## Crest Drive Community Mapping Project

A collaborative community-based mapping project between the neighbors of the Crest Drive Citizens Association and the University of Oregon

# Community Atlas 1.0

May 2006





#### **Crest Drive Community Mapping Project**

#### **Background**

In the Fall, 2006 academic term, students taking the class "PPPM 4/536: Applied Geographic Information Systems (GIS) and Social Planning" worked with residents of the Crest Drive Neighborhood to collect data in the neighborhood of interest to residents. The planning for this project began about four months prior to the term when the Chair of the neighborhood association, Kathy Saranpa, and I, the instructor of the course, met to brainstorm potential project ideas. Over

the course of those four months, we eventually decided to conduct a walkability analysis of some central streets between Crest Drive Elementary School and Wayne Morse Ranch.

Why Walkability?

Many of the roads in the neighborhood are old logging roads that have been minimally improved over the years, despite the development of housing throughout the area. To some. these roads are just fine as is; the uneven pavement and potholes create a type of traffic calming, thereby making the streets generally walkable. To others, the streets are dangerous for vehicles traveling along the roads and for pedestrians who have to walk in the streets due to the lack of sidewalks in this area. To make any improvements to the road would require that the road be brought up to current city code. which would most likely result in some widening of the portion of the existing

right of way currently used for streets. Exactly how much space "improved" streets would need is a hot topic under discussion between the neighborhood and city transportation officials.

The basic premise of this project was to document some basic characteristics of the existing street network in terms of walkability, and to identify permanent objects next to the existing roadway that would potentially need to be removed if the street gets improved. Even though many of these objects (trees, fences,

mailboxes, sheds, etc.) may be in the City's right of way, any decision about the streets that would lead to removal of these objects would be of great concern to the neighborhood. Thus, this project sought to identify these objects proactively so that

discussions about street widening and its impact on neighbors' property could be thoughtfully considered.



In addition to teaching hard mapping skills, the University GIS course focuses on bottom-up community change, participatory uses of GIS, and how Universities can alter its traditional paradigm of treating communities as research subjects, to one where communities actually benefit from their work with University researchers/educators. In keeping with this approach, the project only went forward after the neighborhood







#### **Crest Drive Community Mapping Project**

association officially invited the class in and committed to a dialogue that ensured that the mapping project was driven by the needs and desires of community residents. With this model, students would gain skills along the way, but the project content was driven by the neighborhood. Of course, the

time and resource constraints of conducting a project within an academic quarter (10 weeks) were present, but the project moved forward in a way to work within these constraints and in the service to the neighborhood.

#### **Collecting Data**

During the first four weeks of the academic

term, students were taught new mobile GIS technology (using a software program called ArcPad that works on Personal Digital Assistants (PDAs)) and had a chance to interact with Kathy Saranpa. Additional meetings between a neighborhood project subcommittee and the class Graduate Teaching Fellow (GTF), Krissie Killoy, led to a narrowing of the types of issues and questions that the neighborhood wanted to explore through mapping. The class then developed a data entry interface to the GIS software that would be intuitive and easy to use for anyone regardless of GIS or PDA technology.

Teams of students and residents gathered on one rainy Saturday in October, 2005 to walk the neighborhood streets and collect the data using the PDAs. The day started with an hour of

bagels and coffee where introductions and basic training were conducted. The teams then went out for three or so hours to collect data in different subsections of the neighborhood. Everyone then re-gathered at the neighborhood community center for a pizza lunch, a bit of de-briefing about the day's data

collection, and some social time to learn more about each other.

#### **Distributing the Data**

Following the data collection day, students returned to the computer lab on campus to do some post-processing of the data and three students chose to utilize the data for their final course project. These students (Heather Heater, Sara Bangen, and David Rolniak) created a master map

template and in addition to making maps with the original data collected with the neighborhood residents, they also made other types of public data more public (i.e. city zoning and land use data and census data from the 2000 census). The students then created the maps in this Atlas and available on-line. In keeping with the participatory and community-based approach to this project, all the data collected is also available on the web site for the community to use.

All in all, this project was very rewarding – students gained new skills and had an opportunity to apply those new skills in a "real world" setting; residents were able to outline the types of data they wanted to collect and were then able to utilize the class in service to the neighborhood; the maps produced can become





#### **Crest Drive Community Mapping Project**

resources for the neighborhood to continue the discussions about the street network and how to move forward; and perhaps equally important, the project was fun and built relationships between neighborhood residents and University students.

#### Acknowledgements

I would like to thank the Tom and Carol Williams Fund for Undergraduate **Education ("The Williams Council")** for their support of this project and their on-going interest in bridging the development of new GIS skills for students with community service; Krissie Killoy, my Graduate Teaching Fellow (GTF) for this class was invaluable in helping this project meet the needs of students, of residents, and an academic time schedule; Kathy Saranpa, the chair of the Crest Drive Citizens Association who enthusiastically worked with students. both giving them project direction and insight into neighborhood politics; the students in my class and residents in the neighborhood for bringing joy, enthusiasm, and a positive approach to this collaborative project; and to students Heather Heater, Sara Bangen, and David Rolniak for post-processing the data and creating a wonderful atlas of maps.

> Marc Schlossberg, PhD Assistant Professor Planning, Public Policy and Management (PPPM) University of Oregon

> > May 2006

For the on-line version, please visit:

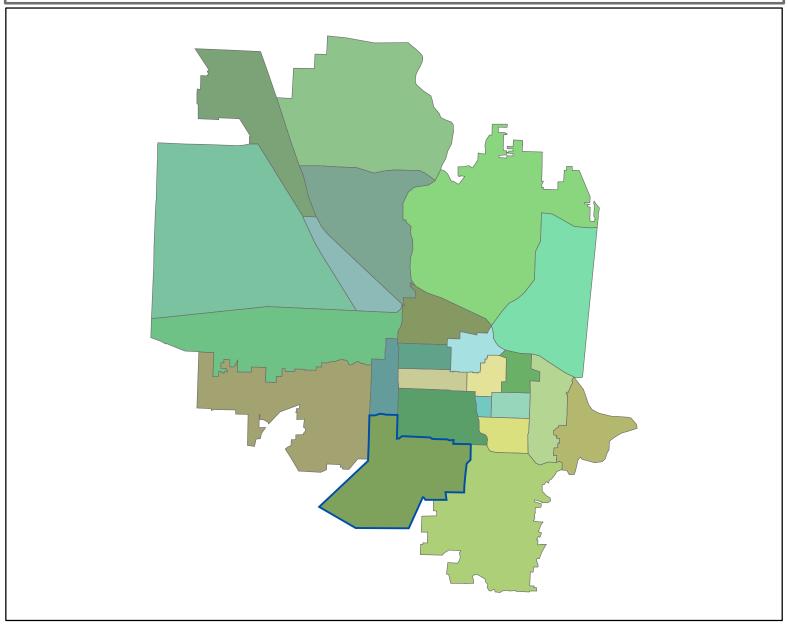
http://www.uoregon.edu/~crest

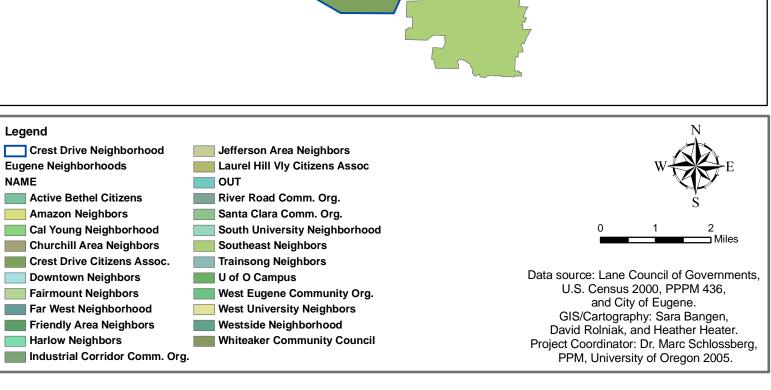




#### **Eugene Neighborhoods**



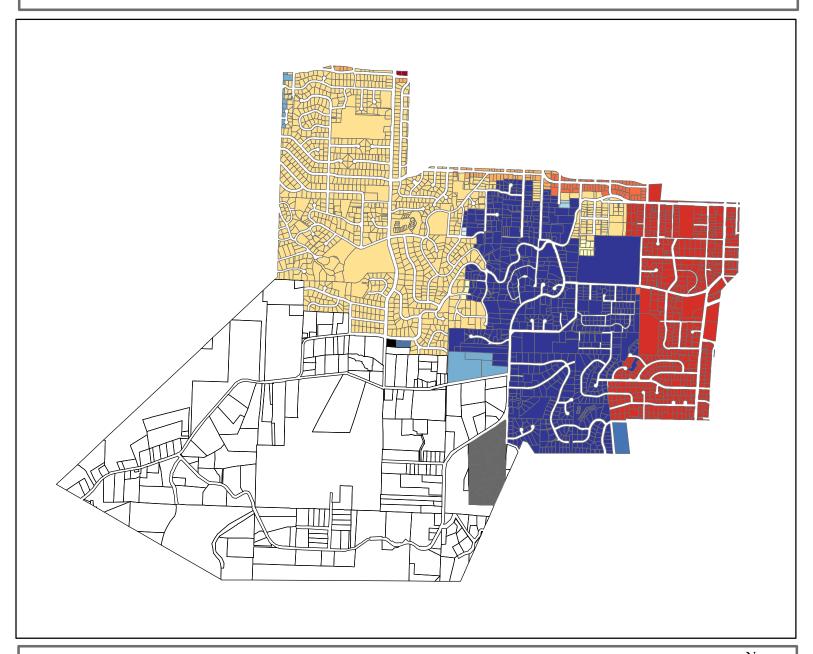


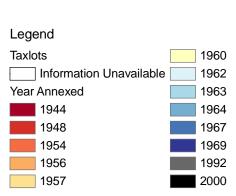


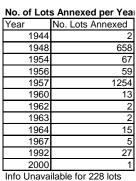
### **Annexation of Taxlots by Year**

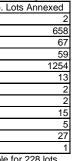












0.25

0.5

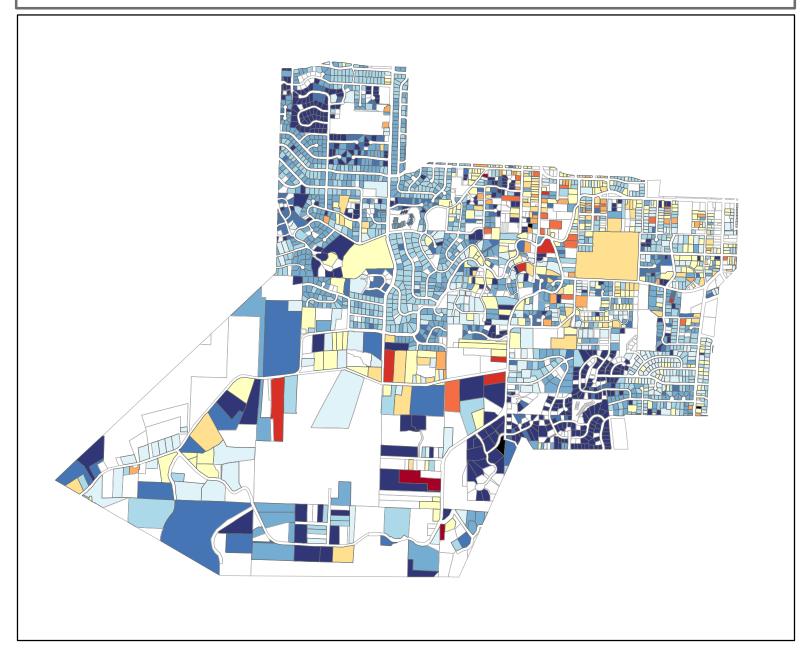
Data source: Lane Council of Governments, U.S. Census 2000, PPPM 436, and City of Eugene. GIS/Cartography: Sara Bangen, David Rolniak, and Heather Heater. Project Coordinator: Dr. Marc Schlossberg, PPM, University of Oregon 2005.

