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Forecasting Senior Populations

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Forecasting Senior Populations

Western Canadian Association of Geographers
Victoria, BC, Canada - March 2014

Richard Lycan
Senior Research Associate
Institute on Aging
Portland State University



The focus of my efforts

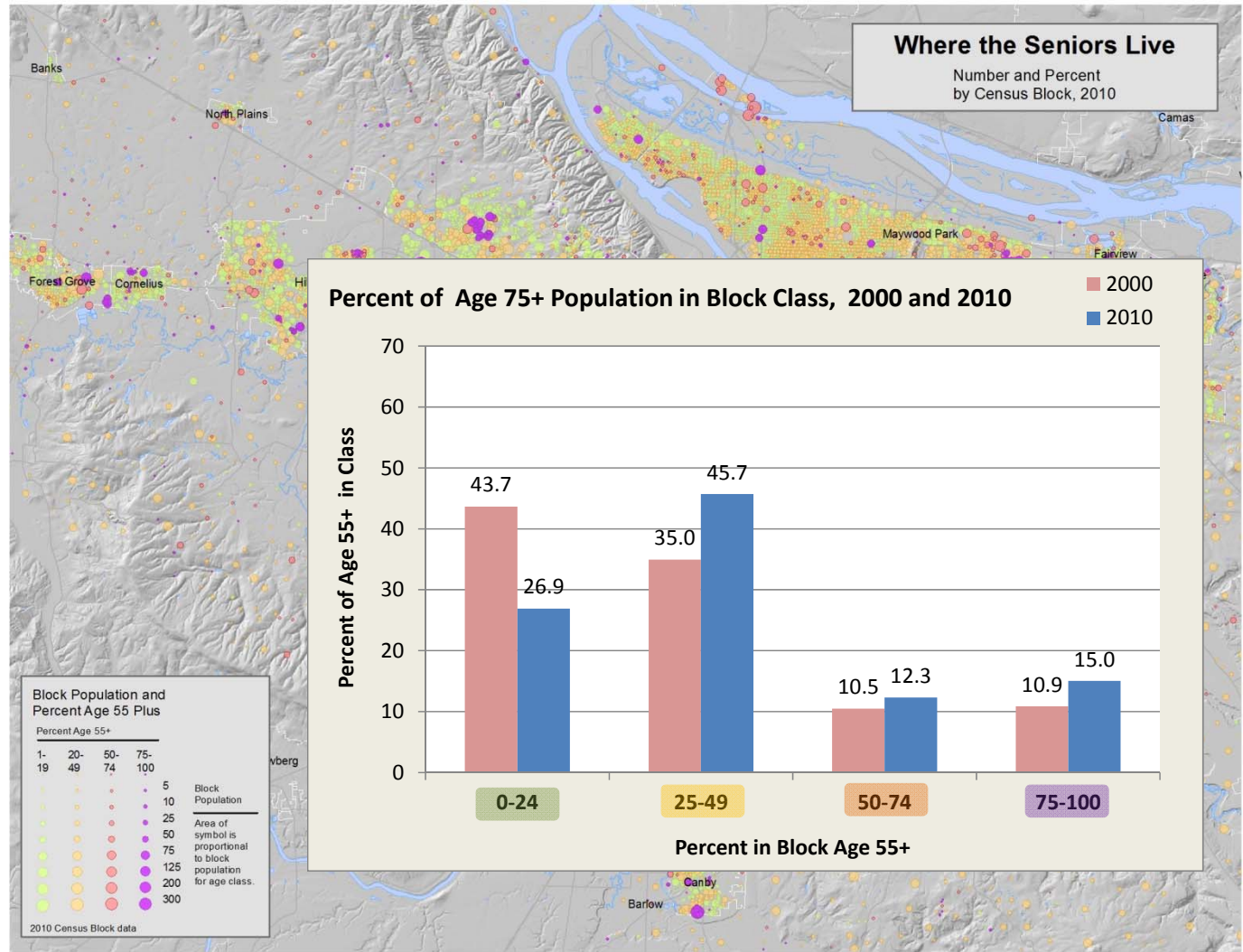
- Improve population forecasts for senior populations
 - Increase awareness of issues related to forecasting senior populations
 - Provide support to forecasters
- Two threads come together
 - 1. PSU Population Research Center (PRC) school demography contract business
 - Forecasts for small geographies
 - Tied to housing and local planning
 - **Can some of the methods used for school enrollment forecasting be applied to seniors?**
 - 2. Oregon land use law requires *county coordinated population forecasts*
 - Law stems from 1973 *Senate Bill 100*.
 - Broad early public support.
 - Mandates county planning and zoning. Strong state oversight.
 - Now broken?
 - Counties now required to use PSU for coordinated forecasts.
 - **How will the burgeoning senior population be handled in forecasts?**

1. Background



Where do the seniors live?

- Map Symbols
 - Size $\sqrt{\text{Age}55+}$
 - Color % Age 55+
 - Green < 24%
 - Yellow 25-49
 - Red 50-74
 - Purple 75+
- Portland examples
- Expand to state-wide
- Numbers and %
 - Largest in 25-49%
 - Number will grow in 50%+ class areas



Types of housing for seniors

Independence		Dependence	
Housing	Convenience Services	Assisted Living / Personal Care	Health Care
← Age-restricted →	(minimal) →		
	Congregate ←		
		Continuing care →	
← (semi-independent)	← (moderate)	Assisted living →	
← (dependent)	← (minimal)	← (as part of nursing care)	Nursing →

