

Appendix 2:

**Tax Code Area Mapping at
Lane County Assessment and Taxation**

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Lane County Assessment and Taxation

Introduction

Tax code boundaries are maintained by the Property and Taxation Management Division of Lane County and Assessment and Taxation (LCAT). The boundaries are drawn on tax assessor maps and area is tabulated in the Assessor's database (Ascend). The tax code boundaries delineate the unique combinations of overlapping taxing districts, such as school districts, rural fire districts and city limits. A tax code ID is maintained as the unique identifier for each combination of taxing districts. These are 5 digit numbers where the first three digits are the school district number while the following two digits are described in the TAX_CODE_AREA table maintained in the Ascend database. Example: 004-01 is part of School District 4. See TAX_CODE_AREA table for other participating districts.

District boundary change documents effect changes due to annexations, mergers, and new districts. These documents must be filed prior to March 31st and have effective dates prior to July 1st to initiate changes to the tax code areas for the current tax year. Once initiated, these documents cause LCAT staff to make changes on the maps and Ascend records that affect the current year's tax assessments. Boundary updates usually occur between the annexation file date (March 31) and the district certification date (July 15).

LCAT Map Set

Lane County Assessment and Taxation (LCAT) has four sets of tax lot maps for the county.

1. Graphite on trace (no longer maintained after 1970)
2. Ink on Linen (scanned to tif format, manual maintenance halted 1999)
3. AutoCAD dwg format Vector features overlaid on georeferenced tif (Current production data east of Range 9 West). This is a file-based system with a separate CAD file for each of our 3610 tax maps.
4. ESRI ArcGIS SDE Geodatabase utilizing ESRI ORMAP data structure (Current production data west of Range 8 West)

Mapping techniques

Tax Code Boundaries have been maintained consistently only on the trace maps (until about 1970) and the linen maps until 1999 when the linen maps were taken out of production. The LCAT delineation of any taxing code boundary changes since 1999 is questionable.

According to the Oregon Cadastral Map System (2003), published by the Department of Revenue (<http://www.ormap.org/mapmanual/pdfs/Introduction.pdf>), commonly called the Cartographer Manual, “The code line should be designated by a blue, transparent, pressure-sensitive tape applied to the back side of the tracing.” (Page 2-12). While other graphic symbols for tax code boundaries were also used, the blue pressure-sensitive tape is the predominant graphic symbol for tax code areas on the linen maps. We also find solid and patterned lines in a lighter colored ink than the rest of the map. In the CAD environment LCAT uses a line patterned with blue hollow circles and tax code area ID numbers annotated at various sizes. In the GIS environment LCAT uses similar symbology.

Data Formats

The CAD data are held in individual drawing files. These data have not been systematically converted from the 1999 data nor have they been maintained.

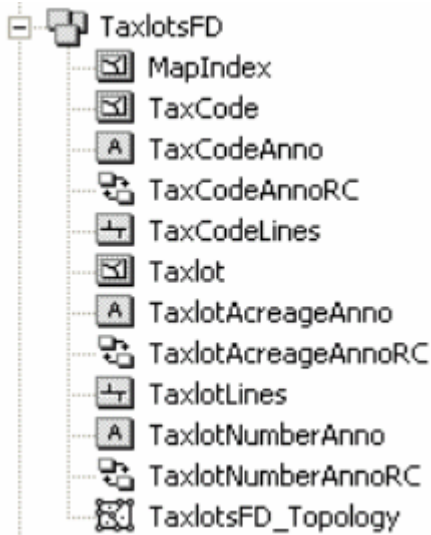
The GIS data have been created from 1999 linen maps and are being maintained for the western 8 Ranges of Lane County. The tax code data share topological relationships and edit permissions with other data in the taxlots feature dataset (TaxlotsFD). The permissions could be seen as a limitation as they would not allow people who do not have permission to edit the tax lots to edit the tax code areas.