Information Unavailable for Taxlots lying outside of Urban Growth Boundary

#### **Year Taxlots Built On**

#### Crest Drive Neighborhood, Eugene, OR





Legend		Year	No. Taxlots Built On	No. Taxlots Build On as % of Total
1 "			per Decade	(for lots of known built on year)
Taxlots		1860-1896	3	0.12
		1900-1909	8	0.32
1860-1896	1970-1979	1910-1919	19	0.75
		1920-1929	45	1.77
1900-1909	1980-1989	1930-1939	79	3.11
		1940-1949	257	10.13
1910-1919	1990-1999	1950-1959	325	12.81
		1960-1969	568	22.39
1920-1929	2000	1970-1979	643	25.34
		1980-1989	205	8.08
1930-1939	Info Unavailable	1990-1999	382	15.06
		2000	3	0.12
1940-1949		Sum Total	2537	
1940-1949		Info Unavailable	585	
1950-1959		Grand Total	5659	
1330 1333				
1960-1969	_			_
1300 1303	0	0.25	0.5	1
1				Miles



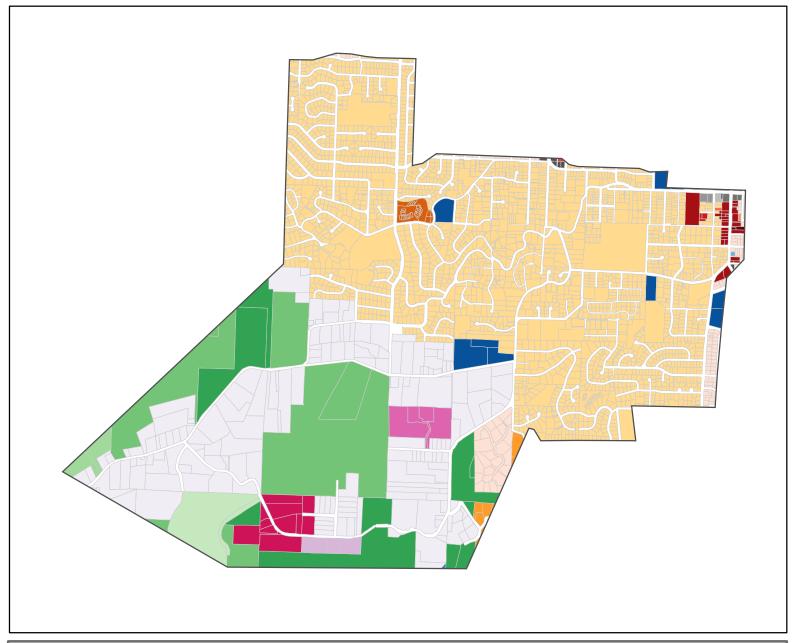
Data source: Lane Council of Governments, U.S. Census 2000, PPPM 436, and City of Eugene. GIS/Cartography: Sara Bangen,

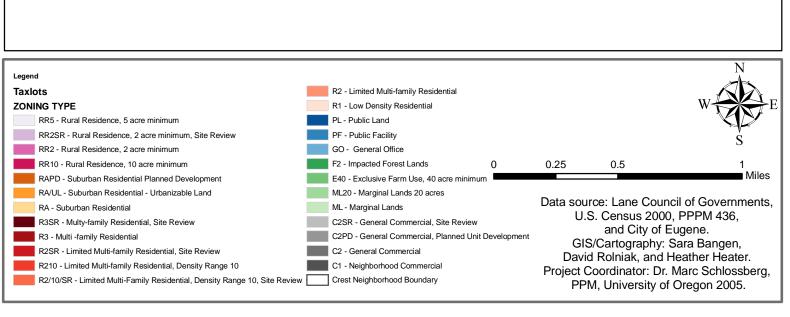
GIS/Cartography: Sara Bangen, David Rolniak, and Heather Heater. Project Coordinator: Dr. Marc Schlossberg, PPM, University of Oregon 2005.

