

ORMAP Grant Application - 2005 Spring Request

Section I. County and Grant Information					
a. County/Region Multnomah County/R-MAP		b. Type of Funding (Check only one)		c. Grant Request (Only the amount for the funding type selected in Section I.c)	
		<input checked="" type="checkbox"/> Regional <input type="checkbox"/> Discretionary <input type="checkbox"/> Combination (For grants requesting both type of funds in one project)		Discretionary Fund Request \$	
Project will help ORMAP Goal(s): 1 2 3 4				Regional Fund Request \$49,022	
Section II. Summary of Project					Tech Group Assessment
a. Brief Description of the Request and if the project will meet the ORMAP Data Exchange Standards.					<input type="checkbox"/> Yes <input type="checkbox"/> No
Continue support of Multnomah County strategy to meet goals 3-4. This proposal has several parts all related to taxlot data and taxmap quality.					
Scope and Detail of Deliverables					<input type="checkbox"/> Yes <input type="checkbox"/> No
Check	Deliverables	Details			
<input type="checkbox"/>	Taxlot Conversion	Number:		Percent of County:	
<input checked="" type="checkbox"/>	Tax map Conversion	Number:	50 Sections Approx. 569 maps	Percent of County:	14%
<input type="checkbox"/>	Control Points	Describe			
<input type="checkbox"/>	Hardware/Software	Describe			
<input type="checkbox"/>	Scanning	Describe			
<input checked="" type="checkbox"/>	Reports	Describe	R-MAP County Edge Matching Study		
<input type="checkbox"/>	Development	Describe			
<input type="checkbox"/>	Other Assistance	Describe			
<input checked="" type="checkbox"/>	Other Deliverable	Describe	✓Levy Code Polygons (Tax Code) and derived jurisdictions county-wide. ✓Control Polygons—Township, section, quarter-section, quarter-quarter, DLC and gov't lot polygons from existing map data, county-wide. The edge matching issues with these polygons will be part of the county edge matching study. ✓County-wide assessor situs zipcode cross check ✓County-wide assessor data subdivision cross check		
b. Timeline (funding not to exceed 1 year from contract date)					<input type="checkbox"/> Yes <input type="checkbox"/> No
All items are for 1 year or less.					
c. Costs of total project					<input type="checkbox"/> Yes <input type="checkbox"/> No
Multnomah County provided a detailed cost estimate and timeline to ORMAP in August 2004 that estimated total project costs of \$11,513,305.					
d. Partnerships and contributions:					<input type="checkbox"/> Yes <input type="checkbox"/> No

Multnomah County provides A&T Cartography staff time, GIS Coordination, Oracle DBA support, UNIX hardware and Oracle software in support of this project. These additional costs are difficult to quantify, but are vital to project success. County Survey is providing GPS control.			
e. How does this help ORMAP Goals 1, 2, 3, or 4:			<input type="checkbox"/> Yes <input type="checkbox"/> No
County edge matching, taxing districts, situs zipcodes and subdivisions contribute to meeting goal 4.			
f. Benefits to Users:			<input type="checkbox"/> Yes <input type="checkbox"/> No
ORMAP will benefit from a detailed look at county edge matching issues from a regional effort. Taxing Districts need to be examined as part of the county edge matching effort. Taxing districts have been requested by many taxlot data users. Correct zipcode and subdivision data improves assessor data quality.			
g. Promotes Partnerships:			<input type="checkbox"/> Yes <input type="checkbox"/> No
Levycode data has been requested by PGE and other utilities so that utility taxing information may be accurately calculated. PGE has offered control points to Multnomah County where needed (Bull Run, townships 1S5E and 1S6E). An example of ORMAP Region to ORMAP Region edge matching will be included in study.			
h. Innovation:			<input type="checkbox"/> Yes <input type="checkbox"/> No
Private sector user active participation in development and use of ORMAP product and potential control data contribution.			
i. Assessor's Signature:			
Project Contact – Name:	Andrea Westersund	e-mail:	Andrea.i.westersund@co.multnomah.or.us
Title and Phone Number:	Senior DBA (503)988-3749 x22217		
Mailing Address:	501 SE Hawthorne Blvd, Suite 400 Portland, OR 97214		

