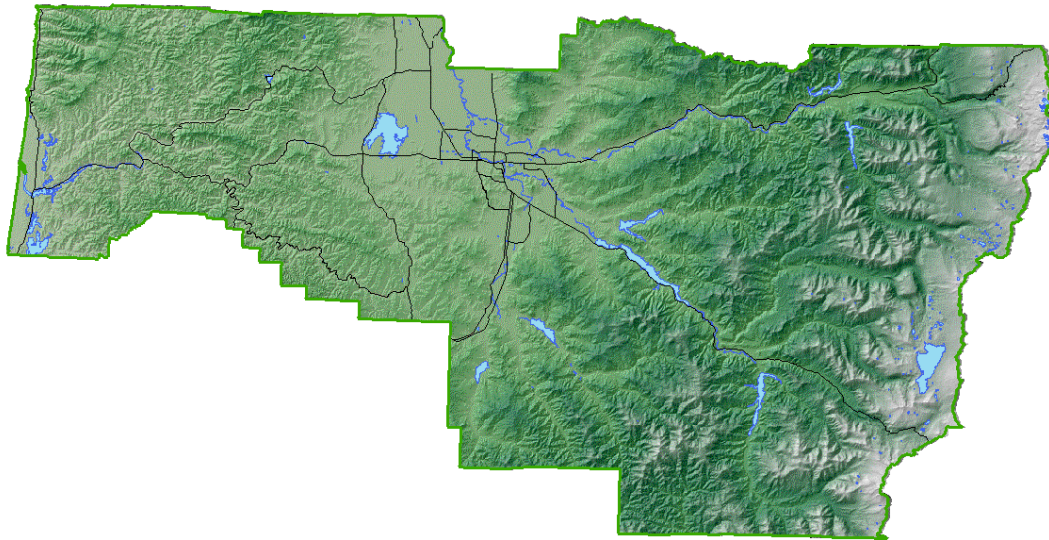


Lane County
GIS Training
Web Mapping Applications

January 13, 2010
PC Training Room



Offered by
Lane County Public Works
Transportation Planning & Traffic GIS

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Class Overview

1. Introductions – pc training room orientation
2. Background information on GIS mapping applications
 - County Internet Mapping Applications
 - County Internet Information Resources
3. Welcome to LaneCountyMaps
 - Help
 - Getting Started
 - The Basics
 - Instructor-led demo
 - Student exercises
4. Class Wrap-up – question/answer

How to find Lane County map-related information on the Web

Open web browser and go to: www.lanecounty.org

1. [LaneCountyMaps](#) – Interactive GIS mapping application
 - a. From Lane County home page click on “LaneCountyMaps” in the “Quick Links” section in the left hand column.
 - b. Or... from the Lane County home page click on the “For Residents” tab (light brown tab) just under the picture banner. Then click on “Maps & GIS”; then scroll to “Online GIS Applications” and click on “LaneCountyMaps.”
 - c. Or... from the Lane County home page click on “Services” at the top. Then under “Categories” click on “Roads & Streets.” Click on “LaneCountyMaps” under the “Interactive Maps” category.

2. [Zone and Plan Map Viewer](#) – Interactive GIS mapping application tailored to display zoning and plan designation data for areas outside city limits.
 - a. From the Lane County home page click on the “For Residents” tab (light brown tab) just under the picture banner. Then click on “Maps & GIS”; then scroll to “Online GIS Applications” and click on “Zone and Plan Map Viewer.”
 - b. Or... from the Lane County home page click on “Services” at the top. Then under “Categories” click on “Building & Land Management” and under “Interactive Maps” click on “Zone and Plan Map Viewer.”

3. [SIDO](#) – Surveyor’s Images and Documents Online
 - a. From the Lane County home page click on the “Surveyor’s Images” link under the “Quick Links” section in the left hand column.
 - b. Or... from the Lane County home page click on “Services” at the top. Then under the “Categories” section click on “Building & Land Management.” From there, click on the “Surveyor’s Images & Documents Online” link.

4. Lane County [GIS home page](#)
 - a. From the Lane County home page, click on the light brown “For Residents” tab and then click on “Maps & GIS.”
 - b. Or... from the Lane County home page click on “Departments” at the top. Scroll down to the “Public Works” section and under “Transportation Planning & Traffic” click on “Maps & GIS.”