#### **Taxlot Zoning**



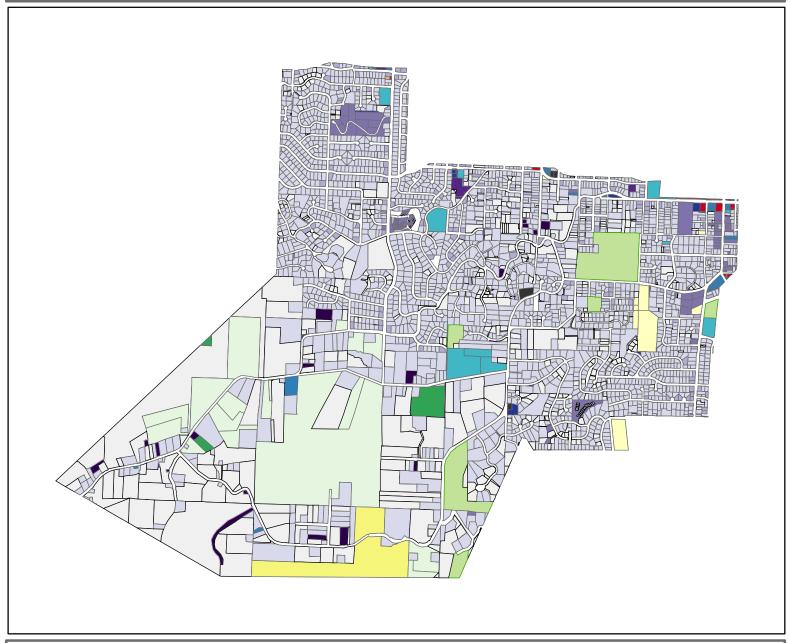


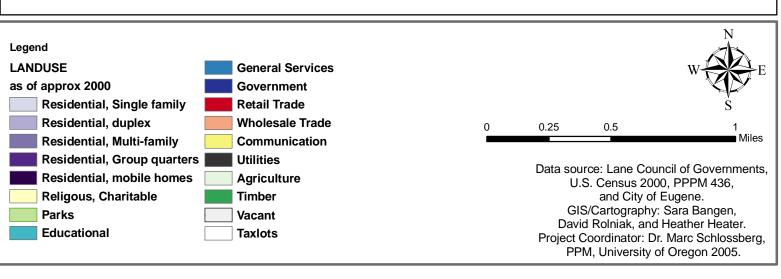




#### **General Land Use**

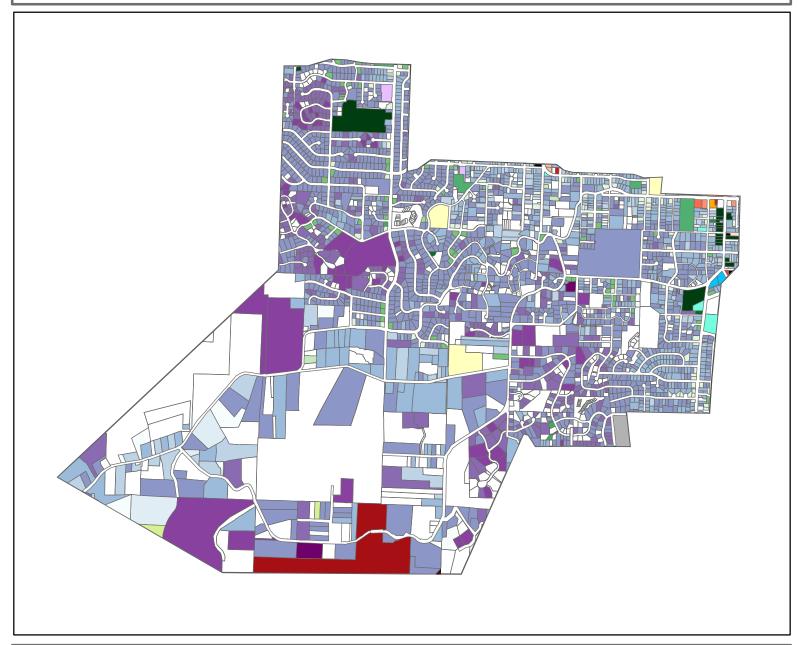


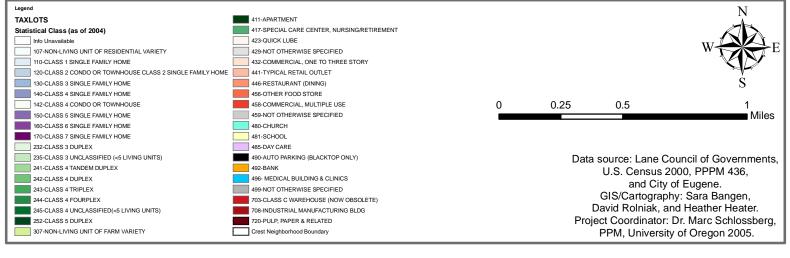




#### **Taxlot Statistical Class**



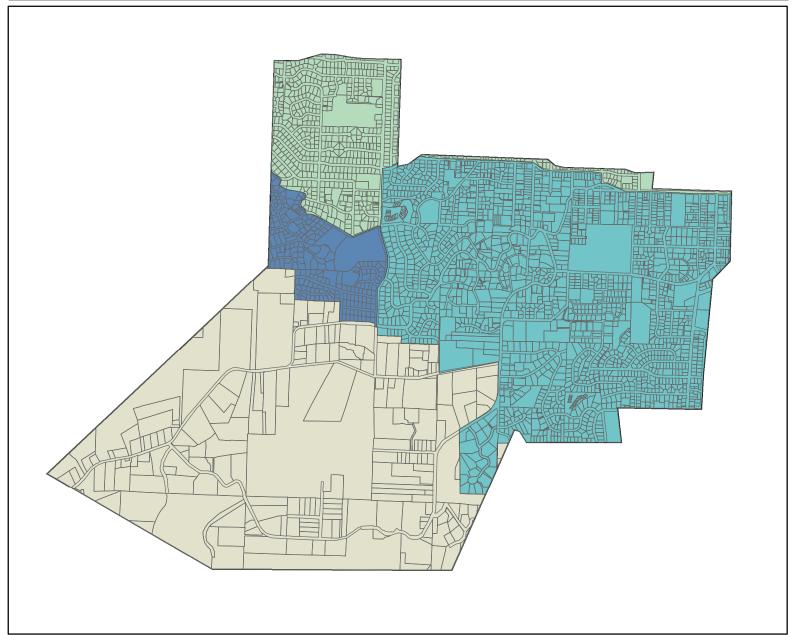


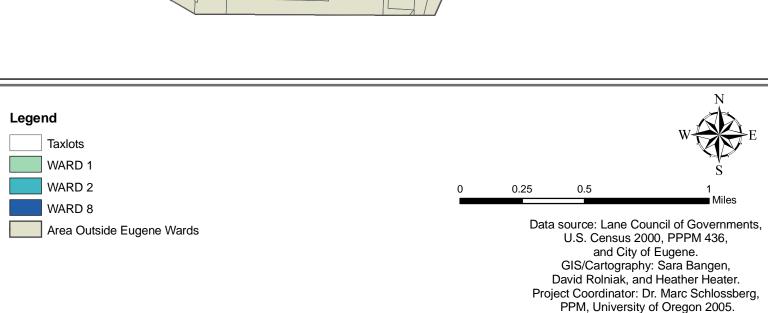


## **Eugene City Wards**



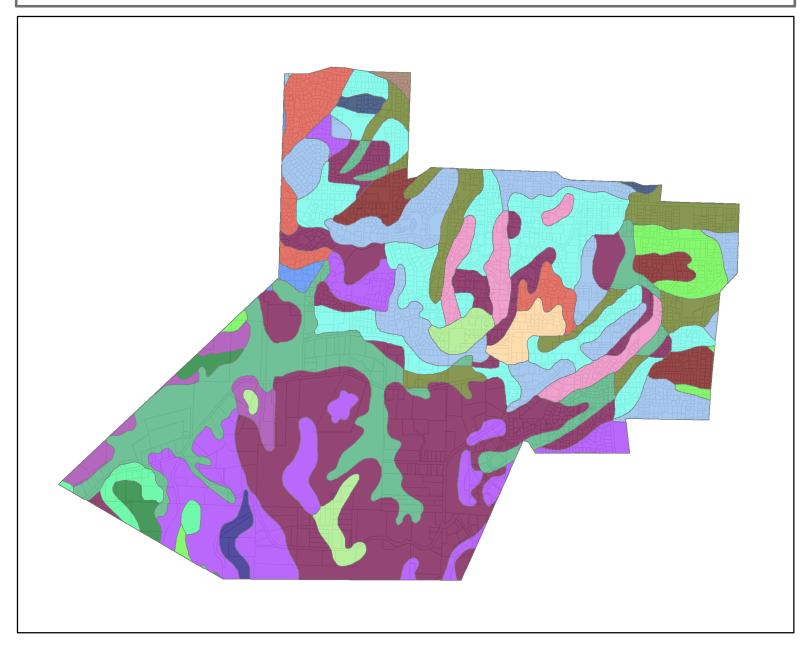


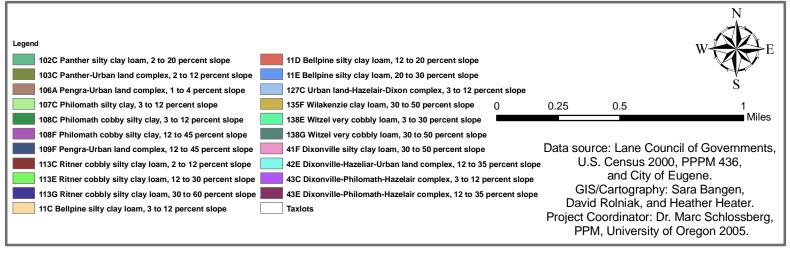




#### **Soil Types**



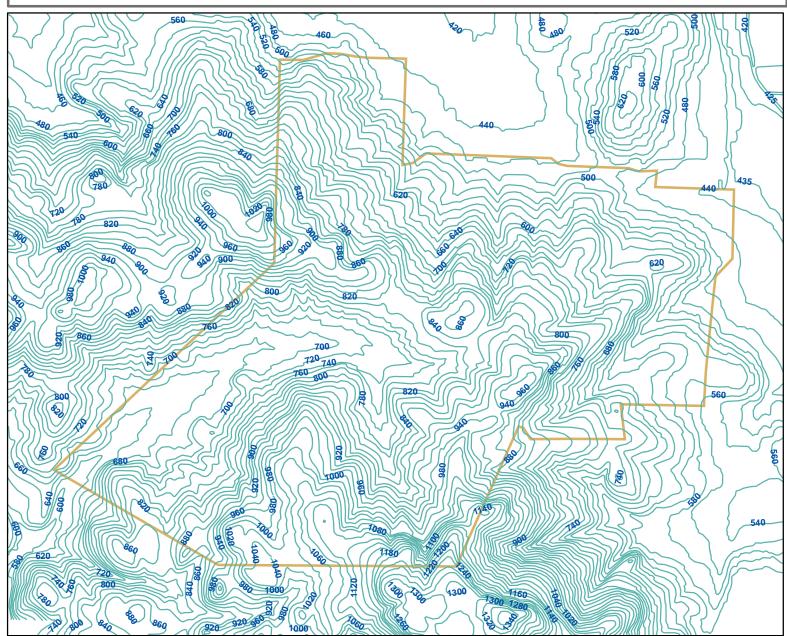


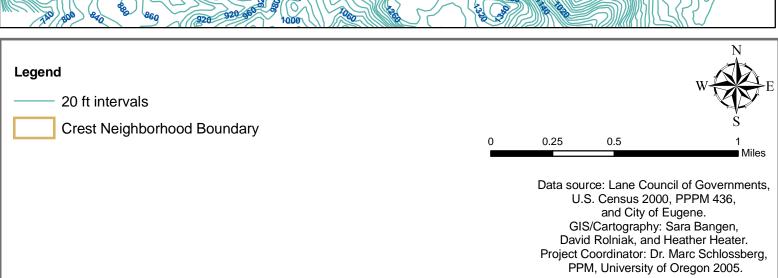


## **Contour Topography**





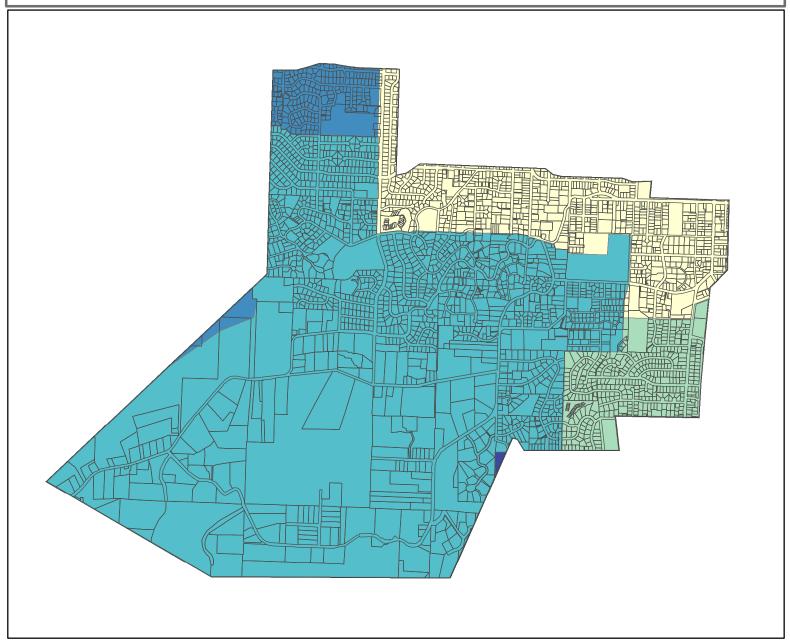


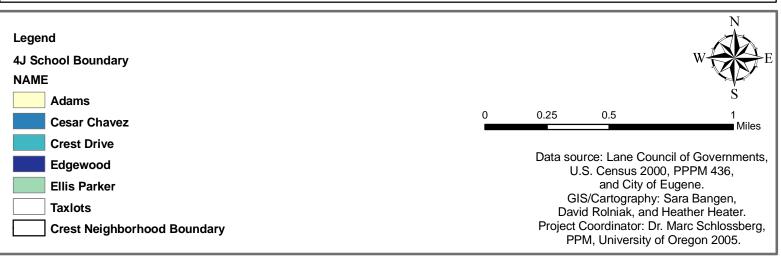


#### **4J Elementary Schools**





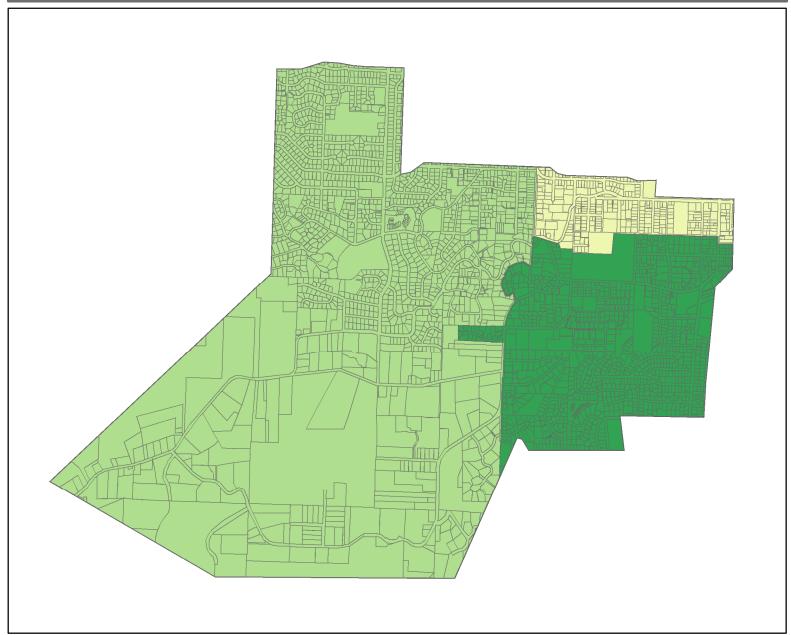


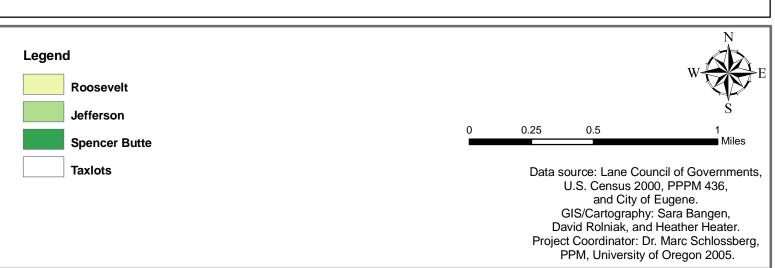


#### **4J Middle School Boundaries**





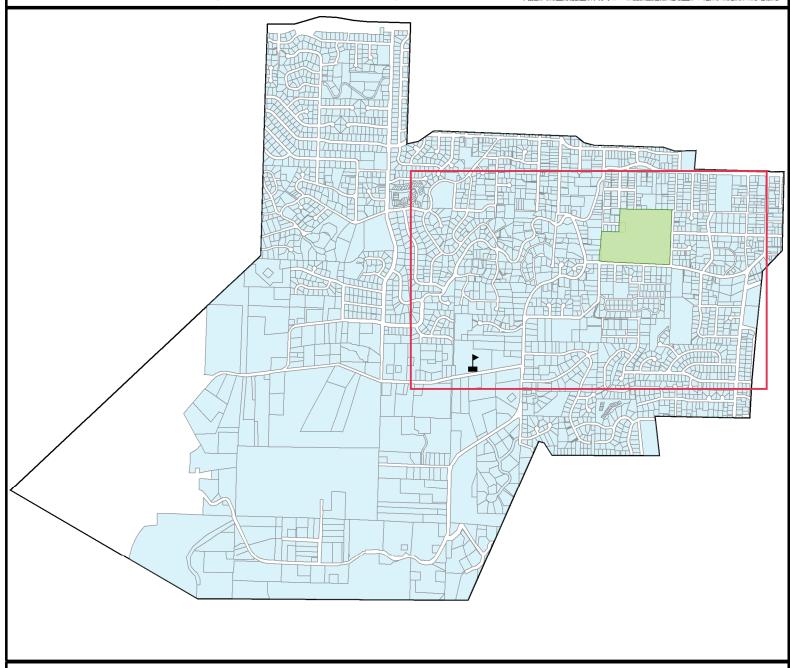


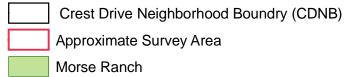


#### **Selected Survey Area**









**Crest Drive Elementary** 

0.125 0.25 0.5

S 0.75 1

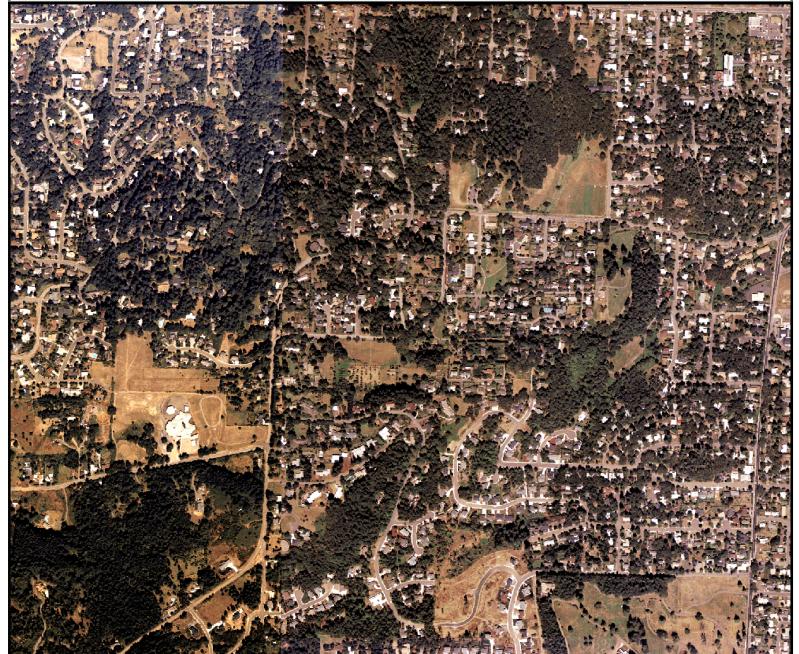
Tax Lots

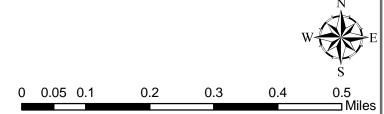
Data source: Lane Council of Governments, U.S. Census 2000, PPPM 436, and City of Eugene. GIS/Cartography: Sara Bangen, David Rolniak, and Heather Heater. Project Coordinator: Dr. Marc Schlossberg, PPM, University of Oregon 2005.

## **Aerial Photograph**

Crest Drive Neighborhood, Eugene, OR





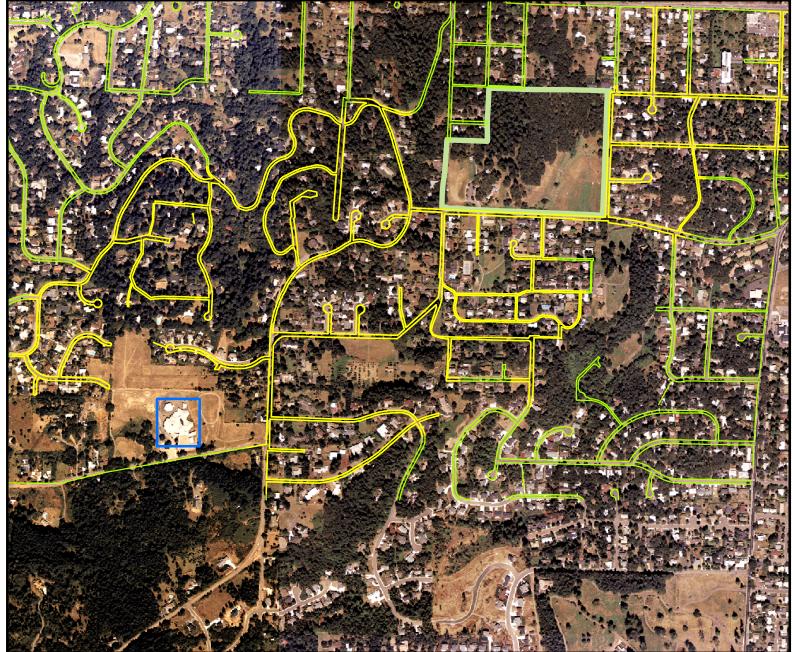


\*All objects are within 10ft of edge of street
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U.S. Census 2000, PPPM 436,
and City of Eugene.
GIS/Cartography: Sara Bangen,
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## **Aerial Photograph and Streets**









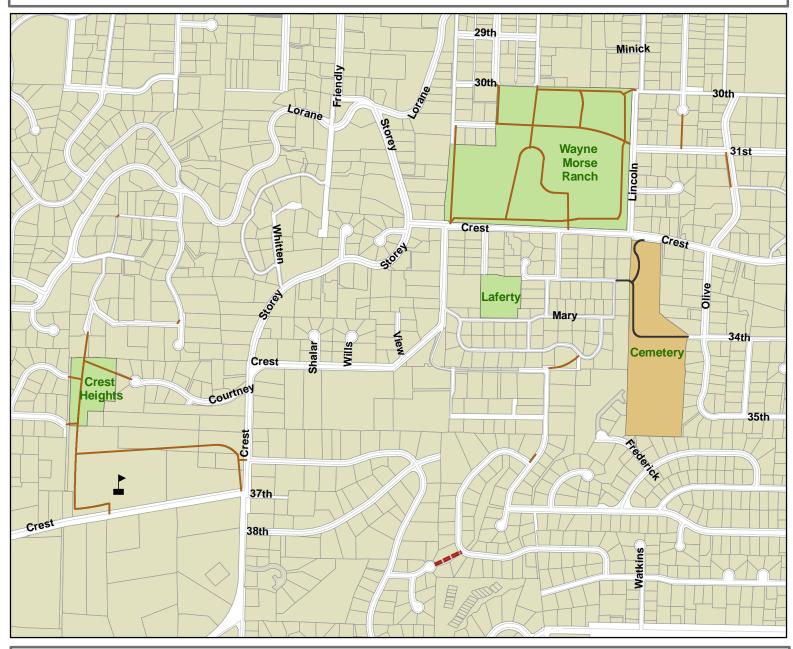
Crest Drive School

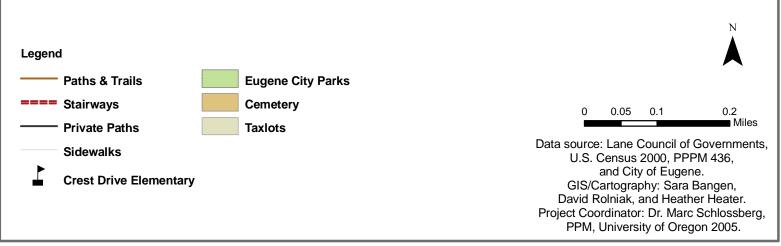


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#### **Neighborhood Paths & Trails**