The CAD data have the following components in Auto CAD format:

Layer Name	Dwg. space	Layer Color	Layer Linetype	Layer visibility	Font Style	Font Size	@ scale	Layer Description
TDC_FP D_BD_L	M	1 (red)	fp-line	T				Fire protection district boundary line
TDC_FP D_BD_T	M	1 (red)	continuous	T	Standard	50	100	Fire protection district text
TDC_GO V_BD_L	M	1 (red)	dashdot	T				County line and other district boundary line
TDC_GO V_NM_T	M	1 (red)	continuous	T	Standard	100	100	County line and other district name text
TDC_TX D_BD_L	M	5 (blue)	code-line	T				Taxing District boundary lines
TDC_TX D_BD_T	M	5 (blue)	continuous	T	Or	500+/-	400	Taxing district identification number text

The GIS Tax Code feature Classes participate in the TaxlotsFD feature dataset following the design of the rest of the GIS system, this is a countywide data set.

TaxlotsFD Feature Dataset:



TaxCode Feature Classes:

TaxCode (polygon):

County	(Short Integer)	CVD – County
TaxCode	(Text, Length = 8)	Taxcode ID
Source	(Text, Length = 20)	Document ID
YearCreated	(Date)	Effective Date
ReliabilityCode	(Short Integer)	CVD – ReliabilityCode
AutoDate	(Date)	Date updated
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	Update author

Notes

TaxCode is unique across all counties. Optional, each county could create and define its own CVD.

TaxCodeLines (line): This feature class is simply for cartographic purposes. Annexations are created at different years with different sources. Rather than displaying the complete polygon boundaries, only those lines that are current will be displayed. We really need the equivalent of the ArcPlot Dropline command.

CurrentLine	(Text)	CVD – YesNo	(Default = Y)
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TaxCodeAnno (Annotation): Feature linked annotation to TaxCode (Polygon).

Arial Font				
Font size in feet	100scale	200 scale	400scale	2000scale
	50	100	200	1000
MapNumber	(Text, Length = 20)			

Taxlots_FD_Topology (rules)

Taxcode	Must not overlap	
Taxcode	Must not have gaps	
Taxcode	Must be covered by	MapIndex
TaxcodeLines	Must not overlap	
TaxcodeLines	Must not intersect	
TaxcodeLines	Must not self-intersect	
TaxcodeLines	Must not have dangles	
TaxcodeLines	Must be covered by boundary of	Taxcode

Historical Perspective

When the ink-on- linen drawings were scanned in 1999, it was discovered that the blue transparent-taped code boundary lines were not picked up by the scanning equipment. The rest of the inked work came through fine. Thus, in places where the tax code boundaries were represented by the tape, the CAD Cartographer was required to digitize the boundaries from the original linen maps in order to display them on the map. This has been done on a map-by-map basis as part of a map upgrade process that included rectifying the image data to a known

geographic datum. While the rectification was done for all maps, the code boundaries are incomplete on many. If a tax lot configuration was updated due to a property division or consolidation, the map containing that tax lot would have the code boundaries updated. Most maps have not had any property changes and have not had their tax code area boundaries digitized from the 1999 linen sources.

If our code boundaries were current on the maps, the best manner of updating the maps would be to make it an annual cartography project to process the boundary change documents beginning sometime after March 31 and ending sometime prior to July 15. These dates fit within the business cycles where changes are submitted, approved and made effective. This annual maintenance cycle was discontinued at LCAT in the confusion of transitioning from manual to CAD mapping maintenance and from TAIMS (mainframe) to Ascend assessor database systems. The result is that since 2000 the primary source for accurate tax code information is the Ascend database. Changes to the mapped code lines have only been delineated on maps where property changes have occurred. Additionally, there has been no effective tracking device to determine what has been mapped and what has not been mapped. This means that the mapped codes are questionable at best. This essential mistrust of the map has changed the manner in which cartographers work. On receiving a property change packet, the cartographer compares the Ascend records for the parent properties with the tax codes delineated on the map. A difference indicates an un-mapped code change and the requirement to locate and map the boundary change document.

