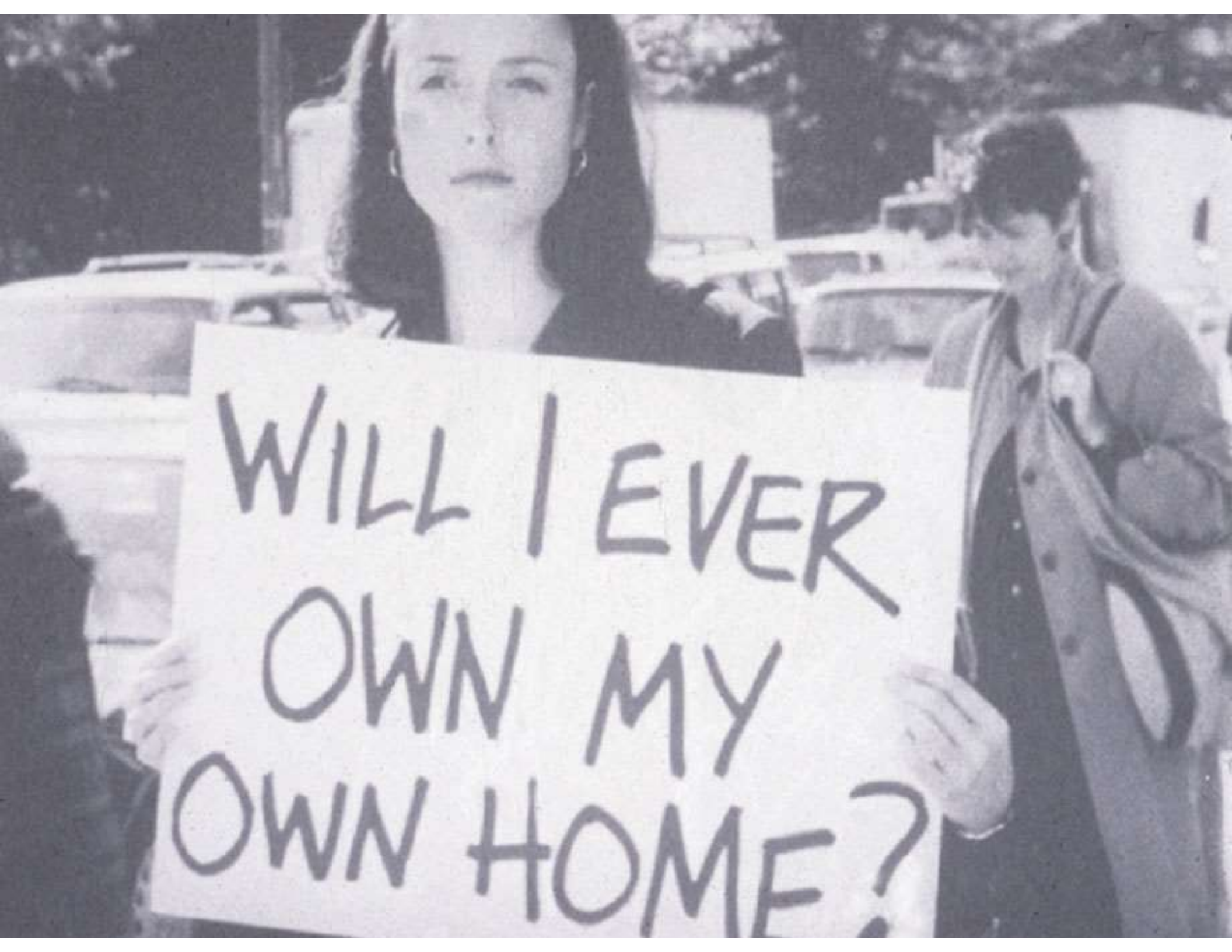


Thinking Outside the Box about Affordable Homes and Communities

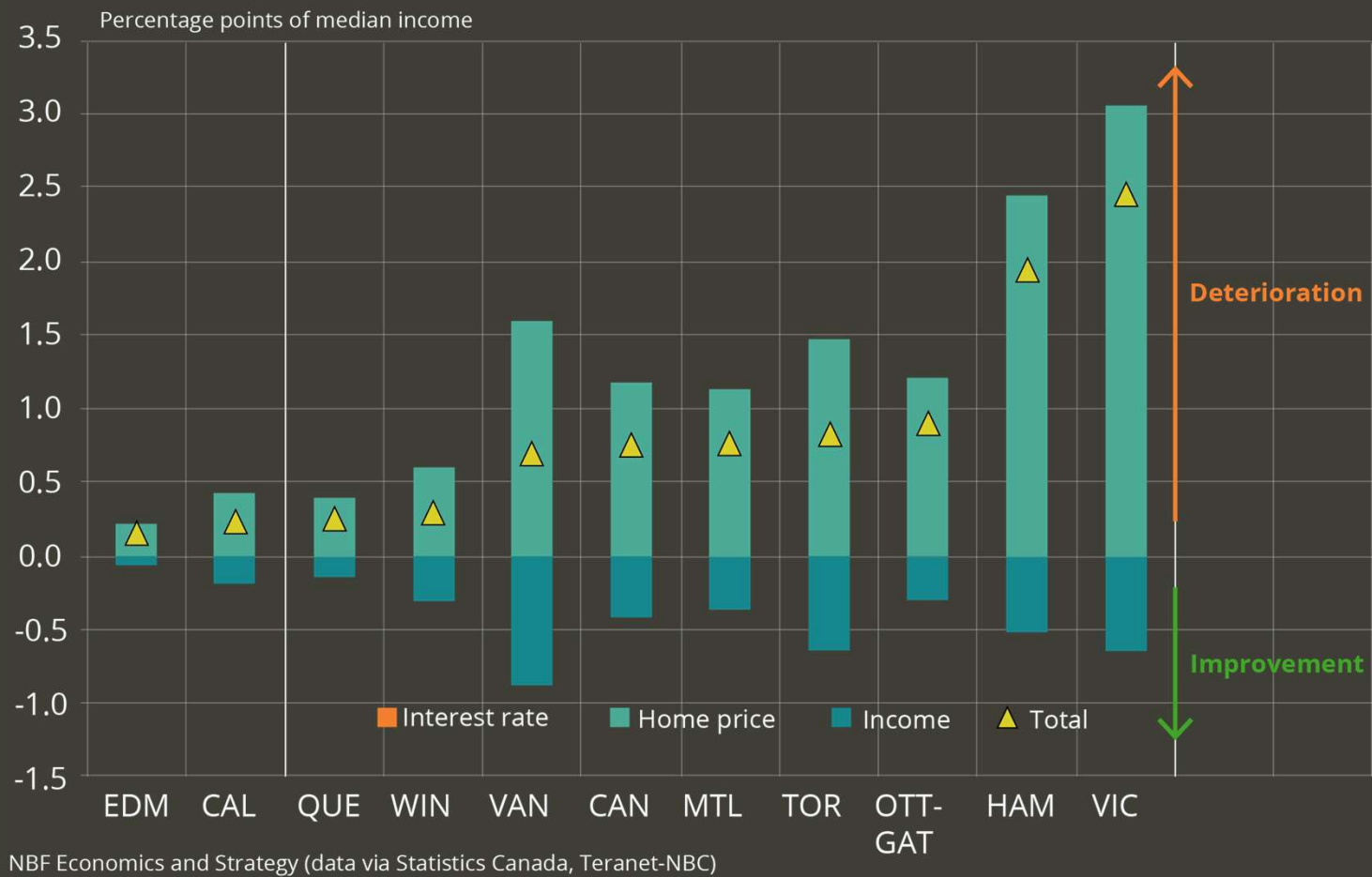
Avi Friedman



A black and white photograph of a woman with long dark hair, looking upwards with a somber expression. She is holding a large, rectangular sign in front of her. The sign has the text "WILL I EVER OWN MY OWN HOME?" written in large, bold, hand-drawn capital letters. To her right, another person is partially visible, wearing a light-colored jacket with a dark circular pattern on the sleeve. The background is slightly out of focus, showing parked cars and trees, suggesting an outdoor setting like a parking lot or a street during a protest.

WILL I EVER
OWN MY
OWN HOME?

2021: HOUSING AFFORDABILITY DETERIORATION INCREASE



SOURCE: National Bank of Canada, 2021. Housing Affordability Monitor

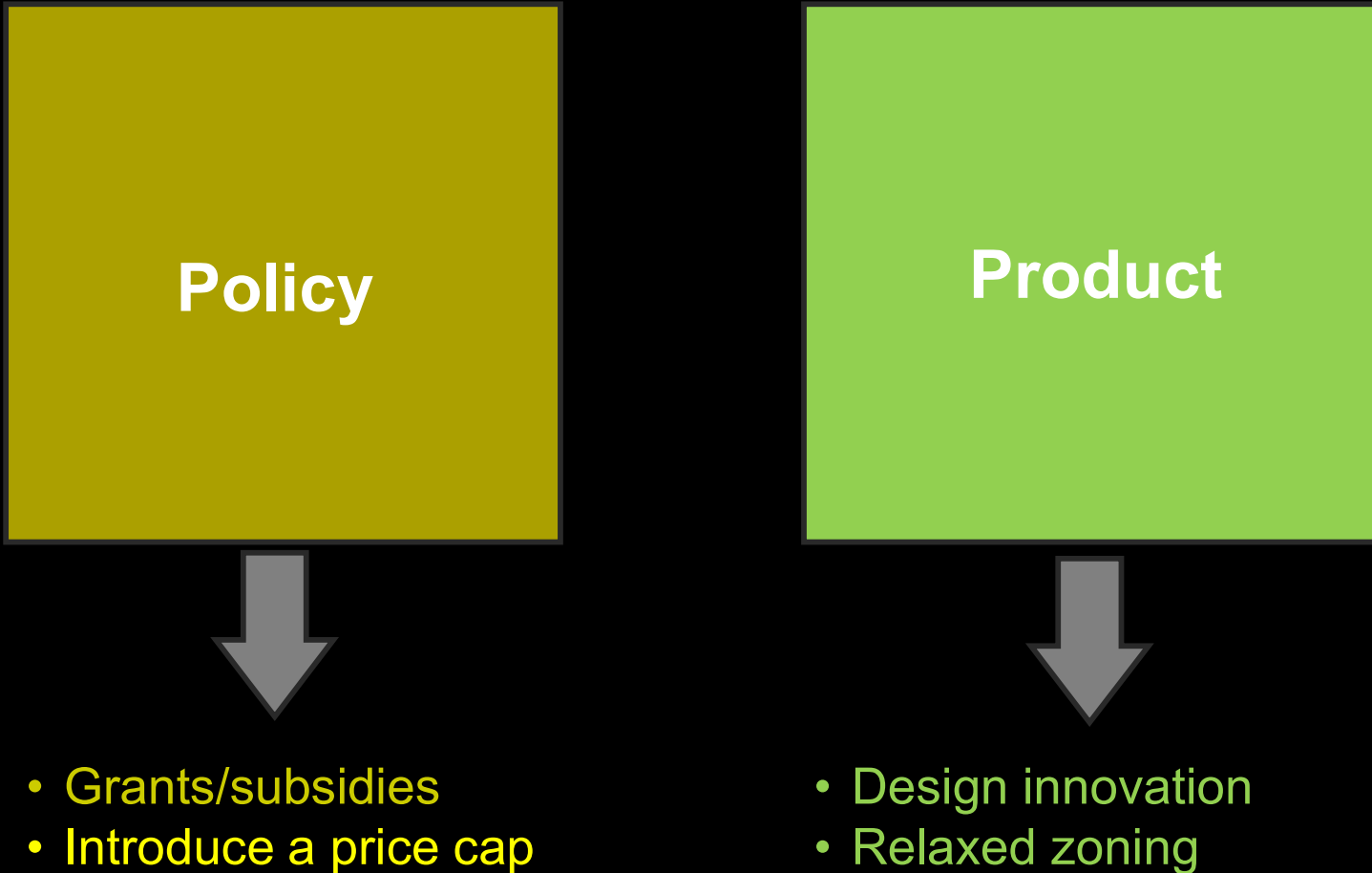
Retrieved from: [https://www.nbc.ca/content/dam/bnc/en/rates-and-](https://www.nbc.ca/content/dam/bnc/en/rates-and-analysis/economic-analysis/housing-affordability.pdf)

[analysis/economic-analysis/housing-affordability.pdf](https://www.nbc.ca/content/dam/bnc/en/rates-and-analysis/economic-analysis/housing-affordability.pdf)

housing affordability

When a household spends more than **30%** of their gross annual income on any form of housing tenure: rental or ownership, they face an affordable housing challenge.