Exercise 1 – starting LaneCountyMaps

Goals:

- Understand how to open LaneCountyMaps from your Lane County PC.
- Get to know the various tools, layers, and components of the LaneCountyMaps screen.
- Practice navigating around the application – pan, zoom, turn layers on and off.

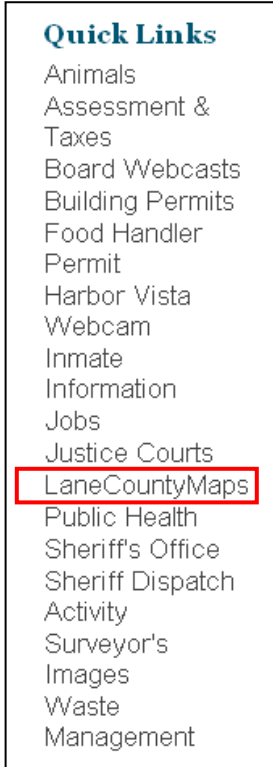
OPEN LaneCountyMaps

LaneCountyMaps can be opened in several ways as described above. We'll use the quickest method.

1. From the Lane County Home page – www.lanecounty.org



- Scroll down to the “Quick Links” section on the left and click on “LaneCountyMaps”



This will bring up a disclaimer screen asking you to acknowledge that you have read and agreed to the disclaimer/privacy/accessibility policies before proceeding. Clicking on the check box which indicates “I have read and accept Lane County’s Policies” will activate the “LaneCountyMaps” button to open the application.

LaneCountyMaps provides a user interface to view and query digital map layers pertaining to transportation, land, parcel, political boundaries, natural features, and aerial photography.

In any situation where the digital information reproduced and contained in this system differs from the official adopted or printed publications of Lane County, the official adopted or printed documents take precedence. For access to official adopted information contact the appropriate Lane County department.

By clicking the LaneCountyMaps button you acknowledge you have read Lane County, Oregon's [Disclaimer / Privacy / Accessibility](#) policies and consent to all of Lane County, Oregon's policies. If you have not yet read and agreed to those policies you should do so now before proceeding: [Disclaimer / Privacy / Accessibility](#)

I have read and accept Lane County's Policies

[LaneCountyMaps](#)

Click on the check box, and then the “LaneCountyMaps” button to open LaneCountyMaps.

LaneCountyMaps OVERVIEW


The screenshot shows the LaneCountyMaps web application interface. The central map area displays a map of Lane County with various cities and features labeled. The interface includes several panels and controls:

- Tools:** A vertical panel on the left containing navigation and utility tools such as Overview On/Off, Legend / Layers, Zoom In, Zoom Out, Full Map View, Previous View, Pan / Move, Identify, Query Builder, Find, Measure, Set Units, Buffer, Select-Box, Select-Line/Poly, Clear Selection, Print Page, and Print Map / Image.
- Search Tools:** A section below the tools panel with buttons for Search LC Roads, Search by TRS, Search Tax Lots, and Address Search.
- Links:** A section with hyperlinks for Assessor Info, Eugene, and Zone.
- Layers:** A panel on the right titled "LAYERS" with expandable sections for Labels, Transportation, Parcel / Address, Land Use / Planning, Political / Boundaries, Natural / Base, Control, and Air Photos/Images. It includes checkboxes for various data groups and a "Refresh Map" button with an "Auto Refresh" option.
- Layer Help:** A section below the layers panel providing instructions for interacting with map layers, such as opening/closing groups, toggling visibility, and making layers active.
- Map Area:** The central map area showing the geographic layout of Lane County with labels for cities like Triangle Lake, Junction City, Marcola, Vida, McKenzie Bridge, Eugene, Springfield, Cottage Grove, and Oakridge.
- Attribute Display:** A table at the bottom of the map area showing data for the selected Urban Growth Area (UGA).
- Help:** A section at the bottom right with buttons for "Map Data" and "Tips & Help".

At the bottom of the interface, there is a status bar showing the current tool (Identify), a scale setting (1 in.), and a link to "Email us" for requests or problems.

Notice that LaneCountyMaps opens the map area with a display of an outline of Lane County, some major roads, major water features and the urban growth boundaries for each city in Lane County. This is how LaneCountyMaps opens each time it is started.

