

Social Planning with Geographic Information Systems

PPPM 436/536, Fall 2010

Tuesday/Thursday

Lecture: 9 – 10am, Room #254 LA (Lawrence) Lab: 10am – noon, Room #445 MCK (McKenzie)

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Office Hours: Wednesday 1:30-3:30	
(you can sign up on my office door)	
Blackboard Class Page: https://blackboard.uoregon.edu/	
Faculty Home Page: http://www.uoregon.edu/~schlossb/	

Purpose of the course and Course Description

The purpose of this course is to give students an opportunity to extend their GIS knowledge, both in deepening existing skills and through the teaching of new ones. This objective will be met in three main ways: 1) utilization of intermediate-level geoprocessing tools, exploration of the spatial, network, and possibly 3D analyst tools of ArcGIS; 2) an introduction to mobile GIS; and 3) through an applied project, partly of the student's choice, that focuses on Salem and connectivity to its urban parks.

The class will be divided into a lecture and a lab component. The lab will cover skill building and the lecture will cover the context of why we might want to use GIS to solve problems. During this time, we'll cover the basics of pedestrian and bicycle planning and think about ways that GIS can help analyze how well parts of a city meet these forms of transportation. We may also talk about applying GIS to social planning, bottom-up community development, and public participation. As such, there may be a disconnect between the lecture hour and the lab hours to some degree – the lecture/discussion hour will be about issues and the lab will be about skills. The lecture will not be about 'how to' do things in GIS, but rather focus on 'why might we want to use GIS to address a particular issue'.

This class will be part of the Sustainable City Year (SCY) and we will be joining colleagues in courses throughout the year in PPPM, Architecture, Landscape Architecture, Law, Business and Journalism, in applying our learning and products to the service of the City of Salem. Specifically, we will use our labs and project to look at connectivity to parks in Salem, an area of interested identified by Salem city staff. One student will be selected as a Student Ambassador to the overall SCY program – this student will represent the class periodically within a forum of other student ambassadors across other SCY courses in the Fall, as well as program staff of the Sustainable Cities Initiative (SCI). Please let the instructor know if you are interested in taking on this role. There will also be an opportunity for a top student in the class to get hired by SCI to write up a synthesis report of course project work. This report will be a lasting document for Salem to use as it works toward enhancing their pedestrian and bicycle infrastructure.

You will be expected to use a considerable amount of class time to work on your labs and project you'll want to know the lab hours of SSIL or load the software (it's free for students) on to home computers. A SSIL orientation on Day 1 will help in this regard.



Finally, the community of GIS users is a very supportive and friendly one (in general, of course) and this class will be the same. Your fellow student colleagues will be a great source for assistance through whatever troubles you encounter. Being able to help/teach someone else will also reinforce your own knowledge. The instructors are likely to be able to answer many questions, but not all, so do not be surprised if what we teach is how to figure out how to solve problems, rather than just solving them directly. You should be fairly good at muddling your way through, and this class provides a good opportunity to muddle further and with some guidance so that you build a solid GIS foundation.

Student Assessment

Grades will be given to students based on the following:

<u>Undergraduate requirements (PPPM436</u>	<u>)</u>			
Mini-paper & project proposal				
Lab Assignments	(20%)			
Walkability memos	(30%)			
Individual project & poster	(30%)			
Participation & Good Attitude	(10%)			
Graduate requirements (PPPM536)				
Mini-paper & project proposal	(10%)			
Lab Assignments	(15%)			
Walkability memos	(20%)			
Individual project & poster	(30%)			
Project presentation	(15%)			
Participation & Good Attitude	(10%)			

Please refer to the course schedule for all non-lab assignment due dates.

Students registered as PPPM 436 are not required to make a class presentation. I encourage undergraduate students to do a final presentation, if desired. It's great practice and there is no penalty for totally embarrassing yourself. On the other hand, since University of Oregon students are so intelligent, the rest of the class is likely to be blown away at your knowledge and skill.