solutions



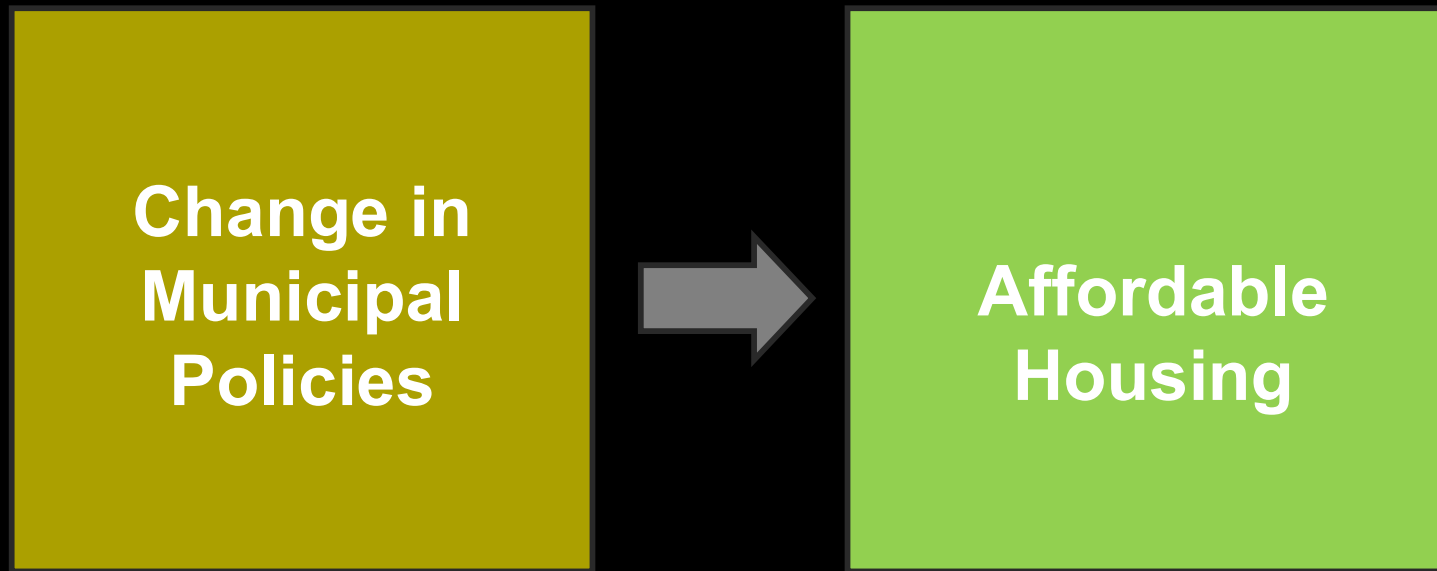
Policy

- Grants/subsidies
- Introduce a price cap

Product

- Design innovation
- Relaxed zoning

In this presentation



In this presentation



Innovation

cost of a home -1



utilities



financing



prof fees



marketing

the initiator has **little** control

cost of a home -2



land



development



materials



labour

under the initiator's/municipality control

I will concentrate on factors

that are under the initiator's control



land



development

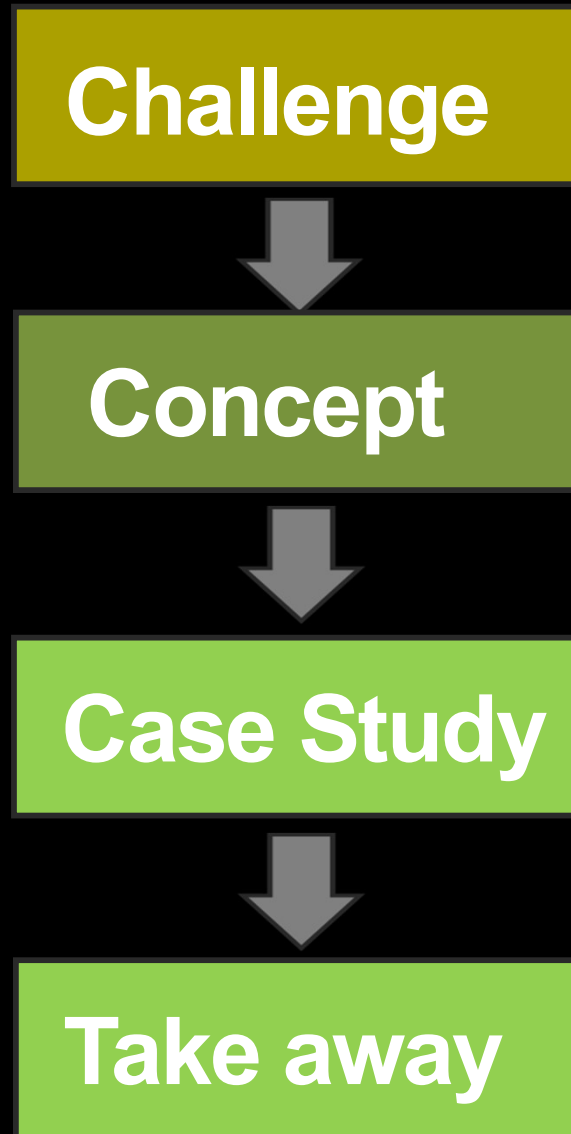


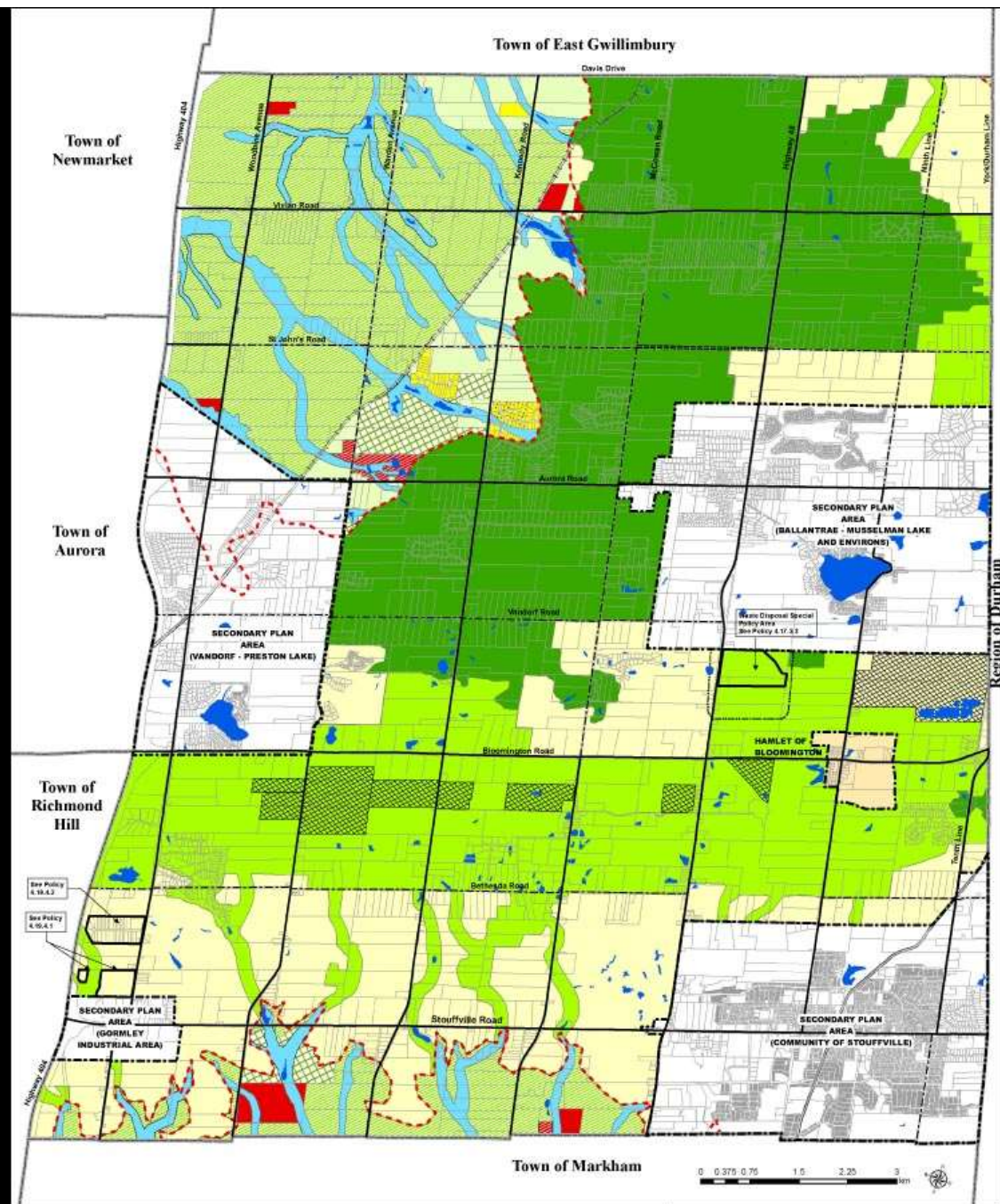
materials



labour

for each subject





LEGEND

- OAK RIDGES MORAINES PLAN BOUNDARY
- SECONDARY PLAN AREA BOUNDARY
- REGIONAL AND MAJOR ARTERIAL ROAD
- MINOR ARTERIAL ROAD
- PROPOSED MINOR ARTERIAL ROAD
- AGRICULTURAL AREA
- COMMERCIAL RECREATION AREA
- ESTATE RESIDENTIAL AREA
- ESTATE RESIDENTIAL AREA SPECIAL

- ORM COUNTRYSIDE AREA
- ORM HAMLET AREA
- ORM NATURAL CORE AREA
- ORM NATURAL LINKAGE AREA
- PUBLIC OPEN SPACE AREA
- RURAL AREA
- RURAL COMMERCIAL/INDUSTRIAL/INSTITUTIONAL AREA
- SIGNIFICANT ENVIRONMENTAL AREA
- MORAINES AGGREGATE RESOURCE AREA
- WASTE DISPOSAL AREA OF INFLUENCE

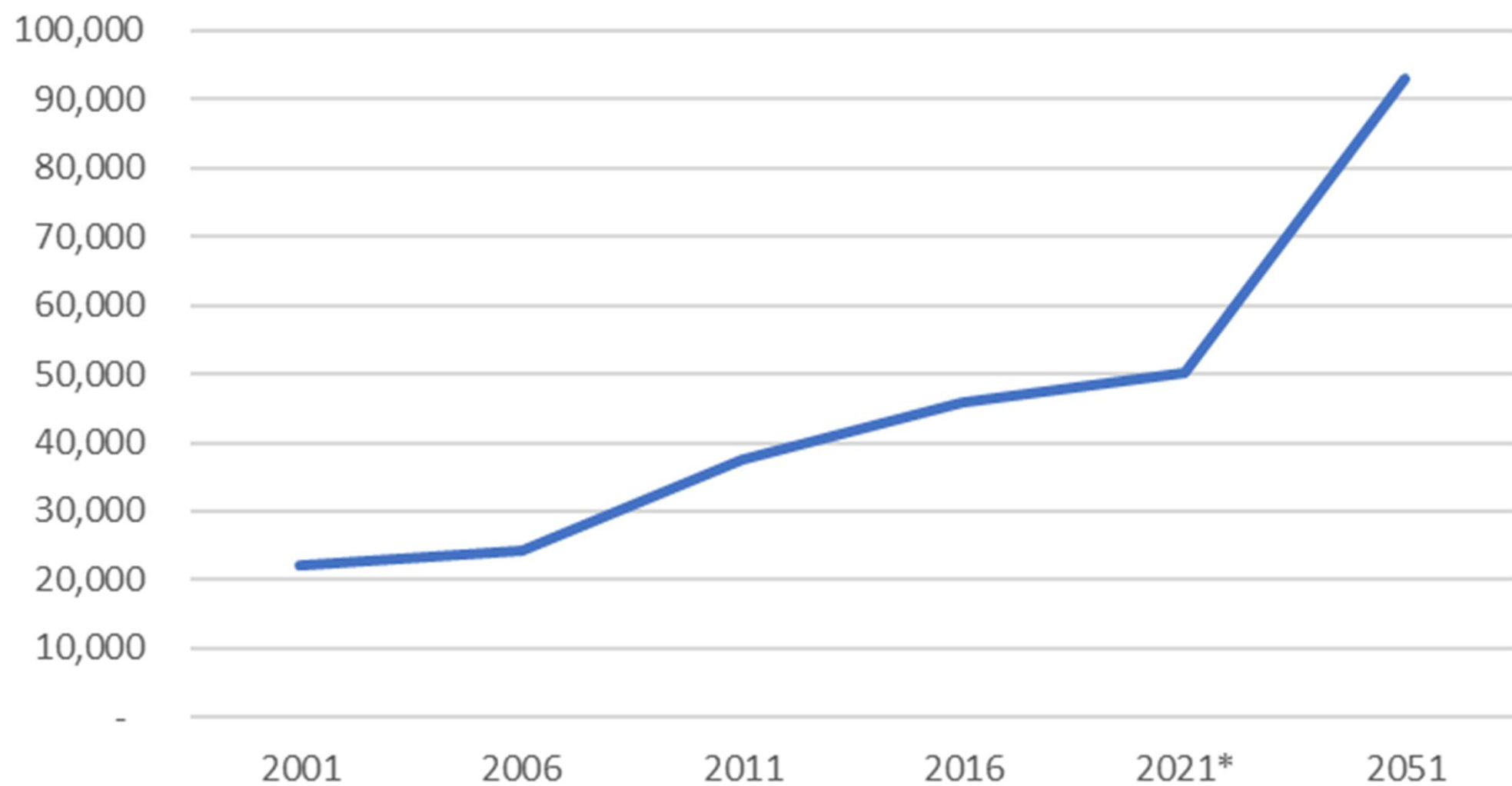
TOWN OF
WHITCHURCH - STOUFFVILLE
OFFICIAL PLAN

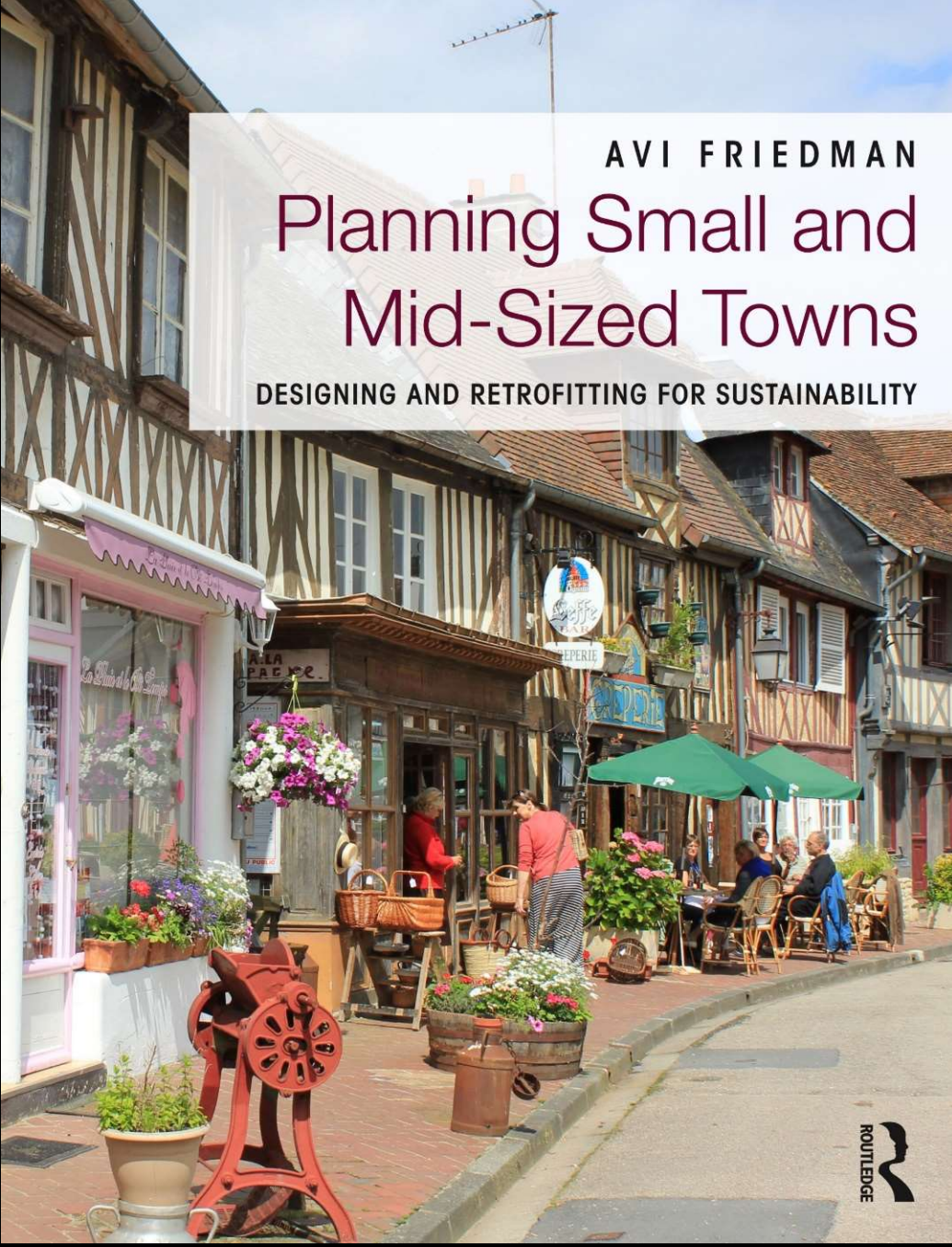
Schedule "B"