1. Activate Zoom In

Activate the “Zoom In” tool by clicking on it. A red highlight box around the tool name will appear indicating that the “Zoom In” tool is the active tool. 

2. Single-Click zoom in


Click on the Veneta UGB once. Notice that the map window zooms in a preset amount. Click once again and the window zooms in further.

3. Zoom Window

Zoom in to the Veneta UGB area by clicking the left mouse button – holding the left mouse button – dragging the mouse to the other corner – and releasing. This is the create “zoom window” method. When you release the mouse the map area should be windowed in to the Veneta greater UGB area.

Do you notice any additional information in the map window? More city streets displayed automatically. This is because the “Roads (LC Inventory)” layer in the “Transportation” data group is set to display once the map window is zoomed in to a predefined scale.

4. Pan

Activate (click on) the “Pan/Move” tool . Experiment with panning around the map window. This is done by clicking and holding the left mouse button, and moving the mouse in the direction that you want to push the map image.

5. Full Map View

Click on Full Map View. LaneCountyMaps returns to the full extent of Lane County.

Zoom in to the general extent of the Cottage Grove UGB.

6. Understanding Layers.

On the right is the “LAYERS” section. Each Layer is nested within a Data Group – Labels, Transportation, Parcel/Address, and so on down to Air Photos/Images. Each of these general categories has a “+” sign in front indicating that more layers are available beneath. Clicking on the plus (+) symbols expands the list and turns the plus symbol to a minus (-) symbol. Clicking on the minus symbol collapses the list.

Click the plus (+) symbol in front of the “Transportation” layer. This expands a list of layers available within this category. You should notice that a box, a circle, and the symbology appear when this category’s layer list is expanded.

The box is used to enter (click) a checkmark to turn layers on and off for display. A layer box will have one of three states:

- blank – layer is turned off
- check mark – layer is turned on
- magnifying glass – scale is too small, or too large, to show layer

The circle is where you click to set that layer to the “active layer.” Only one layer within LaneCountyMaps can be active at a time. Certain operations only work on the active layer – such as displaying attribute information using the Identify tool which we’ll talk about shortly.

The symbology shows how each layer will display on the map. So the “Bridges” layer will display bridge locations as small, brown, squares. Some of the layers have a (box with plus/minus) button in place of a symbol. This indicates that the layer’s data has been symbolized based on various categories so that the data is displayed with multiple line or point symbols. Clicking on the button expands the list of symbols for this layer.

7. Working with Layers

You may notice that while more roads are displayed for Cottage Grove, not all the Cottage Grove city roads are displayed. This is because they are in a different layer. Let’s turn them on. Click on the plus symbol in front of the “Transportation” category to expand the list of layers.

Click in the box for “City Streets” (about half way down the list). Notice that a denser street network is displayed.

Next click in the box for “Road Jurisdiction”. Some of the streets in Cottage Grove have been displayed in various colors. To see what the colors indicate, we’ll need to examine the legend information for this particular layer. Click on the button for “Road Jurisdiction”. The legend drops down underneath the layer name and indicates what each road color means.

Let’s try zooming in a certain amount and then turning on the city street names. At the bottom of the LaneCountyMaps Screen is some text that reads “Set Scale(no commas) – 1 in:” with a white box that has the words “Enter Ft.” in it; and a command box marked “Set it.” This is where you can zoom to a user-specified scale. In the “Enter Ft.” box, type over the words and enter the value “400”. We’re telling LaneCountyMaps to set our display scale to 1 inch = 400 feet. Click on the “Set it” button. The map area zooms in to 1”=400’; centered on your original display.

Expand the “Labels” layer and click on the “City St Names” layer. This displays more street names for Cottage Grove. However, some of the streets are not labeled on the map. We can determine the name of those streets using the “Identify” tool.

8. Using the Identify Tool

Click on the circle in front of “City Streets”. This makes the “City Streets” field active. Next, click on the “Identify” tool. Click on one of the Cottage Grove streets. The street attribute data shows up in the attribute results window below the map area.

Instructor Demo

Measure the length of a street segment:

- measure segment
- set units
- clear selection

Exercise 2 – Show my house

Goals:

- Using the Query Builder tools
- Displaying Air Photos

1. Reset LaneCountyMaps Display


Zoom to the “Full Map View”. Turn off the “City St Names” and turn off the “City Streets” and “Roads (LC Inventory) layers. Once those layers are turned off, then collapse the “Labels” and “Transportation” categories.

