



**OTTAWA
CLIMATE
ACTION
FUND**

By the
Ottawa
Community
Foundation

Fill it First

Land use, climate change and affordable housing

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Oct 9, 2023



Housing Affordability Crisis

→ Pressure to build homes quickly

→ **likely to increase GHGs** from housing and transportation due to sprawl and weakening of green standards and increase household spending on transportation.

Are there promising multi-solving opportunities?



Housing Transportation Climate Equity

What we build – and where – has a big impact on GHGs and affordability

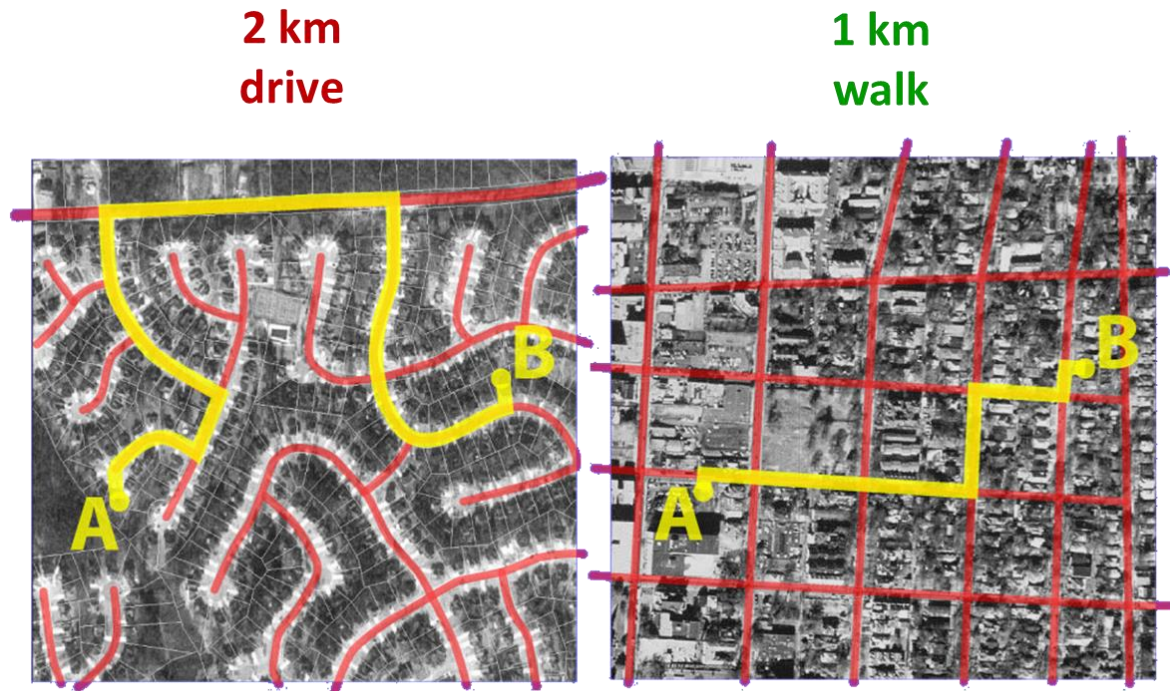
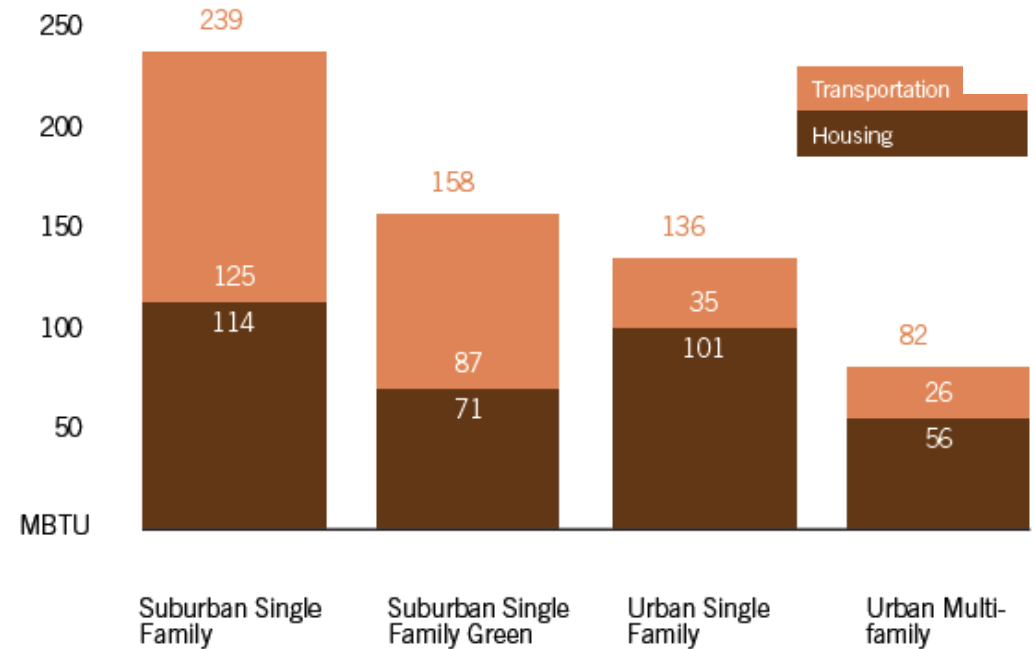