Land Use and
Transportation Plan

AUGUST 31, 2011

Whitchurch-Stouffville Population





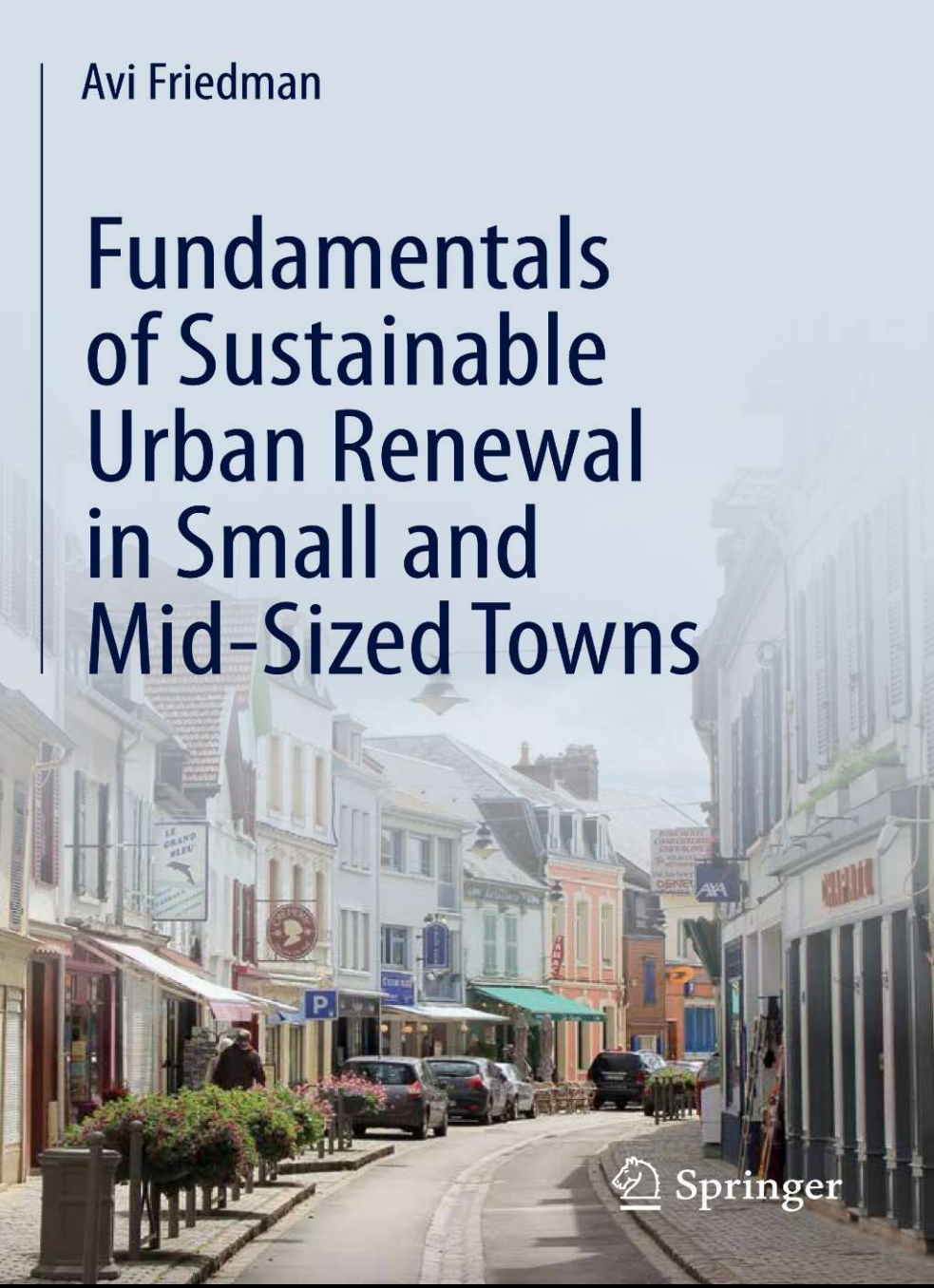
AVI FRIEDMAN

Planning Small and Mid-Sized Towns

DESIGNING AND RETROFITTING FOR SUSTAINABILITY

ROUTLEDGE

Avi Friedman

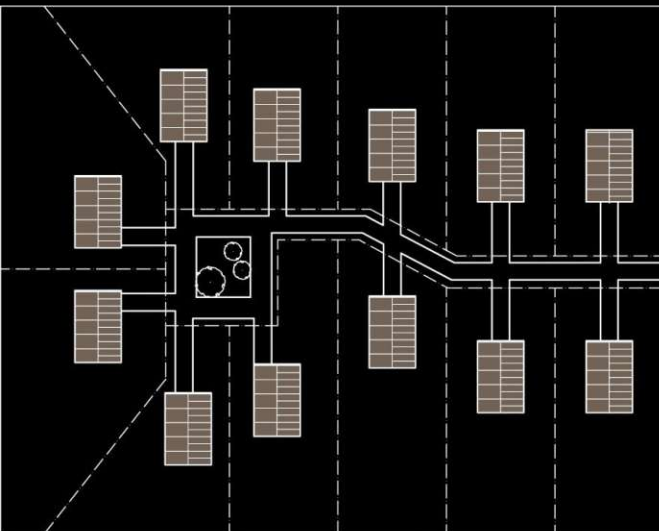


Fundamentals of Sustainable Urban Renewal in Small and Mid-Sized Towns

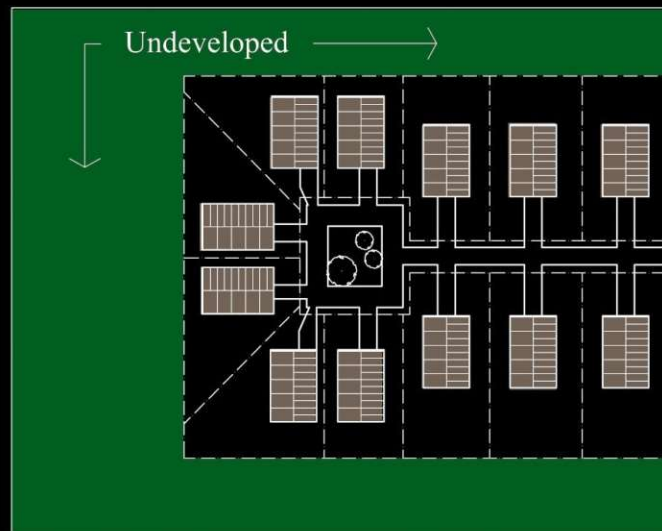
 Springer



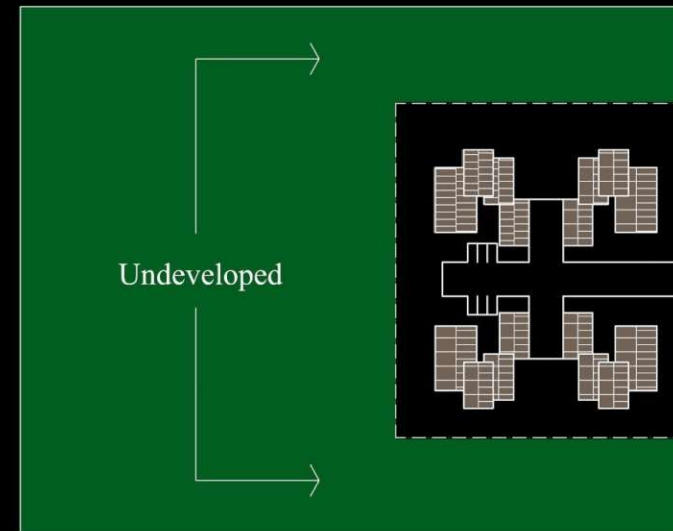
density



2 dwellings / acre (2 dwellings / 0.4 hectare net)
 12 dwelling units
 6 acres (2.4 developed hectares)

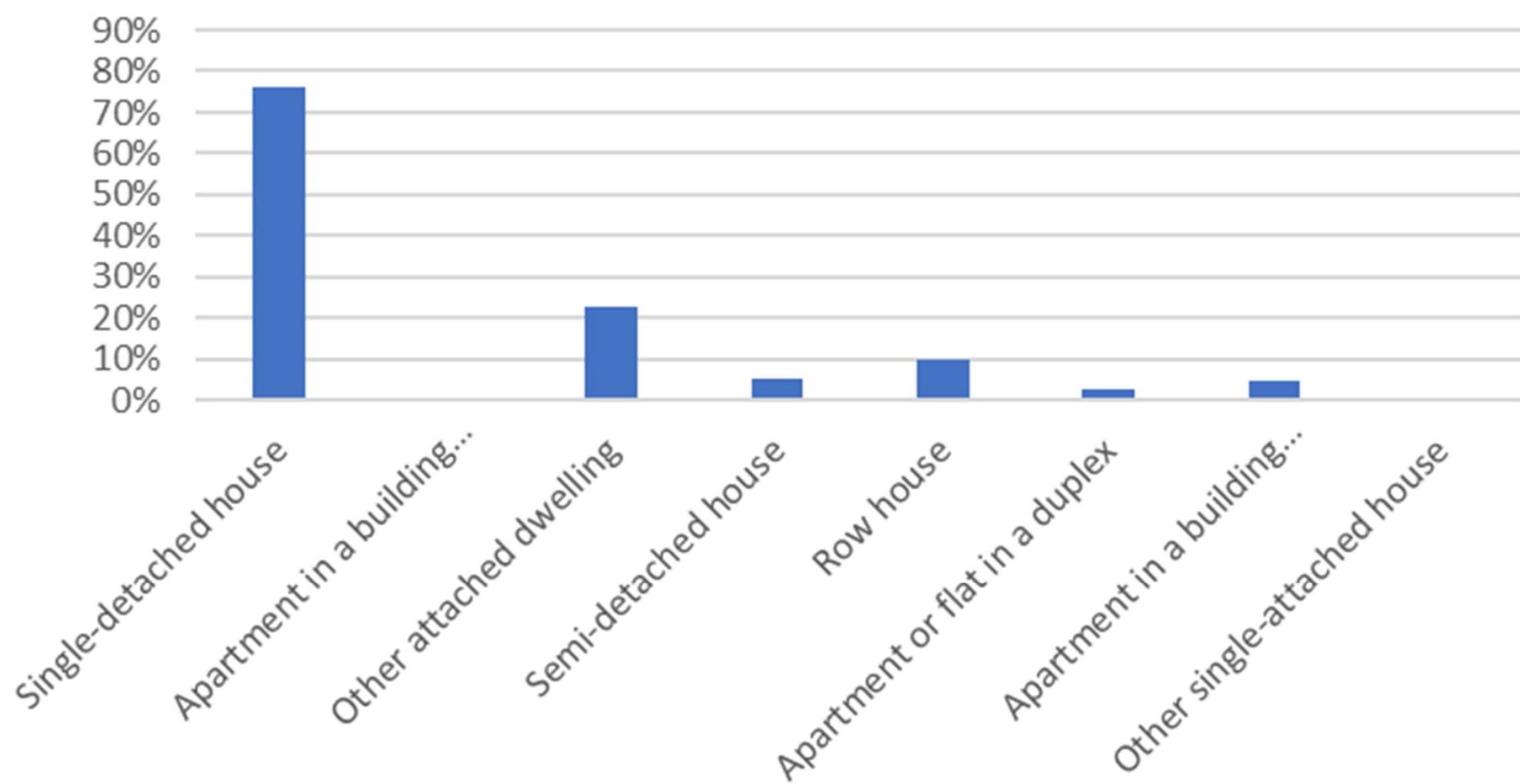


4 dwellings / acre (4 dwellings / 0.4 hectare net)
 12 dwelling units
 3 acres (1.2 developed hectares)



8 dwellings / acre (8 dwellings / 0.4 hectare net)
 12 dwelling units
 1.5 acres (0.6 developed hectares)

Housing Stock



Komoka

Middlesex Centre, Ontario
Avi Friedman Architect, 2012
300 units





Location: The site is located between the neighbourhoods of Komoka and Kilworth



Site: Panoramic view showing the new Wellness Centre in the foreground

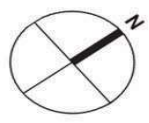


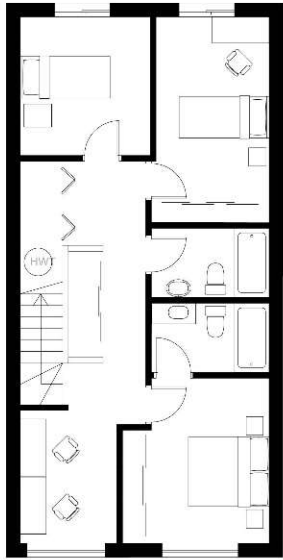


Middlesex-common areas

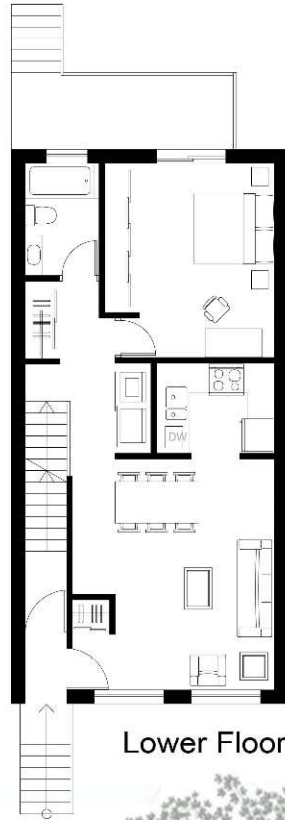


- | | | |
|--------------------|-----------|--------------------|
| ① Community garden | ④ Ponds | ⑦ Sand pit |
| ② Fruit trees | ⑤ Shrubby | ⑧ Play park |
| ③ Tool shed | ⑥ Benches | ⑨ Recycling centre |

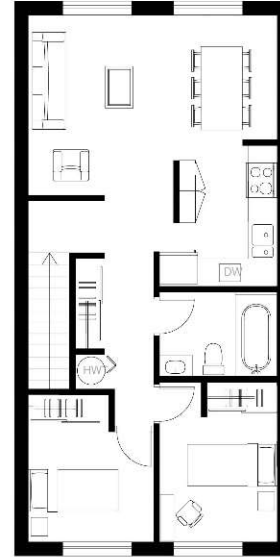




Basement



Lower Floor



Upper Floor



Type of unit: Duplex

Footprint: 12.19 m x 6.09 m

Floor area: 74.32 m²

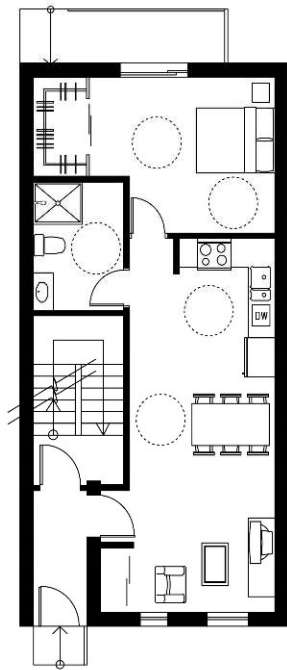
Total area: 148.64 m²



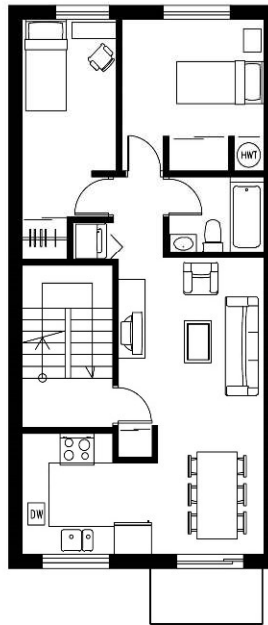
Front Elevation

Units: Three story, two families structure with basement

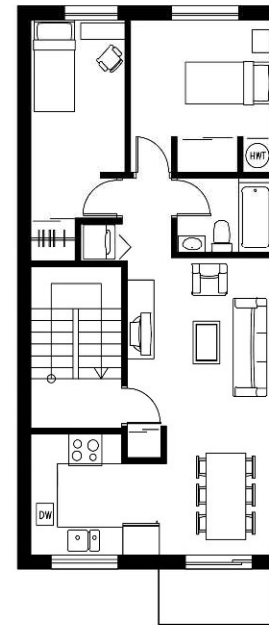




First Level (Reduced Mobility)



Second Level



Third Level



Type of unit: Triplex

Footprint: 12.2 m x 6.09 m

Floor area: 74.32 m²

Total area: 148.64 m²

The three-families triplex structures were introduced to offer more affordable homes and create a community made up of mix household types.



Front Elevation

Units: Three story, three families structure

0 1.6 3.2 4.8 m

densification

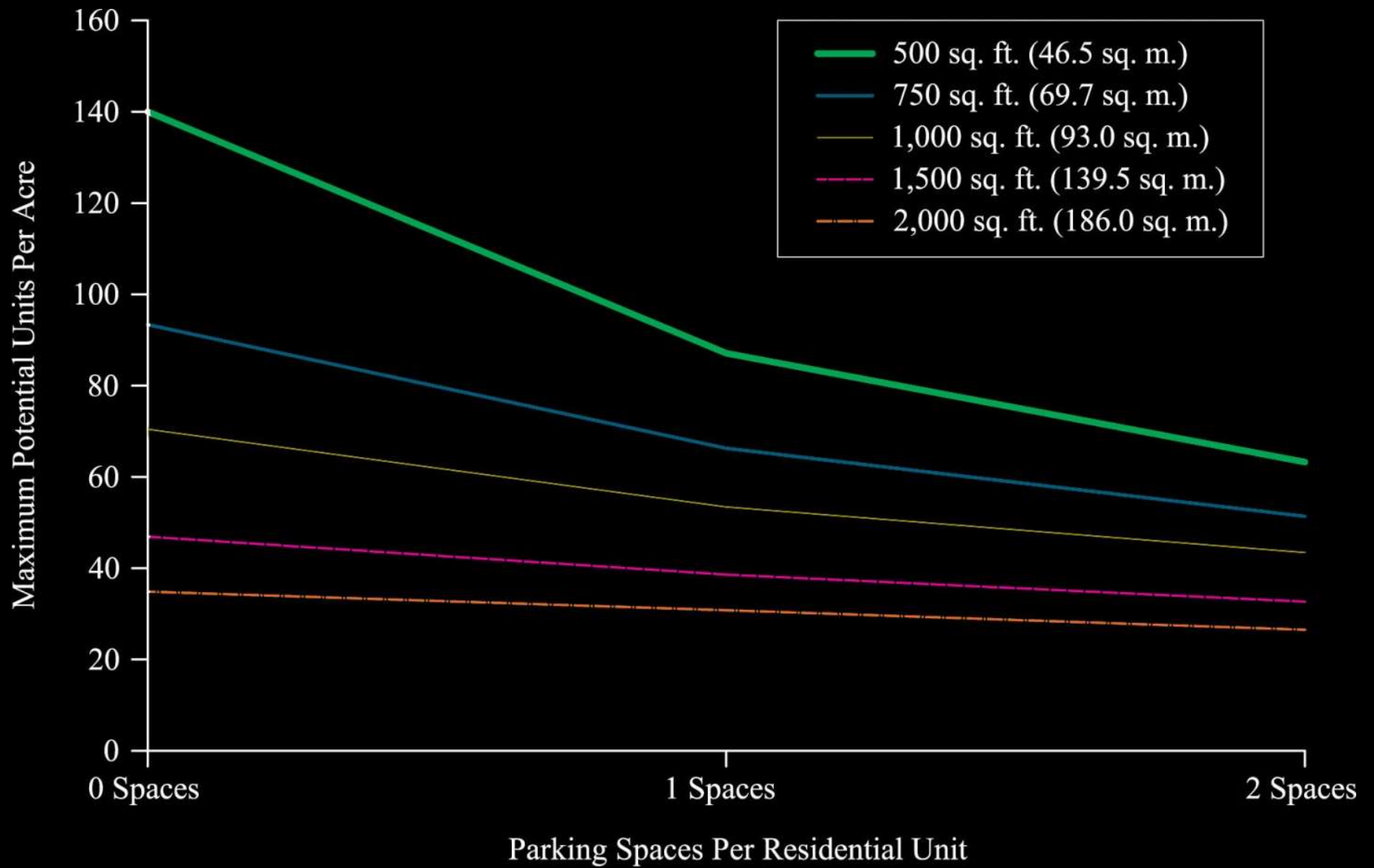


lower cost by better utilizing land and infrastructure



streets

Commonly, some 40 percent of a development's area is devoted to circulation and parking.