2. Using the “Query Builder” tool

This tool will work against any active layer in LaneCountyMaps. Start by expanding the “Parcel/Address” layer. Then activate (click on the circle) for “Site Address”.

Click on the “Query Builder” tool. A set of query boxes and commands appear in the area below the map. Since “Site Address” is the active layer, the query is set to recognize the attributes for that layer. You’re going to build a query string that searches for your house number and street name.

Type in your street name in the box after the equal sign.

 then click “Add to Query String” to complete the query.

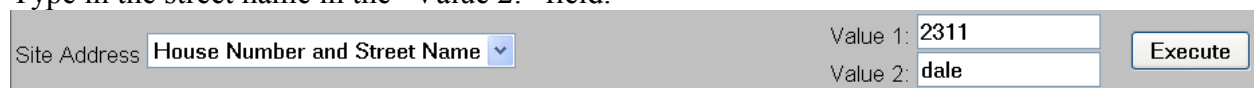
Click on “Execute” to perform the query. LaneCountyMaps will center the map display on the set of found address(es) and return a list of attributes below the map. If more than one address fits the query criteria there will be more than one record in the list. An underlined number appears in the “Rec” field. Clicking on the record number will cause LaneCountyMaps to highlight that record in red. Find the record with your house number and click on the “Rec” number.

3. Using the “Address Search” tool

Once again, zoom to the full map view. Activate the “Address Search” tool which is located under the “Quick Search:” section of the tools. This search presents a different interface, but it uses the same site address layer; and in some ways is easier to use.

Type in the house number in the “Value 1:” field.

Type in the street name in the “Value 2:” field.



Click “Execute” to perform the search.

LaneCountyMaps zooms to a predefined scale and highlights the found record(s) in yellow. A list of found records is displayed below the map. Like before, you can click on the record number to zoom to a specific record.

Zoom in to your address.

4. Displaying Air Photos

LaneCountyMaps makes available several sets of air photos varying by year flown and resolution. These are layers within the “Air Photos/Images” category.



Expand the list of “Air Photos/Images”. Not all of the air photo layers provide complete coverage for all areas of Lane County. The first two layers can be turned on to indicate if there is coverage for your area for the 2004 or the 2008 air photos.

The 2004 air photos are at six-inch pixel resolution in the greater Eugene-Springfield area, and at 2-foot resolution for most places in Lane County and including the Eugene-Springfield area.

The 2008 air photos are at six-inch resolution for an even greater area around Eugene-Springfield, and at 1-foot resolution for many parts of Lane County, but excluding the Eugene-Springfield area.

The 2000 Black and White (BW) air photos cover the greater Eugene-Springfield area and are 1-meter resolution.

While still zoomed in to your address, turn on the “2004 2ft” air photos. Notice the resolution and detail of ground features. Next, turn on the “2004 6in” air photos. If your address is in the Eugene-Springfield urban area you will see a much sharper image.

Turn off both sets of 2004 air photos and turn on the “2008 1ft” air photos. If you’re in the Eugene-Springfield area nothing will display since this set of air photos does not cover the Eugene-Springfield area. Turn on the “2008 6in” air photos to view the latest air photos in the Eugene-Springfield area.

4. Display Site Addresses and Parcels

To add to the display of information on our map let’s display the tax lot lines and site address points. Do this by clicking on the box in front of “Site Address” and “Tax Lots” in the “Parcel/Address” category.

Exercise 3 – Find the Covered Bridges

The remaining exercises are self paced and will not offer as much detailed step-by-step instruction. If you get stuck let one of the instructors know and we'll help you.

1. Return to the full view and turn off tax lots, site address, city streets, and any air photos.

Hint: One option that may be quicker is to close LaneCountyMaps and then restart it. This will bring up LaneCountyMaps in its original state and might be quicker than trying to remember all the layers that need to be turned off.

2. Display “Bridges” layer. (*hint: Transportation Category*)
3. Make “Bridges” the active layer.
4. Click on the “Find” tool. This tool works a bit different than the query tools in that it looks in all the attribute fields for the piece of text entered in the find window.
5. Type in “covered” in the “Enter String to Find Bridges:” window.

