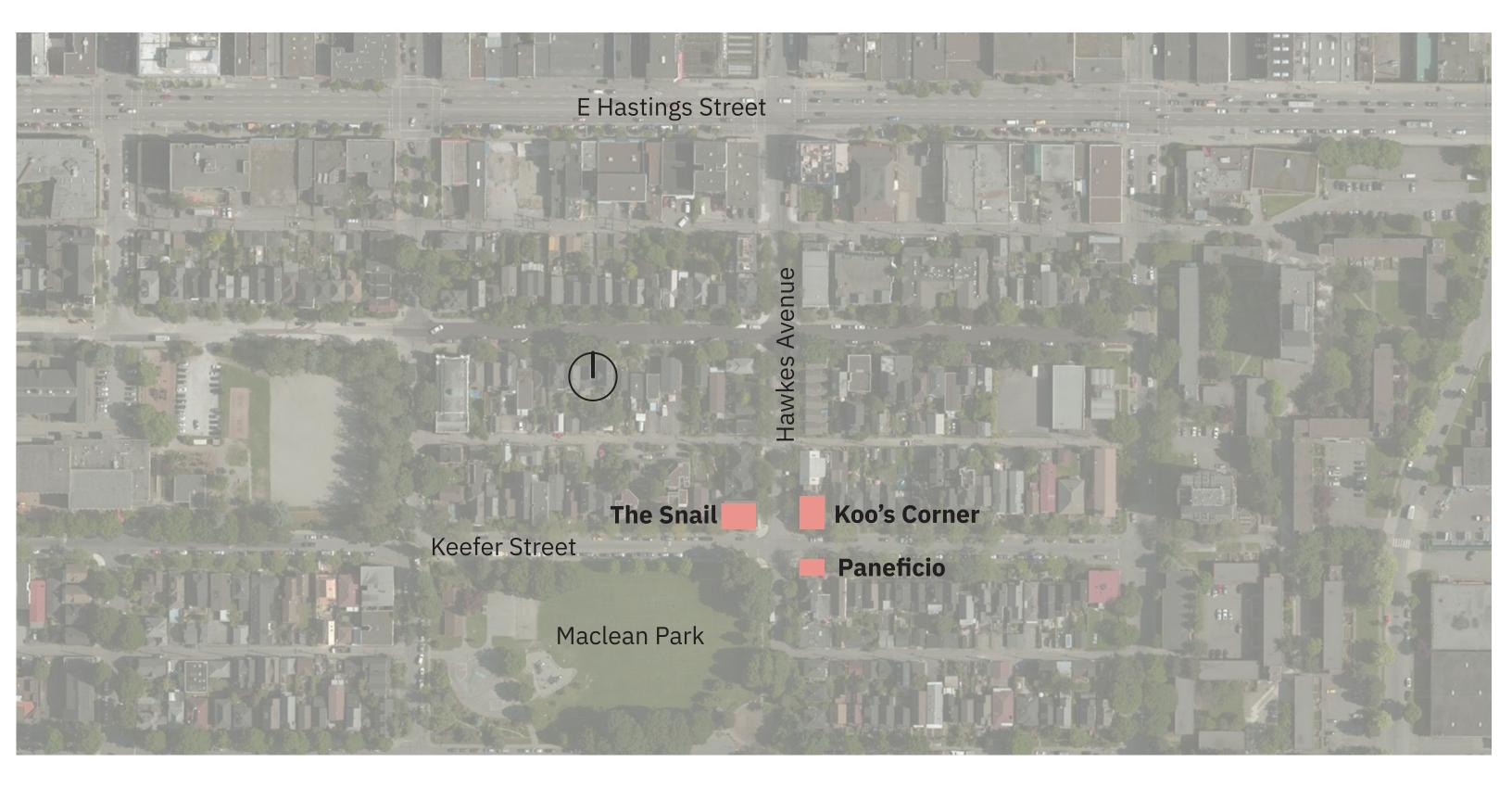
Reduce the emphasis on streetscape character continuity as a key design constraint

The idea that the best streets are where all the buildings look alike is wrong.