car-free communities



lower cost of roads, sidewalks and utilities



mixed dwelling types

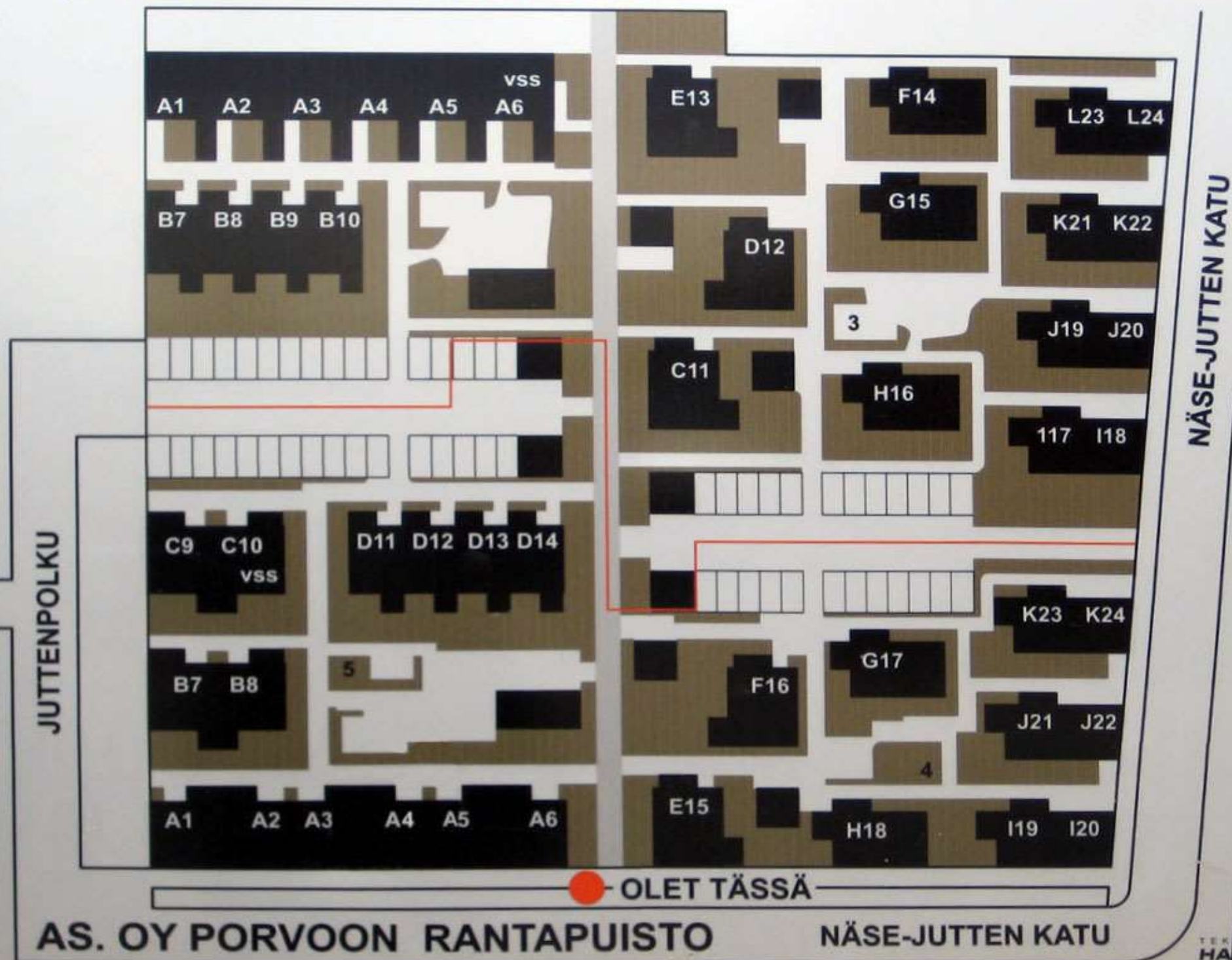


Wooden Town on the Porvoo River

Tuomo Siitonen Architects
Porvoo, Finland, 2005
11 Acres (4.5 Hectares)/site
430 sq. ft. (40 m²)/floor

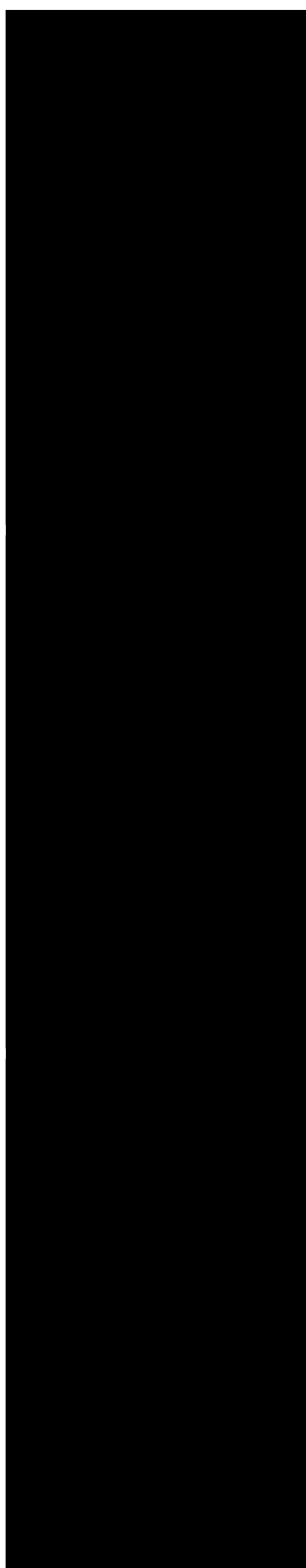


AS. OY PORVOON LÄNSIRANTA



AS. OY PORVOON RANTAPUISTO

NÄSE-JUTTEN KATU



mixing dwellings types



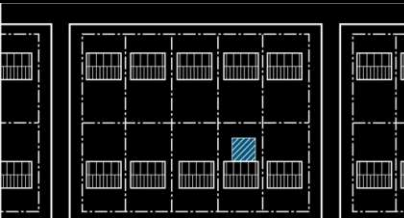
draw to the same site people with
different economic means



infill housing

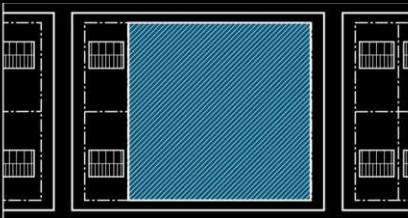
avoiding urban sprawl

lot



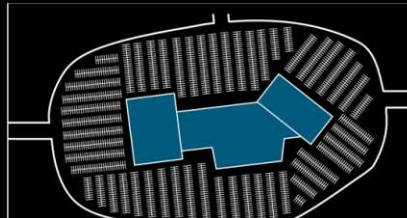
Add to or subdivide an existing home

parcel



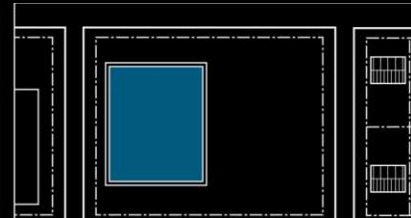
Construct an infill dwelling or cluster of them on an empty lot

grayfield



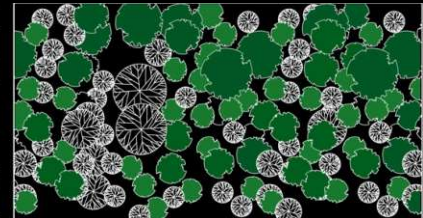
Convert a Grayfield site to residential

brownfield



Convert an existing industrial building or turn a Brownfield site to residential

greenfield



Build on a Greenfield

Decreasing priority

Bridgewater Court, Stoney Creek, Hamilton, Ontario

Avi Friedman Architect





1. Units



2. Circulation and Parking



3. Open Space and Landscape

Legend	Type of Units	Number of Units
	Single Family Townhouse	22
	Duplex	22
	Triplex	24
Total Number of Units		68
Total Density		60 units/ha. 24 units/acre
FAR		0.64

Legend	Type of Parking	Number of Units
	Common outdoor	78
Total Number of Parking		78
Parking Ratio		1.1

Legend	Type of Open Space	Area(m ²)
	Private Open Space	3470
	Public Open Space	1490
Total Area (m ²)		4960

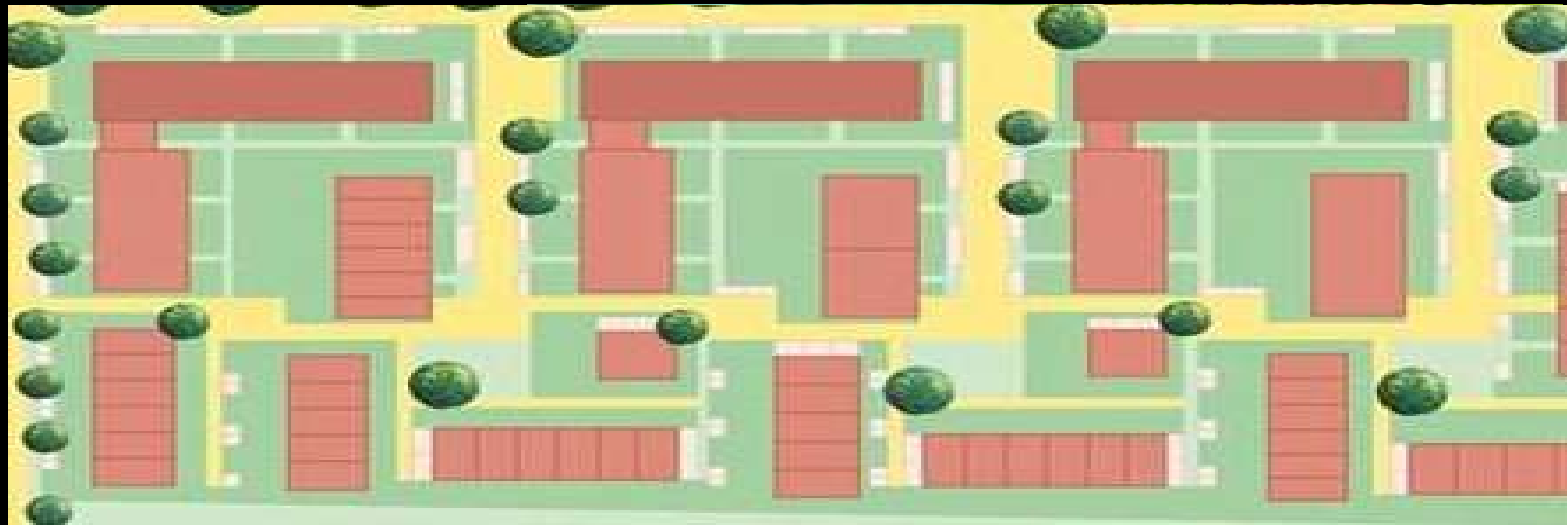


Scale: 1:500





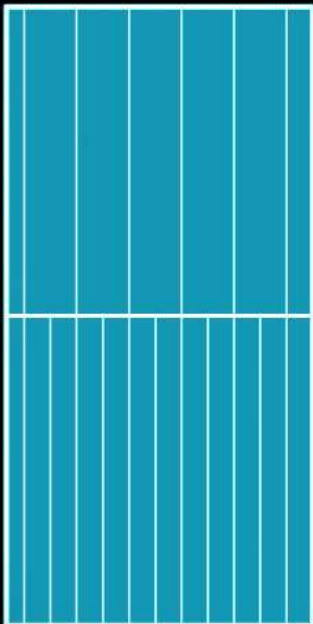
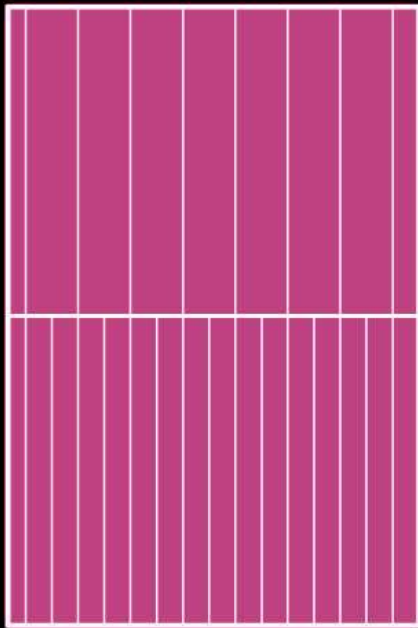
denser infill



lower cost by replacing low with high density housing and taking advantage of existing infrastructure



width



Item	Unit	Typical Home		Narrow Front	
Land			Cost (\$)		Cost (\$)
Lot size	Feet	50 x 100		14 x 100	
Lot area	Sq.ft	5,000		1,400	
Total	\$	5,000 x 4	20,000	1,400 x 4	5,600
Services					
Lot frontage	Linear ft	50		14	
Cost of services	\$/Linear ft	450		450	
Total	\$	450 x 50	22,500	450 x 14	6,300
Construction					
Unit dimensions	Feet	30 x 40		14 x 36	
Number of floors		3		3	
Area of finished space	Sq.ft	3,600	(1,200 x 2)	1,800	(504 x 2)
Cost of finished space	\$/Sq.ft	50		37	
Cost of construction	\$	50 x 3,600		37 x 1,008	37,296
Total construction	\$	180,000		46,620	
Marketing					
5% (of construction)	\$	5%x180,000	9,000	5%x46,620	2,331
Overhead and Profit					
15% (of construction, marketing and serviced land)	\$	15%x231,500	34,725	15%x60,851	9,127
Total	\$	266,225		69,978	

Savings from size reduction and efficient framing practices

Humbird Site North Cowichan, BC

Avi Friedman Architect

Humbird site photos



A. Looking N from Humbird St.



D. Looking N from W boundary



G. Looking S from site



J. Looking S from E boundary



B. Looking H from H boundary



E. Looking N from site



H. Looking W from site



K. Looking N from E boundary



C. Looking S from W boundary



F. Looking E from site



I. Looking E from E boundary



L. Looking S from Echo St.



Data	Figure
Single-family units (S)	22
Duplex units (D)	-
Triplex units (T)	-
Walk-up units (WU)	-
Apartment units	-
Outdoor parking	36
Underground parking	-
Area of greenspace	13,961 m ²
Total number of parking	36
Total number of dwellings	22
Density	12 units/ha