↔ **Characteristic of type**

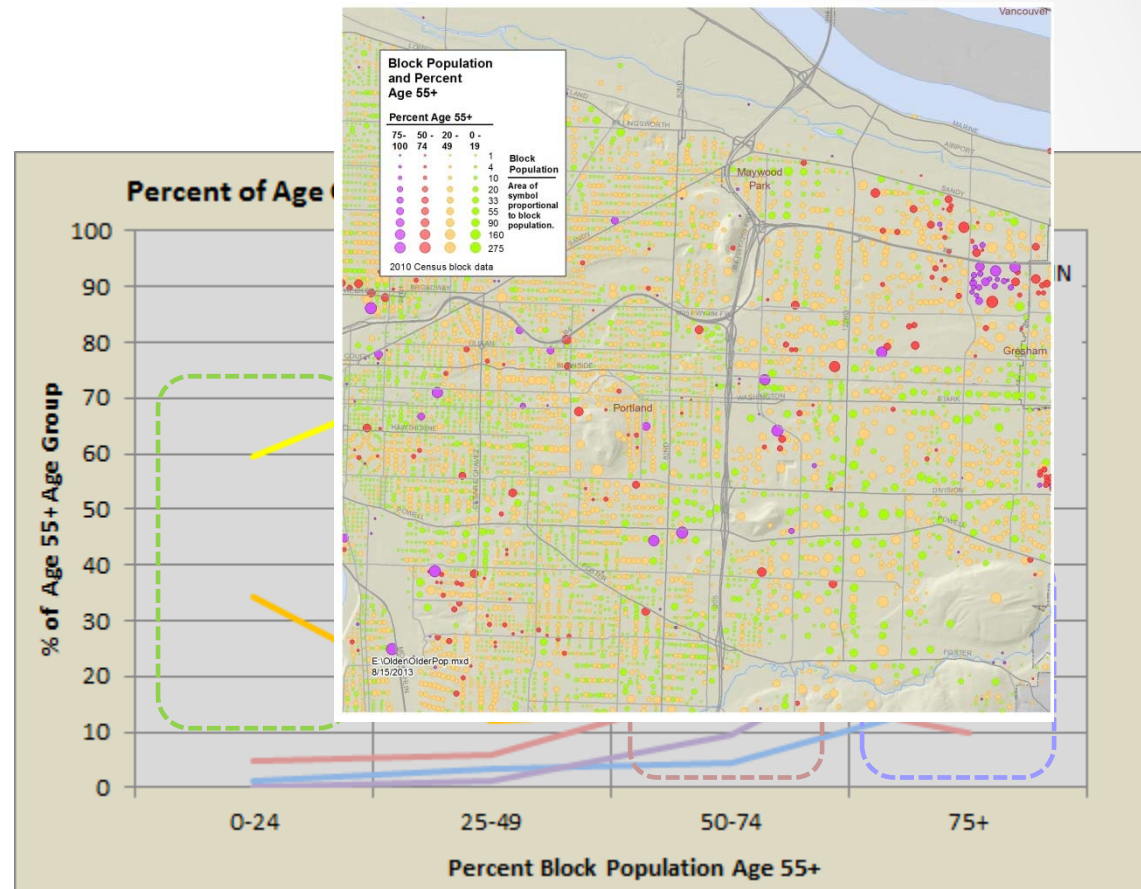
⋯↔ **Incidental feature**

Chart after Gordon, pp. 32

Where seniors reside by broad housing class

For the map's age group classes – green, yellow, red, purple

- In what type of housing do the age 55+ reside?
- 60% in SFR and 34% in MFR
- 77% in SFR
- 50% in SFR, 18% in CND, 14% in APT, 10% RET
- 32% in RET, 16% in MFG, and 13% in APT

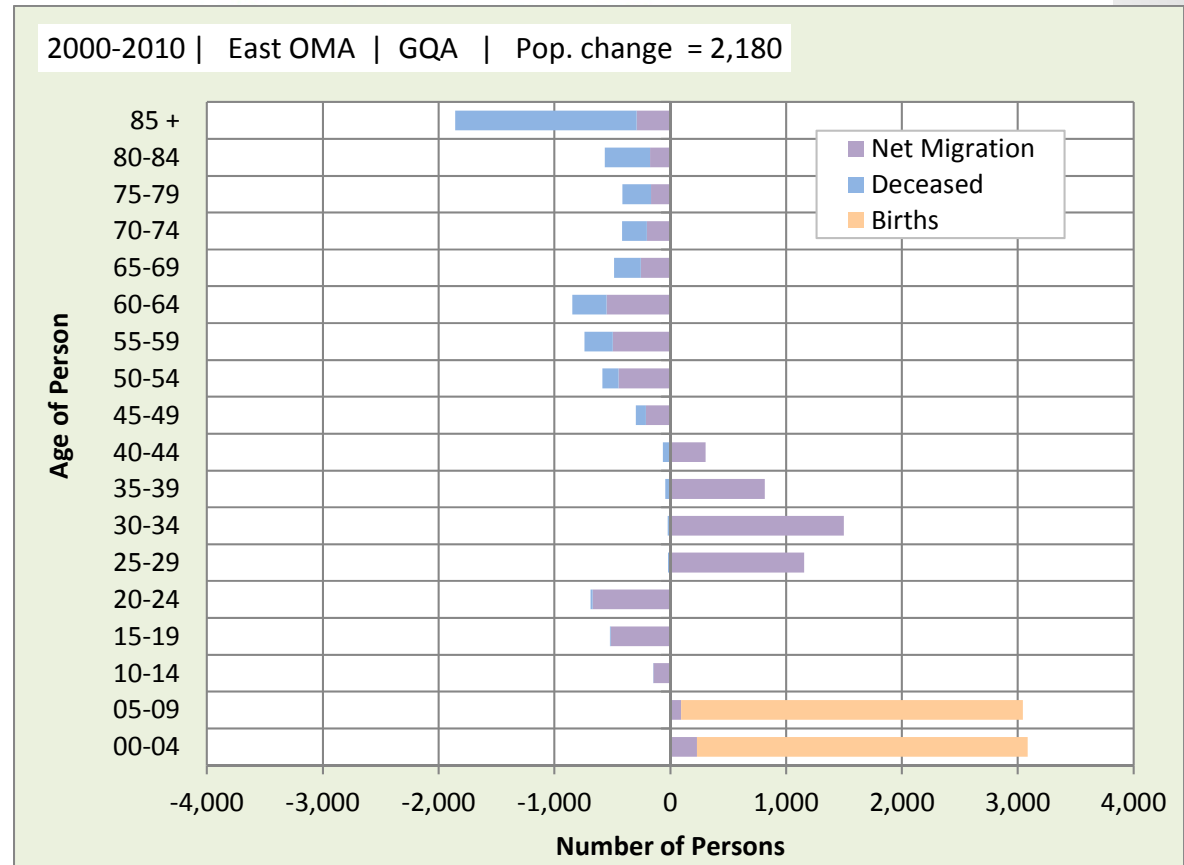


2. Senior Shedding

- Outgrowth of work for Portland Public Schools
- School demography methods
- Senior departures contributed to gentrification

School enrollment – Senior Shedding

- Beginning in about 1990 enrollment in Portland’s central east side elementary schools began to decline
- But after 2000 enrollment in many of those schools began to increase
- We found that jump in enrollments was due mainly to in-migration of thirty something families and their decision to stay put as their families grew.
- The vacancies that allowed the thirty somethings to move in were created mainly by the deaths and out-migration of seniors.



- This created an interest in better understanding the housing decisions of seniors.
- The role of departing seniors in the gentrification process was as important as the gentrifiers.

