-INTRODUCTION-

- Which community groups are interested? Why?

-Projects of Interest

  - Underway

  - On the Way

- Potential Mixed-Use Redevelopment

-What our Project Provides
-INTERESTS-

-GROUPS INTERSTED
- Eugene City Planners
- University of Oregon
- Private Business Owners
- Property Owners
- Residents

-PROJECTS OF INTEREST
- Bus Rapid Transit (EmX)
- University of Oregon Campus Expansion
- I-5 Interchange
- Mixed Use -

- New urbanism
- “Grow up, not out”
- High density
- Mixed-use buildings
- Pedestrian Friendly
- Mass transit
- Visual aesthetics
- Sense of community
-HOW THIS STUDY HELPS-

Estimates:

- Apartment rental price
- Condominium sale price

Hedonic Pricing Model
-RELATED STUDIES-

-New Urbanism can revitalize neighborhoods

-People are willing to pay more

-Traffic Externalities

-Traffic noise

-Train Noise
-RLID
-Did not have rental prices

-Process

(1) Obtained list of most apartment complexes

(2) Phone Interview
    -Phoned over 100 complexes

(3) Expanded Data set
-SAMPLE VARIABLES-

-Complex Specific

-Number of units
-Washer and dryer facility
-Gym
-Covered bike storage

-Unit Specific

-Rent
-Square footage
-Washer and dryer in unit
-Fire place
-Model-

-BASE MODEL

-Square feet (+)
-Number of bathrooms (+)
-$Deposits (?)
-Travel time (minutes) to UO (-)

-Added

-Washer/Dryer in unit (+)
-Pets (?)
-$Cleaning (?)
-Bike storage (+)
-MODEL CON’ T-

\[ \beta_0 + \beta_1 \text{sqft}i + \beta_2 \text{bath}i + \beta_3 \text{deposits}i + \beta_4 \text{uotime}i + \beta_5 \text{wdunit}i + \beta_6 \text{pets}i + \beta_7 \text{cleaning}i + \beta_8 \text{bike storage}i \]

- \text{BO (INTERCEPT)}: 361.667
- \text{B1 (SQUARE FEET)}: 0.343
- \text{B2 (NUMBER OF BATHROOMS)}: 55.627
- \text{B3 (DEPOSITS)}: -0.206
- \text{B4 (UO TIME)}: -9.877
- \text{B5 (WASHER/DRYER)}: 80.149
- \text{B6 (PETS)}: 41.135
- \text{B7 (CLEANING)}: 0.155
- \text{B8 (BIKE STORAGE)}: 24.603

\[ R^2 = .76 \]
-APPLICATIONS-

-Consider a unit with the following attributes

- 1 bedroom
- 1 bath
- 750 square feet
- 200 dollars in deposits
- Washer/Dryer in unit
- 3 minutes from UO
- No pets
- Bike storage
- 75 dollars in cleaning fees

-Our model predicts

$720.09
-LOG MODEL-

-Followed same process for logs

-This model can predict a % change in rent given a 1% change in a given variable, all else constant

-Our final Model:

\[
\ln(\text{Rent}_i) = \beta_0 + \beta_1 \text{sqft}_i + \beta_2 \text{bath}_i + \beta_3 \text{deposit}_i + \beta_4 \text{UO time}_i + \beta_5 \text{W/D unit}_i + \beta_6 \text{Pets}_i
\]

-Square feet
-Number of Bathrooms
-$Deposits
-UO Time
-Washer and Dryer in unit
-Pets
-CONDOS-
-DATA-

-RLID (Regional Land Information Database of Lane County)
  - The most comprehensive information database available for the Eugene area

-PROCESS

(1) Isolated “Condo” observations

(2) Got rid of outliers (arms length transactions)

(3) Looked at potential sale dates
-DATA-

-PROCESS (Con’t)