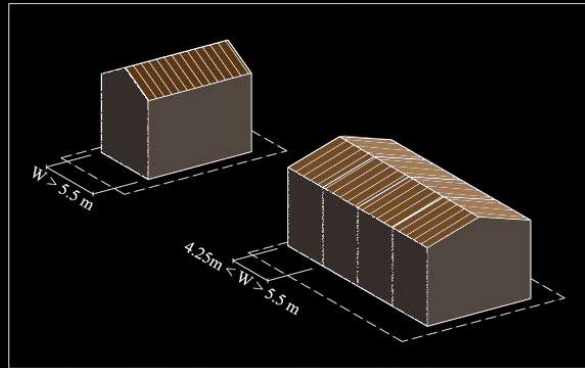
narrow dwellings



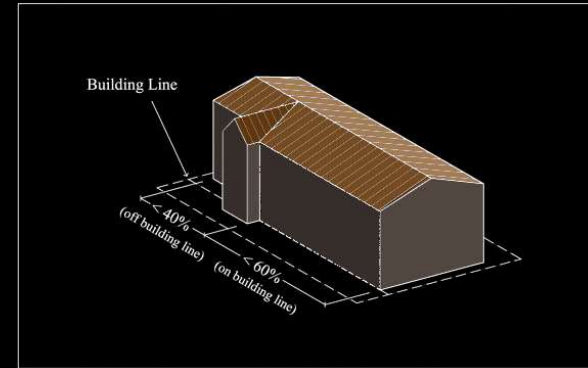
reduce cost of land and infrastructure per unit



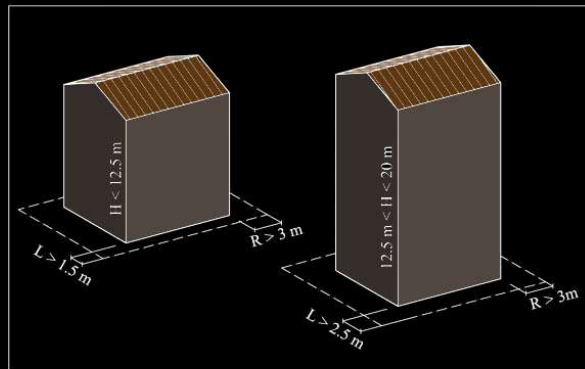
siting



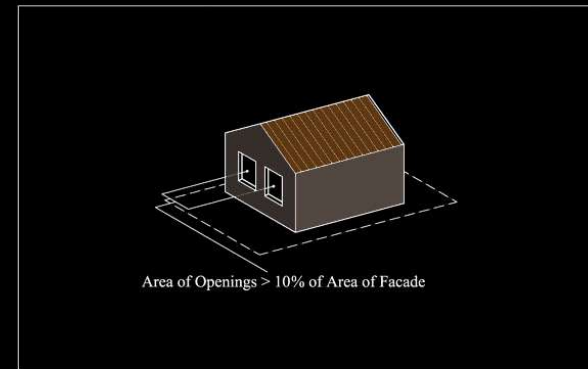
Width



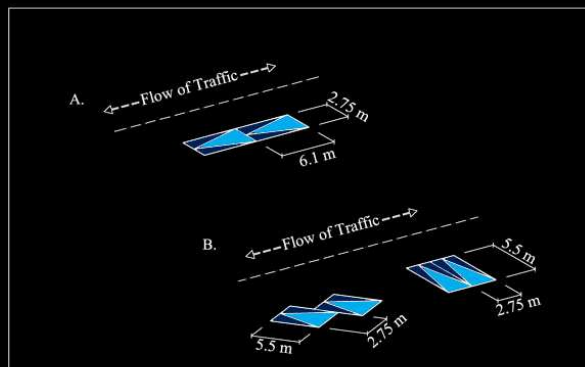
Lot Coverage



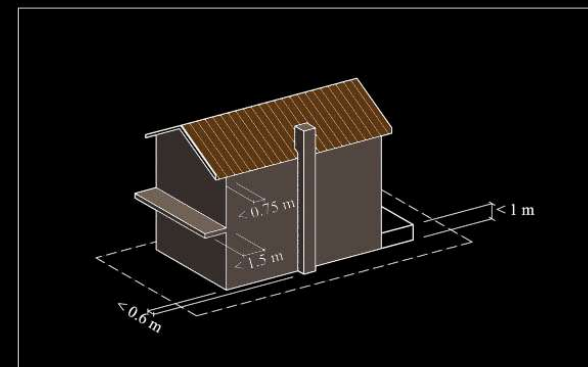
Setback



Openings



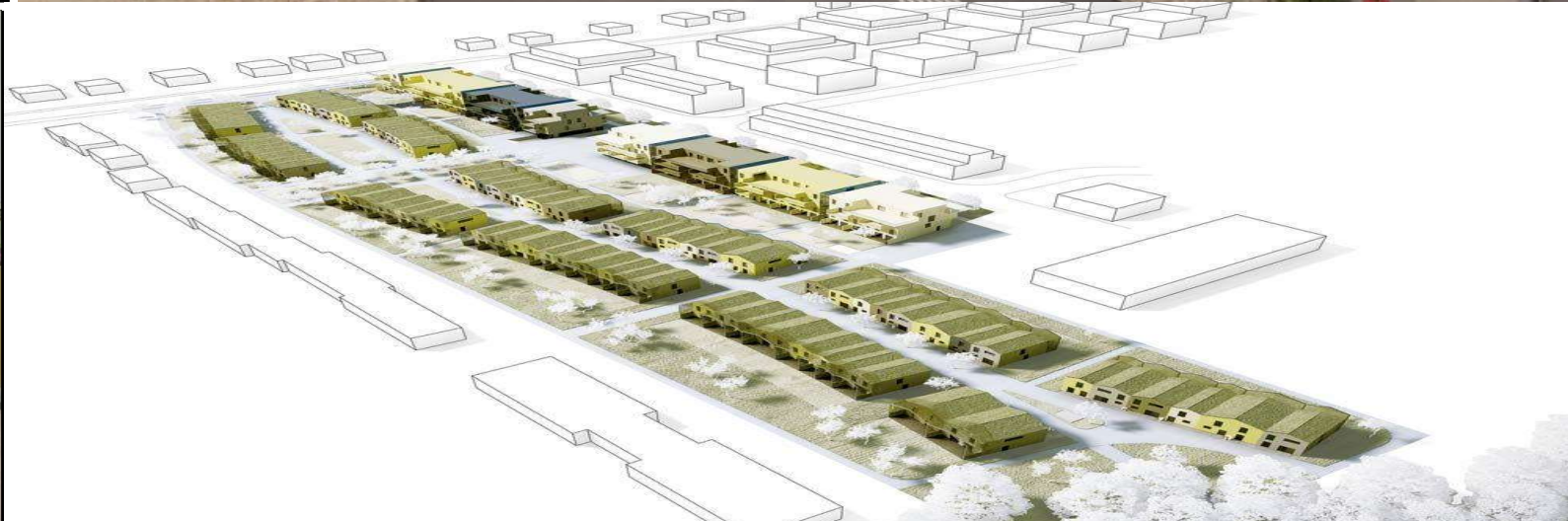
Parking



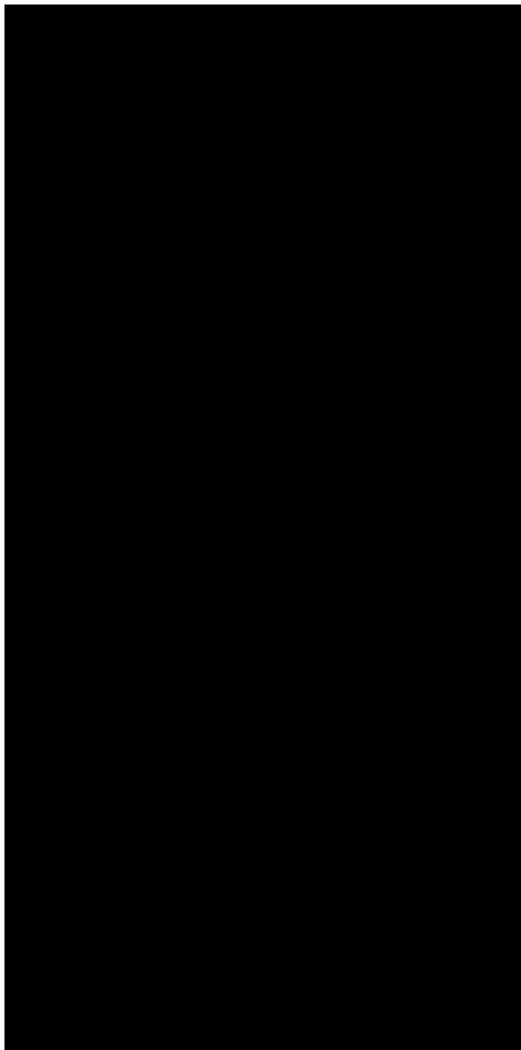
Projections

Green Wave

Vienna, Austria



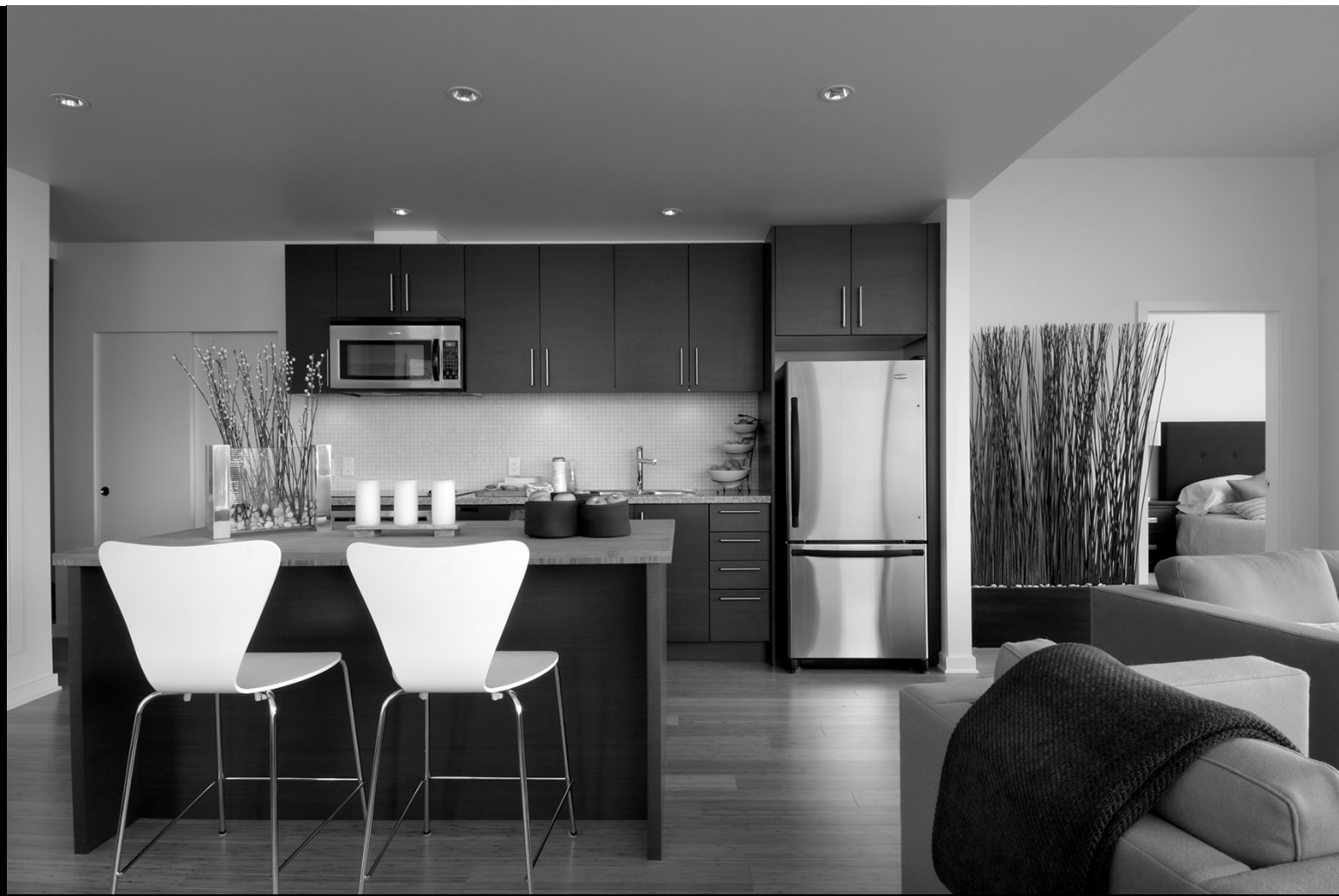




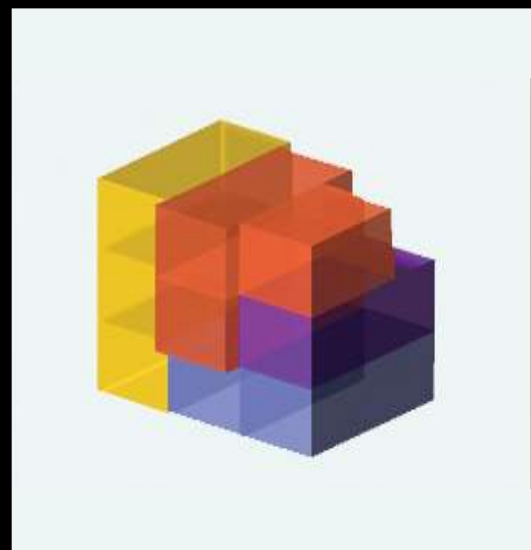
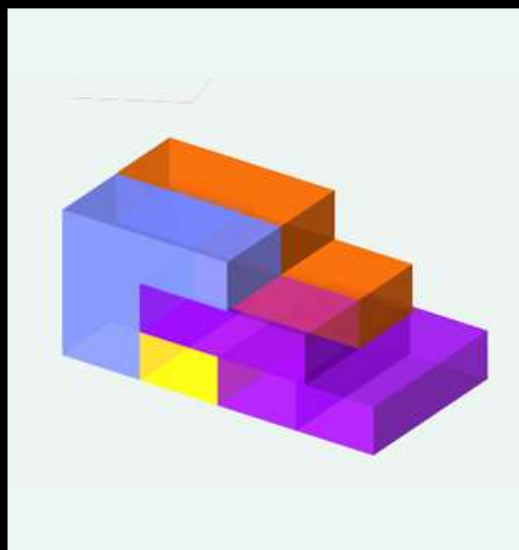
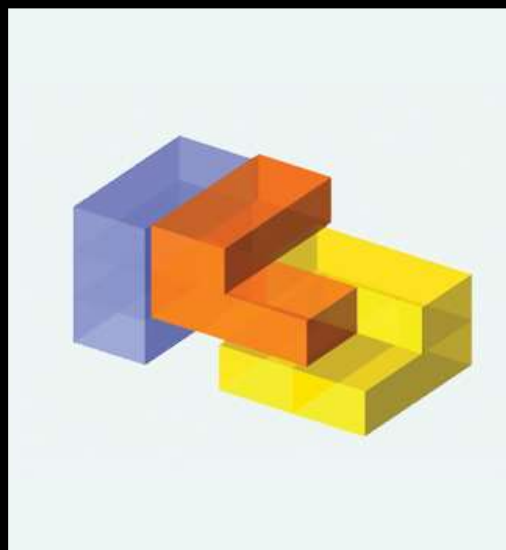
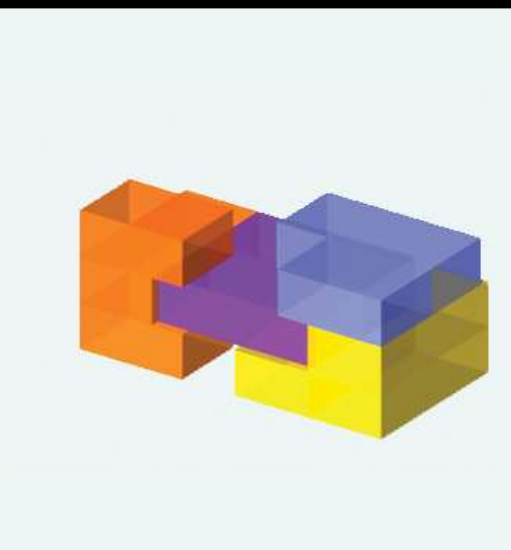
minimizing set-backs



results in shorter, less costly lots, higher density and possible rear lane for parking