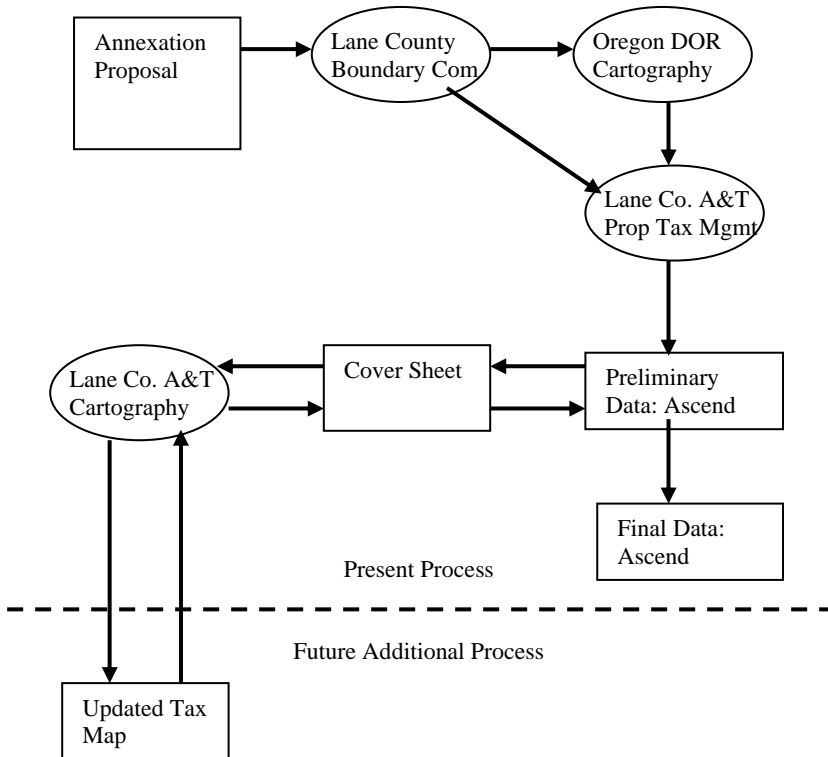
Current LCAT clerical processing of district boundary changes

The Clerical Process includes the following steps diagramed below:

1. LCAT and Oregon Dept of Revenue (DOR) receive boundary change document from the Lane County Local Government Boundary Commission (LCBC)
2. LCAT receives approval notification from DOR
3. Preliminary information is entered into Ascend
4. Cartography approves property identification or calculates split code area
5. Determination of Tax Code Area ID number
6. Final information entered in Ascend.

Note: Boundary Change Effective Date (June 30) and DOR filing deadlines (March 31) must be met in order to complete annexation for that year

Lane County Assessment and Taxation Tax Code Boundary Update Process



Pilot Studies

Cartography has undertaken two pilot studies to evaluate the work of updating our Maps with current Tax code area delineations. In these approaches it has been assumed that the tax code delineation and labeling were correct for 1999 on the linen maps. Both studies took a similar approach:

1. Digitize code delineation from linen maps to upgrade map data to 1999 status.
2. Search Ascend records for any preceding annexations and update map data to current year based on found Annexation documents.

Two cartographers performed the first pilot project in June and July 2004. It resulted in updated CAD data in Sections 3 –10, 16-21 of Township 1703 and all of Townships 1802, 1603, 1812, 1912, 2003 and 2004. It also resulted in Township wide compilation of Taxing Code line work

and annotation for those sections. The 1703 and 1802 CAD data was also topologically cleaned up to produce polygons in the GIS. Summary data indicated:

- 0.5 hours/map: Upgrade to 1999 status and append data to township CAD file
- 0.85 hours/lot: Update map with Boundary change Annexation
- 0.5 hours/TaxCode polygon: to create polygon topology and build GIS layer.