Section III. Detail Project Information – All questions must be answered

A. Overview

- Describe what the project is trying to accomplish
 Continue support of Multnomah County strategy to meet goals 3-4. This proposal has several parts all related to taxlot data and taxmap quality.
 By examining edge matching and issues early in our conversion of CAD Assessor Map data to a GIS environment, we can plan appropriate strategies as a county and region that may require ORMAP funding. An R-MAP County Edge Matching report will be presented to ORMAP from our regional efforts. PGE will participate as an active user, and will provide guidance for determining how exact edge matching needs to be for the data to be useful to them.
 Multnomah County will build county-wide control polygons (township,section, etc.) and levy code (tax code polygons) from existing data.
 County-wide quality checks and improvement of situs zipcode data and subdivision codes in the assessor roll will also be made.
 Continue funding for edgematching of taxlots by section according to county plan.

Taxlots: 251,195
 Maps: 4,050
 From our proposal, we have:
 Sections: 356

Our plan calls for processing 50 sections with this funding.

The math to approximate sections to taxlot/maps is:

$4050/356 = 11.38$ maps per section
 $251,195/356 = 705.6$ taxlots per section
 $11.38 \text{ maps} \times 50 = 569$ maps
 $705.6 \text{ taxlots} \times 50 = 35,280$ taxlots

- Does this project relate to any previous ORMAP funded project? If yes, please explain
 Yes, uses outcomes of previous projects, aerial photos, common county boundary, a strategic plan developed by consultant, software and training purchases and ORACLE data model, preliminary pilot testing of edge matching and polygon development.
- What is the status/outcome of the previous ORMAP funded projects?
 All previous ORMAP funded projects have been successfully completed with the exception of the latest grants from Spring and Fall 2004 (contract not yet received). The data model has been completed, but other deliverables are still in progress. To reach Goal 4, a continuation the process as funded by previous grants will be used to move from CAD to a GIS environment.

GOAL 2 Complete 12/04/04	Townships	% Townships	Maps	% Maps	Taxlots	% Taxlots
Completed	23	100%	4,050	100.00%	251,145	100%
GOAL 4 Maps/Taxlots Progress 12/04/04	Sections	% Sections				

TOTAL	356	100%				
Completed	0	0%				
GOAL 4 LevyCode Polygons 12/04/04	Approx. Polygons	% Polygons				
TOTAL	125	100%				
Completed	0	0%				

B. Project Design-Current Proposal

1. Identify the ORMAP and the regional/county goal(s) that this project addresses.

Goals 3-4

2. Describe in detail your technical approach to the project.

Multnomah County currently maintains 100% of our Assessor maps in digital form. Four A&T Cartographers support a high volume of map maintenance using Bentley's Microstation and some Intergraph MGE products. Our strategy gradually moves Cartography from a CAD maintenance environment into a GIS-based maintenance environment based on GeoMedia Pro and Oracle. We will be moving from maintaining thousands of map files to maintaining a single, seamless intelligent integrated GIS database.

We place a high priority on retaining our investment in the integrity and relative correctness of the existing data. Therefore, we first create pilot projects which will determine priorities and issues that need to be addressed. The outcome of our previous grant cycle gave us insights into the conversion process that are the basis for this ORMAP grant.

Project Design

Our successful experience with the new GIS software tools to create GOAL 2 polygons has developed a sound base to move with confidence into GOAL 3-4 development. We have developed a robust data model as a foundation for the maintenance environment and have migrated pilot areas to the data model as part of our process. From the pilot area testing we have identified these issues:

- 1) Control layers need to be built separately from the edge matching of taxlot polygons. The control layers are: MapControlPoints, Township, section, quarter-section and qtr-qtr section polygons, DLC polygons and gov't lots. The MapControlPoints need to have identification so they can be compared to available Survey GPS points to measure relative accuracy of the maps. Our data model has been built to accommodate these points, lines and polygons.
- 2) Levy Code polygons have a high value both internal to county users, externally to utilities and are part of the ORMAP GOAL 4 requirement. Defining a method to create and maintain levy code polygons is a high priority. Levy codes are one of the primary factors of property tax revenue. The levy code stored in our Assessor data will be compared to these polygons. If errors are found, they will be corrected. From the levy codes, we can derive all of the jurisdictions represented. In the future, we can subdivide jurisdictions to create regions that elections may need (eg, community college regions that have an elected officer) and efficiently maintain enterprise county data.
- 3) County edge matching has been identified as a high priority by the ORMAP Advisory Committee (see minutes of October 21, 2004 meeting). The details and impacts of such goal

are not clear to the counties in our region. By completing a pilot project cooperatively with Clackamas, Washington, and Hood River counties (and others who may be interested), as a region we can report back to ORMAP our findings and recommendations in a report to ORMAP. PGE will participate as an active end-user of cross-county assessor data.