Enter String to Find in Bridges: then click the “Find String” button. Scroll to the bottom of the list and click on “Zoom to these records” to see them highlighted.

6. Scroll down through the list of results and click on the record number for the GoodPasture bridge. LaneCountyMaps zooms to that location.
7. Turn on Tax Lots, and then zoom in closer to the Goodpasture Bridge location.
8. Turn on the most recent air photo layer for this location.
9. You may notice that the covered bridge is not visible on the air photo because the water polygon is covering up the air photo. You will want to turn off the water layer. The “Major Lakes/Rivers” layer is in the “Natural/Base” category.
10. With the water layer turned off, see how far in you can zoom in to the air photo before it starts to break up.

Instructor Demo

- Road Closures – home page – Maps & GIS – Road Reports Closures and Construction
- Mile point data

Exercise 4 – Snow Priority

1. Set LaneCountyMaps back to its original state and zoom to full map view.
2. Click on the “Search LC Roads” tool. This tool is similar to the Address Search tool but works against the Road data.
3. Search for the road name “McBeth”. Click on the record for road id 127300 to zoom to that location.
4. Turn on the “Roads (LC Inventory) layer to see a more complete set of County roads on the map. Use the “Clear Selection” tool to remove the red highlight color for McBeth.
5. Turn on the “Snow Priority” layer. What snow priority is this section of McBeth Road?
(hint: Snow Priorities are shown as part of the symbology in the legend)
6. Which Commissioner District does McBeth Road fall in?
(hint: Commissioner Districts are Political boundaries)

Exercise 5. - Property Impacted by a wetland and/or greenway

1. Again, reset LaneCountyMaps to its original state.
2. Click on the “Search by Tax Lots” tool in the “Quick Search” section. Type in the following map and lot information with no spaces: 1604140001600

Tax Lots	By MapLot <input type="button" value="v"/>	Value:	1604140001600
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Then click the “Execute” button.

LaneCountyMaps zooms to the location of this tax lot and highlights it in yellow. Hit the “Clear Selection” tool to unselect the subject property.

3. Turn on the tax lot layer. (*hint: “Parcel/Address”*)
4. Turn off the Water layer. (*hint: water is a natural feature*)
5. Turn on the Wetland layer. (*hint: wetlands are also natural features*)
6. Turn on the Greenway layer. (*hint: Greenway is a land use regulatory boundary*)

With the information displayed on the map, can you tell if the subject property is possibly impacted by a wetland and/or greenway?

Instructor Demo

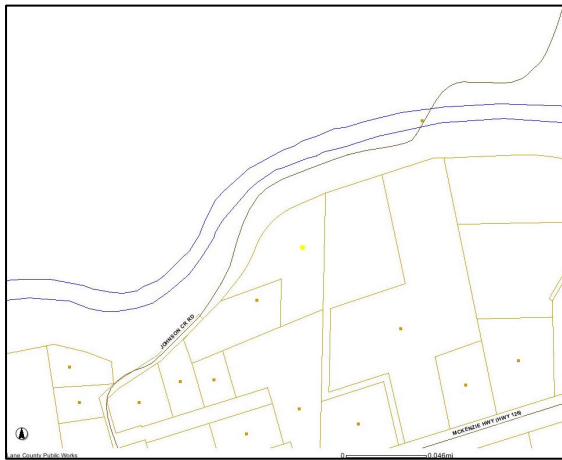
- (Re)select the subject property using the “Select - Box”
- Create a ½ mile buffer around the subject property
- Use the buffer polygon to select site addresses and display attributes
- Select and copy the site addresses; then paste them into an excel spreadsheet

Exercise 6. – Property Information for House on Upper Johnson Creek Road

1. Return LaneCountyMaps to its original state.
2. While set to the extent of the Full Map View, turn on the “Site Address” and “Tax Lots” layer. Did either of those two layers display in the map area?
3. Perform an Address Search on the following address:
89785 Upper Johnson Creek

(hint: the road information goes in the “Value 2:” field. Since LaneCountyMaps can look for any part of the road name you can type “Johnson” and it will find all the addresses that have 89785 as the house number, and “Johnson” for any part of the street name.)

4. Take note of the information in the attribute window for this address. Zoom in closer so that the tax lot containing this address is easily displayed.



Turn off the water features.

Turn on the “Class 1 Streams”

(hint: yes, streams are a natural feature. But since Land Management uses this information for planning purposes, this layer is under the “Planning/Land Use” category.)