Image source: Larry Frank



Lower income households spend 15-20% more of their income on housing + transportation (US data)

Land Use Policy

= Housing Policy = Transportation Policy = Economic Policy

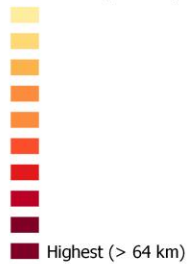
= **Climate Policy**

Montreal Metro Area
Average Weekday
Household*
Vehicle Kilometers
Traveled

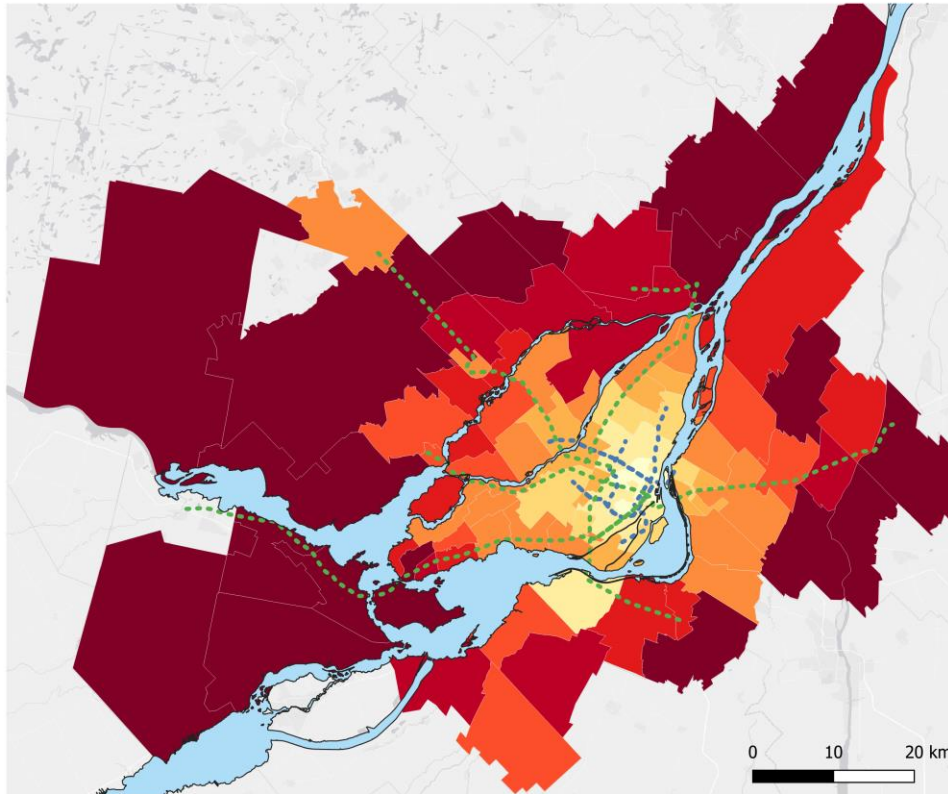
* responding households in 2013 AMT O-D Survey