- 4) Zipcode and subdivision quality improvement is needed and will benefit both the assessor and other users who rely upon these data fields.
- 5) Continue of project started with Fall 04 ORMAP funding and county plan to edgematch maps by section, with the next 50 sections.
3. Describe the project deliverables. Please keep in mind these deliverables are to be billed against when submitting requests for payment to the Department of Revenue.
 1. Report of county edge matching experience including details of process, issues identified and recommendations.
 2. Approximately 125 Levy Code polygons that will be maintained by Multnomah County Cartography and integrated into Assessor maps.
 3. MapControlPoints ,Township, section, quarter-section, quarter-quarter section polygons for the county. DLC and gov't lot polygons as defined by existing map data.
 4. Zipcode and subdivision data quality improvements to assessor roll.
4. Will this proposal fund staff that are doing work other than work funded to do ORMAP work? If so, describe how the time and cost will be tracked for the different projects.

ORMAP work and normal Assessor Map maintenance are merged in our county. Only ORMAP work will be completed as overtime. ORMAP work may be done as part of regular paid staff work as well. Hours worked on the edge matching project and report will be tracked and reported separately.

5. Describe the maintenance plan for this product.

Maintenance will be part of A&T Cartography work flow.

6. Describe how this project conforms to the ORMAP Exchange Data Standards?

Shapefiles and data as documented for GOALS 2-4 can and will be created.

C. Project Outline/Work Plan/Calendar/Costs-Overall multiyear project

1. Describe where this project fits within the county's overall Mapping/GIS system plan.

Refer to Multnomah County Strategy, Updated February 2004.

This project moves Multnomah County from Stage 1 creating GOAL 2 polygons, to Stage 2 where the maintenance environment shifts to a single seamless GIS database. By building the control network first and looking at edge matching issues early, we will set the platform for later taxlot and map conversion.

2. Show a project timeline with milestones and with phase completion date(s) identified.

2003-2004

Develop and maintain GOAL 2 taxlot polygons

100% complete July 2002 – October 2004

Maintenance work is done by Multnomah County staff in addition to regular duties.

Design seamless GIS maintenance environment

June 2003 – October 2004

- Develop Data Model for GeoMedia and Oracle
- √ Consultant Hired, First on site visit completed 2/24/04
- √ Model to be completed by June 30, 2004

In Progress:

Develop Interoperability Plan to use or provide data in various GIS vendor environments for Internal and External uses.

In Progress:

Develop Data Conversion Plan and Convert Data in Pilot Areas

- Develop and implement procedure to edgematch taxlots by file

- Develop and implement plan to create aggregate polygons (levy codes, subdivision, etc.)

- Develop and implement plan to import text and cartographic elements

- Develop Strategy to Align County Boundaries

- Develop Strategy to Adjust to GPS Control if needed

2005-2008

Convert to seamless GIS maintenance environment

November 2004 – December 2008

TIME PERIOD	SECTIONS
11/04-6/05	45
7/05-12/05	50
1/06-6/06	50
7/06-12/06	50
1/07-6/07	50
7/07-12/07	50
1/08-6/08	61
TOTAL	356

3. Give a breakdown of costs for the major tasks and the total costs for each fiscal year.

Estimates provided to ORMAP August 2004:

Funding Cycle	Project Type/Area	Approx. # of Taxlots	Total # of Goal 4 Maps	% of Total # of County Maps	Funding Source		
					ORMAP	Other	Total
Current Status		0	0	0	241,218	10,580,000	10,821,218
Spring 04	training, polygons plan, adjust model	0	0	0	77,600.00	55,000	132,600.00
Fall 04	Edgematch make polys Convert to seamless GIS 45 sections	31,753	511	12	58,287	36,400	94,687
Spring 05	Ditto 50 sections	35,280	569	14	30,000	36,400	66,400
Fall 05	Ditto 50 sections	35,280	569	14	30,000	36,400	66,400
Spring 06	Ditto 50 sections	35,280	569	14	30,000	36,400	66,400