5. Turn on the most recent air photo imagery for this area.
6. Note that the attribute data for this address indicates that it falls on Map 17151024 and on Tax Lot 100. You may want to write that information down.
7. We can use the Assessor’s data base to get more information on the property – such as land and improvement values.

Open a new instance of Internet Explorer and go to the Lane County home page.

We want to navigate to the Assessor’s page containing land record data. From the Lane County home page select “Services” at the top. Click on “Property Tax & Appraisal” and then click on “Individual Property Account Information”.

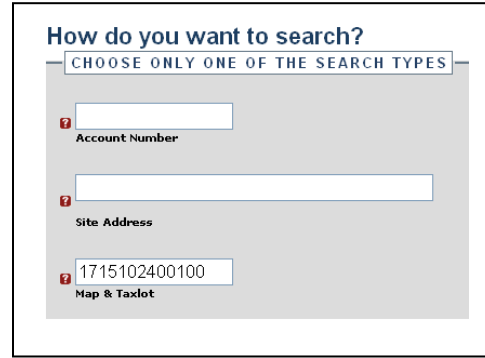
In the “Map & Taxlot” field type in the maplot number for our subject property – 1715102400100; and then hit enter (or click on the “Get Results” button).

You should see a single record displayed for site address “89785 UPPER JOHNSON CREEK RD”. To the far right, in the “View” column is



an icon that looks like a page report

Click on the icon to open the assessor info for that account.



How do you want to search?
CHOOSE ONLY ONE OF THE SEARCH TYPES

Account Number

Site Address

1715102400100
Map & Taxlot

When done viewing the assessor’s property information you can close that window and return to LaneCountyMaps.

Exercise 7 – Selecting Addresses using a Buffer

This was demonstrated earlier by the instructor, but here’s your chance to practice this on your own.

1. Reset LaneCountyMaps to the original state.
2. Zoom to the road “Pheasant Lane”. This road is off of Hwy 58.

(hint: - you will need to know several things to perform this action:

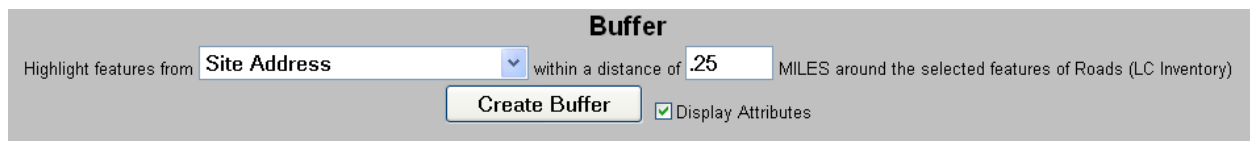
- *which search tool to use*
- *how to input the search criteria*
- *how to zoom to the desired record)*

3. Turn on the Site Address layer.
4. With Pheasant Lane still selected (in red); click on the buffer tool.

In the “Highlight features from” dropdown, select “Site Address”

In the “within a distance of” box, type in .25 (quarter mile).

Check the box “Display Attributes”. This displays the attributes for the selected features in the window below the map area.



Buffer

Highlight features from **Site Address** within a distance of **.25** MILES around the selected features of Roads (LC Inventory)

Create Buffer Display Attributes

Click on the “Create Buffer” button.

5. Let’s save the selected records to an excel spreadsheet. To do this, right-click somewhere inside the attribute table being displayed. Choose “Select All” from the popup window options.

With the records still selected, right click again in the attribute table. Click on the “Copy” option from the popup window.

6. With the selected records copied into the clipboard, you would now open Excel and choose “Paste” from the “Edit” pulldown.

This Excel table could then be used to generate a set of mailing labels using a mail-merge function in Word, for instance.

Exercise 8 – Three GIS Queries

At this point you hopefully have gained enough experience to perform the following three spatial queries. If time allows, we'll go over these together in class.