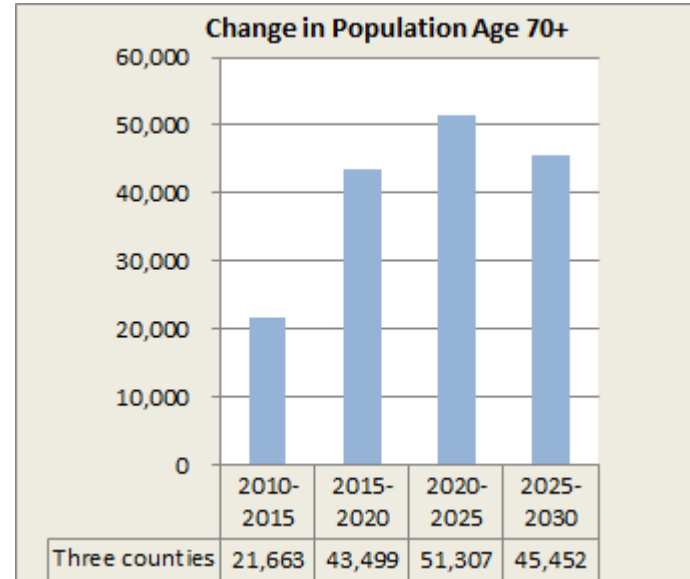
3. The county coordinated forecast

- The Office of Economic Analysis *Safe Harbor*
- Dividing up the county among the cities
- Portland Metro
- Portland State takes on this task

- The County Coordinated Forecast.

Three Counties

Age	Year				
	2010	2015	2020	2025	2030
00-04	106,389	105,796	113,115	120,314	124,767
05-09	105,735	108,004	108,724	116,292	123,672
10-14	104,404	105,905	109,280	109,595	117,185
15-19	103,398	101,658	103,229	105,587	104,660
20-24	106,595	111,357	111,641	113,542	115,591
25-29	127,791	127,762	140,334	141,090	143,121
30-34	126,806	135,833	141,428	156,277	157,085
35-39	125,189	128,911	140,163	146,350	161,640
40-44	119,203	126,336	131,390	143,093	149,404
45-49	117,747	118,742	127,167	132,481	144,224
50-54	117,344	115,742	118,038	126,663	132,042
55-59	111,089	113,143	112,908	115,543	124,203
60-64	90,624	104,625	108,157	108,345	111,223
65-69	60,035	84,761	99,120	102,757	103,142
70-74	39,370	54,931	78,408	92,020	95,709
75-79	29,398	34,360	48,315	69,305	81,692
80-84	24,769	23,850	28,351	40,229	58,144
85-PP	28,749	30,808	32,375	37,202	48,664
Total	1,644,635	1,732,524	1,852,144	1,976,686	2,096,168



OEA Forecast

- Dividing up the counties

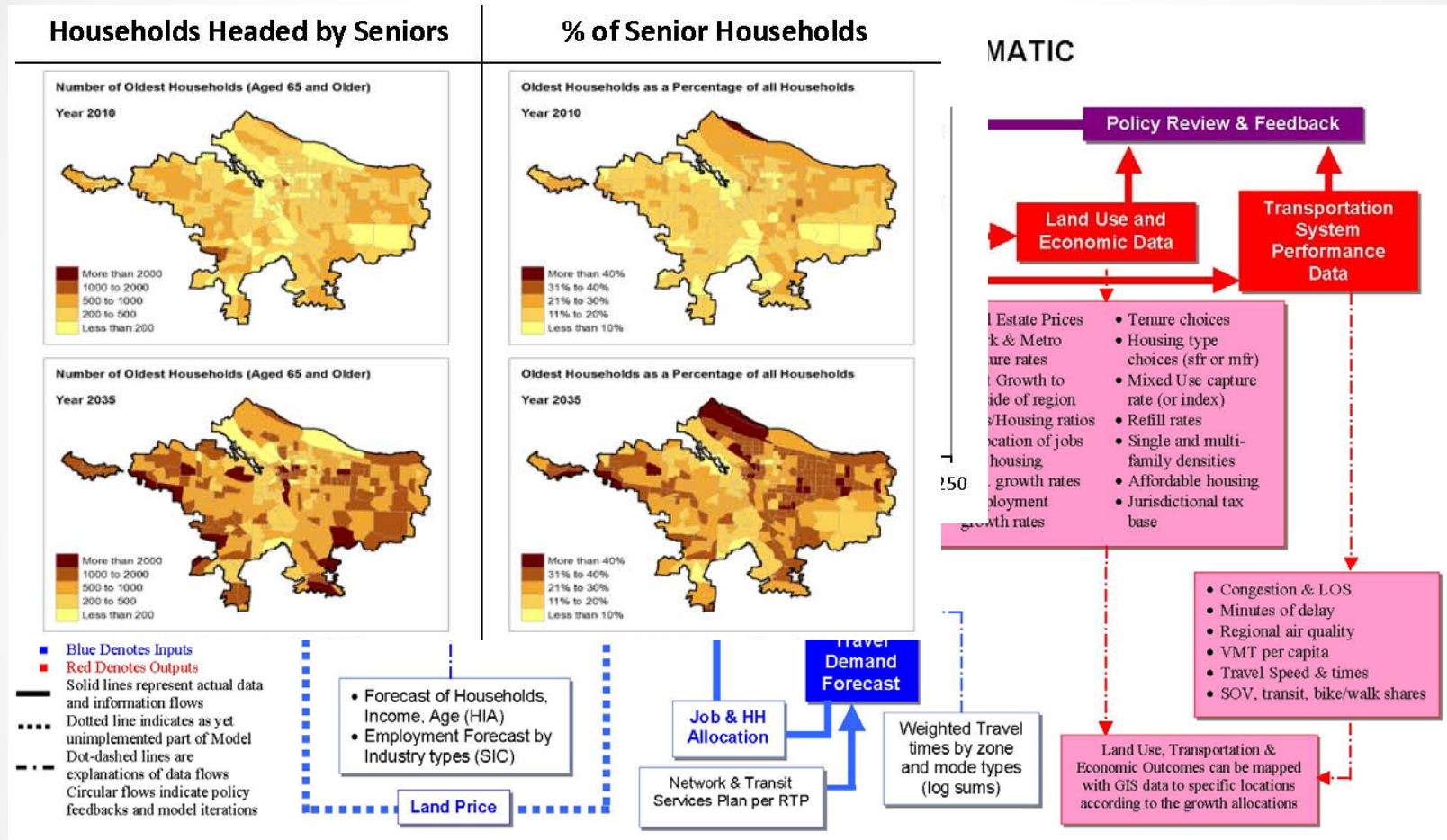
- The county coordinates forecasts for land within the UGR of incorporated cities and the fo