ONE GREAT "BACK TO THE FUTURE" EXAMPLE

Keefer Street & Hawks Avenue Vancouver







- 50' x 120' Lot
- 6 Residential Units
- used as living space)
- Minimal Setbacks
- Shared Back Yard
- **Overlook & Social Interaction**

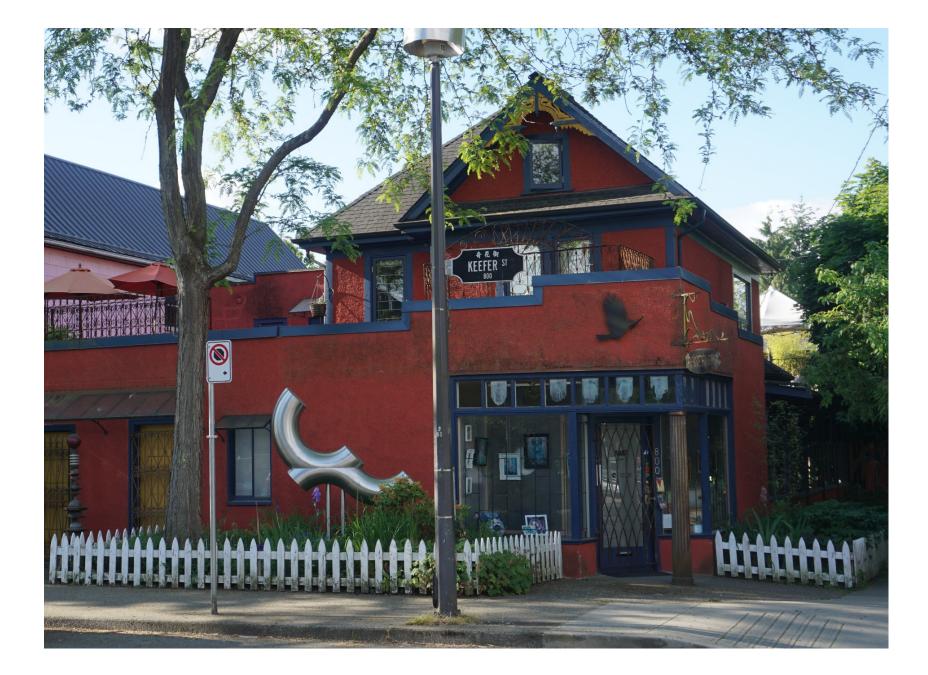
• No on Site Parking (garages built to satisfy requirements - never • Units Designed to Encourage

Opportunity to Build Now:

MINIMAL

Required Supportive Planner Required Heritage Streetscape to Achieve Density

Paneficio (South East Corner)



- 50' x 120' Lot
- 5 Residential Units
- non Residents)
- No on Site Parking
- Zero Setbacks
- Corner Flex Art Space

• 2 (large) Shared Artists Studios and Workshops (for Residents and

Opportunity to Build Now:

ZERO

Completely Illegal

The Snail (North West Corner)



- 50' x 120' Lot
- 11 Residential Units
- 1 Corner Store
- No on Site Parking
- No on Site Loading
- (Mostly) Zero Setbacks
- Multiple Units
- Corner Store
- No Elevator

• Grade Level Live-Work Hair Salon

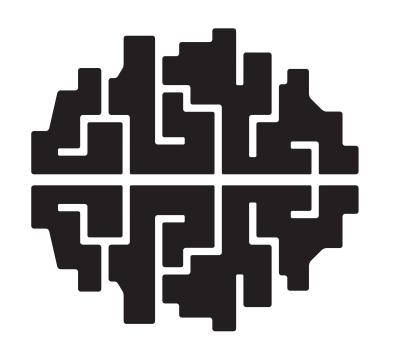
• Form Distinct from Surroundings

Opportunity to Build Now:

ZERO

Completely Illegal

THANK YOU!



URBANARIUM For smart cities