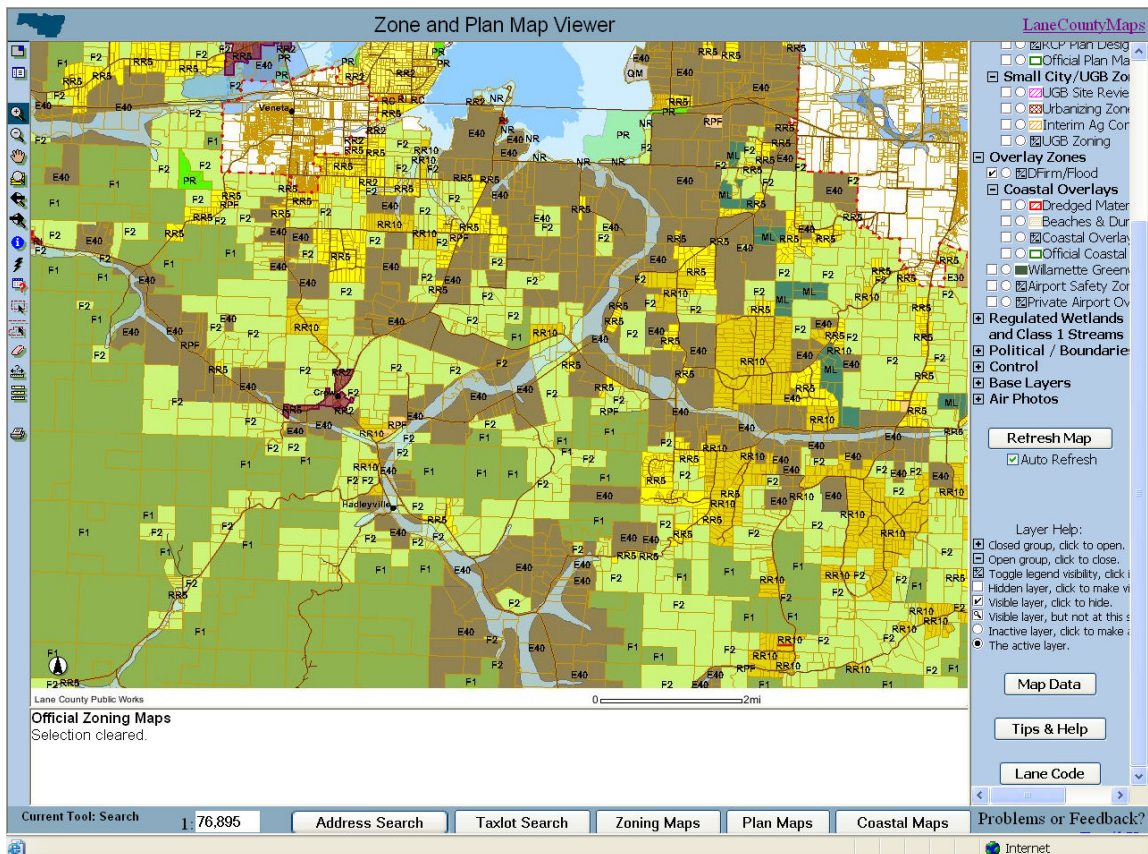
1. What are the speed limits for streets inside the city limits of Coburg?
2. Where is Anthony Creek?
3. Where is the community of Walker and what Commissioner District is it in?

Overview of “Zone and Plan Map Viewer”

Lane County Land Management has implemented a GIS Web application that has a similar look and feel as LaneCountyMaps, and uses many of the same data layers. However, it has been optimized to display zoning and plan designation information for locations in Lane County. These are for locations outside a small city limit area and outside the Eugene and Springfield urban growth boundaries.

Let’s start by opening the “Zone and Plan Map Viewer” (ZPMV).


1. From the Lane County home page click on the “For Residents” tab (light brown tab) just under the picture banner. Then click on “Maps & GIS”; then scroll to “Online GIS Applications” and click on “Zone and Plan Map Viewer.”
2. The ZPMV has the same tools as LaneCountyMaps; but instead of having text labels, they are indicated as an icon. By holding the mouse over the tool icon you will get a quick help popup of what the tool does.
3. Another change in layout is that the search tools – Address, Taxlot, etc. are buttons at the bottom of the screen. And ZPMV can also be searched by Zoning Map, Plan Map and Coastal Maps.