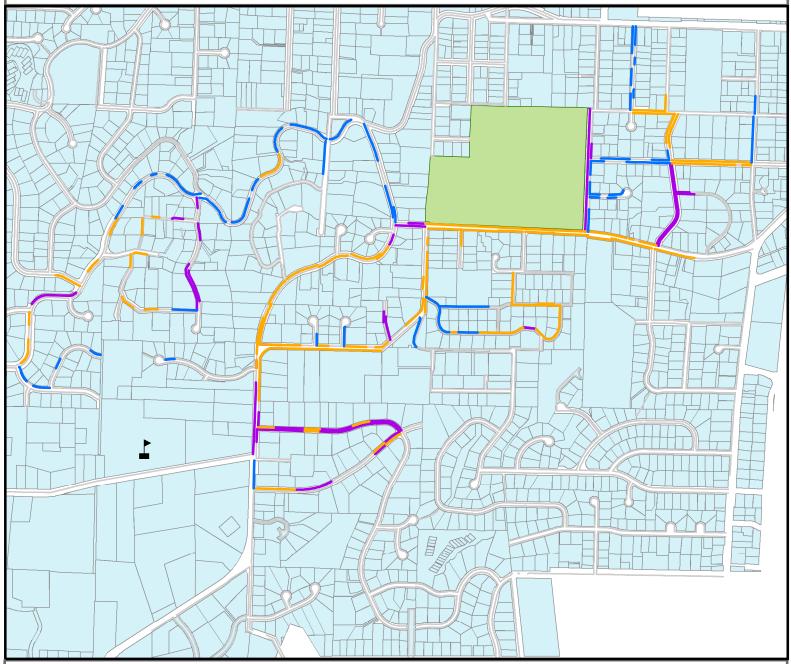


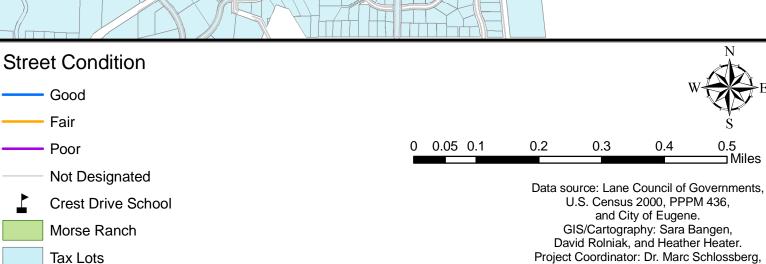
#### **Street Condition**

Crest Drive Neighborhood, Eugene, OR



PPM, University of Oregon 2005.

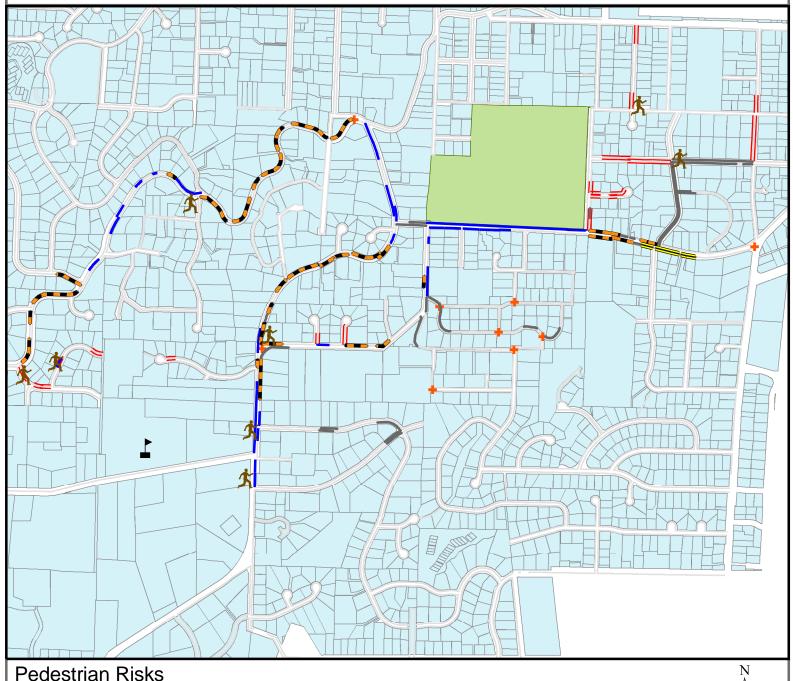




#### **Risk Areas Related to Traffic**

Crest Drive Neighborhood, Eugene, OR







Dangerous Intersections

Not Designated

**Observed Pedestrians** 

Low Visibily, Fast Cars but with Sidewalk

Morse Ranch
Tax Lots

U.S. Census 2000, PPPM 436, and City of Eugene.
GIS/Cartography: Sara Bangen, David Rolniak, and Heather Heater.
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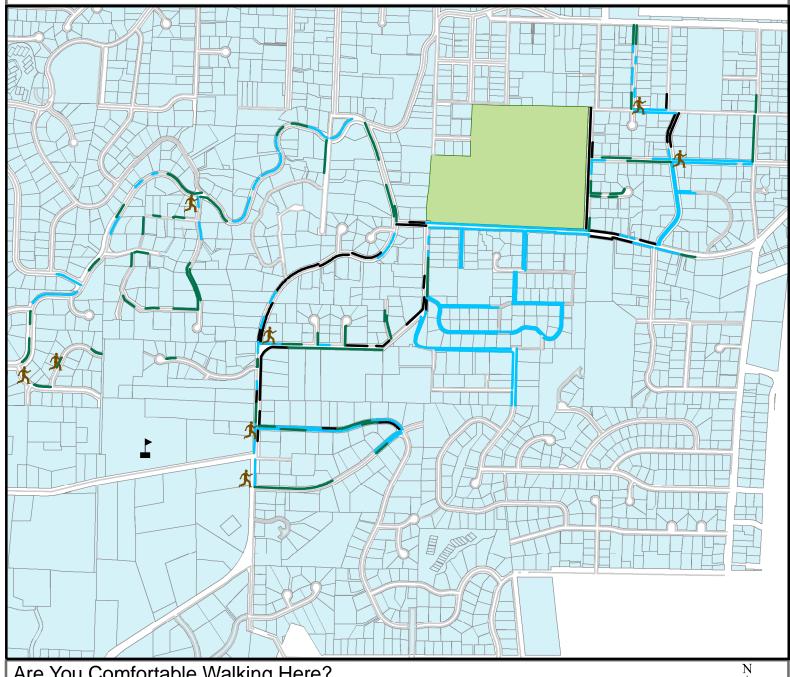
### **Walking Comfort**

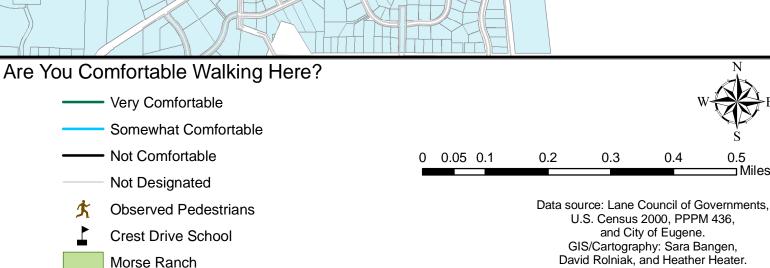
Crest Drive Neighborhood, Eugene, OR



Project Coordinator: Dr. Marc Schlossberg,

PPM, University of Oregon 2005.



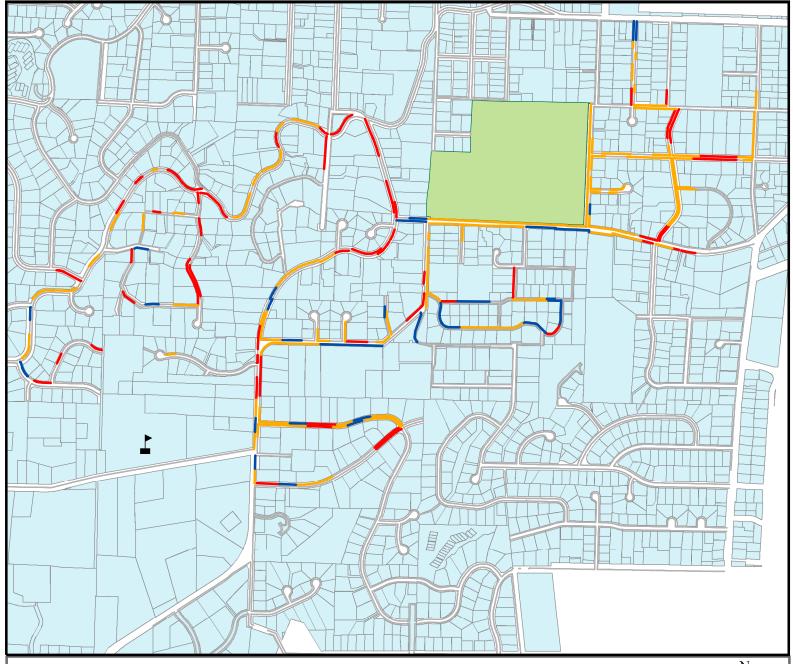


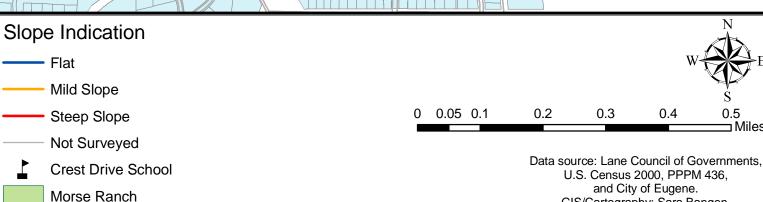
Tax Lots

#### **Street Slope Survey**

Crest Drive Neighborhood, Eugene, OR







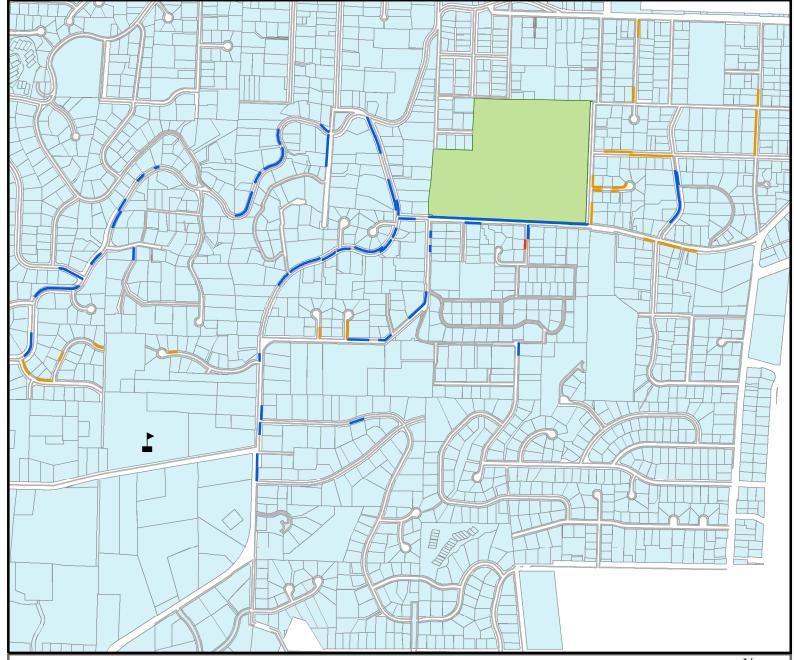
Tax Lots

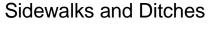
U.S. Census 2000, PPPM 436, and City of Eugene. GIS/Cartography: Sara Bangen, David Rolniak, and Heather Heater. Project Coordinator: Dr. Marc Schlossberg, PPM, University of Oregon 2005.

