Making Sense of Supply Restrictions

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Expanding and Diversifying Housing: Approaches and Impacts on Opportunity
• General thoughts on supply constraints and housing supply/prices
• Estimation of negative spillover of density
  – Does density lower the value of nearby single family housing
Supply Constraint Mechanisms

• Strict limit on holding capacity of land
  – 5 units per acre SF zoning = 5 households per acre
    • “Drive to qualify”

• Development costs
  – Types
    • Strict $ costs
    • Uncertainty - raise needed return
    • Time
  – Operate via lower developer bids for land
    • Fewer landowners sell at particular time/place
    • Less development occurs because of land supply
    • More acute when assembly is required - premium to force sale
Problem with Regulations - Price Connection

• Inelastic supply/regulations/supply confusion
  – Supply inelasticity is tied to attraction of intra-urban locations (Mayer & Somerville 2000)
  – Regulations are hard to separate from amenities (Davidoff 2016)

• Growing out vs up
  – US studies focus on SF homes at urban fringe
    • Great for featureless city (Dallas?)
  – In high amenity / high price cities - challenge is redevelopment of existing sites
Zoning Motivation w/ Redevelopment

• Loosen zoning = landowner financial gains

• Why restrict?
  – Negative externalities of density
  – Preferences / exclusion: snob / racism

• Research question: what is the size of negative externalities of density?
Comment on Literature

• Strange (1991) - theory effects
  – Within neighbourhood - negative spillovers
  – Across neighbourhoods - trigger rezoning elsewhere

• Turner, Haughwout, and van der Klaauw (2014)
  – Own benefit of more intensive use
  – Negative effect of intensive use on neighbours
  – Aggregate supply effects
Use Vancouver Laneway Policy as Test

• What: infill unit allowed in single family zones
  – Rental only unit
  – 600-900 sq ft
  – 1-2 bedrooms

• Purpose

This report on laneway housing (LWH) is one of a number of initiatives that involve zoning amendments to further Council priorities on Affordable Housing and Sustainability, as well as directions contained in the EcoDensity initial actions. In addition to LWH, Council has means to co-locate with close family members (e.g. elderly parents) or caregivers. They provide greater flexibility, affordability, and long-term sustainability in the city’s housing stock, and do so in a manner which provides little or no visible change in existing neighbourhoods.
Laneway Zoning

- July 2009 - 94% of SF zoned lots
- July 2013 - remaining 4%

Legend:
- RS-1/RS-5 Districts
- RS2-RS4, RS6-RS7, RT-11, RM7-RM9 Districts
- All Other Districts
Laneway – Infill Density
Laneway vs Garage
In Context: Garage vs Laneway
As of 2017

New house w / laneway - 1,993
Existing (old) house w/ laneway - 933

West Side
Avg Price
$C 2.6M

East Side
Avg Price
$1.3M

UBC
### Effect - # of Laneways in 100m Ring

All laneways and 1-family counts, 100-meter ring

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) Full sample</th>
<th>(2) High pp</th>
<th>(3) Very high pp</th>
<th>(4) w10</th>
<th>(5) w25</th>
<th>(6) w50</th>
<th>(7) w75</th>
<th>(8) w90</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of laneways within 100m, excl. own</td>
<td>-0.006**</td>
<td>-0.013**</td>
<td>-0.022***</td>
<td>-0.001</td>
<td>0.001</td>
<td>-0.001</td>
<td>-0.005**</td>
<td>-0.012***</td>
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<tr>
<td></td>
<td>(0.003)</td>
<td>(0.005)</td>
<td>(0.008)</td>
<td>(0.003)</td>
<td>(0.002)</td>
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<td>(0.003)</td>
</tr>
<tr>
<td>No of 1-fam within 100m</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>0.000*</td>
<td>0.001***</td>
<td>0.001**</td>
<td>0.000</td>
<td>-0.001</td>
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<td></td>
<td>(0.001)</td>
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<tr>
<td>Observations</td>
<td>20,920</td>
<td>9,782</td>
<td>4,451</td>
<td>20,920</td>
<td>20,920</td>
<td>20,920</td>
<td>20,920</td>
<td>20,920</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.700</td>
<td>0.553</td>
<td>0.440</td>
<td>0.520</td>
<td>0.473</td>
<td>0.576</td>
<td>0.764</td>
<td>0.833</td>
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<tr>
<td>neighbourhood/time effects + controls</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
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Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
## Effect- New Neighbouring Unit - w & w/o Laneway

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<td>w50</td>
<td>w75</td>
<td>w90</td>
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<tr>
<td>New neighbour has laneway</td>
<td>-0.028</td>
<td>-0.036</td>
<td>-0.089**</td>
<td>-0.023</td>
<td>-0.011</td>
<td>-0.027</td>
<td>-0.013</td>
<td>-0.069***</td>
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<tr>
<td></td>
<td>(0.026)</td>
<td>(0.029)</td>
<td>(0.038)</td>
<td>(0.024)</td>
<td>(0.020)</td>
<td>(0.018)</td>
<td>(0.018)</td>
<td>(0.020)</td>
</tr>
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- Robust standard errors in parentheses

- *** p<0.01, ** p<0.05, * p<0.1

- Observations: 1,330, 878, 488, 1,330, 1,330, 1,330, 1,330, 1,330
- R-squared: 0.775, 0.674, 0.563, 0.760, 0.670, 0.679, 0.770, 0.840
- neighbourhood/time effects + controls: Yes, Yes, Yes, Yes, Yes, Yes, Yes, Yes
Negative Spillovers?

- Test is limited
  - *Very* modest increase in density
  - Particular form / quality
  - But = 10% of new construction in data

- Conclusions
  - Mean effects can hide substantial heterogeneity
  - Owners of most expensive homes really don’t like added density (different people)
  - Everybody else relatively unaffected