Population Composition	Housing	Planned Housing Development/Est. Year Completion	Future Group Quarters Facilities	Future Employers	Infrastructure	Promotions (Promos) and Hindrances (Hinders) to Population Growth; Other notes
Creswell						
Increase in young families, Latinos, retirees; higher shares of these population groups than County.	2000 ave. occupancy rate of 95.6% will continue	45 HU – 2010; 46 HU – 2011; 28 HU - 2012		*Flat in past; recent increased business activity – services and leisure; Planned added service/home sales jobs – 42 within 2 years.	High growth in 1960s due to improvements to I-5 Hwy and installation of municipal sewage & treatment system	Promos: Affordable housing and short commute to Eugene-Springfield; growing Latino community & Latino businesses; golf resort and associated housing draws retirees; airport; proximity to Eugene/Springfield; city wants to accommodate growth. Notes: Observed significantly higher pop AAGR than Safe Harbor (1.1% is SH); AAGRs vary in different master plans and studies: 2.5%-3.2%
Document Information- Creswell	<p>Included in PAPA Creswell proposes a 2030 population of 8,509.</p> <p>Noteworthy factors:</p> <ol style="list-style-type: none"> 1. Past projections have been below actualized population growth (1982 Comp Plan) 2. Past master plans have adopted annual growth rates for the same period (3.2% in the water plan, 2.6% transportation plan, 2.53% for wastewater and open space plans) that have been well below historic trends ranging from 3.2% to 4 %. 3. Historic trends demonstrate competitive advantages for economic growth in Creswell vis-à-vis other county municipalities. 					

Prepared by Mark Gissert
Population Research Center
Portland State University
April 2009

High, medium, low and levels

Metro's population Forecasts



- Cooperative effort between Metro and PSU Institute on Aging on housing for seniors.

4. Housing and net migration

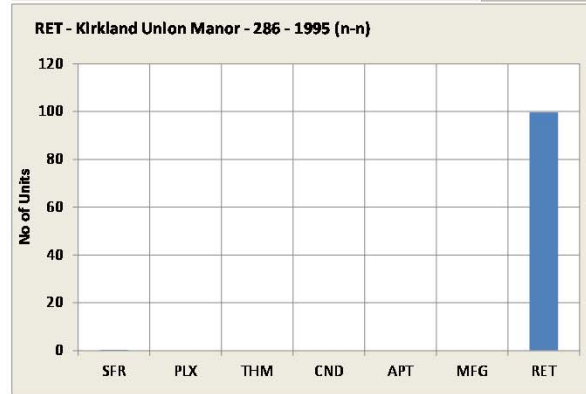
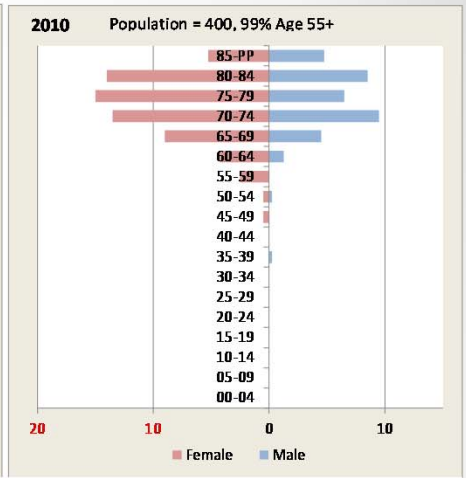
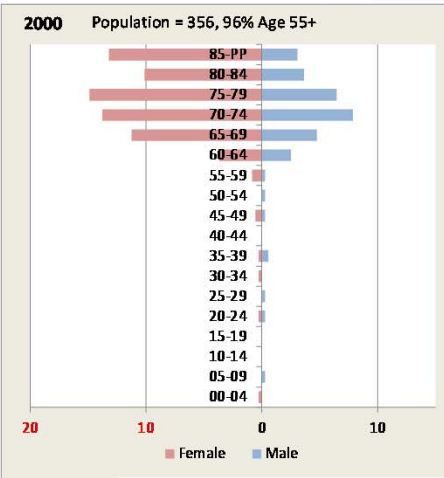
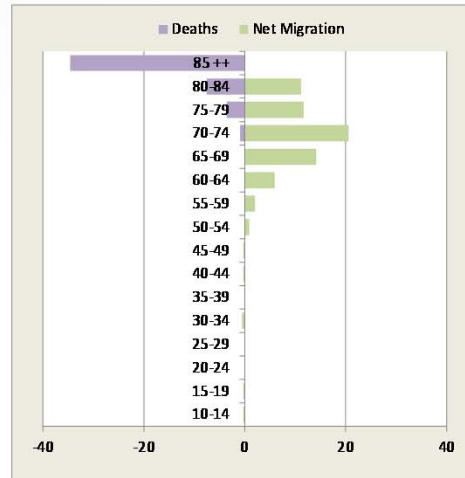
- Births, deaths, and net migration key to cohort forecasts
- Net migration the most difficult to forecast
- Forecasters perhaps less familiar with senior housing and where the seniors might be located in 10, 20 years
- A tool to provide guidance for the forecaster

A linked housing and population database

- Age data for 2000 and 2010 census blocks were summarized to a common geography – where that was possible.
- Land use data from the Metro tax-lot file and the multiple family housing inventory were merged and summarized by census block.
- Population by age and sex were summarized for census blocks and net migration by age calculated.
- An Excel spreadsheet was developed to facilitate the examination of housing and age characteristics for selected census blocks.
- Examples to follow
- Data available statewide, test case for Portland

Example of senior rental housing

- Kirkland Union Manor. Built in 1974 and expended in 1974 and 1985 and 1995. It provides studio and one bedroom apartments.
- Senior rental apartments that has existed long enough to have steady state age distribution.