#### Sidewalks and Ditches

#### Crest Drive Neighborhood, Eugene, OR







Sidewalk Present

Parallel Ditch Present

Unpaved Path

Not Designated

Crest Drive School

Morse Ranch

Tax Lots

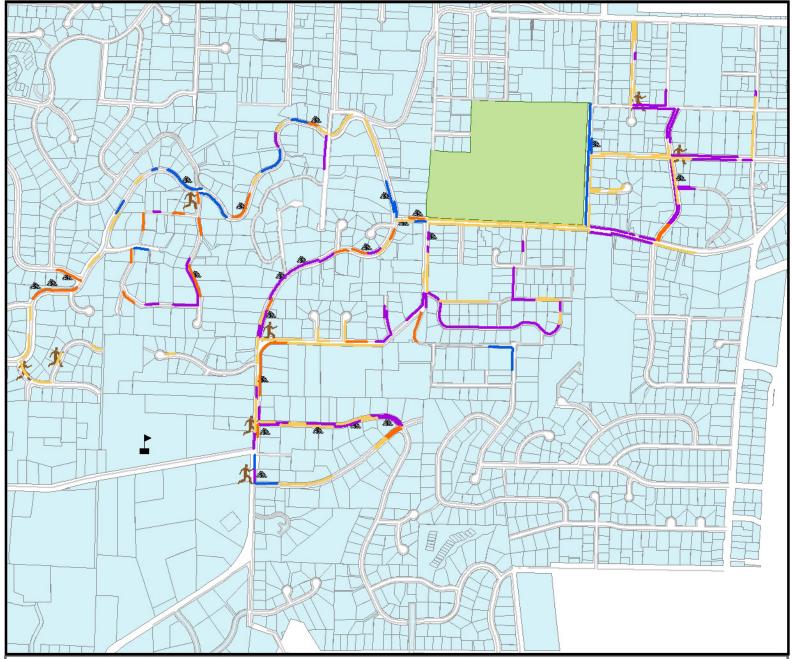
0 0.05 0.1 0.2 0.3 0.4 0.5 Miles

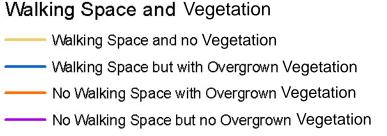
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#### Walking Space and Vegetation









BlackberriesNot Designated

Observed Pedestrians

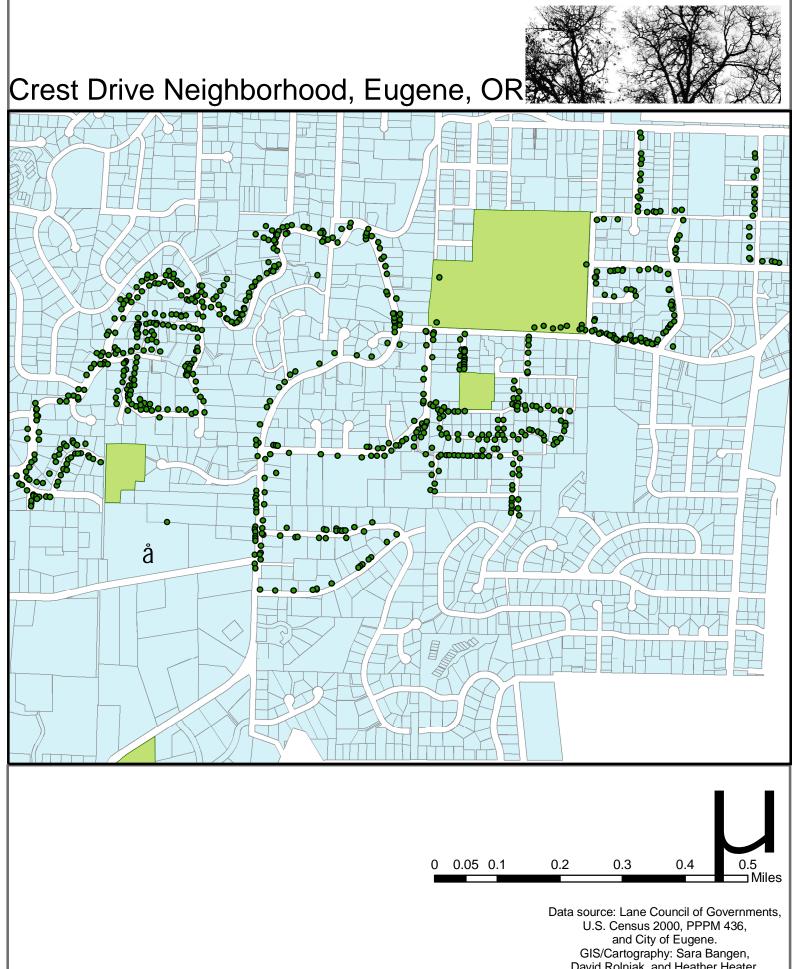
Crest Drive School

Morse Ranch

Tax Lots

0 0.05 0.1

Data source: Lane Council of Governments,
U.S. Census 2000, PPPM 436,
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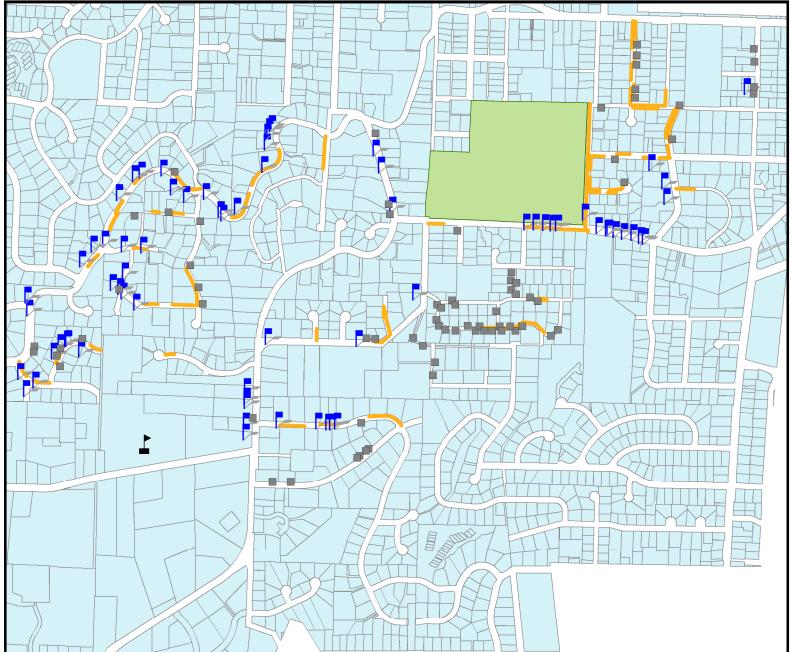


David Rolniak, and Heather Heater. Project Coordinator: Dr. Marc Schlossberg, PPM, University of Oregon 2005.

#### **Mailboxes and Driveways\***









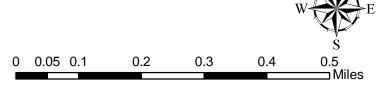


Driveways

Streets with Parked Cars

Morse Ranch

Tax Lots

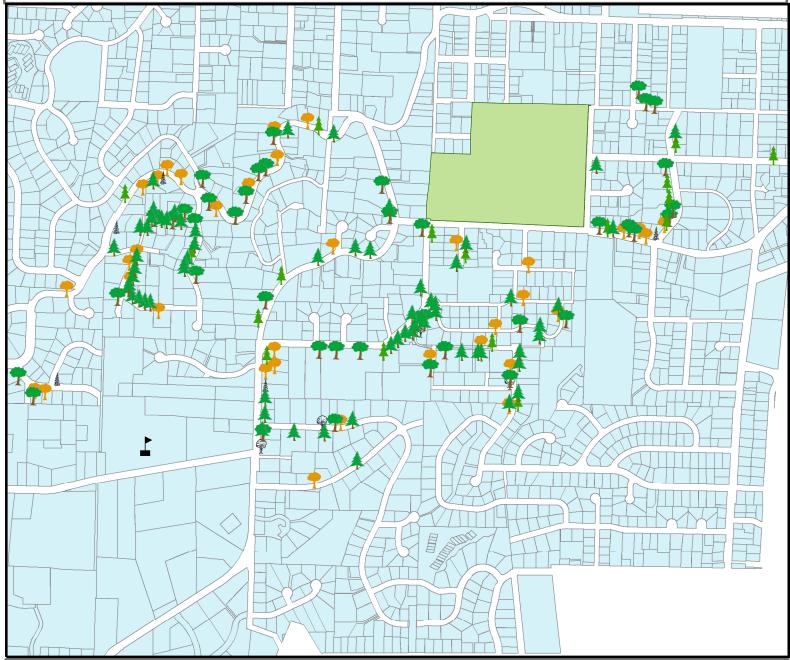


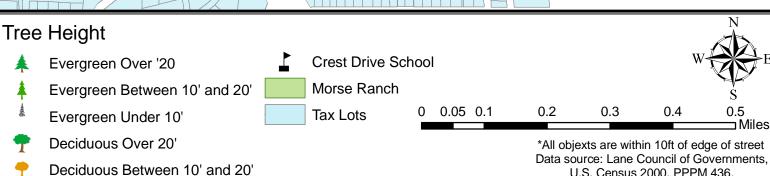
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#### Trees By Height\*

#### Crest Drive Neighborhood, Eugene, OR







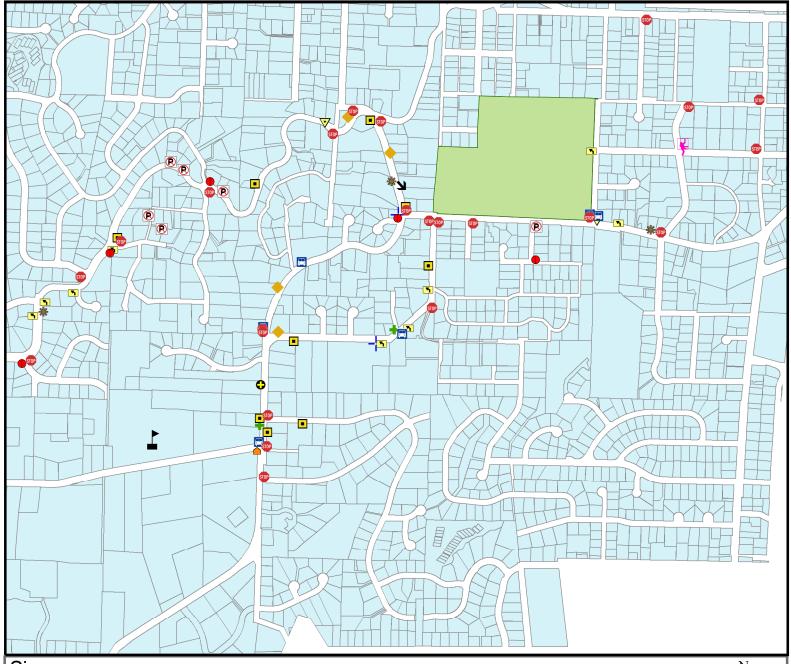
P Deciduous Between 10 at

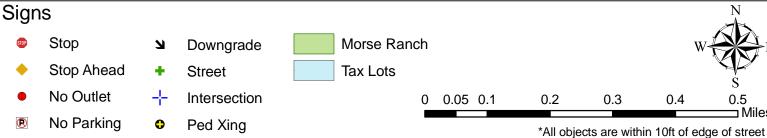
Data source: Lane Council of Governments,
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PPM, University of Oregon 2005.

#### **Street Signs\***

#### Crest Drive Neighborhood, Eugene, OR







- Speed Limit \* Deer

5

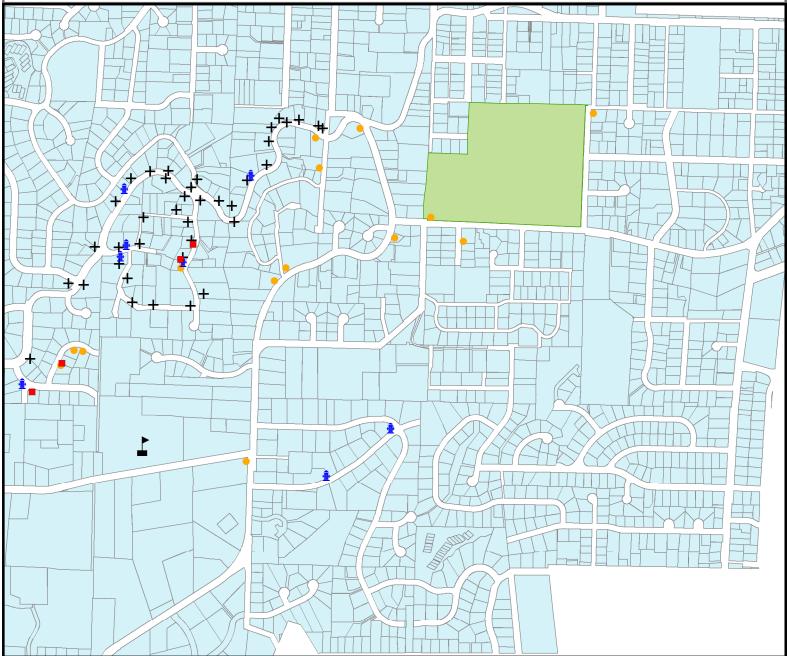
Slow Crest Drive School

Data source: Lane Council of Governments,
U.S. Census 2000, PPPM 436,
and City of Eugene.
GIS/Cartography: Sara Bangen,
David Rolniak, and Heather Heater.
Project Coordinator: Dr. Marc Schlossberg,
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### **Impeding Utility Structures\***





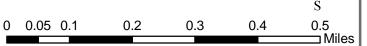


#### **Utility Structures**

- Utiltiy Boxes
- Fire Hydrants
- Street Lamps
- + Utility Poles
- Crest Drive School
- Mo