--- Commuter Rail Lines
--- Metro Lines

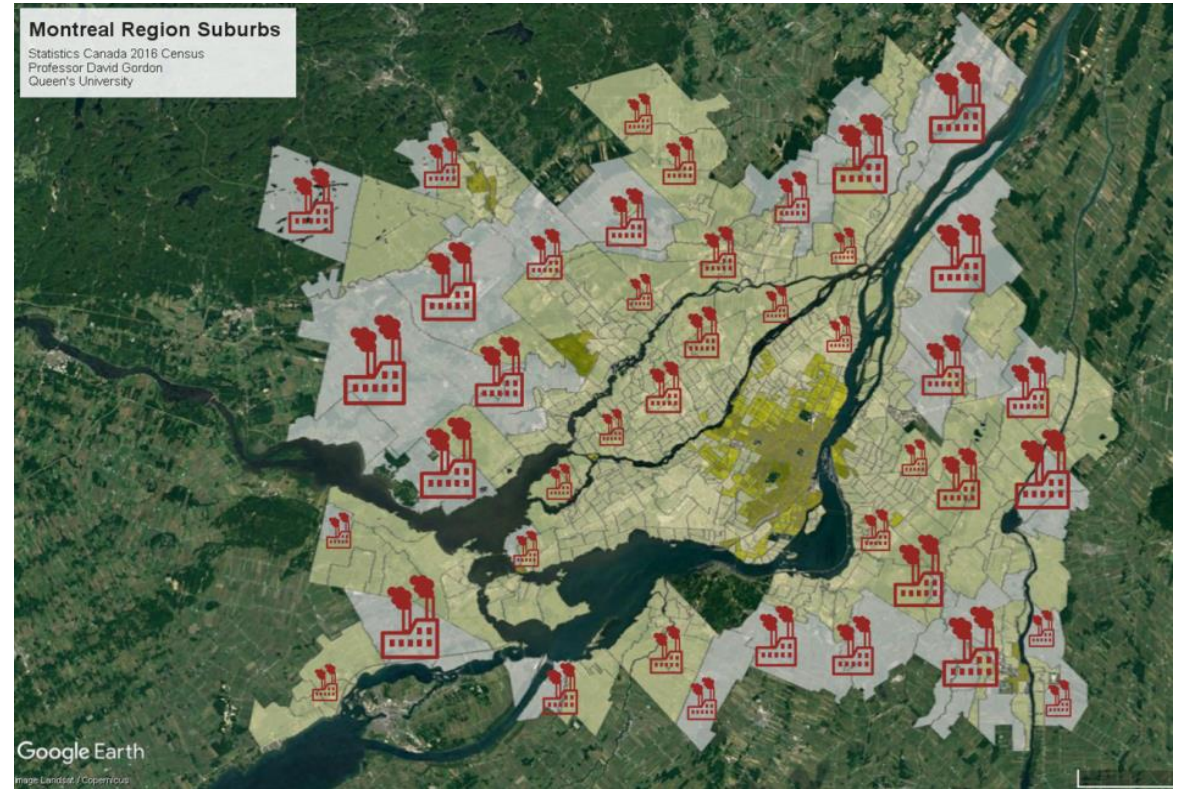
Average VKT
Lowest (< 18 km)



