Zeroing in on Urban Development Capacity

Washington APA Conference

November 13, 2009
GMA says “Plan for growth”
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• How much land is needed?
  – What lands are likely to accommodate growth?
  – What will be built on those lands?
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• Buildable Lands Program
Buildable Lands Counties

- The Buildable Lands Program was added to GMA in 1997 (RCW 36.70A.215)

- Six counties required to prepare reports every 5 years
Buildable Lands Planning

1. Adopt County-Wide Planning Policies
2. Adopt Procedures
3. Data Collection
4. Evaluation Report
5. Reasonable Measures
6. Annual Monitoring
Tim Stewart on the importance of reliable tools

“So what’s this? I asked for a hammer!
A hammer! This is a crescent wrench! ...
Well, maybe it’s a hammer. ... Damn these stone tools.”
Alex Cohen on a new tool from Seattle
Alex Cohen on a new tool from Seattle
Michael Hubner trying it out in suburban cities
Land Supply Inventory

- Parcel level analysis
Land Supply Inventory

- Parcel level analysis
- Vacant lands
Land Supply Inventory

- Parcel level analysis
- Vacant lands
- Underdeveloped and redevelopable lands
Vacant Land
“Underdeveloped” Land
“Underdeveloped” Land

• Has some development but zoning would allow more
“Underdeveloped” Land

- Has some development but zoning would allow more
- Most developed land meets this definition
What Land Is Likely to Redevelop?

• Property constraints
  – Lot area
  – Zoning
  – Existing development

• Market forces
  – Dynamic and cyclical
  – Reflected in development behavior
Raw Materials
Raw Materials

- Parcel and parcel data in GIS
  - Lot size, current land use, building area, number of units
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• Assessed value of land and improvements
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• Permit data

• Observations and specific plans
Assessed value and ILR

• Improvement value/land value=ILR

Example:
Improvements assessed value = $100,000
Land assessed value = $300,000
ILR = 33%
Evaluating Market Forces

• ILR Compares value of land and improvements
  – ILR < 50% = Likely to redevelop
  – Buildable land inventory goes up and down with assessed land values

• What are some non-fluctuating characteristics of properties that have been redeveloped?

• What characteristics do properties that were redeveloped have in common?

• Can these be correlated with zoning?
Why this model may be important for Cities and Counties which are not “Buildable Lands”

• Density is at the center of many of our land use conflicts.
• “Planned Density” v. “Achieved Density”
• Procedures for projecting future development capacity will be disputed by those who do not like the outcomes.
• Moving toward a more rational model for assuming future density may narrow the scope of the disputes.
Three traditional problems with projecting density

• Outdated zoning which is inconsistent with the built environment
• Unrealistic Expectation of future density
• Inadequate infrastructure needed to support future development.
Outdated Zoning which is Inconsistent with the Built Environment
Unrealistic Expectations of Future Density
Inadequate Infrastructure Needed to Support Future Development
Seattle Redevelopment Study

Developing the Model – An Alternative to the ILR

• Focus:
  - Commercial and MF re-development
  - past behavior in private development
  - stable property characteristics

• Provides basis for selecting properties to include in land supply inventory

• Relationship as predictive tool?
Proposed Model: Density Ratio

- The Density Ratio is the ratio of an existing building characteristic to the redeveloped characteristic

\[
\text{Density Ratio} = \frac{\text{Existing Parameter}}{\text{Redeveloped Parameter}}
\]
Calculating the Density Ratio

Parcel X: Existing Condition

5,000 square feet
Calculating the Density Ratio

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5,000 square feet

Redevelopment
Calculating the Density Ratio

Parcel X: Existing Condition

5,000 square feet

Parcel X: Redeveloped Condition

20,000 square feet

Redevelopment
Calculating the Density Ratio

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Parcel X: Redeveloped Condition
20,000 square feet

Redevelopment

\[
\text{Density Ratio} = \frac{5,000}{20,000} = 0.25
\]

Thursday, December 10, 2009
Analysis Question

• Is there a Density Ratio threshold that is observable in the historical permit record that would indicate when redevelopment is likely?
Methods – Data Sources

- City of Seattle residential building permit data 1997 – 2007
- City of Seattle commercial building permit data 1997 - 2007
- 1997 King County parcel layer
- 1997 King County assessors extracts (the oldest KC data available)
Methods – Major Steps

1. Using 1997 and 2007 City Permit Data and King County Assessors Data - Identify redevelopment projects from 1997 – 2007
2. Determine existing building parameters (units or square feet) – County Assessors Data
3. Determine redeveloped building parameters (units or square feet) – City Permit Data
4. Calculate Density Ratio
Redevelopment Defined

- Residential Redevelopment Projects =
  \[ \text{No. New Units} > \text{No. of Existing Units} \]

- Commercial Redevelopment Project =
  \[ \text{Final structure was} > 2x \text{the square footage of the existing structure} \]
Results – Residential Units
C, NC and MR Zones

Density Ratio Threshold = 0.3
Results – Commercial Square Feet
C and NC Zones

Density Ratio Threshold = 0.4
Testing the Model

- Test sample included all C and NC zoned properties in Seattle
- Calculated DR for 1997, 2002 and 2007
- Calculated ILR for 1997, 2002 and 2007
- Compared results from each method
Data Sources