buyer's choice



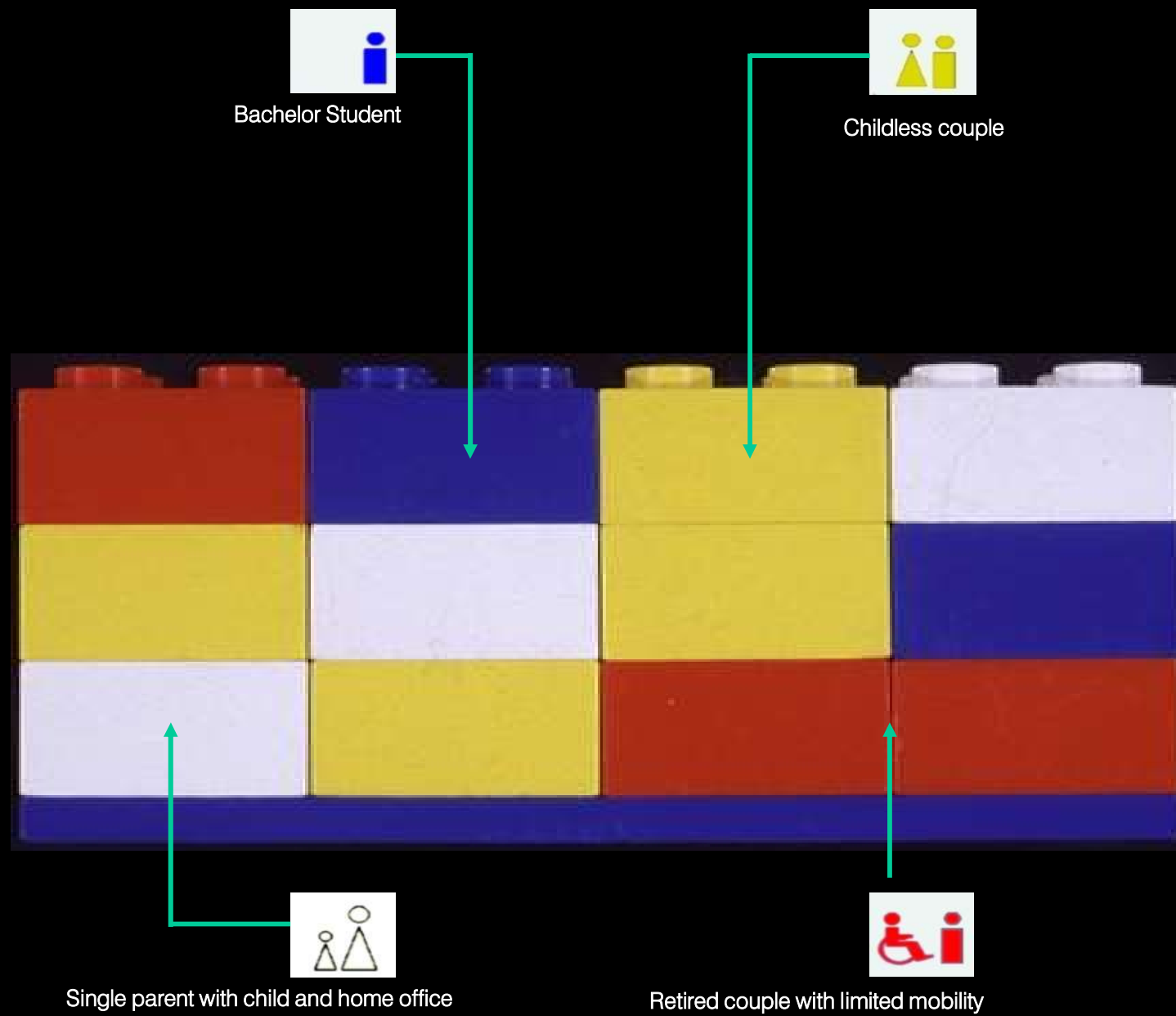
The Next Home

Avi Friedman, Architect
McGill University





choice of number of floors



choice of interior components



projects





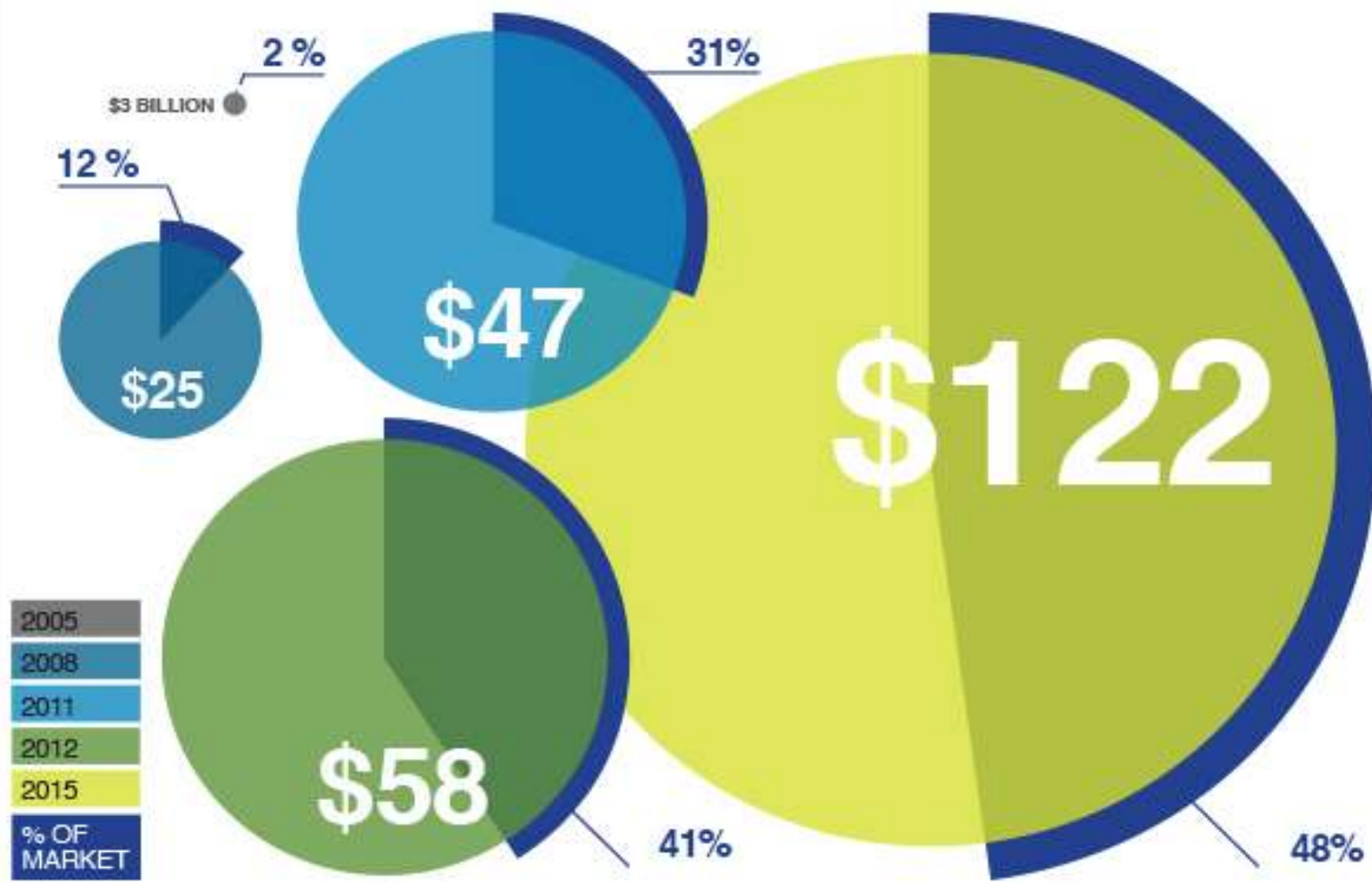
offering choices



lets buyers purchase only what they
need and can afford



do-it-yourself



SOURCE: Green Market Size, McGraw-Hill Construction



self-help



reduces cost by letting people
use their own labor



apartments



**People
Minded
Affordable**



**Sustainable
Wellness**



**Rapid
Assembly**



**Smart
System**

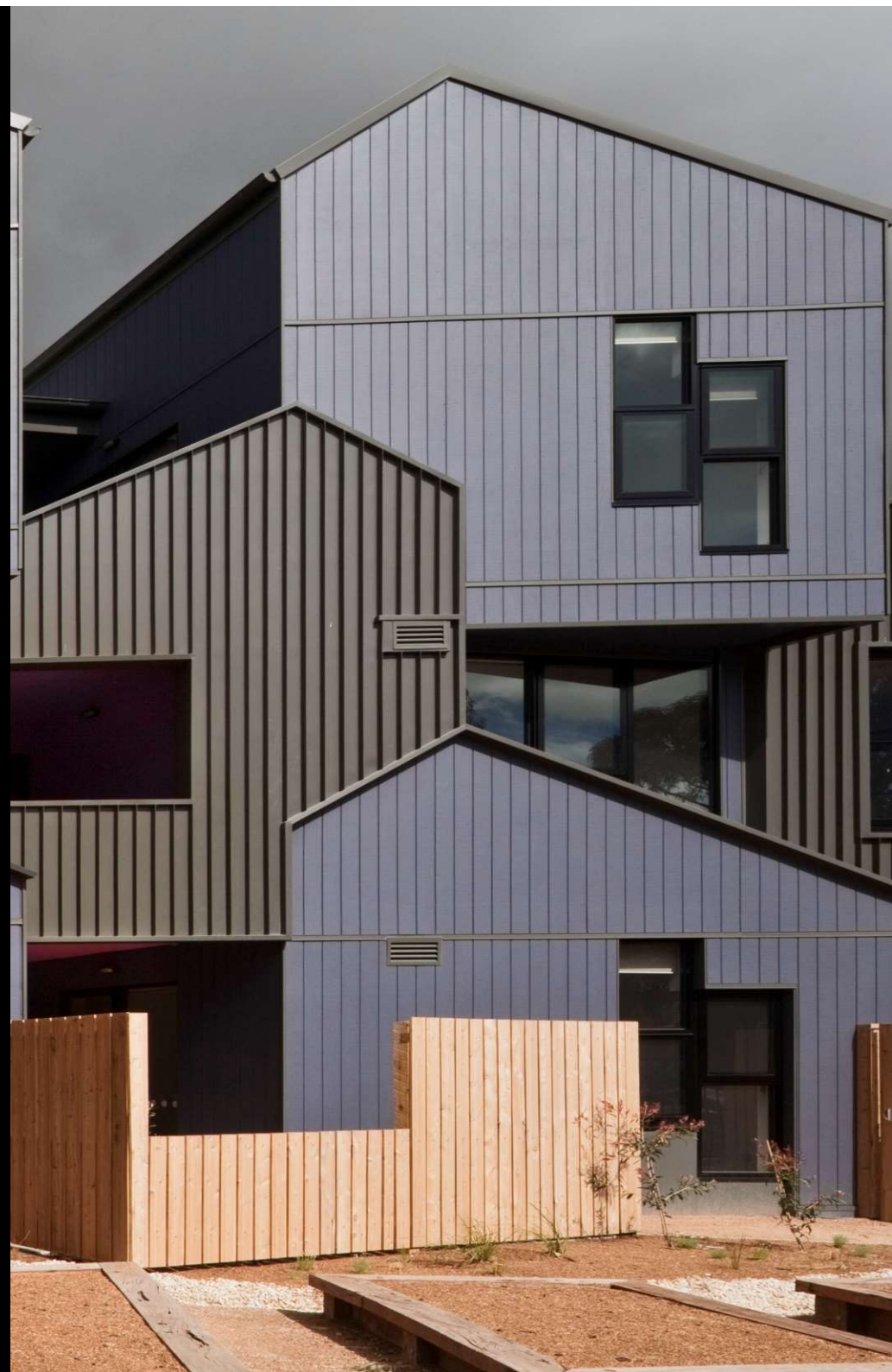


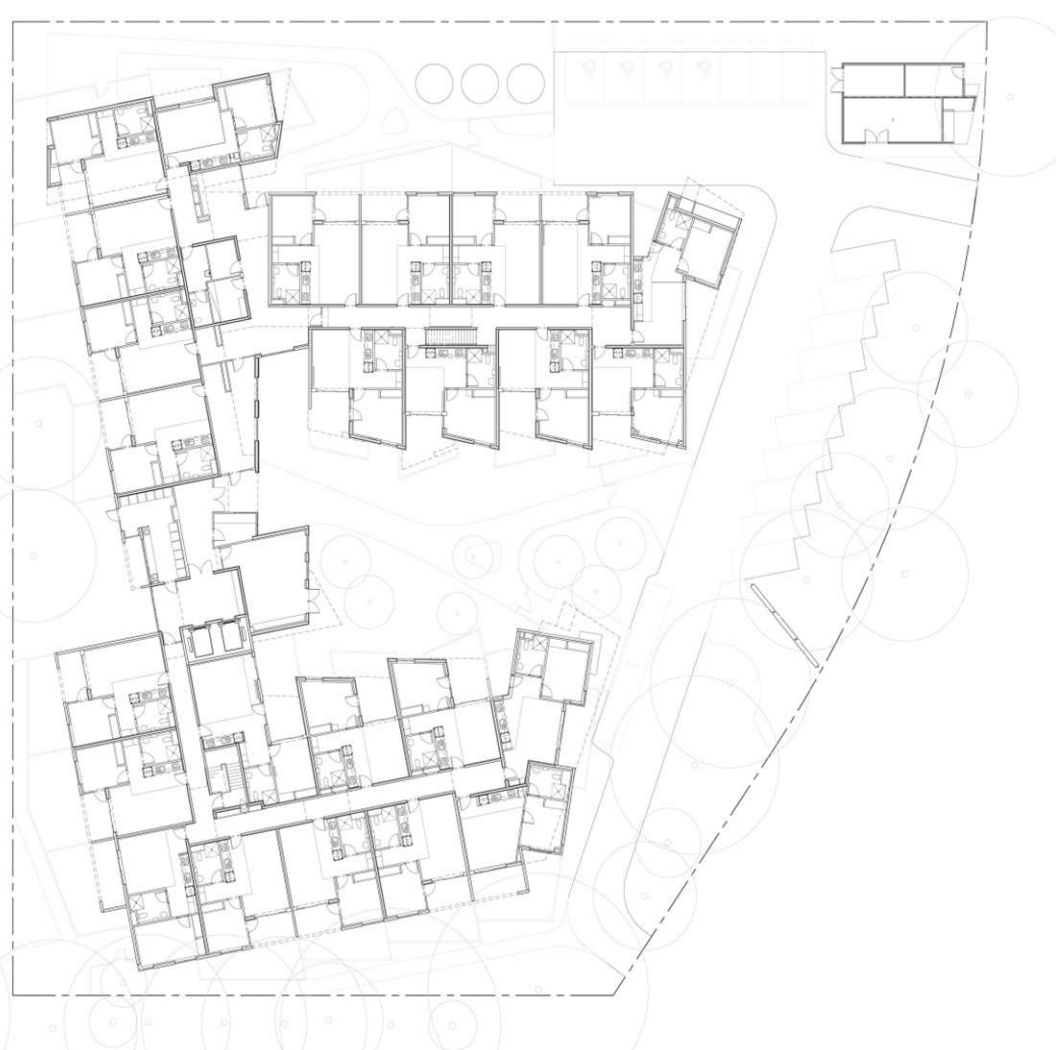
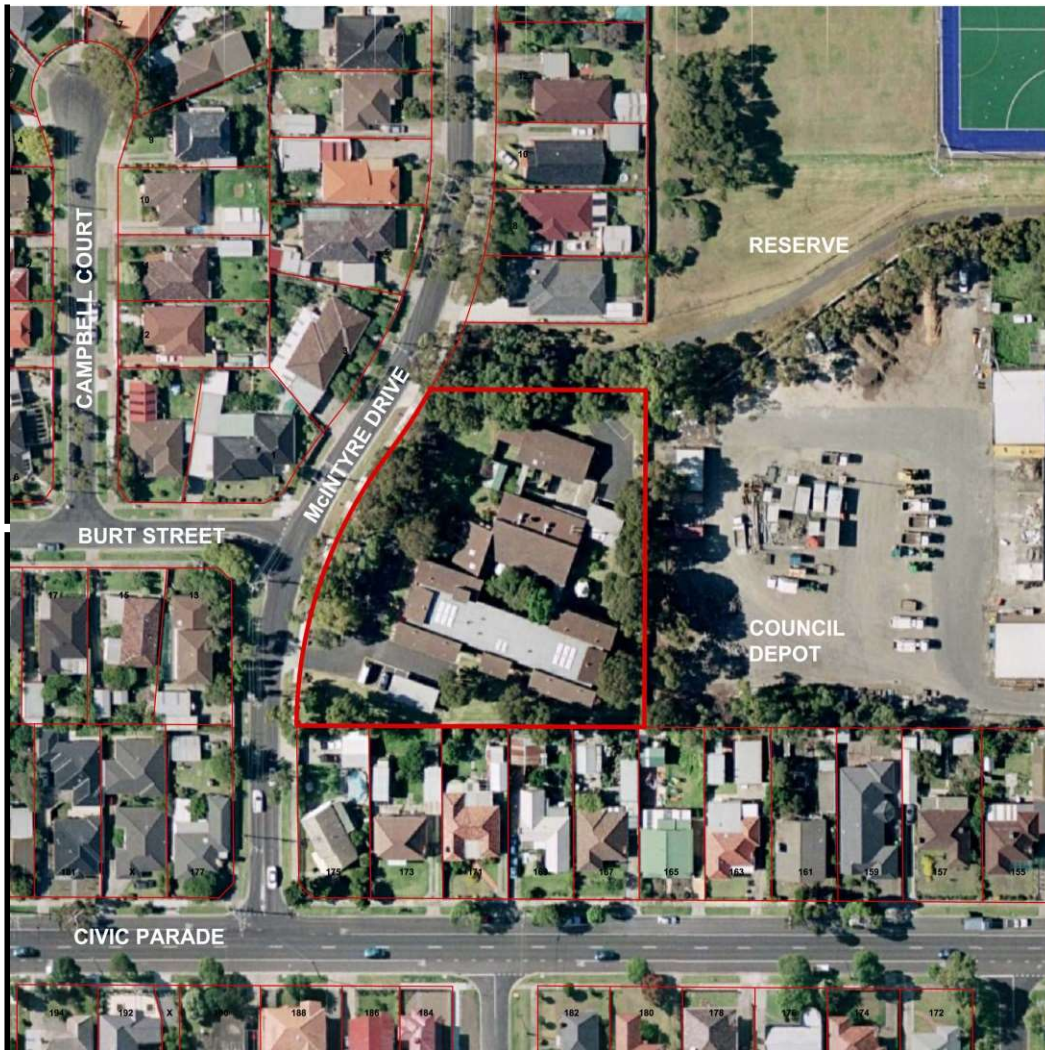
**Flexible
Design**