Jamie DeWeese (TRAM)
Data: 2013 AMT O-D Survey

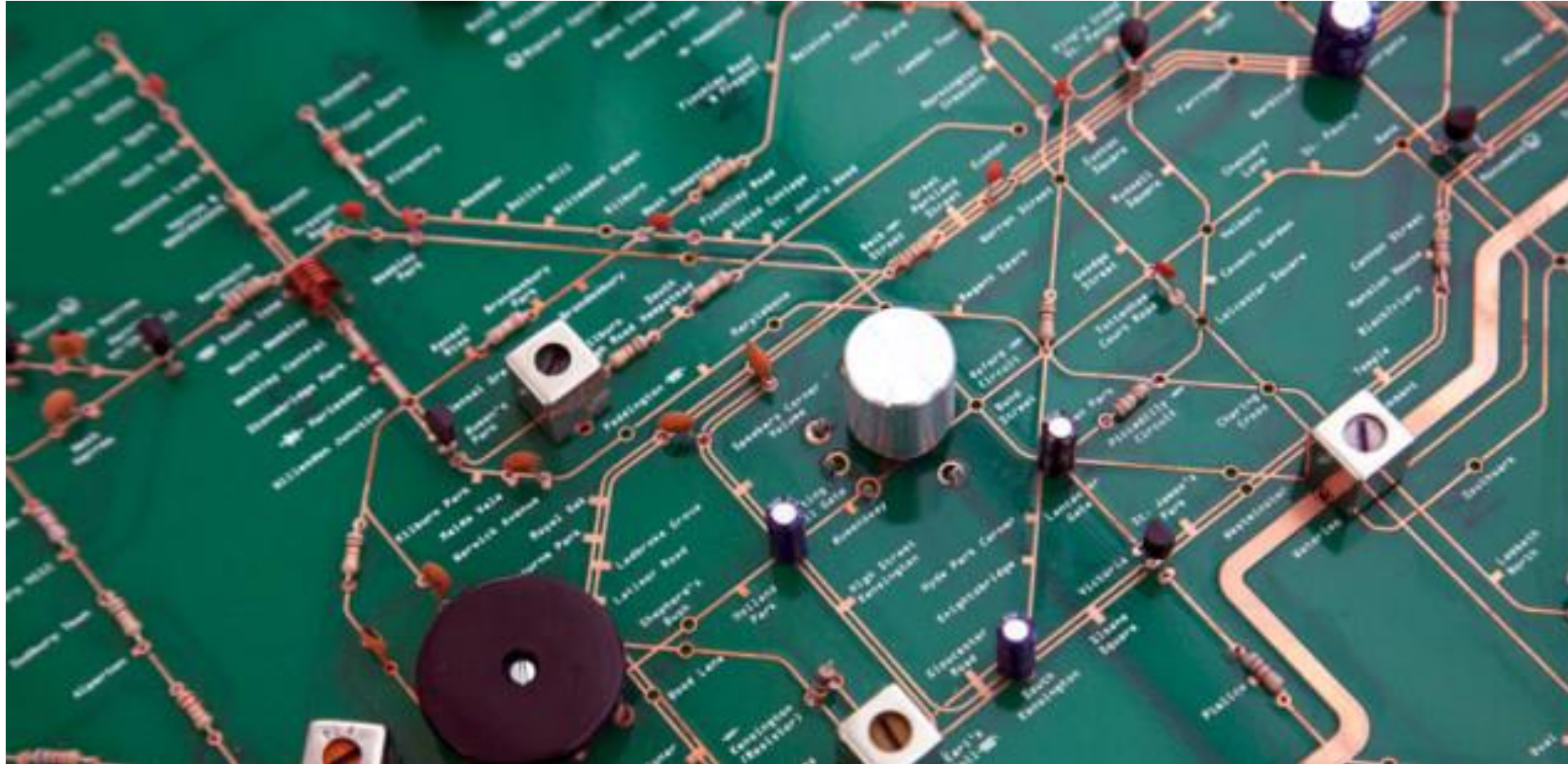


Off-islanders drive 75% km/day more than on-islanders.



