

Single Family Property Values and Light Rail Transit Applications of GIS in Hedonic Price Modeling

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The Question?

What, if any, affect does light rail transit have on the selling price of a single family home?

- Accessibility +
- Nuisance -

Note: This study follows methods used in

Dueker, K., Chen, H., & Rufolo, A. (1998). Measuring the impact of light rail systems on single-family home values. *Transportation Research Record*, 1617, 38-43.



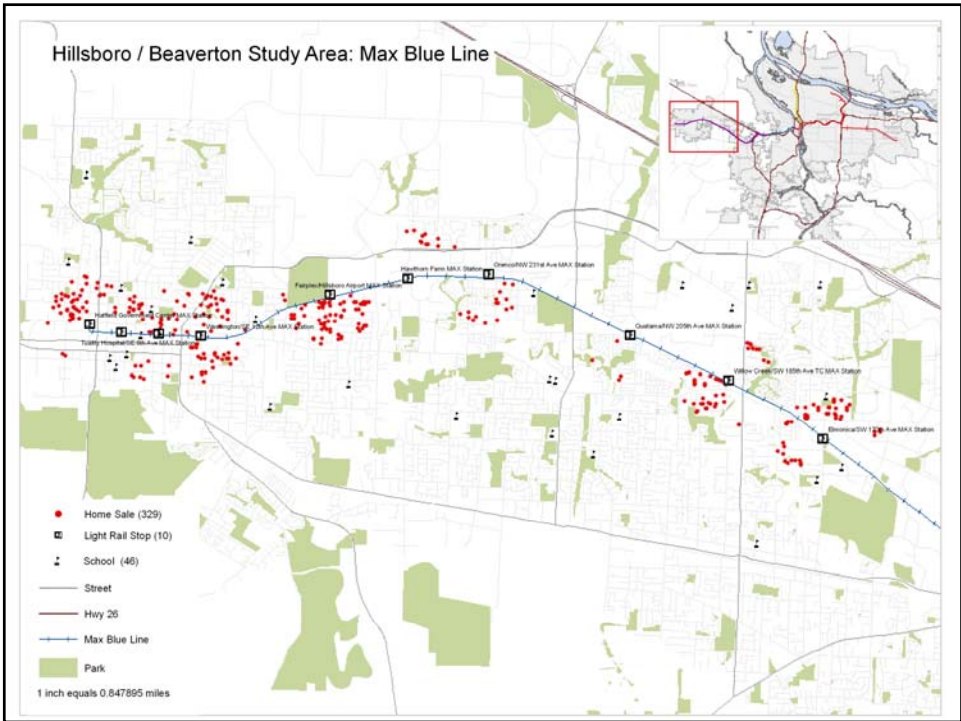
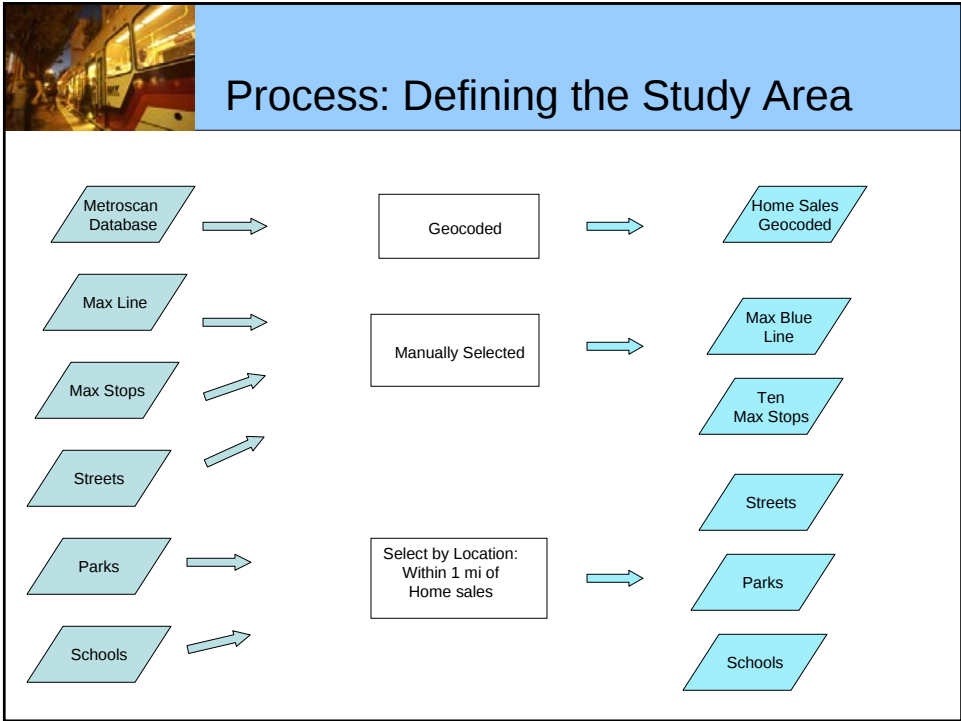
The Data