Morse Ranch

Tax Lots

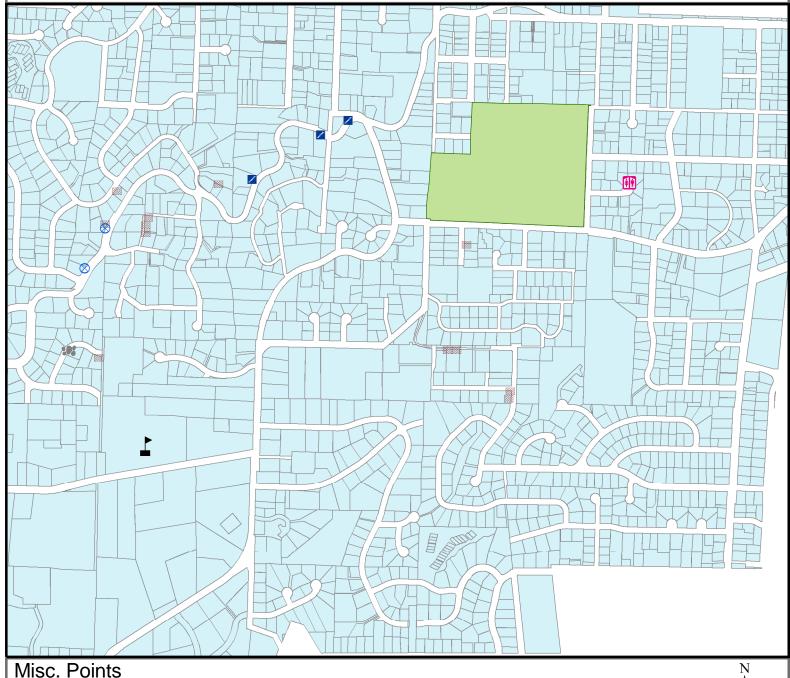


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#### Miscellanious Points\*

#### Crest Drive Neighborhood, Eugene, OR







Stone Garden

Portable Toilet

Crest Drive School

Morse Ranch

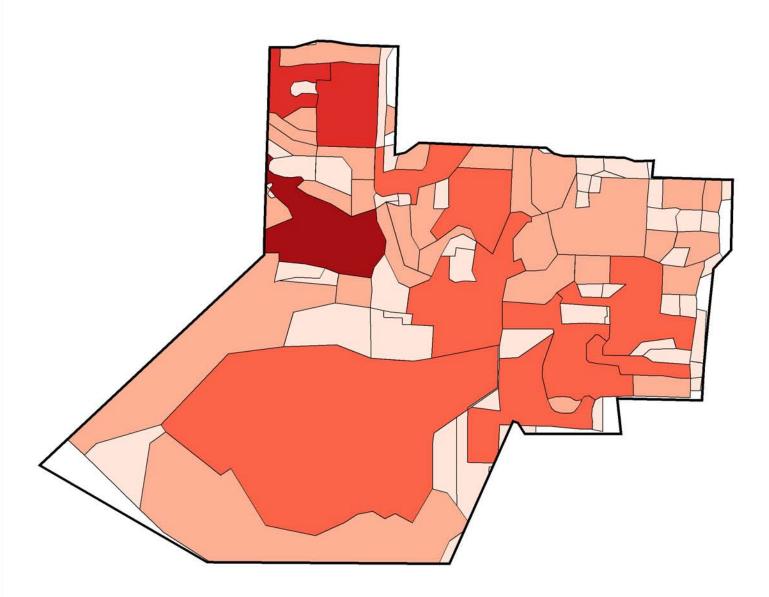
Tax Lots

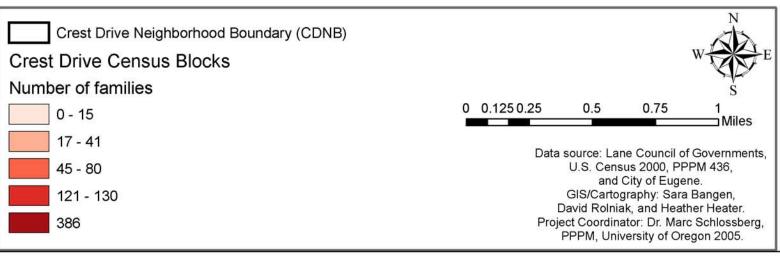
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\*All objects are within 10ft of edge of street

#### **Families**

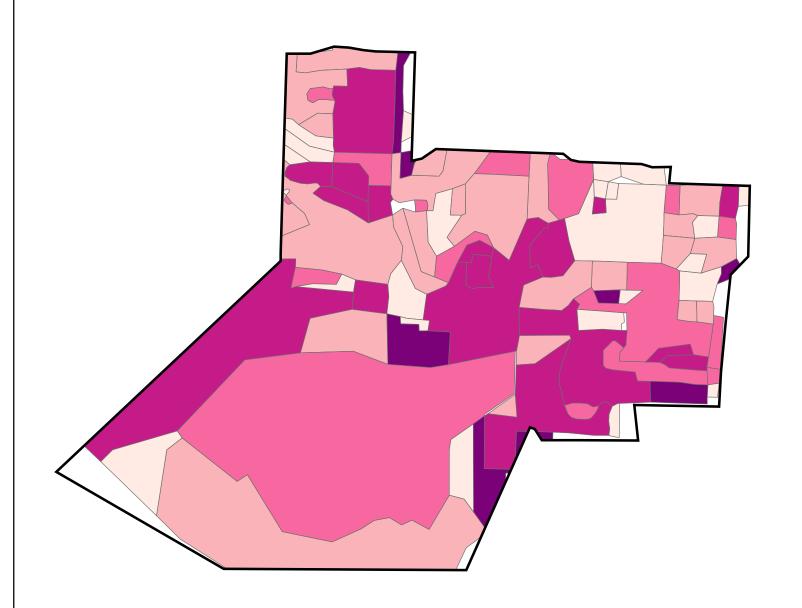


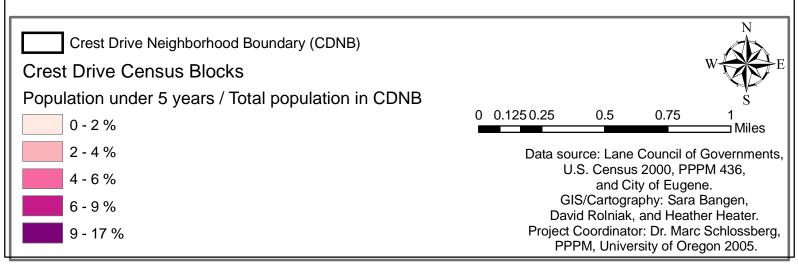




#### Children under 5 years





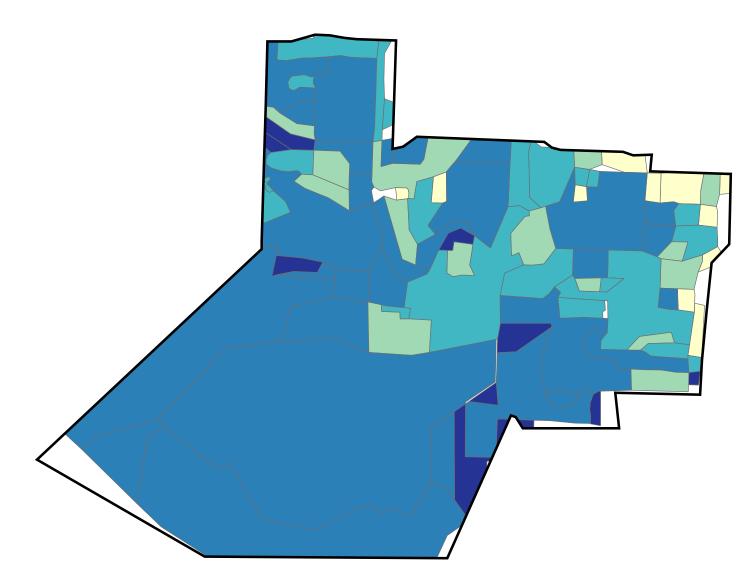


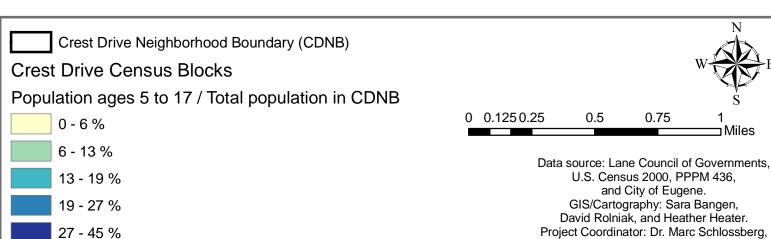
#### **Children Ages 5 to 17**

#### Crest Drive Neighborhood, Eugene, OR



PPPM, University of Oregon 2005.