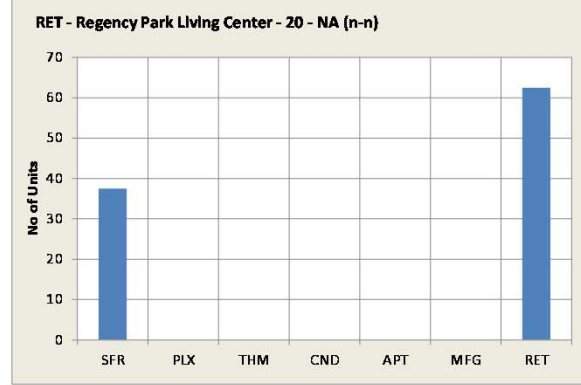
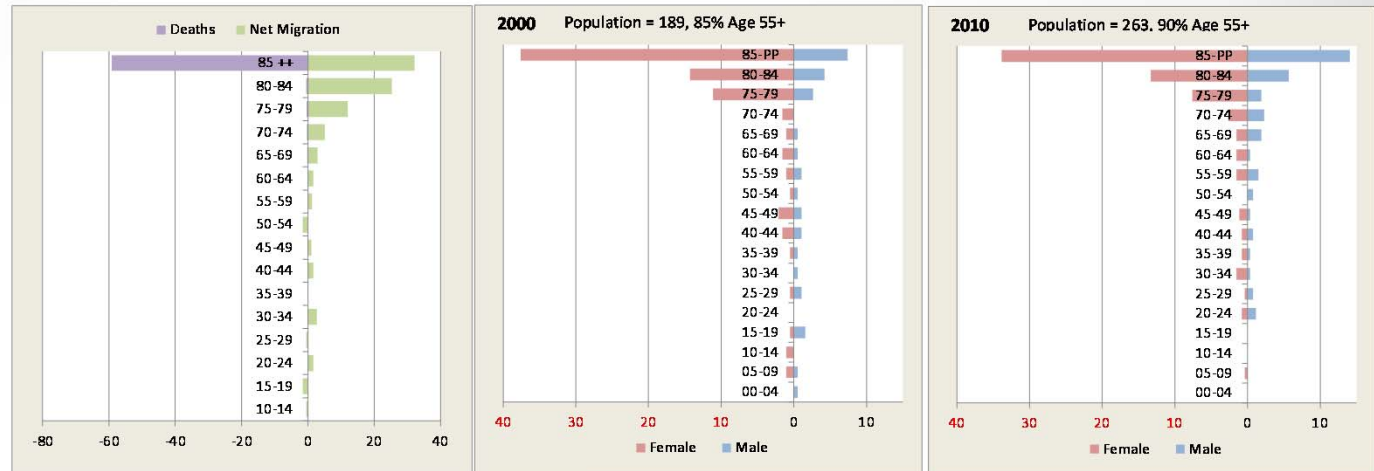


Kirkland Union Manor

Portland

Example of assisted living housing

- Regency Park Living Center. Provides a range of services including memory care.
- The population of this development is older and predominately female. Most in-movers are over age 75.