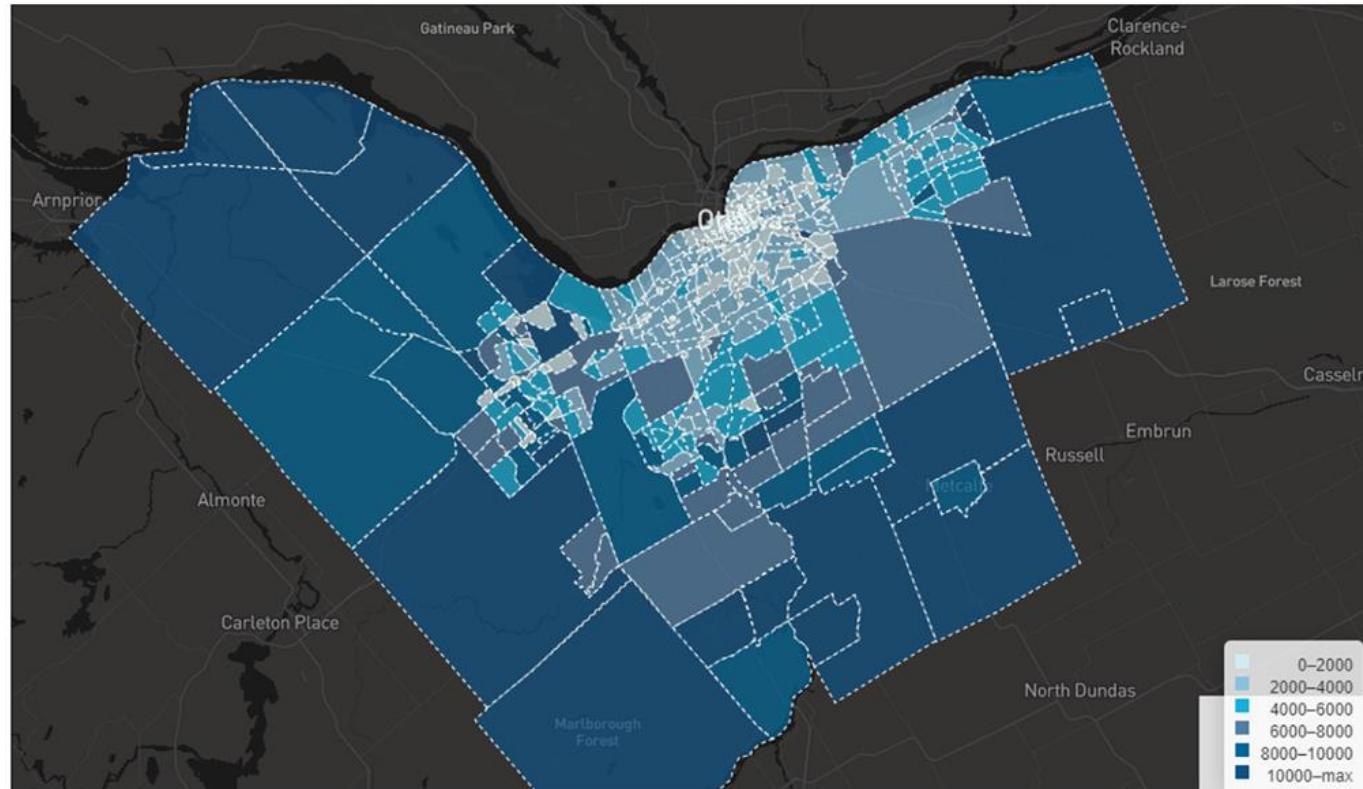
Policies that support car-oriented sprawl are like building **invisible little coal plants** all over the region.