Lab Assignments

Lab assignments are due at 9am the class after they were assigned. They will simply be graded on whether they were handed in: *check plus* for labs handed in on time with some clear effort having gone into it; *check* for anything turned in during class time or for work clearly done on the cheap, and *check minus* for anything turned in after class time. Feedback on map layout and design will be given to the class as a whole based on good and bad examples of maps turned in. Individual maps will not be evaluated extensively. I expect that your map output to be professional and improve as the term progresses so pay attention to maps you see around you and learn from them. Since this is not a cartography class, we will not expect you to make maps to compete with the <u>Atlas of Oregon</u>, but we do expect students to pay attention to the core elements of good map design and to improve in this area as the term goes on. We will not cover cartography directly, so take a look at the many publications with maps in them (e.g. ArcNews) and see how those maps look and take what you like and apply it to your maps.

PPPM is about making change, and GIS is a tool to facilitate that change. Therefore, I am more interested in your ability to use GIS to answer a larger issue than to make an astoundingly beautiful map. In many professional uses of GIS, a map never makes it into the final report, but the answers derived from a GIS analysis do. Writing up an analysis that uses GIS is a key skill to develop and you will have opportunities to practice.



Memos

To fully understand and appreciate this idea, there are two memos to write that utilizes data and images from several labs and is intended for you to analyze the different results within a cohesive framework of walkability. That is, these papers are to get you into the habit of seeing GIS and maps as a means to an end and not an end in and of itself. For this assignment, you will write two memos comparing the walkability of Salem to any U.S. city between 140,000 - 180,000 people.

Assume that you work for one of the cities or perhaps work with an advocacy organization interested in promoting more walking and you have been asked to write a memo to the Salem City Council. DO NOT write it to me – assume your audience has little understanding of GIS and probably less interest in wanting to know its intricacies. These are policy makers and would appreciate a brief analysis with enough supporting material for them to feel comfortable with decisions that they may make.

Remember that these are very short policy memos so your ability to integrate the criteria at the end of this syllabus into a short space will be quite challenging. Also, the target audience is policy makers, so your goal is to communicate your overall point, not to cram everything into the page limit. If it makes sense to write the policy memo and include supplemental materials, like extra maps, more background info, technical descriptions of your process, you may do this.

Individual Project

The individual project will focus on connecting several urban parks in Salem to the larger downtown area. Within this topic, students will have the latitude to choose what and how to analyze the issue. Ultimately, Salem is interested in various types of analyses and ideas for improving the connectivity of its bicycle and pedestrian systems to make accessing these parks easier. It may be possible to do this work in a small team, but such an approach would need to clearly demonstrate why and requires approval of the instructor. The final product of this work includes both a report and a poster. The paper will be evaluated utilizing several measures as contained on the "Paper Evaluation Sheet" later in this syllabus.

Project presentations will be 3-5 minutes standing next to one's poster. It may be that this part of the presentation takes place in Salem or with Salem City Staff and community members coming to Eugene to help learn of your ideas and provide outside critiques to your work. It is very difficult to make a presentation of your work in such a short time, yet is a great skill to develop. And since you are in school to develop such skills, this will be a great opportunity.

Positive Attitude

A positive attitude is essential. We're all here to learn, share ideas, grow, and meet fellow human beings. Let's have a good time doing all. Class participation will be appreciated and all should feel free to use the group email page through Blackboard to pass on ideas, ask for help, etc.

Readings

Lab assignments will be posted on Blackboard and you should print them out prior to class so that you can write notes on a hardcopy of the lab. In cases where there are last minute changes to labs, you can just print them out during lab time.

The use of GIS in bicycle and pedestrian planning is a new area and evolving rapidly. It is likely that new GIS-based measures are being developed that are not covered in class – search these out, bring them in to class, and we'll collectively try to figure out how to use them.

There are no required texts. Some optional readings are on-line through Blackboard, organized by different subjects, and although the readings are not required, they are recommended if you have a longer-



term interest in GIS & Social Planning. There are lots of readings – too many actually to consume in the short period between classes. They are in somewhat of a priority order; browse them intelligently for key points and ideas. Print ones you like and make a binder for yourself of important readings. There is no grade for you regarding these readings. Assuming you are in this class to learn about GIS and social planning linkages, these readings should be very useful for you. Course packs do not emerge from thin air; articles are carefully chosen and assembled in order to help students enlarge their conception of the world and to help focus on the particular subject matter of the course. Ultimately, your education is up to you, so what you do with these readings is your choice.