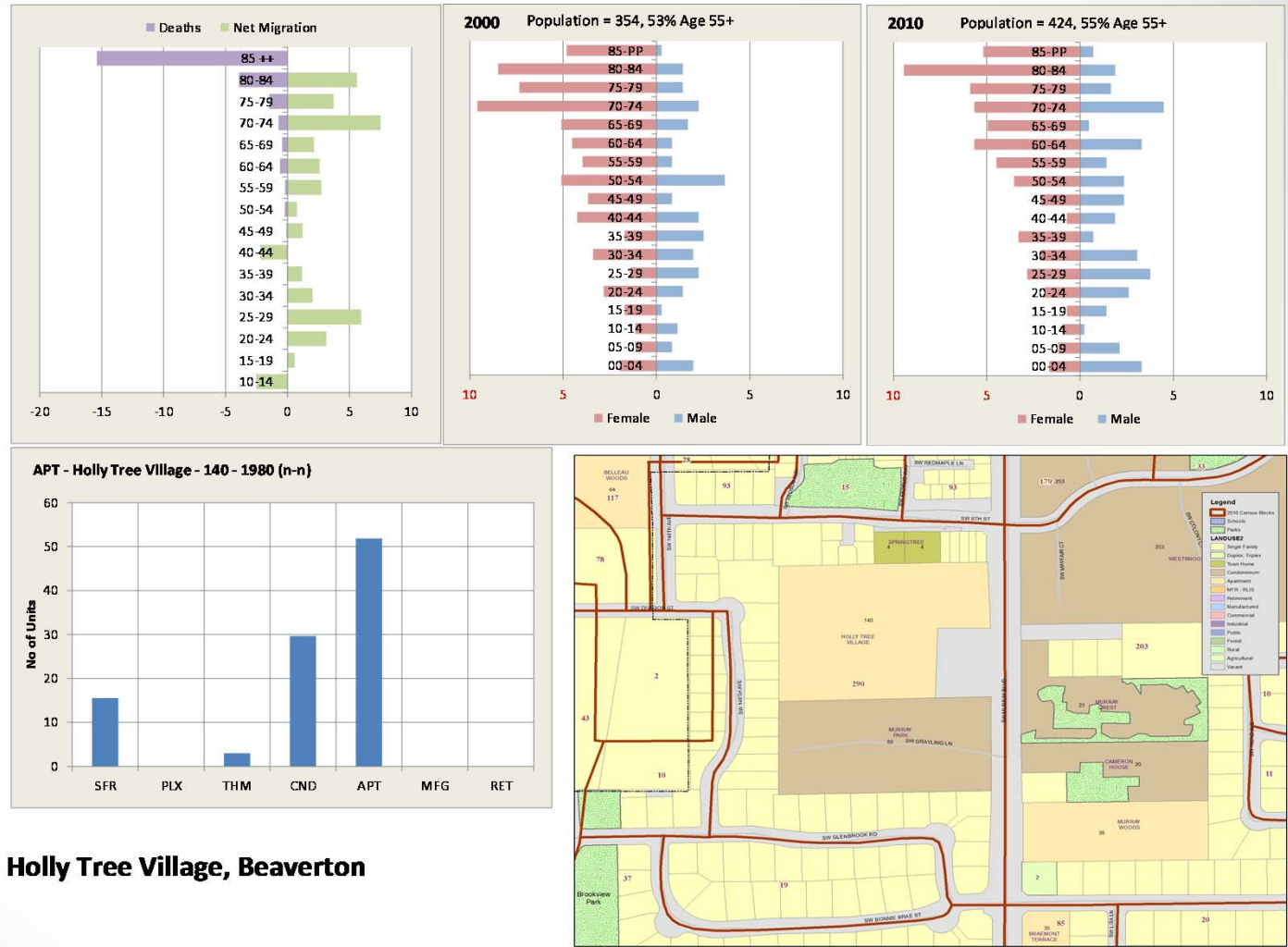


Regency Park Living Center
Beaverton



Example of mixed use block with senior in-migration

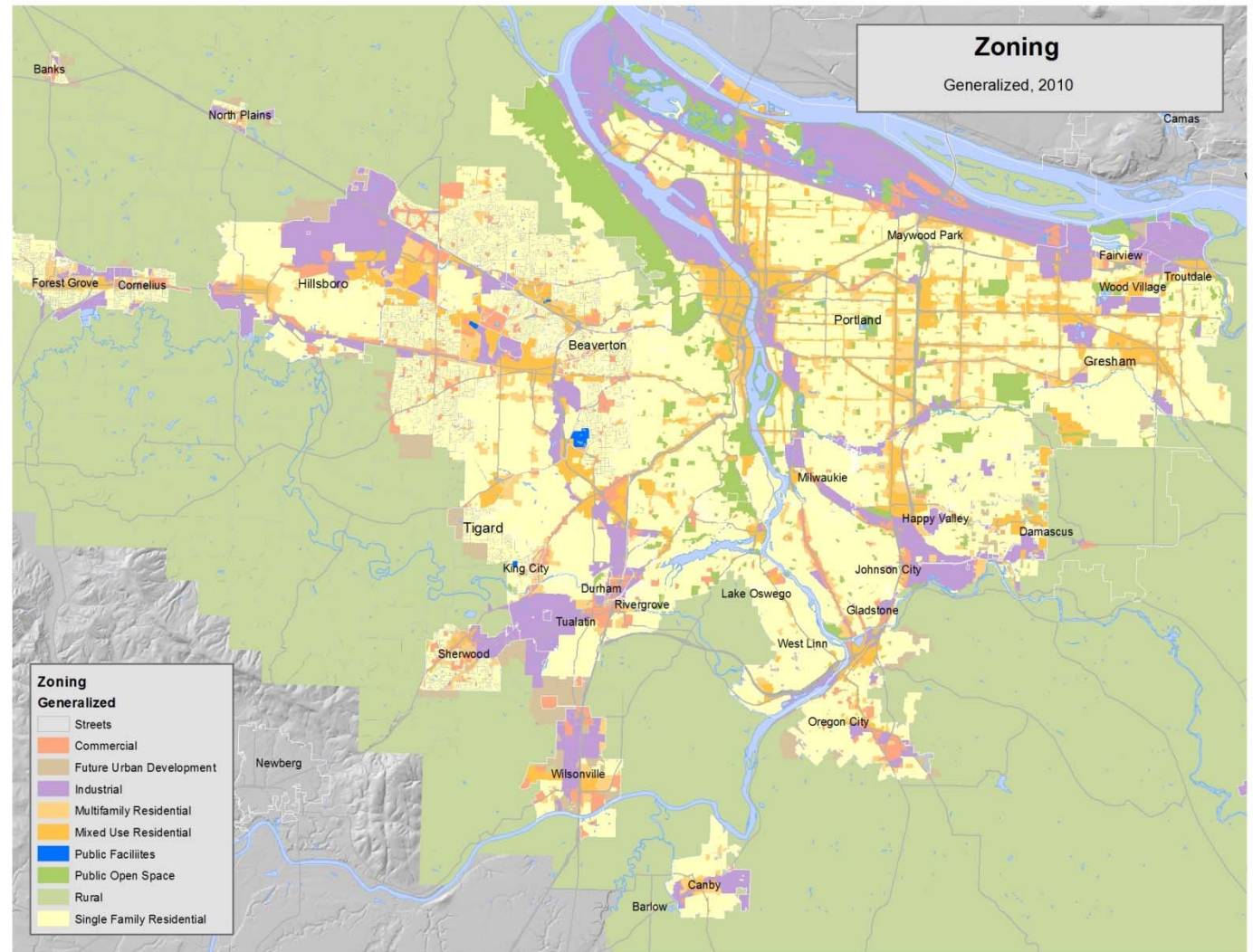
- Holly Tree Village – A block in Beaverton with a mix of apartment, condominium, and single family housing
- A mix of older and younger in-migrants.



The analysis generalized

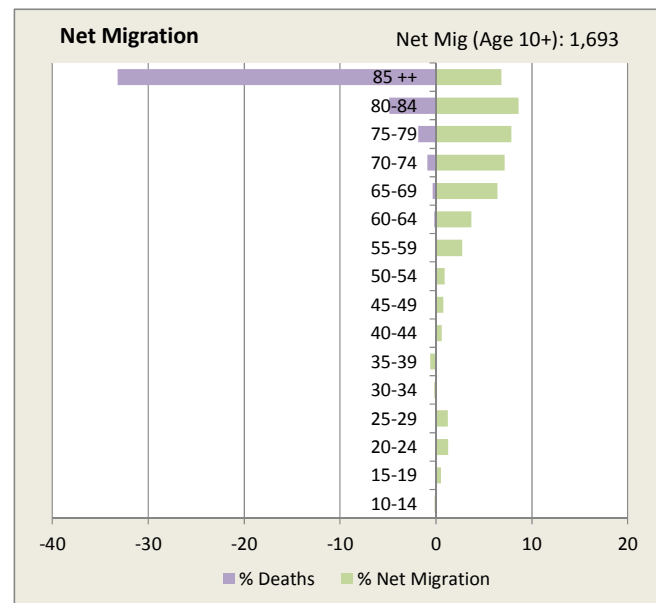
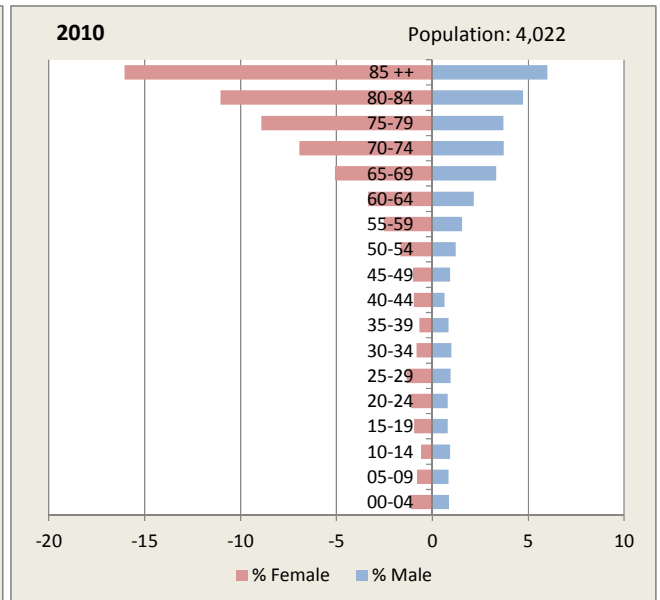
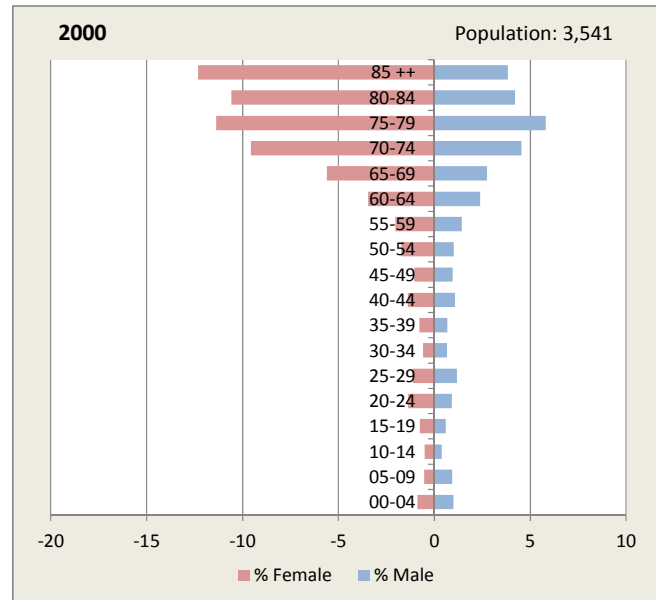
- The 2000 and 2010 census blocks are attributed with:
 - Age 55 plus class (green, yellow, red, and purple on map)
 - Generalized zoning
 - Population density
 - County
- The census block data are cross tabulated by the above classes and population pyramids and net migration estimates are computed.
- A reason for choosing these data is that they are available for all counties in Oregon.