Transit-Oriented Development is **Transformative Urban “Technology”**



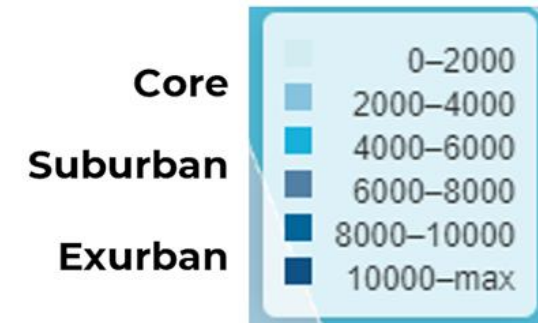
that can cut driving in half

Densification is key to cutting GHGs



km per year (2016)

Avg: 3,757



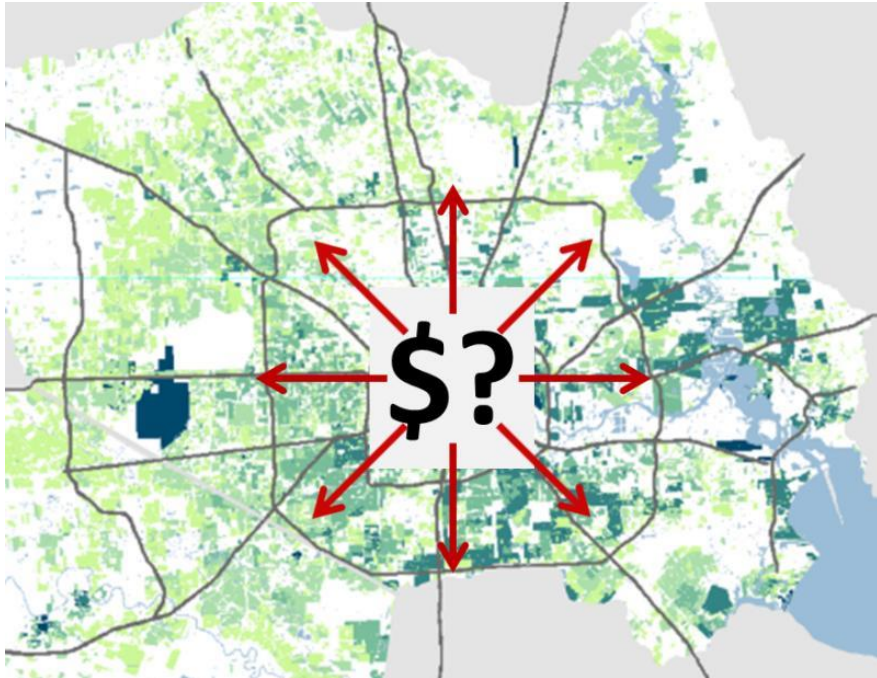
Max: 19,413

Source: [Ottawa - Passenger Transportation | cityInSight Interface \(ssg.coop\)](http://Ottawa - Passenger Transportation | cityInSight Interface (ssg.coop))



Energy Evolution modeling:
Intensification will cut driving by 50%

Sprawl has big price tag - and doesn't solve affordability



Under-supply of walkable, “complete” neighbourhoods
 → high housing prices
 → sprawl.

Would-be homeowners
 “drive until they qualify” for a mortgage ...

→ and drive up to 3 times more &
 → spend 2 times more on transportation.

↑ City infrastructure costs

low-density development : \$ 465/capita
 infill generates benefits: -\$ 606/capita

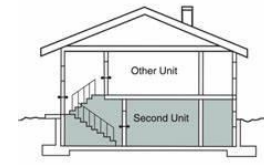
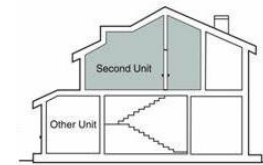
and that adds up to **billions** of dollars that could either be wasted or saved.

Fill it First! A multi-solving opportunity.

Fill empty rooms in underutilized buildings

They're already heated & connected to existing infrastructure!

