

Metro Economic Land Use and Forecasting Division

Metro's Economic Land Use and Forecasting Division is responsible for developing modeling and forecasting information.

This information is used by the Metro Council to formulate land use and transportation strategies for the region.

Forecast details are used in long range planning decisions and are required to meet mandated state and federal planning guidelines. Information products we produce include:

- Regional economic data/employment forecasts
- Regional demographic data/population forecasts
- Housing needs analysis
- Land development data

MetroScope – a land use allocation model

MetroScope is an advanced econometric analysis tool employed by the regional government to assess future socio-economic outcomes.

The model is capable of forecasting growth distributions and evaluating the economic impacts of land use and transportation policy assumptions carried out to realistic market conclusions. MetroScope is formulated using mainstream economic principles.

At its core, it is an equilibrium model in which prices and quantities supplied and demanded of real estate products gravitate toward a long-term market clearing solution. MetroScope is an application of mathematics and statistical methods to economic, land use and transportation data so that practical information regarding future regional real estate trends can be provided to policy makers.



Metroscope model components

General model inputs

FORECAST DEMAND



- Regional forecast (7 county)
- Population and households
- Employment by industry

LAND SUPPLY



- Regional capacity information (RLIS)
- Zoning
- Vacant and redevelopment land supply

COMMUTE DATA



- Travel behavior information
- Travel times (log sum conversion)
- Accessibility to home and work locations

Basic model outputs

JOB CHOICE



- Employment allocation
- 15 industry classes (NAICS)
- Three real estate types (industrial, commercial and institutional)

RESIDENTIAL CHOICE



- Household allocation
- Income, life cycle, population
- Tenure and building type (SF or MF)

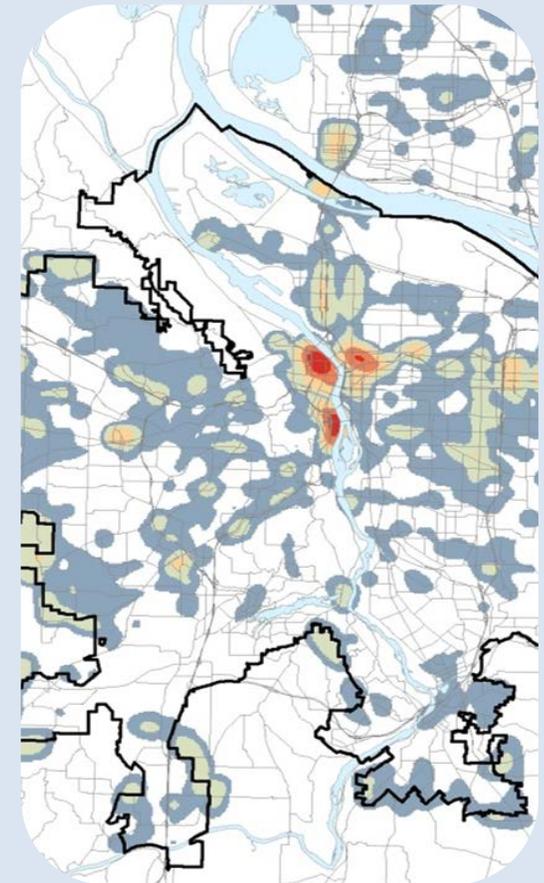
(Choice information include the location and price data for housing and employment plus other advanced metrics.)



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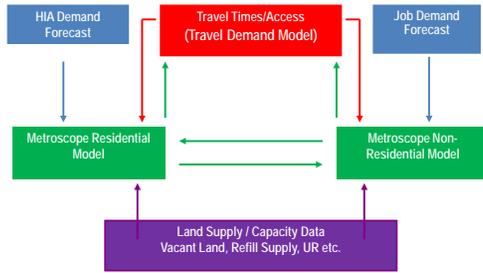
METROSCOPE

An Overview of the Research Center's Land-Use Model



Metro | *Making a great place*

MetroScope Components



Frequently asked questions

What is MetroScope?

MetroScope is an integrated land use-transportation modeling tool developed by Research Center staff at Metro, the regional government of the Portland region. The land use model was developed to analyze land use and transportation issues in an integrated fashion. With MetroScope, Sonny Conder developed a very detailed representation of an urban real estate land market – complete with methods to estimate supply, demand and equilibrium prices – in order to forecast and distribute real estate development to specific locations throughout the metropolitan region. Households and employment are distributed by the model. The model works in concert with Metro’s regional economic forecast model, developed by Dennis Yee, and with an embedded travel forecasting model or in tandem with a more complete travel demand model.

What are the core functions of MetroScope?

At the heart of MetroScope is its ability to forecast household, employment and real estate development trends at a very detailed geographic scale (i.e., census tracts or TAZ). The details extend to forecast distributions of household socio-economics by:

- age
- income bracket
- household size

The distribution of jobs by:

- industry class (NAICS)

And real estate development trends for:

- density
- building square footage
- real estate prices
- general building types

How accurate is MetroScope?

Ex ante back-cast simulations of MetroScope indicate an error rate of about 1% deviation per year with error bands compounding/widening with longer time horizons.

What are some applications of MetroScope?

- TAZ growth forecast distributions
- Urban Growth Report modeling & forecasting
- Housing Needs Analysis
- What-if scenario analysis to test transportation investment decisions
- What-if scenario analysis to test alternative land use and policy decisions

What does MetroScope need to run a land use-transportation scenario?

The following isn’t exhaustive, but rather meant to be indicative of data and policy inputs that can be used to analyze and test alternative scenario assumptions to determine what might be possible impacts from a given set of scenario inputs.

- Land (vacant/redevelopment) availability, capacity (zoning)
- Policy directives (e.g., Urban Reserves and development subsidy assumptions)
- Demographics and socio-economic data forecasts from the regional econometric model
- Accessibility measurements from transport model

By varying inputs, we can test alternative development strategies for accommodating future population growth. Extensive analyses concerning different smart growth and compact urban form strategies have been researched. Urban reserve and infrastructure investment policy alternatives have been tested to assess the likely socio-economic impacts including preferred residential location choice, economic conditions and growth distributions.

MetroScope and Oregon laws

MetroScope can provide detailed economic growth projections. This information has been used to inform data to coordinate population forecasts and to inform urban growth boundary decisions and required housing needs analysis.

ORS 195.025 (Regional Coordination of Planning Activities). . . shall be responsible for coordinating all planning activities affecting land uses within the county, including planning activities of the county, cities, special districts and state agencies, to assure an integrated comprehensive plan for the entire area of the county. . . the governing body of the Metropolitan Service District shall be considered the county review, advisory and coordinative body for Multnomah, Clackamas and Washington Counties for the areas within that district.

ORS 195.036 (Area Population Forecast Coordination) The coordinating body under ORS 195.025 (Regional coordination of planning activities) (1) shall establish and maintain a population forecast for the entire area within its boundary for use in maintaining and updating comprehensive plans, and shall coordinate the forecast with the local governments within its boundary.

Where can I get more information?

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