- The original map showing where the seniors live.
- Converted to block polygon representation.
- Age 55 plus class added to block point files for 2000 and 2010.
- Density measure added to block point files.
- Zoning added to block point files



Multi-family housing in Multnomah Co.

- The **green** areas on the map house many of the county's younger families and many of Portland's post WWII garden type apartments.
- Apartments in the **yellow** areas house more families in their thirties and forties than in their twenties, but these older age groups are out migrating. The age 55 and over population includes the baby boomers.
- In the **red** areas most in-movers are age 50 and older with a significant in-movement of persons age 75 and older.
- In the **purple** areas on the map the net in-movers are mainly age 65 and older. Mortality has thinned out older cohorts of males.



Zoning Class: Multifamily Residential

Density Class: GT 0.0 persons per acre

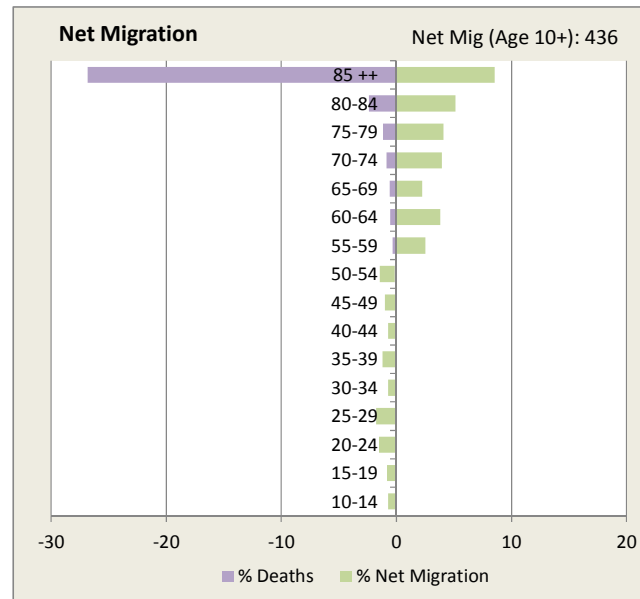
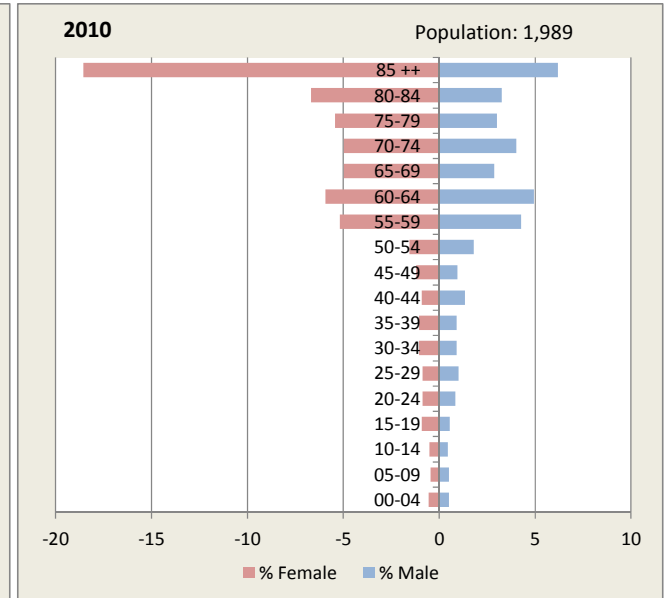
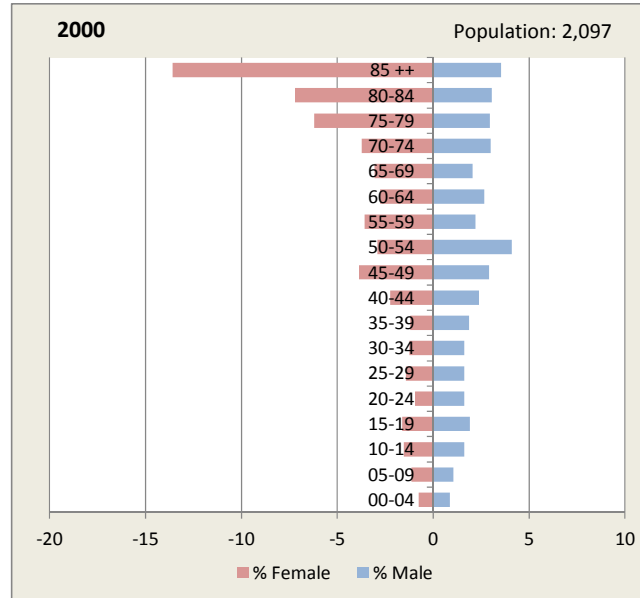
Age 55 Class: 75%-100%

County: Multnomah

All graphed data as percent of total population

Single-family housing in Multnomah Co.