- Home-sharing
- Secondary suites, convert to duplex/multiplex
- Office conversions



Infill housing on underutilized land

Build higher density housing in core urban areas – with existing infrastructure and amenities

- Additional dwelling units, coach housing
- On parking lots, public land, community land
- Above transit stations & big box stores



Fill it First! Why?

- **Equity & Quality of Life**

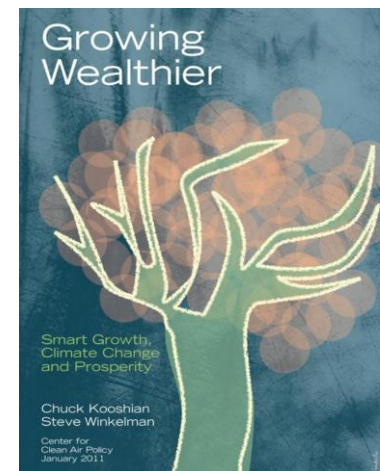
- ↑ Housing supply – secondary suites faster & cheaper than new build
- Support aging in place (health, mental health, dignity)
- ↑ Access to jobs, services, recreation
- ↑ Health, pedestrian safety

- **Environment**

- ↓ GHGs from buildings, ↓ embodied carbon
- ↓ GHGs from transport – if in 15-minute neighbourhoods





- **Economy**

- Attract and maintain workforce. Revitalize downtown.
- **Homeowners: ↑ \$ from rental income**
→ \$ to invest in deep retrofits through “**Greeny suites**” ?!
- Municipalities: ↓ \$ on infrastructure, ↑ tax revenues



Conversion is quicker and cheaper than new build

Affordable Missing Middle (U of T, TMU, ULI)

28 Units New Build	10 Units New Build	3 Units New Build	3 Units Renovation
			
\$708 PSF	\$604 PSF	\$465 PSF	\$365 PSF
Rent required for a viable project:	Rent required for a viable project:	Rent required to break even by year 3:	Rent required to pocket \$1200/mo in income:
\$2,490 / mo (1br) \$2,840 / mo (2br)	\$1960 - \$3300 / mo	\$3,050 / mo	\$1,650
Affordable rent for households earning median income:	Affordable rent for households earning median income:	Affordable rent for households earning median income:	Affordable rent for households earning median income:
\$1,595 / mo	\$1,725 / mo	\$1,940 / mo	\$1,940 / mo

Fill it First! Scale?

SMALL?

- **Commercial office building conversions**
 - Canada: **20,000**: potential units [CUI: The Case for Conversions](#)
 - Calgary: 5,000. **Ottawa: 3,000**. Toronto: 2,500. Montreal: 2,000. Vancouver: 300.

MEDIUM?

- **Secondary suites / conversion to duplex or multiplex**
 - **ON: 4,000,000 empty bedrooms** (CANCEA). (many with 3+ empty)
 - If 2.5% of them could be filled that would house **100,000** people.

LARGE!

- **Intensification**
 - Ottawa: 51% of new growth \approx **80,000 units** ([Ottawa Official Plan](#))
 - 3 people \rightarrow **240,000** people

1. Understanding market size

- **Supply** *quantitative analysis* (# of rooms)
 qualitative analysis – homeowner interests, concerns needs
- **Demand** renters' interest

2. Compare Fill it First with New builds

home-share, secondary suites, duplex conversion, ADUs, office conversions to new apt buildings, townhouses and houses

- **GHG emissions** per unit including transport and embedded carbon
- **Time** to get a unit to market
- **Costs** material, labour, permits & fees
- **Affordability** and ability to access subsidies
- **Benefits** for homeowners, the City and the public

3. Exploring Program / social enterprise development

- **Concierge services** to match homeowners with renters?
- **Capacity building** or **turn-key services**?
 - design, finance, construction, rental management support

Carbon Down. Community Up.

www.ocaf-faco.ca

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