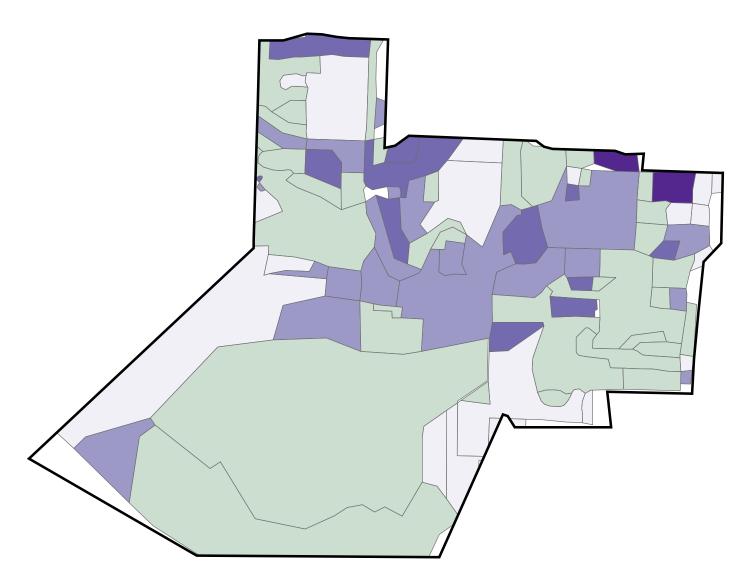


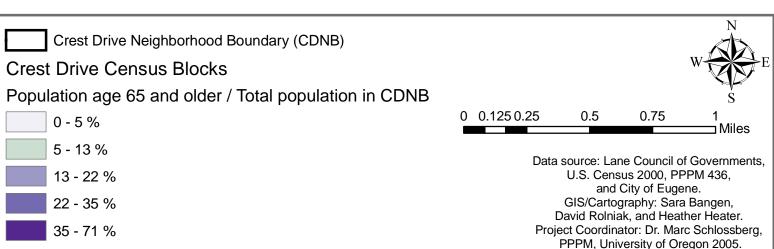


#### People age 65 and older



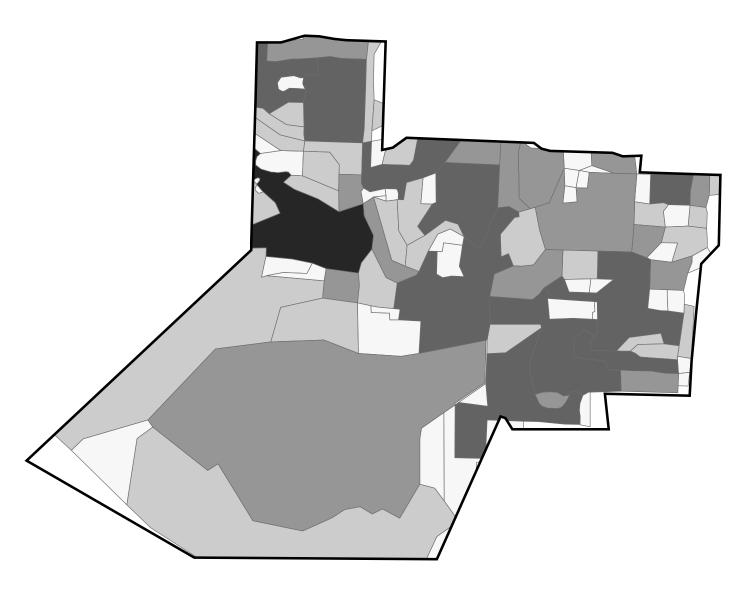


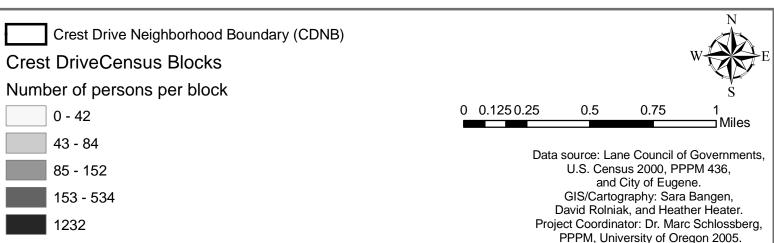




#### **Population of CDNB**



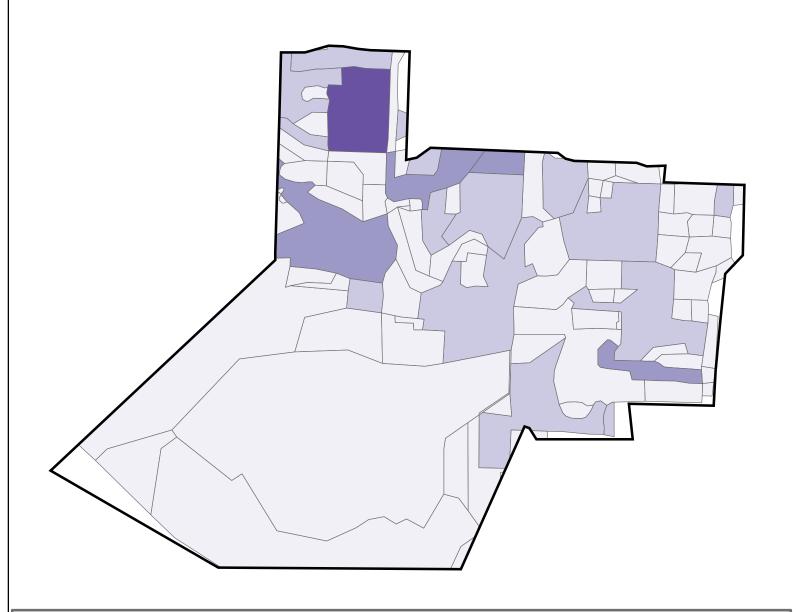


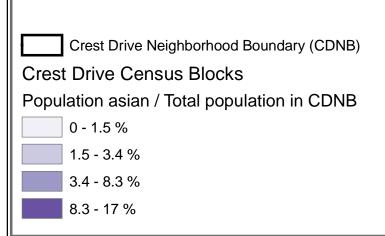


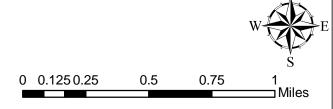
# Residents by Race: Asian

## Crest Drive Neighborhood, Eugene, OR



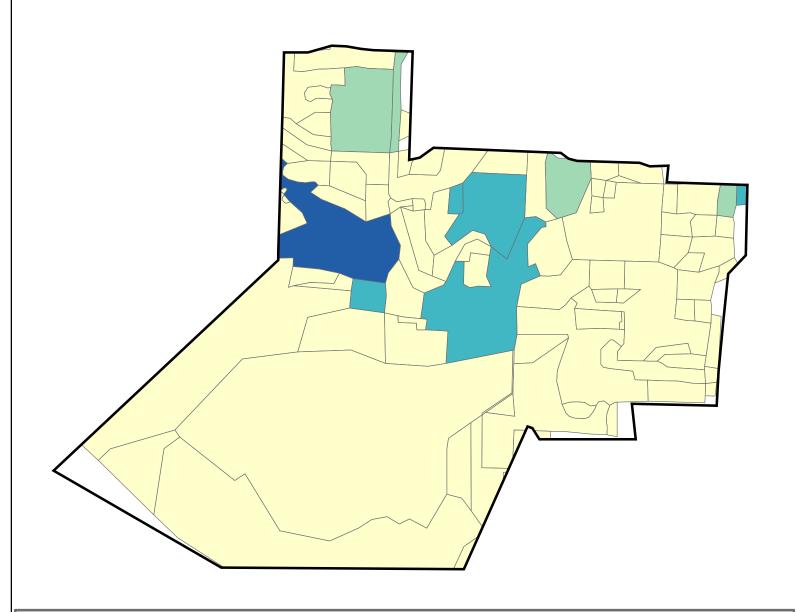


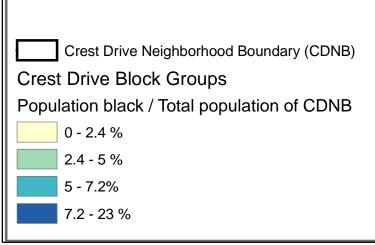


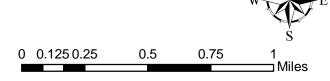


# Residents by Race: Black or African-American Crest Drive Neighborhood, Eugene, OR



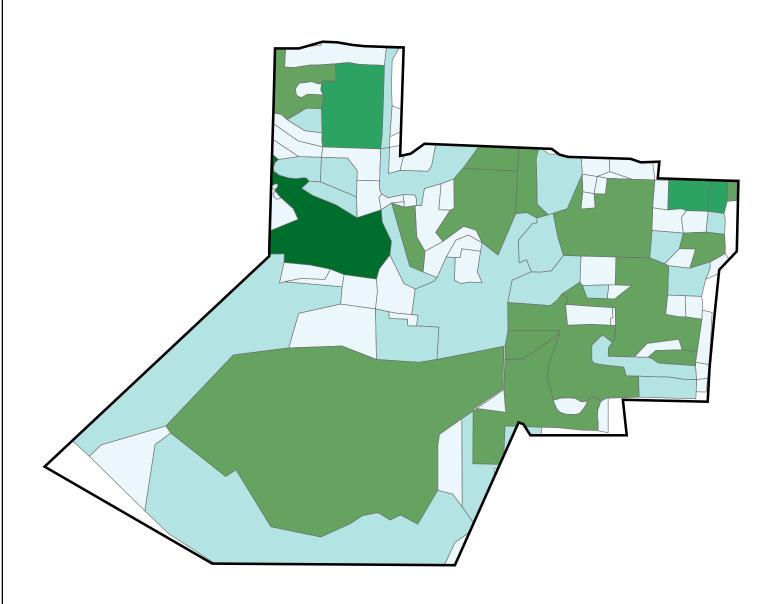


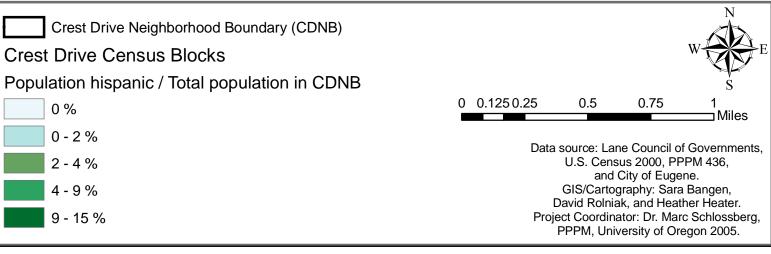




# **Residents by Race: Hispanic**

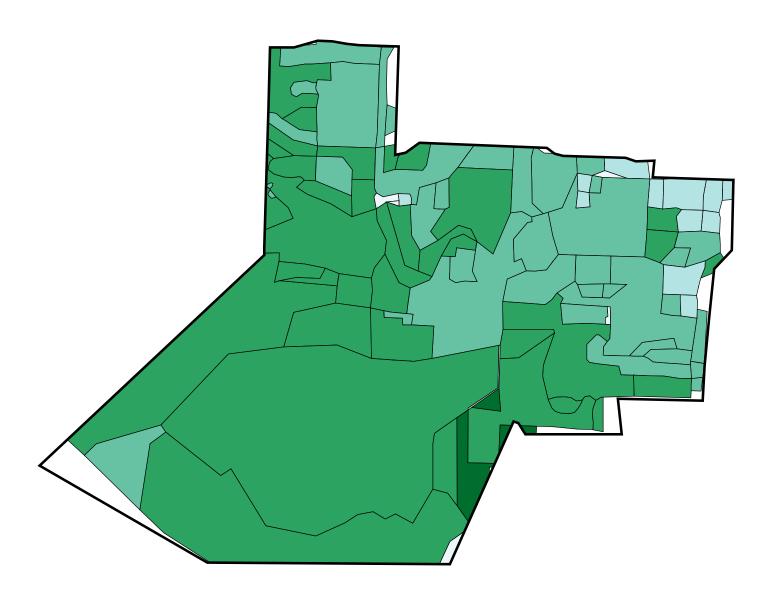


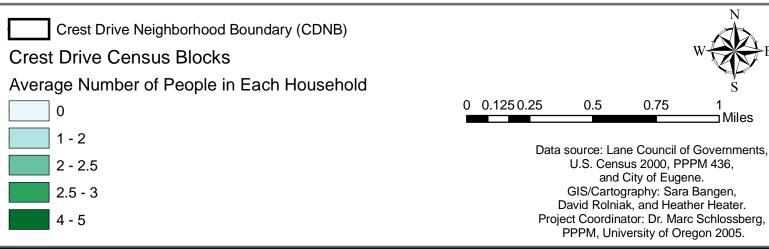




# **Average Household Size**

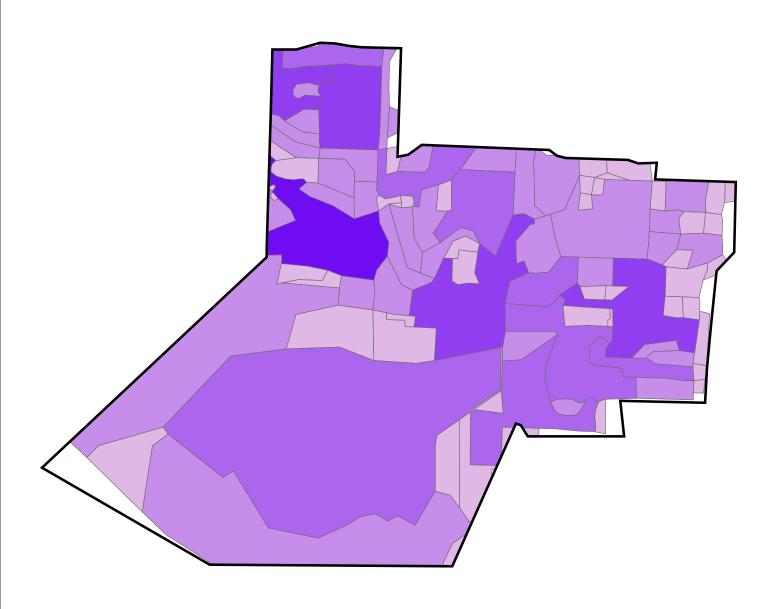


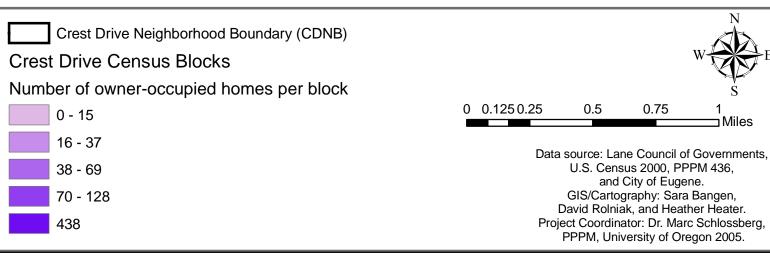




# **Owner-Occupied Homes**

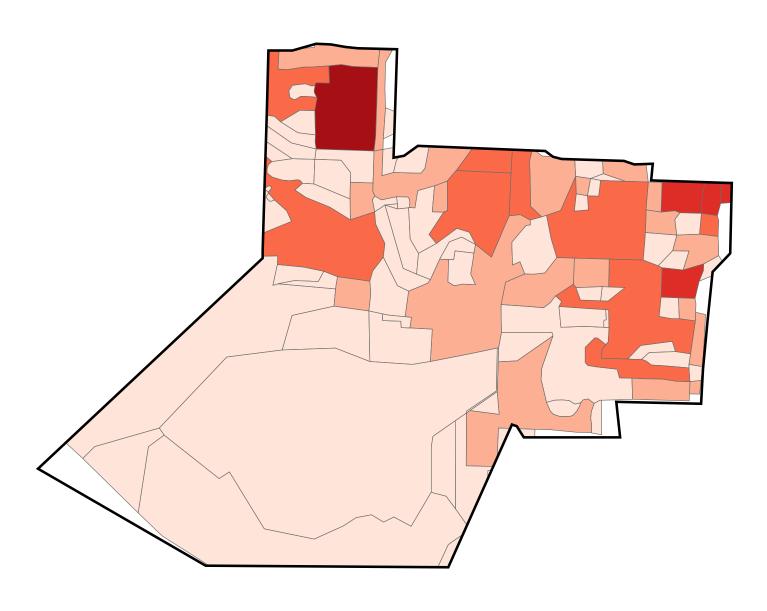


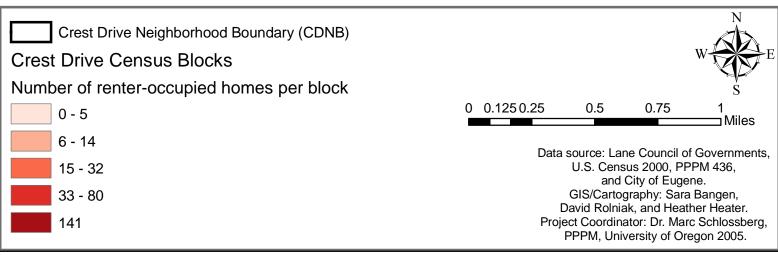




# **Renter-Occupied Homes**





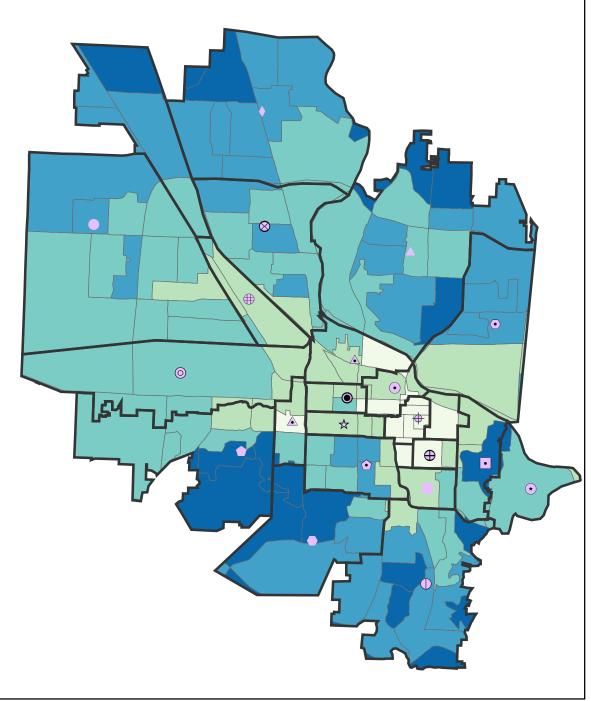


# Median Income Eugene, OR



### Neighborhoods

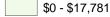
- Amazon
- Bethel
- Cal Young
- Churchill
- Crest Drive
- Downtown
- Fairmount
- Far West
- Friendly
- Harlow
- Laurel Hill
- ⊗ River Road
- Santa Clara
- ⊕ South University
- Southeast
- Trainsong
- West Eugene
- West University
- Westside
- Whiteaker



