Location Efficiency and Home Location Choice Behavior

ENERGY EFFICIENCY AND HOUSING CHOICE – A NORTH AMERICAN CASE STUDY

KURT BORTH PhD – UNIVERSITY OF ALBERTA – CANADA
What is Location Efficiency?

**Location efficient** communities are dense and vibrant, with walkable streets, access to transit, proximity to jobs, mixed land uses, and concentrations of retail and services.
Overview/Background

Suburban Greenfield Development (Sprawl)

Studies of housing location preferences show that up to 81% of homebuyers surveyed would rather live in a more location efficient home.

(Burda, 2014, 2016; NHBS, 2017)

Time costs, average Canadian commute is ~26 minutes one way. In Toronto that’s ~42 minutes.

Environmental costs of increased automobile use leads to higher greenhouse gas emissions and air pollution.
Taxpayer costs, greenfield development on a city’s edge requires significant new infrastructure investments.

Costs difficult to accurately forecast and recover (City of Edmonton, 2016; Thompson 2013; Blais 2010).
Residents are still overwhelmingly choosing housing in traditional suburban developments.
Edmonton, Alberta, Canada.

1.4 million greater metropolitan area

Majority of development occurred alongside the automobile.
From 2006-2016, Edmonton experienced the highest ‘automobile suburb’ and exurban growth in Canada (33%) (amongst large CMAs).

In Canada’s largest cities the percentage of ‘suburban’ residents is over 86% (Gordon et al, 2018).
Households

- Single Detached, Semi-detached, Row House, Duplex (72%).

Average Home size in Canada is ~2300 square feet = 213 square meters (that’s without the ubiquitous basement which can add another 33% and sometimes double the square footage).

% Distribution of Housing by type in Edmonton, 2011 (Statistics Canada)
Methods:

Semi-structured Qualitative Interviews. 38 Households, ~2-3 hours each, been in their home less than 1-2 years (preferably less). Snowball sampling.
Results

- Commuting Transportation
  - Previous Commuting Experiences

“I think that when we moved back to Edmonton … we targeted this area as opposed to suburbs because we’ve lived in the suburbs in Toronto, and we didn’t want the commute…I can’t stand commuting after that.”

“So for me, I came from Saskatoon to Edmonton, so my entire post-high school life I’ve never in my life had to drive to either school or work. So I’ve always walked or biked everywhere. I basically don’t drive. I had to be in a place where I could get on my own fuel to work consistently, because I just never, ever wanted to have to rely on a vehicle…”
“no… we didn’t think about transportation costs. We had a lot of expendable income. We didn’t really care too much about that. Our transportation costs increased a little bit.”

“(…not really. As long as the length of the commute wasn’t too bad. The costs wouldn’t be atrocious (~30km commute).)”

“A little bit because when I was walking (to work) I didn’t even have a transit pass, because I didn’t need it. We figured it out per month. Car (gas) doesn’t really go into our budget.”
Past experiences with home attributes

“...we had lived in a house with tenants downstairs, and I had lived in apartments in the past, and I find depending on who you have there, you can end up with a bad situation, like smoking in the house, different things. You can’t control that, right. And I don’t like that. For choosing a house vs a condo, noise, privacy, was a huge factor, actually.”

“It’s just about having your own space and you don’t have to have the discussion about re-shingling the roof and you don’t have to have the discussion about building a new fence”
Thematic evidence provides valuable data for the provision of updated building (material) information for shared-wall residences.

FULLY SOUNDPROOF units from $429,000
Conclusions

- Provide developers and municipalities alike with further evidence of the need for innovative inner urban/mature suburban infill developments.
Evidence for novel education/awareness programs that can address misperception of transportation costs (drive till you qualify).
Key Points

- We can’t assume people are performing accurate travel etc cost calculations with regards to their residential home location. We need to make these costs more visible.

- Location Efficiency needs to be a necessary step in the home location choice process.

Questions? contact me @ Kurt.Borth@UAAlberta.ca

Acknowledgements
- Dr Robert Summers and Dr Damian Collins for their contribution to this research, and the University of Alberta.
- The participants for their time and valuable cooperation.