The second pilot project was to create the tax code related features in the GIS data model. This resulted in comprehensive code data for the Western 8 ranges of the county in the ORMAP ESRI GIS data model format. It was found that the CAD pilot work was not useful. The lack spatial coincidence of the CAD data and the GIS data made it easier to redraw the line work than to attempt to modify the CAD source. The Tax code polygon attributes were only completed on the boundary changes since 1999. This project produced 337 polygons, 8901 lines and 3808 feature linked annotation features for use in 1003 maps in a period of 270 hours.

While there still remains annotation graphic work to be done as the maps are produced from the GIS, this data indicates that the entire GIS process took less time than the “upgrade to 1999 status” portion of the CAD pilot. This may be because in GIS the edge matching and control issues could be solved based on the high accuracy of the GIS data, and that the GIS project area was more rural than the CAD project area.

In both Pilot approaches, when inconsistencies were found between maps and locations of natural features affecting boundary placement, decisions were made based on of the official legal description of the individual district boundaries.

While the pilot projects illustrate the superiority of the GIS method to the CAD method as far as production time. Another point needs to be made about the superiority of the GIS method over the CAD method as the data relates to the Lane County Regional GIS data cooperatively maintained by the Regional GIS partners. In the GIS format, this district data has a very valuable potential for a host of analysis and cartographic uses. In order to realize this potential LCAT needs to identify and fund an effort to upgrade and update the remaining portions of the county. 72% of the maps are East of the GIS pilot area. Based on the data above it would be a

700 hour project to complete the remainder of the county. Because of the fragile nature of the data sources, the work would have to be performed in our offices.

Inventory of Applications and Data Sources

Applications:

Ascend Annexation Report allows user to search by annexation year, status, source year, tax code area, taxing district and account number:

Selecting “C FL04-25” from the “Annexation Name” column above returns the report below. This report provides detailed boundary information, but does not support a query by tax lot number.

Annexation Report
Annexation Name C FL 04-25 Only

Status	Annexation	FO #	DOR Date	Eff Date	Agency	Need W/D	W/D Rec'd	Old TCA	New TCA	Map & Tax Lot	Account	Annex #
Complete	C FL 04-25	1239	10/12/04	4/19/2005	CITY OF FLORENCE	N/A	N/A	09722	09700	18-12-26-42-01400	1433059	
Complete	C FL 04-25	1239	10/12/04	4/19/2005	CITY OF FLORENCE	N/A	N/A	09722	09700	18-12-26-31-02200	0793875	
Complete	C FL 04-25	1239	10/12/04	4/19/2005	CITY OF FLORENCE	N/A	N/A	09722	09700	18-12-26-31-02100	0793867	
								# of Parcels:		3		

The alternative, PMPCoordination.mdb: F-MaplistAnnex allows user to search by map number. They both look at the same data; the F-MaplistAnnex is optimized for cartographic use. It enables the cartographer to list which boundary changes have affected a particular map. Below are the results from a search of map 18122642. The “TCA 09716 Accounts to TCA09722 for 2004” is an administrative merge, the result of consolidating codes composed of identical sets of taxing districts. The last listed “C FL 04-25” is the name of an annexation document given by the Lane County Boundary Commission.