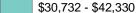
Boundaries of Eugene Neighborhoods

Census Block Groups

Household median income



\$17,782 - \$30,731



\$42,331 - \$56,989

\$56,990 - \$102,480

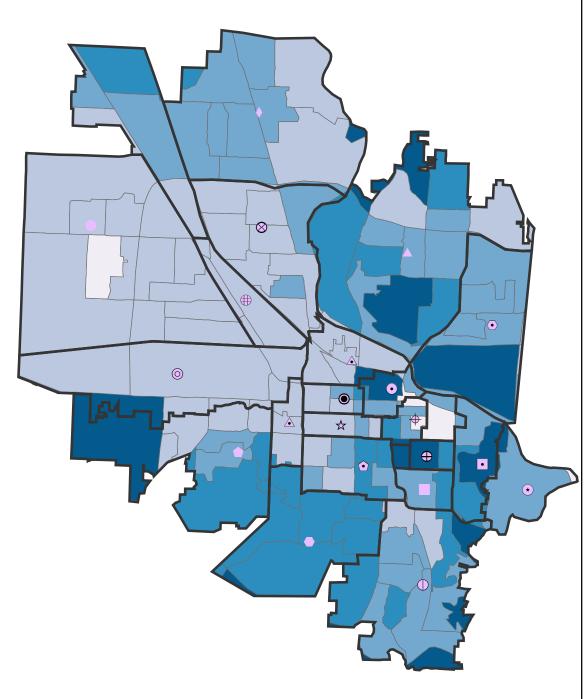


# Median Housing Value Eugene, OR



### Neighborhoods

- Amazon
- Bethel
- Cal Young
- Churchill
- Crest Drive
- Downtown
- Fairmount
- Far West
- Friendly
- Harlow
- Laurel Hill
- ⊗ River Road
- Santa Clara
- ⊕ South University
- Southeast
- Trainsong
- West Eugene
- West University
- Westside
- Whiteaker





### **Census Block Groups**

#### Median value of owner-occupied homes

\$0 - \$48,200

\$48,201 - \$132,500

\$132,501 - \$165,800

\$165,801 - \$219,000

\$219,001 - \$350,000

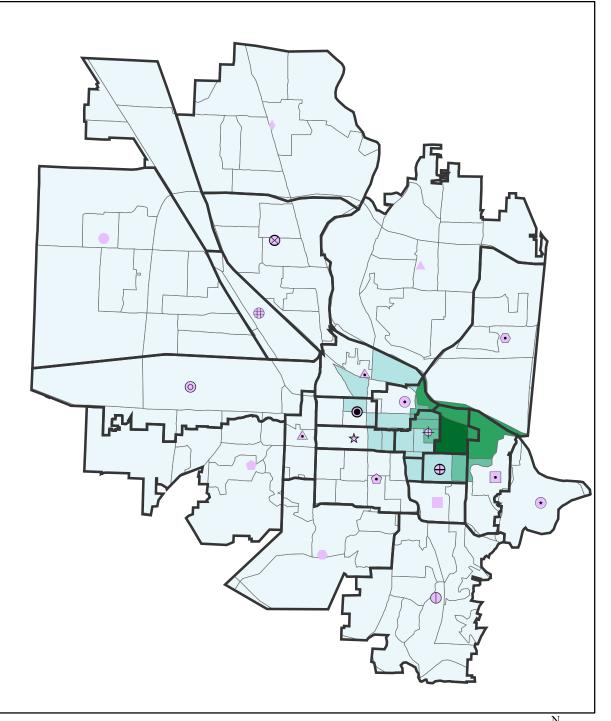


# Workers: Walked to Work Eugene, OR



### Neighborhoods

- Amazon
- Bethel
- Cal Young
- Churchill
- Crest Drive
- Downtown
- Fairmount
- Far West
- Friendly
- Harlow
- Laurel Hill
- ⊗ River Road
- Santa Clara
- ⊕ South University
- Southeast
- Trainsong
- West Eugene
- West University
- Westside
- Whiteaker



0 0.5 1

Boundaries of Eugene Neighborhoods

#### **Census Block Groups**

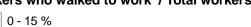
Workers who walked to work / Total workers



30 - 44 %

44 - 59 %

59 - 73 %



Data source: Lane Council of Governments, U.S. Census 2000, PPPM 436, and City of Eugene. GIS/Cartography: Sara Bangen, David Rolniak, and Heather Heater.

⊐Miles

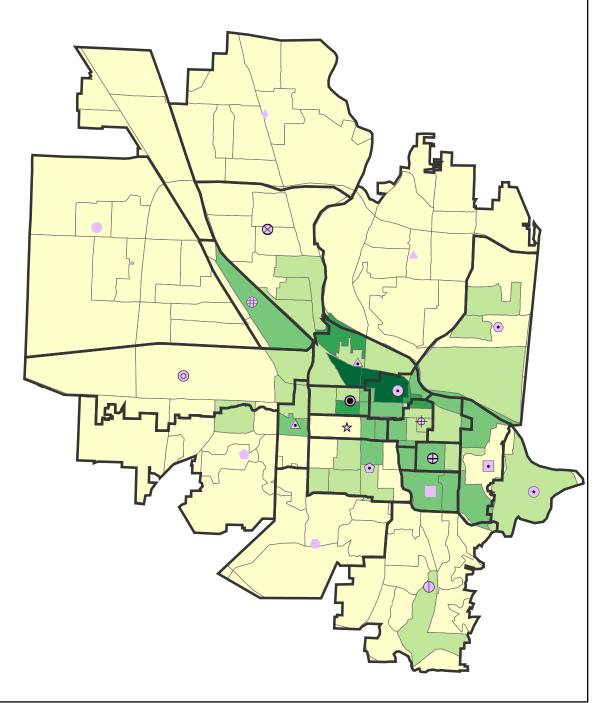
David Rolniak, and Heather Heater. Project Coordinator: Dr. Marc Schlossberg, PPPM, University of Oregon 2005.

# **Workers: Biked to Work** Eugene, OR



### Neighborhoods

- Amazon
- **Bethel**
- Cal Young
- Churchill
- Crest Drive
- $\odot$ Downtown
- Fairmount
- Far West
- $\bigcirc$ Friendly
- (•) Harlow
- Jefferson  $\Rightarrow$
- Laurel Hill
- River Road  $\otimes$
- Santa Clara
- $\oplus$ South University
- $\bigcirc$ Southeast
- Trainsong
- West Eugene 0
- West University
- Westside  $\odot$
- Whiteaker





#### **Census Block Groups**

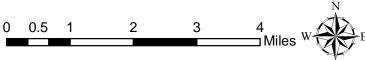
Workers who biked to work / Total workers





18 - 24 %

24 - 31 %

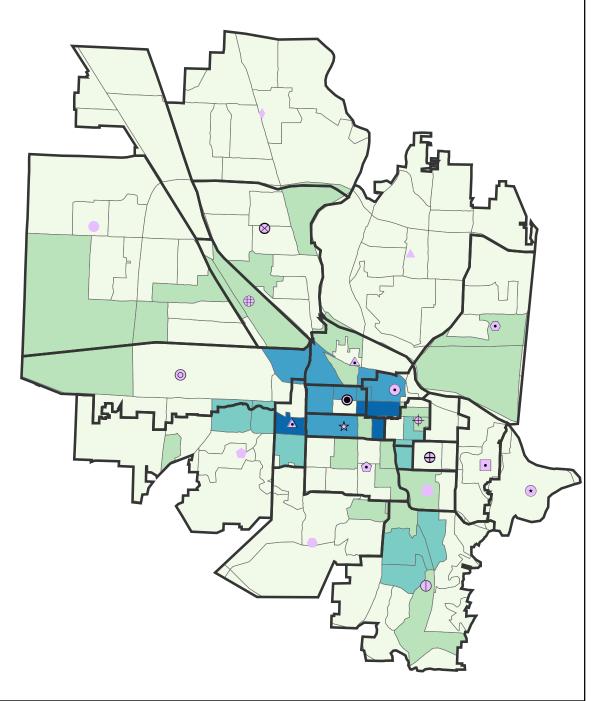


# Workers: Rode the Bus to Work Eugene, OR



### Neighborhoods

- Amazon
- Bethel
- Cal Young
- Churchill
- Crest Drive
- Downtown
- Fairmount
- Far West
- Friendly
- Harlow
- Laurel Hill
- ⊗ River Road
- Santa Clara
- ⊕ South University
- Southeast
- Trainsong
- West Eugene
- West University
- Westside
- Whiteaker



Boundaries of Eugene Neighborhoods

### **Census Block Groups**

Workers who rode the bus / Total number of workers

0 - 5 %

9 - 14 %

14 - 18 % 18 - 23 % rs

0 0.5 1 2 3

4 Miles W

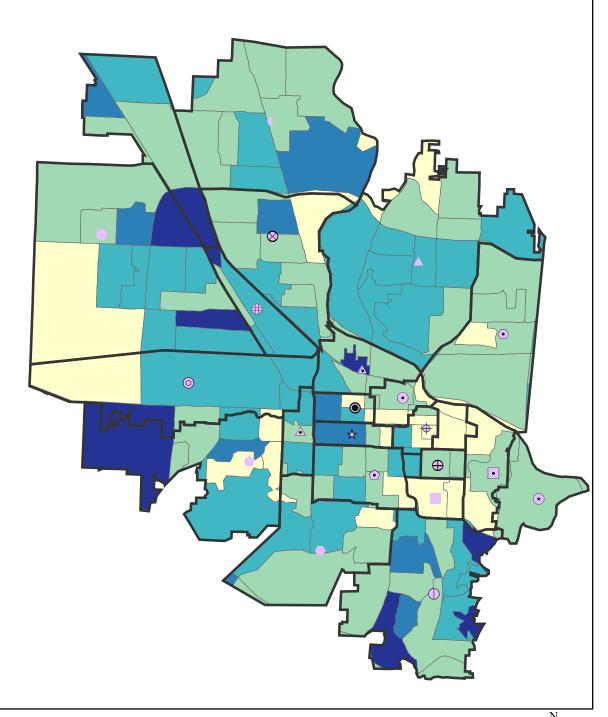


# **Workers Who Carpooled** Eugene, OR



### Neighborhoods

- Amazon
- **Bethel**
- Cal Young
- Churchill
- Crest Drive
- Downtown
- Fairmount
- Far West
- $\bigcirc$ Friendly
- (•) Harlow
- Jefferson  $\Rightarrow$
- Laurel Hill
- River Road  $\otimes$
- Santa Clara
- $\oplus$ South University
- $\bigcirc$ Southeast
- Trainsong
- West Eugene
- West University
- Westside
- Whiteaker



0 0.5 1



### **Census Block Groups**

Workers who carpooled / Total workers





17 - 23 % 23 - 29 %



Data source: Lane Council of Governments, U.S. Census 2000, PPPM 436,

and City of Eugene.

GIS/Cartography: Sara Bangen,

⊐Miles

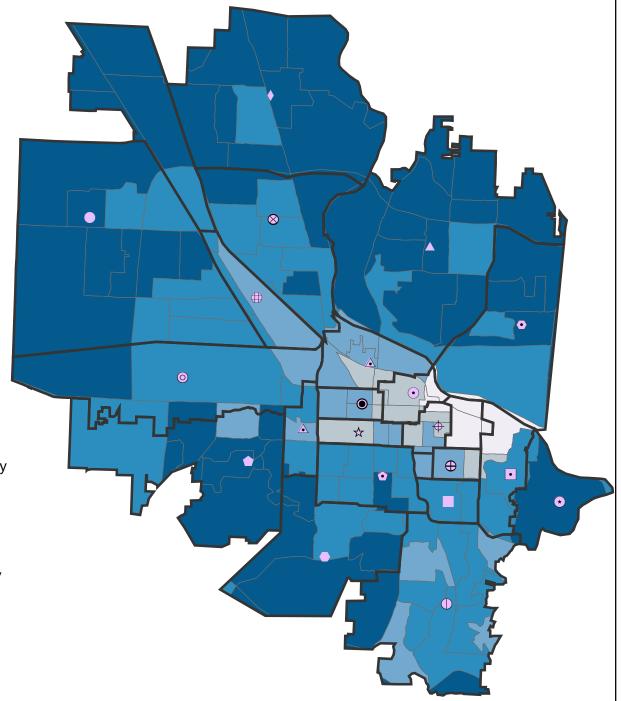
### **Workers: Drove To Work**

### Eugene, OR



### Neighborhoods

- Amazon
- Bethel
- Cal Young
- Churchill
- Crest Drive
- Downtown
- Fairmount
- Far West
- Friendly
- Harlow
- Laurel Hill
- ⊗ River Road
- Santa Clara
- South University
- Southeast
- Trainsong
- West Eugene
- West University
- Westside
- Whiteaker





Census Block Groups

Percent of workers who drove to work / Total workers

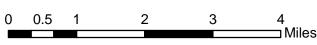
15 - 30 %

30 - 44 %

44 - 59 %

59 - 74 %

74 - 88 %



3 4 W E

Source: Lane Council of Governments