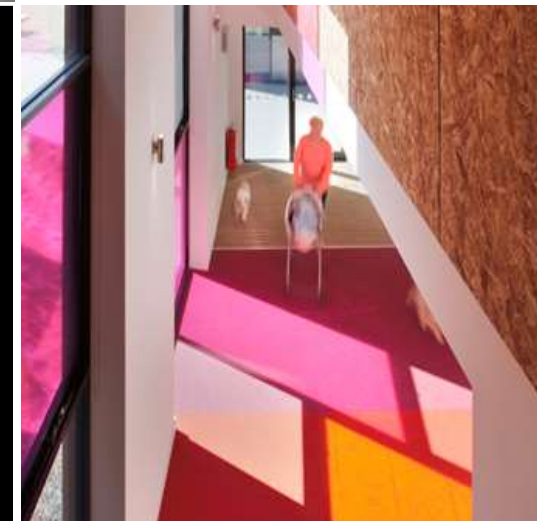
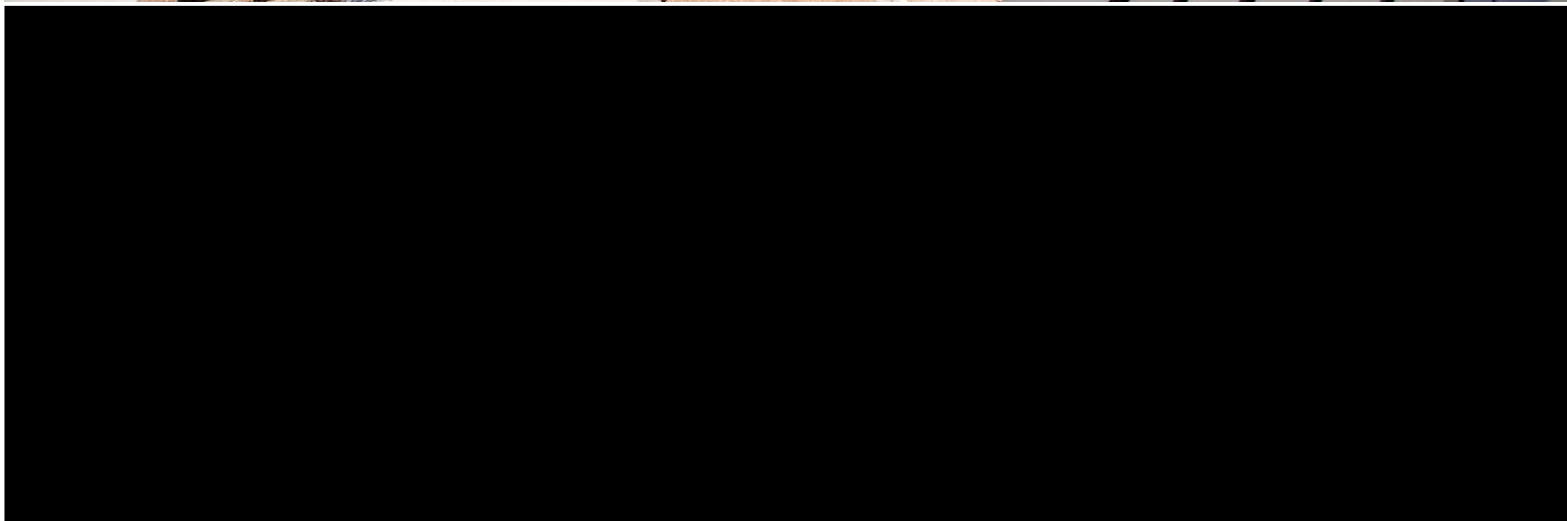


2 McIntyre Drive

Altona, Melbourne, Australia
MGS Architects, 2012
69 Apartments







innovative apartments

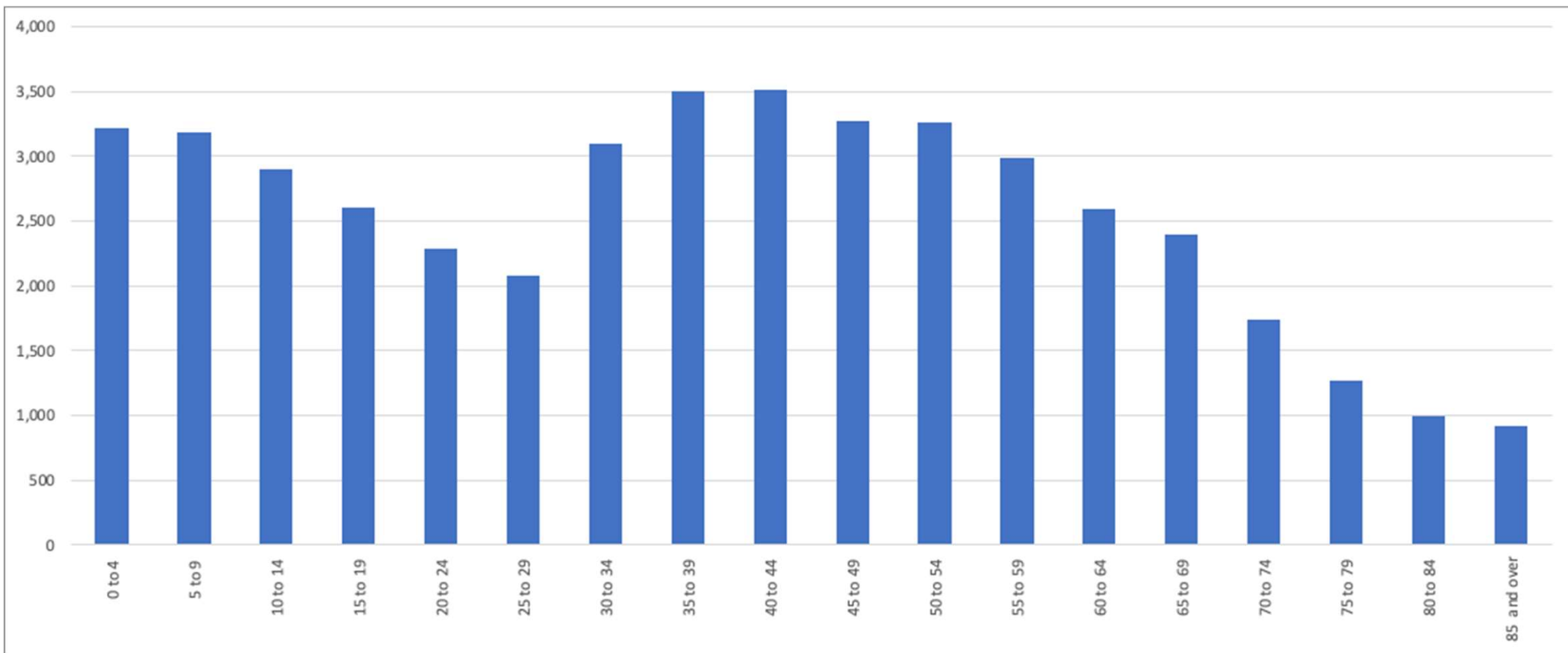


reduces cost by increasing land efficiency and mixing households



aging

Population by age 2016





Accessibility



Door openers



Adapted transportation



Long term care



Fitness



Granny flats



Exercise places

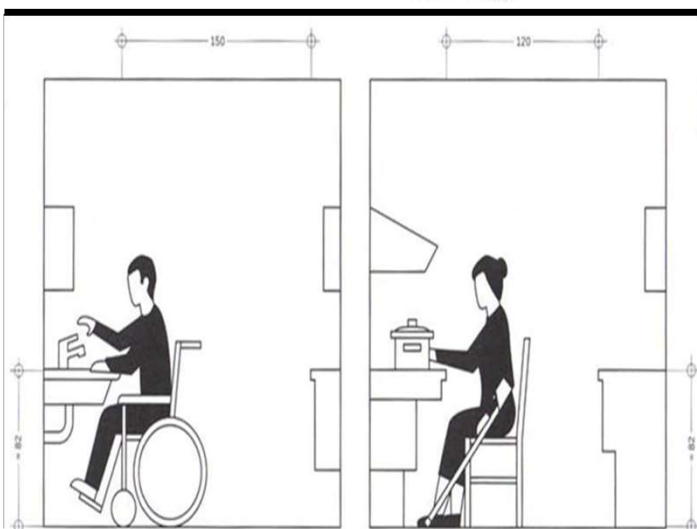
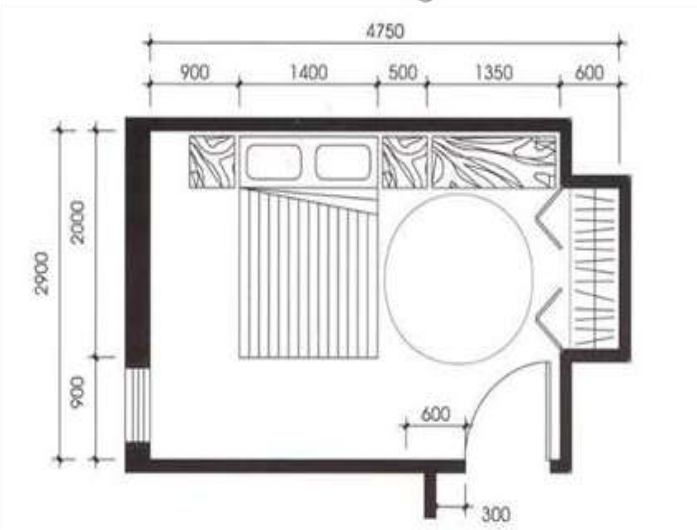
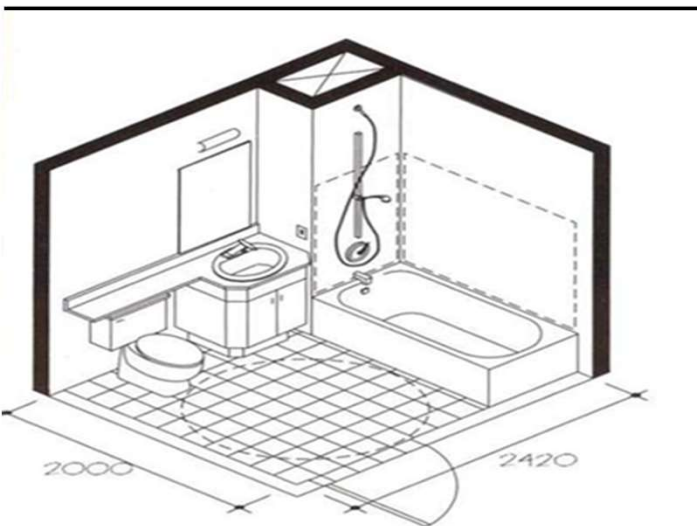


Small parks

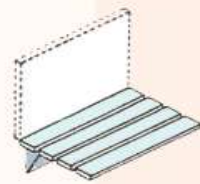


Community gardens

aging in place



Accessories



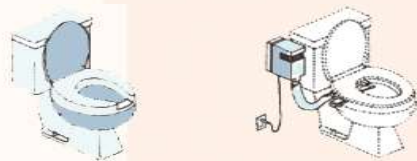
collapsable shower seat



shower snake



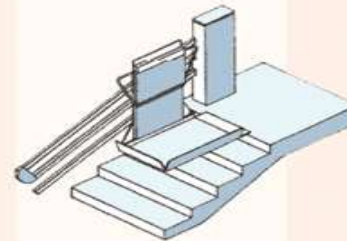
grab bars



toilet and attachment



bathtub



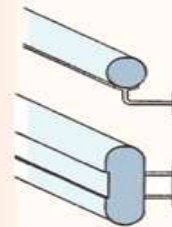
stairlift



tactile stair



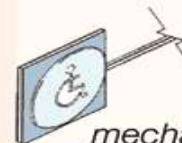
tactile handrail



railings



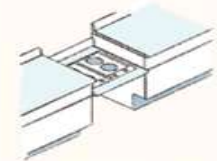
doorknob



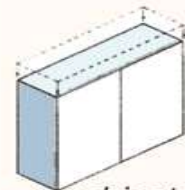
mechanical door opener



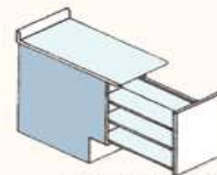
sink with drawer face and brackets



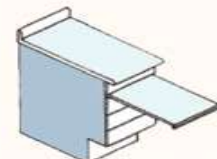
stove with drawer face and brackets



cabinet with brackets to lower module



pull-out shelf



pull-out work surface



cabinet on wheels



area

The Grow Home

Avi Friedman &
Witold Rybczynski Architects
McGill University







ARCHITECTURE

Redefining a dream

The search for more affordable housing

Can Small Be Cheap And Also Beautiful?

By PATRICIA LEIGH BROWN

IT is the architectural equivalent of the Japanese compact car, without sports like power steering or a tape deck. But two professors at McGill University are betting that many young prospective homeowners would willingly trade class and other amenities for a home of their own that is efficient and affordable.

The "Grow Home" — two stories, 14 feet wide, 1,000 square feet — is an experimental house recently built by the Affordable Homes Program of the McGill School of Architecture. In Montreal the two-bedroom, one-bathroom town house cost \$36,000 for materials and labor, or United States dollars. The estimated selling price in Montreal would be \$42,000. In the United States, the selling price would vary, depending on local land and construction costs.

"We feel there was a gap between architects, housing and the needs of the public," said Avi Friedman, who is co-director of the graduate program with Witold Rybczynski, the author of "Home: A Short History of an Idea" and "The Most Beautiful House in the World."

"The whole issue of affordability isn't talked about

at a Toronto lecture hall, a white-haired woman with heavy black-rimmed glasses had the most attention of about 650 people. Author and urban-planning theorist Jane Jacobs was speaking in her role as a juror in the largest architectural competition ever held in Canada. The aim of the design competition, entitled Housing on Toronto's Main Streets, was to help alleviate, eventually, the city's housing crisis by promoting the construction of medium-rise residential units above Toronto's shop-lined main streets. Jacobs, for decades an internationally respected advocate of mixed-use development in cities, told the crowd that Toronto would benefit from the increase in residential space in shopping areas. Housing has become prohibitively expensive in several Canadian centers. Now, like Jacobs, many architects and urban planners are looking at ways of increasing residential density as a means of making shelter more affordable.