Annexation Activity for Map 18122642

Choose Map

6/13/2005 1:29:14 PM

FQ-Annex

alt_parcel_nr	annexation_name	annexatio	source_yea	target	tca
1812264200600	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264202400	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264200300	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264200400	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201000	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264200500	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201200	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201500	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264200800	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264202000	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264202100	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264202200	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264202300	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201800	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201900	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201700	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201501	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201201	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264202500	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201100	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264200900	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264200700	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201300	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201400	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264200900	TCA 09716 Accounts to TCA 09722 for 2004	9/14/2004	2003	2004	097
1812264201400	C FL 04-25	6/3/2004	2004	2005	
*					

Record: 1 of 26

Record: 1 of 1 (Filtered)

Data Sources:

Original District formation and Boundary change documents and maps organized by district and effective date

Circa 1970 maps with code boundaries

Circa 1999 maps with code boundaries

Compiled indexes of Cadastral Activity from 1996 - 2000

Cadastral Cartography Issues

Riparian Boundaries: ORS 308.225 does not give riparian movement as a valid reason for a boundary change. We have been interpreting the legal description to make a change in the boundary delineation when a watercourse that is the boundary line moves.

Mapping Deadlines: It would be desirable for the Oregon Cadastral Map System Manual to contain more procedural information about tax code area mapping and evaluation. Perhaps a timeline with dates and cycles would be helpful.

Fire Patrol: Fire patrol is an unmapped code. It may be that Ascend shows a parcel entirely in a Fire Patrol Code, but that is not the way it is mapped. Because of this a union and dissolve on code does not reveal the codes that are in use. It may be worthwhile to carry the mapped code in addition to the Tax account (fire patrol) code in Ascend. This would enable us to reconcile differences between the GIS and Ascend databases.

Annexation Workflow

1. Annexations come in from LCBC
2. AnnexClerk makes a copy of the front page and sends it back to LCBC with a Received date stamp via courier envelope.
3. Annex Clerk: Enter the Annexation into Ad Valorem.
 - a) Fill out coversheet and save in system (?)
 - b) Enter prelim data into Ascend (?)
4. Forward the Annexation packet to Carto (David's Desk).
5. **Carto: Map in GIS (in Regions 2 – 5 use CAD file as underlay to identify taxlots that have not been entered in GIS. Also use Development SDE for Region 5 as parcel underlay) There is a seed mxd in Support\Mxd\Annexation.**
 1. **populate Following Attribute Fields:**
 - a) TaxCode = "XX"
 - b) Source = Annexation Document #
 - c) Year = Annexation Effective Date
 - d) AutoMethod =
 - e) AutoWho = lcat???
 - f) AutoDate= Date
 2. **Create list of taxlots in annexation**
 - a) **In GIS, select lots affected by Annexation and export table as dbf file.**
 - b) **In excel, Edit the dbf file to note acres of split lots.**
 - c) **Initiate worklog report and imbed excel list in before/after word document.**
 3. **Print color delineation map of annexation and put image in worksheet word document. Include aerial photo, Lot #, TL Acres.**
 4. **Return Annexation packet with worksheet to Annex Clerk**
6. Annex Clerk:
 - c) ID the TCA

- d) Fill out the coversheet & withdrawal sheet if needed
 - e) Complete in Ad Valorem
 - f) Complete Annexation in Ascend
7. Annex Clerk: Give the Annexation packet back to Carto to finalize the GIS TCA Maps
- 8. Carto:**
- 1. Update TaxCode field to TaxCode values determined by Annex Clerk.**
 - 2. Complete new codes in worksheet and new GIS Map in worklog.**
 - 3. Give above to Annex Clerk with Annexation packet**
9. Annex Clerk:
- 1. enter into the Ad Valorem notes GIS_YES (this is to confirm TCA's have been put on the GIS MAP).
 - 2. File the Packets by Annexation District and Number into a temporary holding draw (Stacy's area) until certification each year.

[Annual Annexation Verification \(Enter in A&T Calendar\)](#)

Annexation Report – GIS Reconciliation

- a) Verify GIS_YES or GIS_NO against GIS and list of cover sheets to make sure all Annexations have been completed in GIS and in Ascend.
- b) Verify Ad Valorem in Ascend that all Annexations entered are completed.

Annual write-off

- a) Annex Clerk will take all the Annexation packets processed and Archive them in the Cartography area.
- b) Cartography will extract a GIS layer of reconciled TaxCodes for that year