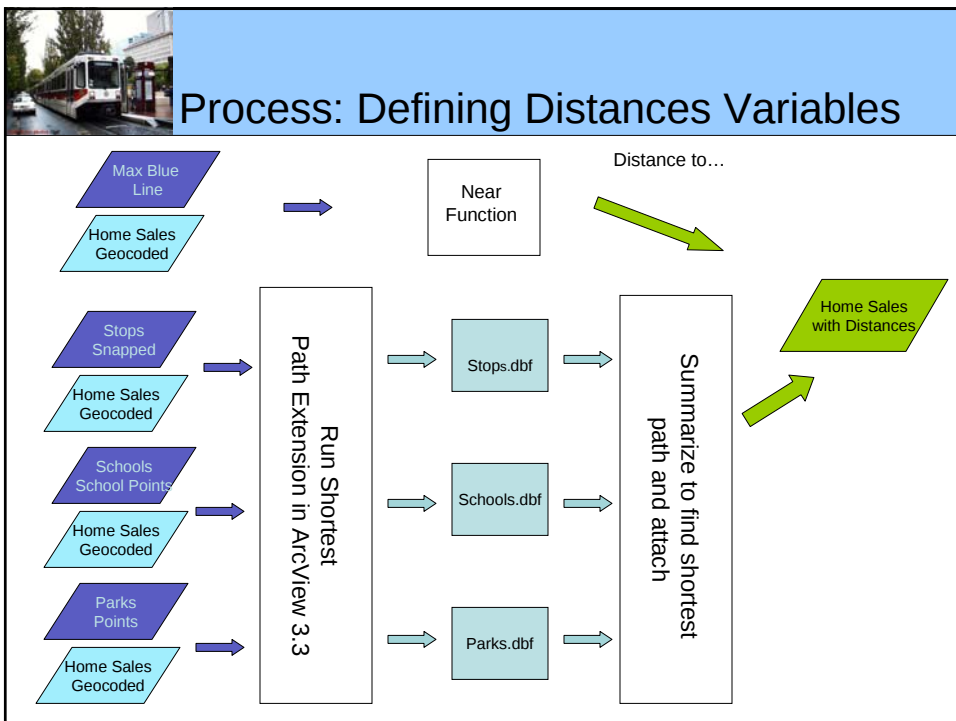
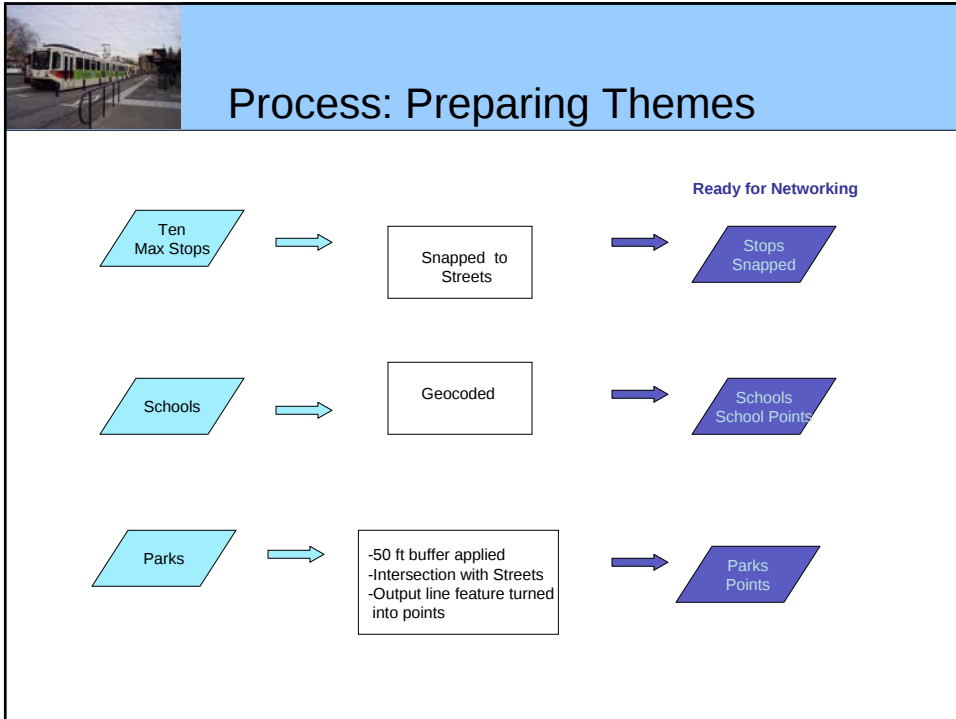
- Metroscan (2003 – 2005)
 - Sale Price
 - Number of Bedrooms and Bathrooms
 - Square Footage of Building and Lot
 - Existence of pool and garage
- Metro's RLIS database
 - LTD lines and stops
 - Parks, Schools, Taxlots
- Census
 - Block and Blockgroup data