- In single family housing in the **green** area households moving in are mainly in their late twenties of their thirties. The single family housing in this area is mainly post WWII.
- In the **yellow** areas on the map the families are about 10 years older and families age 20-24 and over age 55 are moving out.
- In the **red** areas on the map there is a mix of in-migration of families in their thirties and families over age 55.
- In the **purple** areas on the map most of the families in single family housing are age 55 and older, some in age restricted housing.



Zoning Class: Single Family Residential

Density Class: GT 0.0 persons per acre

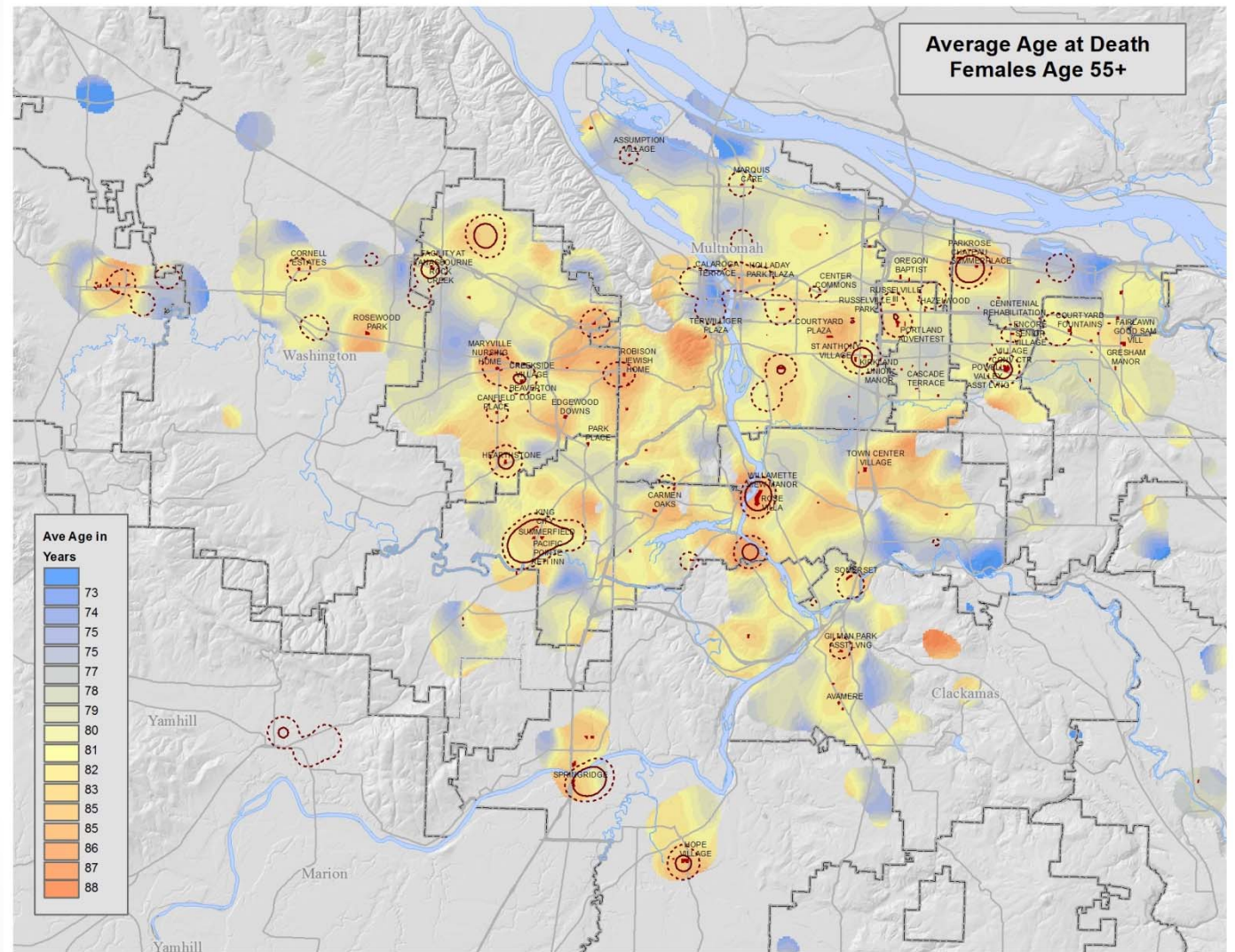
Age 55 Class: 75%-100%

County: Multnomah

All graphed data as percent of total population

Mortality rates affected by Education, Affluence

- Caveat – Analyses in paper used national mortality rates by age and sex.
- Recent research shows that mortality rates are considerably lower for persons with more education, higher SES.
- Block level mortality data for Portland show spatial variations in average of death, shown here for females.
- Females live longer in some areas of senior housing, but not those that accommodate those in failing health.



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- The tools linking zoning and the housing setting of seniors may provide some useful guidance for population forecasters, but they do not directly provide a forecast.
- The tools as presently implemented have bugs that need to be addressed. The density measure is a problem.
- Extending the use of the tool to Oregon’s more rural counties may lead to some useful insights – or to problems in interpreting the results of the tool.

- Land-use planning in Oregon

- Adler, Sy. Oregon Plans, the Making of an Unquiet Land-Use Revolution, Oregon State University Press, 2012.
- Walker, Peter A. and Patrick T. Hurley, Planning Paradise, Politics and Visioning of Land Use in Oregon, The University of Arizona Press, 2011.

- Senior housing

- Brecht, Susan. Analyzing Senior's Housing Markets, the Urban Land Institute, 2002.
- Gordon, Paul A. Senior's Housing and Care Facilities: Development, Business, and Operations, the Urban Land Institute, 1998.
- Reginer, Victor and Jon Pynoos. Housing the Aged: Design Directives and Policy Considerations, Elsevier Publishing Co., 1987.

- Web links

- Oregon Office of Economic Analysis Population Forecasts - <http://www.oregon.gov/DAS/oea/Pages/demographic.aspx>
- Lane County , example of county coordinated population forecast - http://www.lanecounty.org/departments/pw/lmd/landuse/pages/population_forecasts.aspx
- Metro, Metroscope methodology - <http://www.oregonmetro.gov/index.cfm/go/by.web/id=24906>
- Metro, Senior Forecast - [http://library.oregonmetro.gov/files/no 5. agedistribution.pdf](http://library.oregonmetro.gov/files/no_5_agedistribution.pdf)
- Metro/IOA Age friendly city - <http://news.oregonmetro.gov/1/post.cfm/portland-and-the-region-plan-for-an-aging-population>
- Senior shedding and school enrollment - <http://www.pdx.edu/prc/news-and-presentations-from-the-population-research-center>
- This paper - <http://www.pdx.edu/ioa/news-and-presentations-from-the-institute-on-aging>

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