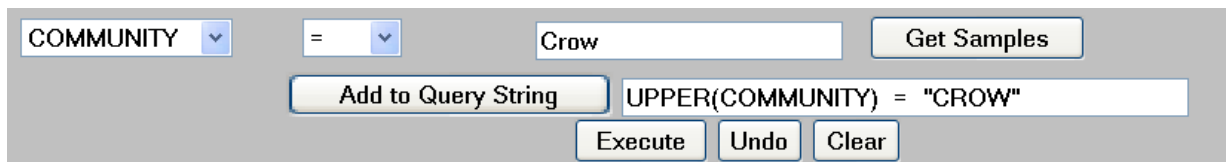


4. The help portion of ZPMV also has a link to the Lane County Code document.

Exercise 1 – Display the Official Zoning Map for Community of Crow

Zoning maps are organized by the Township/Range (36 sq mile area) they represent. So the first step is to locate the community of “Crow” and figure out the township-range area in which it falls.


1. With ZPMV open, expand the “Zoning/Planning” group. From here, display (click on box) for “Communities.” At this scale it’s still hard to see where Crow is. Click on the circle next to “Communities” to make it the active layer.
2. Next we’ll use the “Table Query” tool  to perform a query against the Community layer. Click on the “Table Query” tool. The form for the query appears at the bottom of the screen. Build a query as shown in the graphic below, and then hit the “Execute” button. (*hint: - building this type of query was performed in Exercise 2*).



COMMUNITY = Crow Get Samples

Add to Query String UPPER(COMMUNITY) = "CROW"

Execute Undo Clear

3. ZPMV should return the list of Communities (in this, just for Crow) and zoom to the Crow community area.
4. Expand the “Parcel/Address” group and click on the circle to make the “Tax Lots” layer active. Then use the Identify Tool  and click on one of the tax lot in the Crow community. Make note of the first 4 digits of the “Maplot” number; this is the Township-Range value we need to open the official Zoning Map. (*1805 is the Township-Range in which the Crow community falls*).
5. Next, click on the “Zoning Maps” button at the bottom of the screen and type in “1805” in the “Map Number” field. Hit return; or “Execute” to display the extent of that Township.
6. ZPMV presents a link to a .pdf file for the “Official Zoning Maps”. Click on that link to display the .pdf file.

Exercise 2– Display the Zoning for a specific location

For this exercise we'll display zoning, and other, information for 5444 North Fork Siuslaw Rd which is on maplot "1812240001100."

Start by setting ZPMV back to its original state.

1. Click on the "Address Search" button at the bottom of the screen. Type in "5444" for the "House Number" and type in "siuslaw" for the "Street" name. Then hit the "Execute" button.



The screenshot shows a search interface with a dropdown menu for "Site Address" currently set to "House Number and Street Name". To the right, there are two input fields: "House Number" containing "5444" and "Street Name" containing "siuslaw". An "Execute" button is located to the right of these fields.

2. ZPMV should zoom to that address location and highlight the address with a yellow dot. Use the Zoom In tool to zoom in a bit further to that location.
3. Expand the "Zoning/Planning" group and display the "RCP Zoning" layer. What is the County Zoning for that location? Is there more than one zone type for the property?
4. Let's check for any additional overlay zones. Expand the list of layers in the "Overlay Zones" group. Display the "Firm/Flood" layer. You may want to expand the symbology for this layer. Check to see if there are overlay zones for "Beaches & Dunes" and for any "Coastal Overlay" zones. Is this property within an Airport Safety Zone?
5. Turn off all of the overlay zone layers. Also turn off the "RCP Zoning". Check to see if the property is impacted by a wetland. This will be in the "Regulated Wetlands and Class 1 Streams" layer.

Appendix: Exercises & Contact Information

LaneCountyMaps Application

- | | | |
|----|---|------------------------------|
| 1. | Introduction and Overview
Instructor Led | |
| 2. | Show my house
Instructor Led | Your address |
| 3. | Where are the Covered Bridges in Lane County?
Student
Instructor additional info | Goodpasture Bridge |
| 4. | What snow priority is my road?
Student
Instructor Additional Info | McBeth Road |
| 5. | Is my property impacted by a wetland and/or greenway?
1604140001600
Student
Instructor Additional Info | |
| 6. | Property Information on Upper Johnson Creek Road
Student | 89785 Upper
Johnson Creek |
| 7. | Selecting Addresses using a buffer
Student | Pheasant Lane |
| 8. | Three GIS queries
Class | |

Zoning and Plan Map Viewer

1. Display Official Zoning Map
2. Display Zoning Information for single location

Contact Information – TP&T GIS:

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