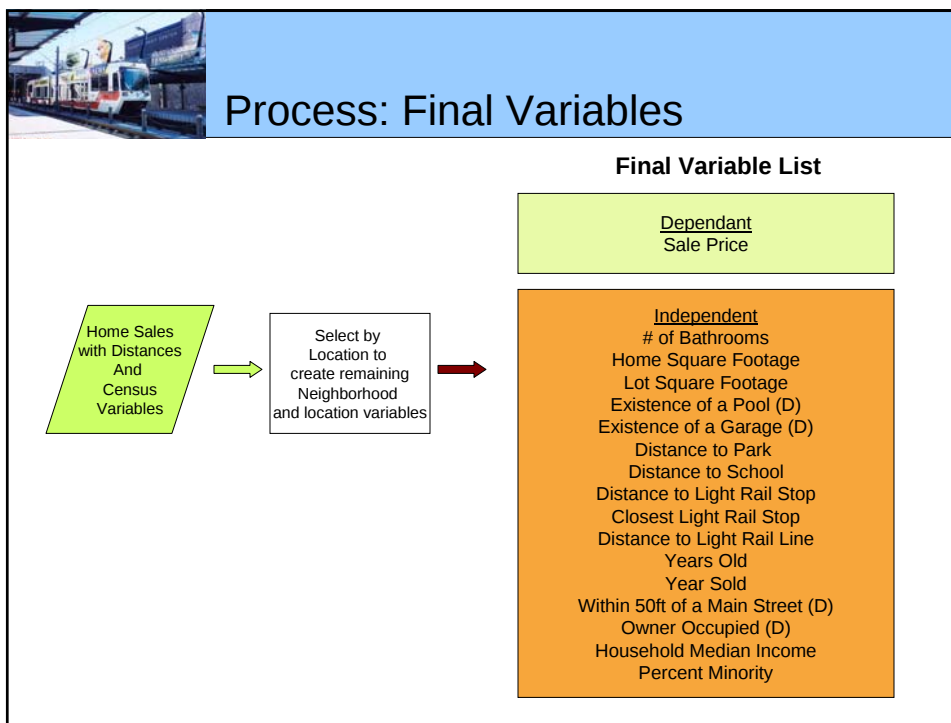
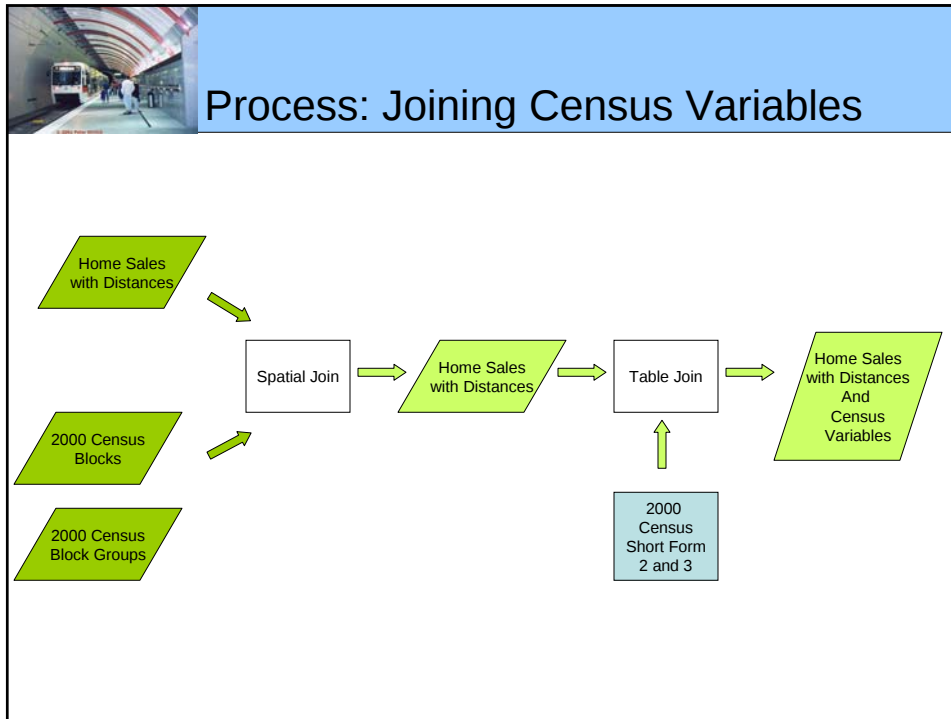


The Process

- Define Study Area
- Generate Variables
- Run Regression









Outcome: Regression

Linear Regression ran in SPSS

Structure

Building Sqft = \$96**
Bedroom = \$35,489*
Bathroom = \$25,590*
Garage = \$51,057
Lot Acre = \$78,863
Years Old = \$ - 1833**
Owner Occ = \$ 35,463
Year Sold = \$10,878

Location

Dist. to Park = \$ -11**
Dist. to School = \$ -11**
Dist. to LTD Stop = \$ -.5**
Closest Stop = \$ - 5,238
Dist. to Line = \$8**
Main Street = \$ - 53,680

Neighborhood

% Minority = \$ -13,953
Median income = \$ -.193

R squared = .62

* = significant at the .01 level

** = significant at the .05 level



Conclusion

- The nuisance of a Light rail line cause a greater reduction in value per foot than the increase in value gained in accessibility.
- Continuation of this study will employ a semilog transormation before the regression
- More neighborhood variables are required