(4) Kept observations between 2002-2004

(5) Left with 387 observations

- QUALITY OF DATA

- Less informative than apartment data

- No information on distance to UO
## DATA

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALE PRICE</td>
<td>Sale price of condo in 2005 dollars</td>
</tr>
<tr>
<td>BEDROOMS (+)</td>
<td>Number of bedrooms in condo</td>
</tr>
<tr>
<td>FULL BATHS (+)</td>
<td>Number of full bathrooms in condo</td>
</tr>
<tr>
<td>HALF BATHS (+)</td>
<td>Number of half bathrooms in condo</td>
</tr>
<tr>
<td>SQUARE FEET (+)</td>
<td>Total square footage of condo</td>
</tr>
<tr>
<td>FIRE PLACES (+)</td>
<td>1 if there is a fire place, 0 otherwise</td>
</tr>
</tbody>
</table>
**-REGRESSION TABLE-**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sale price</td>
<td>base model</td>
<td>add no_halfbaths</td>
<td>add dfireplaces</td>
</tr>
<tr>
<td>total_finish_sqft</td>
<td>33.459</td>
<td>12.941</td>
<td>12.952</td>
</tr>
<tr>
<td></td>
<td>(6.69)***</td>
<td>(1.60)*</td>
<td>(1.61)*</td>
</tr>
<tr>
<td>no_fullbaths</td>
<td>15183.984</td>
<td>22570.897</td>
<td>17993.065</td>
</tr>
<tr>
<td></td>
<td>(5.73)***</td>
<td>(6.47)***</td>
<td>(4.49)***</td>
</tr>
<tr>
<td>no_halfbaths</td>
<td></td>
<td>11489.988</td>
<td>7772.392</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3.20)***</td>
<td>(1.98)**</td>
</tr>
<tr>
<td>dfireplaces</td>
<td></td>
<td></td>
<td>6772.985</td>
</tr>
<tr>
<td>Constant</td>
<td>18941.802</td>
<td>26117.774</td>
<td>29182.443</td>
</tr>
<tr>
<td></td>
<td>(5.02)***</td>
<td>(6.01)***</td>
<td>(6.45)***</td>
</tr>
<tr>
<td>Observations</td>
<td>387</td>
<td>387</td>
<td>387</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.36</td>
<td>0.38</td>
<td>0.38</td>
</tr>
</tbody>
</table>

**-FINAL MODEL:**

-Square feet  
-Number of bathrooms  
-Number of half-bathrooms  
-Fireplace or not

\[
Sale_{price_i} = \beta_0 + \beta_1 total\_finish\_sqft_i + \beta_2 no\_fullbaths_i + \beta_3 no\_halfbaths_i + \beta_4 dfireplaces_i
\]
-ELASTICITY MODEL-

<table>
<thead>
<tr>
<th>regression</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>base model</td>
<td>add</td>
<td>add</td>
<td></td>
</tr>
<tr>
<td>ltotal finish sqft</td>
<td>0.610</td>
<td>-0.104</td>
<td>-0.104</td>
</tr>
<tr>
<td>(7.66)***</td>
<td>(0.27)</td>
<td>(0.27)</td>
<td></td>
</tr>
<tr>
<td>lno fullbaths</td>
<td>0.250</td>
<td>0.325</td>
<td>0.325</td>
</tr>
<tr>
<td>(4.36)***</td>
<td>(1.30)</td>
<td>(1.30)</td>
<td></td>
</tr>
<tr>
<td>lno halfbaths</td>
<td>-0.171</td>
<td>-0.171</td>
<td></td>
</tr>
<tr>
<td>(0.88)</td>
<td>(0.88)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dfireplaces</td>
<td></td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>6.093</td>
<td>11.982</td>
<td>11.982</td>
</tr>
<tr>
<td>(12.89)***</td>
<td>(4.48)***</td>
<td>(4.48)***</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>387</td>
<td>75</td>
<td>79</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.36</td>
<td>0.14</td>
<td>0.14</td>
</tr>
</tbody>
</table>

-FINAL MODEL:
-Square feet
-Number of bathrooms

\[ lSale\_price_i = \beta_0 + \beta_1 ltotal\_finish\_sqft_i + \beta_2 lno\_fullbaths_i \]
-APPLICATIONS-

-Example

- According to the model we found a condo with 1000 square feet, 2 full baths, 1 half bath and a fireplace is estimated to be $92,665.95

We also estimated sale price elasticity:

- As square footage increases =>
  sale prices increases by 0.6% (inelastic)
-CONCLUSION-

• Apartment model better than Condo model
• Variables effect both in same ways
• Use our results plus results from related studies
• Example:
  • 2 bedroom, 1 bath, 800 sqft, $300 deposits, 4 min. to campus, no washer or dryer, no pets, $100 cleaning fee, and covered bike storage
  • Our model: rent = $630.50
  • With road noise: rent = $554.80 (discount 12%)
  • With train noise: rent = $485.50 (discount 23%)