• ILR:
  – Improvement Value: King County Assessor
  – Land Value: King County Assessor

• DR:
  – Existing Condition – King County Assessor
    • Gross square feet and Residential Units (converted to sf)
  – Future Condition - Seattle Development Capacity Assumption Model
    • Based on observed development not max capacity
Results

• DR identified ~ 10 – 15% more properties
Trend Comparison

![Graph showing trend comparison between DR and ILR from 1997 to 2007. The graph indicates a decrease in DR count and an increase in ILR count over the years.]
Mapping the Results

Example 1

Example 2

Legend
- ILR (Improvement to Land Value Ratio)
- DR (Density Ratio)
- ILR and DR
- Neither

Quadrant Boundary
Major Road
Parcels
Waterbody
Geographic Variation - NW
Geographic Variation - NW

1997
Geographic Variation - NW

1997

2002
Geographic Variation - NW

1997  2002  2007
Geographic Variation - SE
Geographic Variation - SE

1997
Geographic Variation - SE

1997

2002
Geographic Variation - SE

1997

2002

2007
Growth through Redevelopment in Suburban and Smaller Cities
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- Accommodating population and jobs: New GMA growth targets and Vision 2040
Growth through Redevelopment in Suburban and Smaller Cities

• Accommodating population and jobs: New GMA growth targets and Vision 2040

• Infill and redevelopment key
  – 2/3 of King Co. housing capacity on redevelopable land
  – 3/5 of King Co. employment capacity on redevelopable land
  – Suburbs: focus on “retrofitting” downtowns, shopping centers, major institutions/facilities districts
  – Goal: Compact mixed-use urban centers
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• Challenges to estimating redevelopment potential
  – Emerging markets with little activity
  – Reliance on recent trends can be misleading
  – Small cities, small data samples
King Co. Buildable Lands
Methodology
King Co. Buildable Lands
Methodology

• Identify vacant land
King Co. Buildable Lands Methodology

- Identify vacant land
- Identify redevelopable land
  - Improvement / land value ratio (ILR)
  - Ratio of < 0.5 most common threshold
  - Additional methods and assumptions
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• Critique of current methodology
  – ILR is too conservative and unreliable
  – Mismatch between assumed densities and plans and zoning
Data on Suburban Centers
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  – Redevelopment represented bigger share over time
Redeveloped Properties (1997-2009)
King Co. Suburban Centers

[Graph showing the frequency and cumulative percentage of improvement to land value ratio.]
Redeveloped Properties (1997-2009)
King Co. Suburban Centers

![Graph showing the frequency distribution of Density Ratio (FAR) with cumulative percentage.](image-url)
Redeveloped Properties (1997-2009)
King Co. Suburban Centers
Alternative Buildable Lands Methodology
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1. GIS screen of potentially redevelopable parcels based on redevelopment ratio (existing FAR / expected FAR)
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2. Edit GIS selection using checklist for additional factors
Alternative Buildable Lands
Methodology

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3. Monitor development outcomes over time as basis for adjusting policy and assumptions
Sensitivity Analysis: Kent UC

<table>
<thead>
<tr>
<th></th>
<th>2007 BLR</th>
<th>Alternative Analysis</th>
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<tbody>
<tr>
<td>Definition of</td>
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<td>Existing Use SF or</td>
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<td>redevelopable land</td>
<td>Imp/Lnd &lt; 1</td>
<td>Current FAR / Expected FAR &lt; 0.33</td>
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<td>DUs/Ac</td>
<td>75</td>
<td>90</td>
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<td>FAR</td>
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<td>MF for Redev. Land</td>
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<tr>
<td>Total DU Capacity</td>
<td>700</td>
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<td>Total Job Capacity</td>
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Sensitivity Analysis: Totam Lake UC

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Additional Factors

Local staff edit GIS maps using checklist tool with definitions and methods for identifying additional factors affecting redevelopment potential, to include:

<table>
<thead>
<tr>
<th>Redevelopment Potential</th>
<th>Barriers to Redevelopment</th>
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<tr>
<td>☐ Current use</td>
<td>☐ Limited access</td>
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<tr>
<td>☐ Potential land assembly</td>
<td>☐ Property owner</td>
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<td>☐ Developer or owner interest</td>
<td>☐ Regulatory restrictions</td>
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<tr>
<td>☐ Single-family homes</td>
<td>☐ Competing uses</td>
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<tr>
<td>☐ Building condition</td>
<td>☐ Obsolete structures</td>
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<tr>
<td>☐ Location</td>
<td>☐ Recent development</td>
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<tr>
<td>☐ Incentives</td>
<td>☐ Condominiums</td>
</tr>
<tr>
<td>☐ Market demand</td>
<td>☐ Historic structures</td>
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Thursday, December 10, 2009
Next Steps and Final Thoughts
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• Next steps in King County:
  – Further analysis of parcel and project data
  – Expand redevelopment database beyond Urban Centers
  – Revise countywide methodology: FAR ratio favored over ILR
  – Implement through 2011 comp plans and 2012 BLRs
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• **Consistency in approach boosts legitimacy and ability to coordinate planning countywide**

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