A move towards greater density is



Friedman (left);

feet of total floor space. The architects claim that the traditionally styled, two-story unit, which is only 14 feet wide, could be built in most Canadian cities for construction and labor costs of \$40,000. They estimate that, if the house were built a half-hour's drive from downtown Montreal, the land cost would be \$12,000 and the total cost to the home buyer would be \$65,000. Said Rybczynski: "We knew that we couldn't do anything about interest rates—I don't think anyone can—and we couldn't do much about land costs except to reduce the lot

size." Still, in some parts of Canada, land costs are much higher than in Montreal. Frank Clayton, president of the Toronto-based market research firm Clayton Research Associates, estimated that in Scarborough, Ont., the price of a Grow Home lot would be about \$50,000.

The Grow Home is a basic, no-frills unit designed with young, first-time homeowners in mind. The architects assumed that the buyers will do some of the finishing work themselves: the top floor is an unpartitioned loft-like space that can be used as is or transformed into two bedrooms with the addition of a

Los Angeles Times

Homing In on Small

■ **Architecture:** Two partners have created a \$36,000-house that can expand according to a buyer's needs and income. The word to remember is *basic*.

to 2.67 have to do lots of late process. Laws prevent areas. As houses get density at Rybczynski of the graduate program in affordable homes at Montreal's McGill University, unveiled their own response to the housing problem last month. On the McGill campus, they erected a prototype house that they designed called the Grow Home, a townhouse with 1,000 square

to live."

Organized by the City of Toronto's planning and development department, and sponsored by municipal and provincial levels of government, the competition called for architects to design buildings with a maximum of five sto-

September 9, 1990

The Philadelphia Inquirer

Two Canadian architects have set out to disprove the notion that their profession is powerless to solve the problem of unaffordable housing.

\$56,000 The Straight-Back model, the simplest version of the no-frills house, has no pergola or balcony.



\$67,000 An unfinished oval-basement is standard in the Ottomane version, shown with optional porch.

are (about 1,500 to 2,700 square feet). The 1,500-square-foot lot that might comfortably accommodate a Grow Home would not be legal in many areas. "There has been a history of exclusivity among real estate growth control," said Karl Case, a professor of economics at Wellesley College. "Though downward lot zoning is the ticket to affordability, many municipalities would not permit it." A similar cheap-and-beautiful ethic, "space economy," Mr. Rybczynski said, was a major impetus

Continued on Page C12

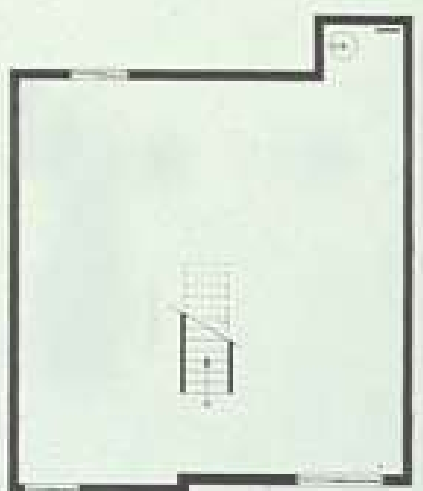


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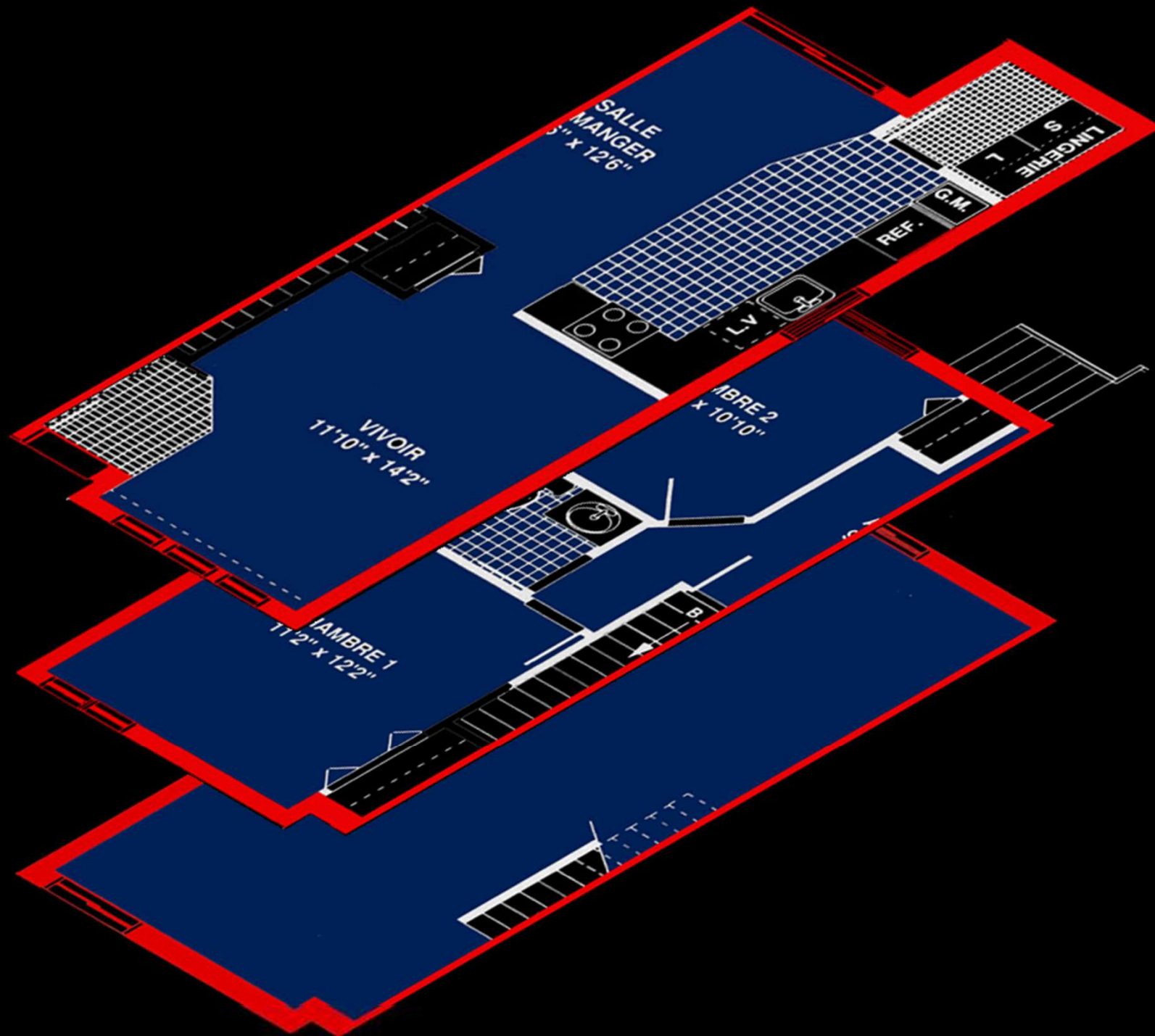


Le BEGONIA 2 28 x34

First Floor

Basement



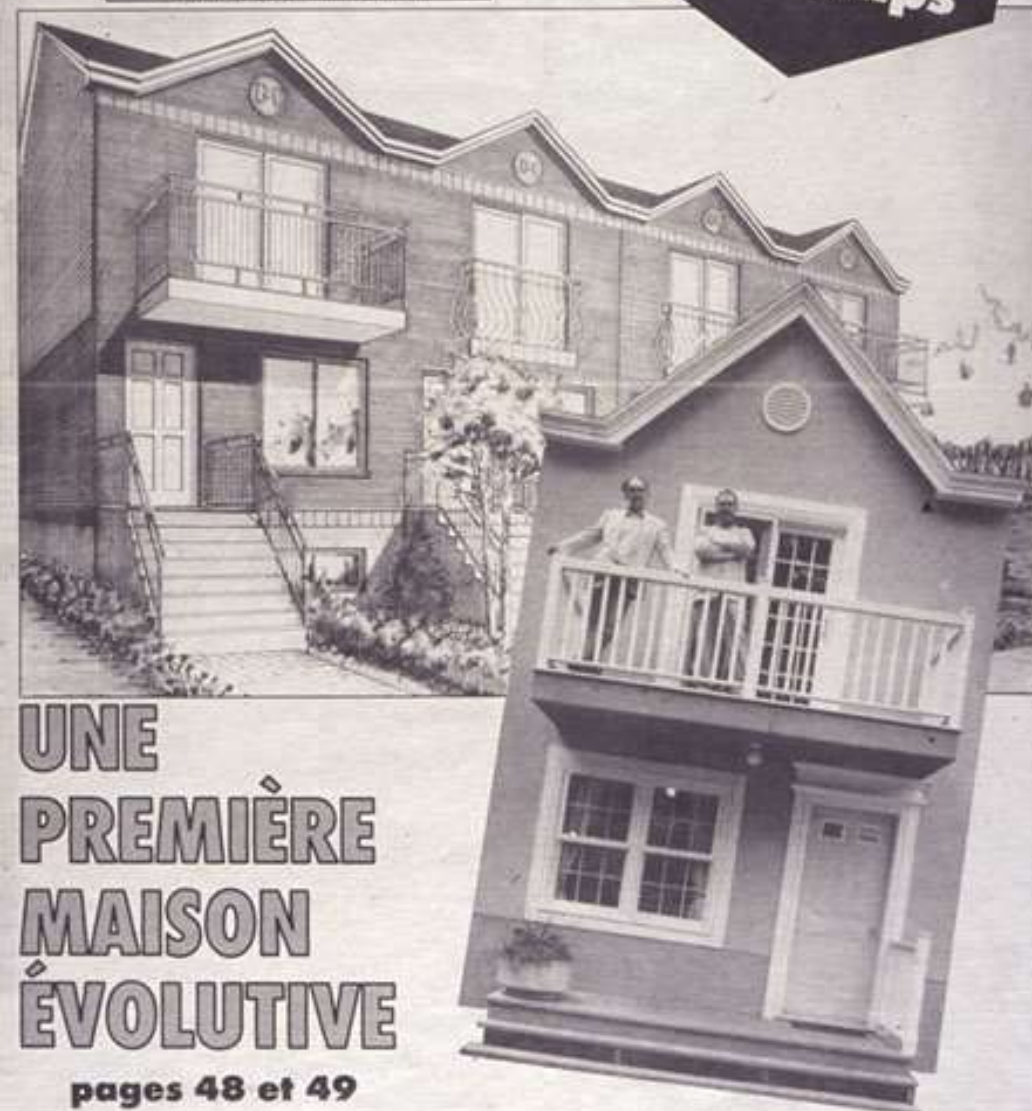
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VOL. 1 NO 24, 16 FÉVRIER 1991

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**UNE
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pages 48 et 49

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C
INSIDE
Garden C4
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Fireplace warms cosy living room of Andrée Tardif's inexpensive Grow Home.

New narrow house
is a big hit with
buyers and builders



Exterior of new development of Grow Homes in Laval.

ANNABELLE KING
Gazette Home Editor

A narrow-fronted house, selling for under \$100,000, is helping to ease at least two of the problems brought on by the recession. It is providing housing for low-income earners and has rescued several home builders from going belly-up in a depressed housing market.

"I never thought I would ever have my own house," said Andrée Tardif, who moved into her Laval rowhouse last September and still can't get over the idea of being a homeowner.

"This house fell from heaven. I was out walking and saw the For Sale sign and decided to take a look," said Tardif, an information clerk with the city of St. Laurent. She had been an apartment tenant for more than 20 years.

When she learned what was being offered for \$48,000, it was a purchase she couldn't resist. After adding on a few decorative extras, a fireplace, a whirlpool tub and an air-conditioning unit, she ended up paying \$67,000. She paid 10 per cent down and her monthly mortgage payment of \$525 includes tax.

Tardif is one of approximately 300 people in the Montreal area who in the last year, unexpectedly discovered they could afford their own home.

This surge of house buying started with a design concept fresh off the drawing boards from the Affordable Housing program at McGill University. Confident in the premise that a 14-foot wide house could be built to sell for \$62,000 (with land) the originators of the plan, architect producers Wood Rychynski and Avi Friedman, took their idea directly to the public. It was a probe that paid.

Continued on Page C3

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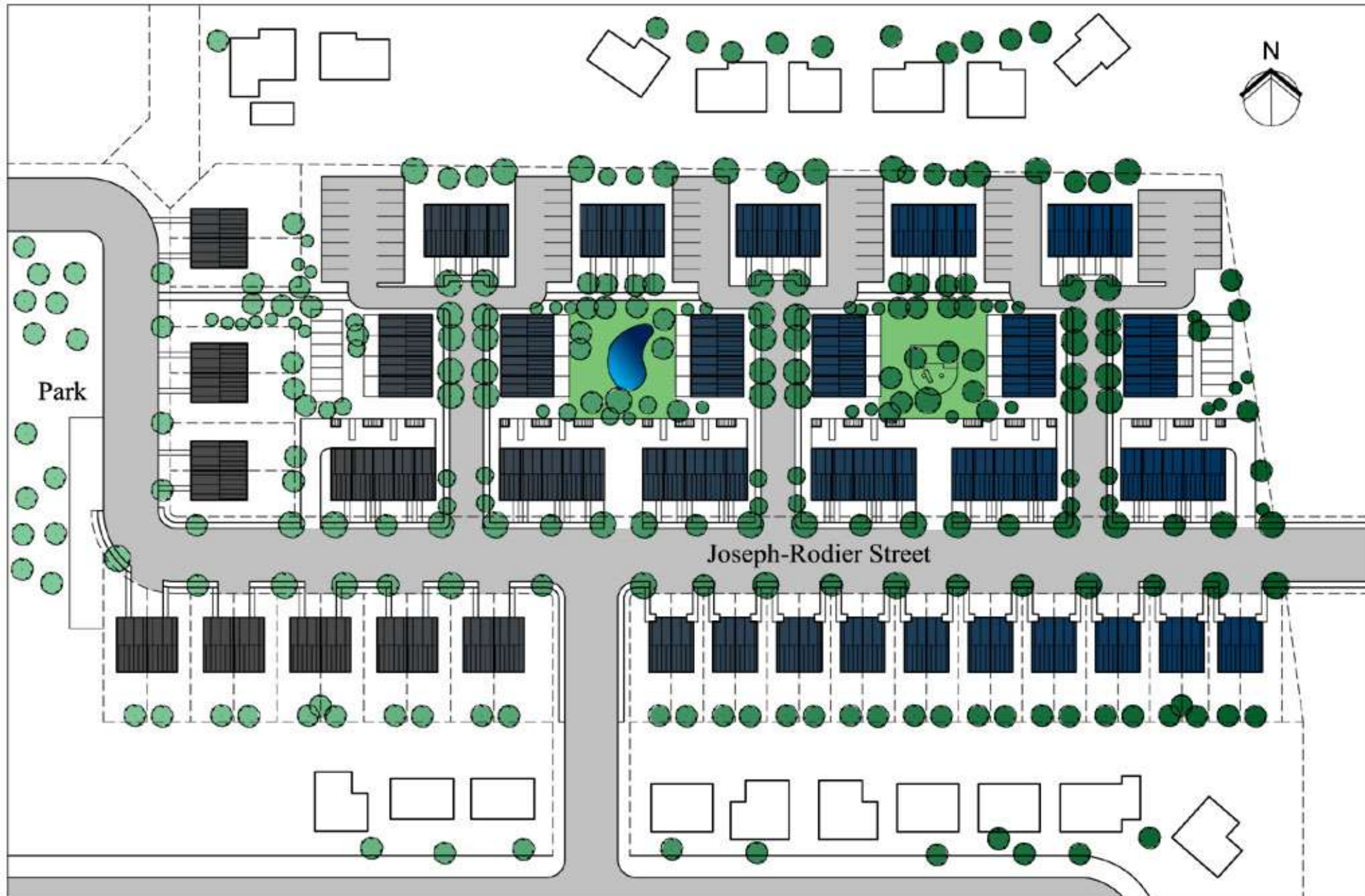


Cité-jardin Fonteneau

Cardinal Hardy, Architects
Montreal, QC
128 units



higher density than the neighboring areas



narrow front - 14 feet(4.2m)



taller units with attic



shared yards



small, narrow, build in row, unfinished



will result in multiple cost reduction advantages

Making it happen



Renewable energy



Car free neighborhoods



Reusing old buildings



Mixed land use



Accommodating seniors



Healthy living



New housing concepts



New materials



New landscaping

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Home Buyers' Bill of Rights

Develop rent to own options

Impose anti flipping tax on residential properties



A clear glass, partially filled with water, sits on a wooden surface against a warm, orange-toned background. The water level is exactly halfway up the glass. The word "OPPORTUNITIES" is written in a blue, outlined font across the middle of the glass, partially submerged in the water.

OPPORTUNITIES

Thank you