Fall 06	Ditto 50 sections	35,280	569	14	30,000	36,400	66,400
Spring 07	Ditto 50 sections	35,280	569	14	30,000	36,400	66,400
Fall 07	Ditto 61 sections	43,042	694	18	30,000	36,400	66,400
Spring 08	Neigh. County boundary				30,000	36,400	66,400
Mapping Totals		251,195	4050	100	580,018	10,926,200	11,513,305
MONEY TOTALS to reach Goal 4							

FY 2005 -2006 (covers July 1st – December 31st)

4 Cartographers 8 hours per week overtime * 25 weeks * \$50 per hour = \$40,000

Regional Edge Matching Efforts 80 hours * \$50 per hour = \$4000

Zipcode Quality improvements 40 hours * \$50 per hour = \$2000

Subdivision Quality improvements 40 hours * \$50 per hour = \$2000

County administration charge of 2.13% for personnel costs = \$1022

Total request: **\$49,022**

D. Quality Control

1. Who will be responsible for quality control?

Multnomah County GIS will run quality control checks for GIS data.
Multnomah County A&T Cartography will correct Assessor map data.

2. What will be the procedures for quality control?

GIS queries will be used as tools for polygon and attribute quality control. Edge matching issues can be detected automatically. Comparison of polygons to the attribute tables allow for error detection.

E. Data Availability

1. Identify any restrictions on data sharing or licensing issues with this product.

Multnomah County retains the right to withhold data from ORMAP if Multnomah County policies conflict with ORMAP specifications.

F. Background Information

Attached County/Regional current Business Plan—if one is not on file

Regional Plan is On File. Updated County Plan, February 2004. Online Business plan revised October 2004.

G. Other Issues - Please identify.

**ORMAP REGIONAL GRANT AUTHORIZATION
2005**

The R-MAP Region approves funding to Multnomah County from the ORMAI
Regional funds in the amount of \$ 49,022 for the ORMAP project.

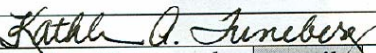
Andrea Waterscheid
Regional Coordinator (signature)

Name Andrea Waterscheid

Address 501 SE Hawthorn 400

Portland OR 97214

Phone (503) 988-3749 x 22217

d. Partnerships and contributions:		<input type="checkbox"/> Yes <input type="checkbox"/> No
Multnomah County provides A&T Cartography staff time, GIS Coordination, Oracle DBA support, UNIX hardware and Oracle software in support of this project. These additional costs are difficult to quantify, but are vital to project success. County Survey is providing GPS control.		
e. How does this help ORMAP Goals 1, 2, 3, or 4:		<input type="checkbox"/> Yes <input type="checkbox"/> No
County edge matching, taxing districts, situs zipcodes and subdivisions contribute to meeting goal 4.		
f. Benefits to Users:		<input type="checkbox"/> Yes <input type="checkbox"/> No
ORMAP will benefit from a detailed look at county edge matching issues from a regional effort. Taxing Districts need to be examined as part of the county edge matching effort. Taxing districts have been requested by many taxlot data users. Correct zipcode and subdivision data improves assessor data quality.		
g. Promotes Partnerships:		<input type="checkbox"/> Yes <input type="checkbox"/> No
Levycode data has been requested by PGE and other utilities so that utility taxing information may be accurately calculated. PGE has offered control points to Multnomah County where needed (Bull Run, townships 1S5E and 1S6E). An example of ORMAP Region to ORMAP Region edge matching will be included in study.		
h. Innovation:		<input type="checkbox"/> Yes <input type="checkbox"/> No
Private sector user active participation in development and use of ORMAP product and potential control data contribution.		
i. Assessor's Signature:		
Project Contact - Name:	Andrea Westersund	e-mail: Andrea.i.westersund@co.multnomah.or.us
Title and Phone Number:	Senior DBA (503)988-3749 x22217	
Mailing Address:	501 SE Hawthorne Blvd, Suite 400 Portland, OR 97214	