Three books are recommended for browsing:

- Krygier, John & Denis Wood (2005). Making Maps: A Visual Guide to Map Design for GIS.Guilford Press. (This is a great reference book for making maps very easy to read and every page has map making tips.)
- Craig, W. J., T. M. Harris, et al. (2002). Community participation and geographic information systems, Taylor & Francis. (This is a book about participatory GIS and includes articles from several authors, some listed in the reading list below.)
- O'Looney, J. (2000). Beyond maps: GIS and decision making in local government. Redlands, CA, Environmental Systems Research institute, Inc. (This book places the use of GIS in context for making local public policy decisions nice examples.)

I'll also bring in a collection of books from my bookshelf that you may want to find copies of.

Free Resources

As a University of Oregon student, you have FREE access to a series of on-line GIS training modules from ESRI. Courses are located at: http://training.esri.com. If you would like to take a class, let me know and I can help register you for free access.

Also as a UO student, you can legally load any piece of ESRI software on your home machine. CDs or DVDs of software can be found in the library in the basement floor of McKenzie Hall. It used to be that there are two ways of getting the license to work: by a dongle or by using the UO network. Since I've been away for a year, I'm not sure the latest way to do this, but SSIL staff can help. Licenses expire in mid-June each year.

2010 Course Schedule

Date	Lecture Topic	Lab Topic	Assignment
28-Sep		Review - go to SSIL at 10am, get lab accounts, and work on self-paced review assignment available on Blackboard.	Mini-paper: Find five examples of bicycle, pedestrian, parks, connectivity, or participatory planning projects that employed GIS. Write a single paragraph description of each and include the URL or other reference as necessary. Send electronically to the instructor with the Subject Line: "Five GIS Examples" for compilation. Due 10/5



Date	Lecture Topic	Lab Topic	Assignment
30-Sep	Travel to Salem - Meet on the	We will be given an	
30 S c p	Franklin side of Lawrence Hall	orientation toward the	
	(Onyx). Two 12-person vans will	Downtown Parks	
	take us there and back.	Connectivity project and	
	Take as there and back.	goals by Salem City staff.	
		This will be a chance to get an orientation toward	
		the overall SCY effort and	
		some specific information	
		about our course project.	
5-Oct	Pedestrian Planning	Obtaining and Analyzing	
3-001	redestrian rianning	Census Data	
7-Oct	Bicycle Planning	Street &	
		Intersection Analysis	
12-Oct	Guest Speaker - Christo Brehm	Street &	2 Page memo on
	Mobile GIS – WUNMAP, SEAT, CSAT or	Intersection Analysis	streets/intersection results
11.0	CAST example		Due 10/19
14-Oct	GIS Measures - conceptual	Spatial Analyst, Network Analyst and the PCA	Project Proposal: Thinking about Salem's needs, what do you
		Allaryst and the FCA	propose as an individual or small
			group project? How will you use
			GIS to answer the question? Due
			10/21
19-Oct	Guest Speaker -	Network Analyst & Intro to ArcPad	2 Page memo on Spatial &
		to Aicrau	Network Analyst results Due 10/26
			Duc 10/20
21-Oct	Mobile GIS – WUNMAP, SEAT, or CSAT	ArcPad Intro and	Bicycle transportation variables:
21 000	examples	Customizing ArcPad for	write out a brief survey instrument
	1	Fieldwork	of items that you may want to
			collect on the ground using
			Mobile GIS that would be helpful
			in assessing existing or future bike infrastructure (or lack thereof). As
			brief or long as you want. Due
			10/26
26-Oct	Show and Tell Individual Projects	Customizing ArcPad for	
		Fieldwork	
20.0	photo of the the	2D 4 1 1	
28-Oct	PPGIS, Social Planning, Power	3D Analyst	
2-Nov	Meet in Lab all 3 hours	TBD or Work on Projects	Work on Projects
			,,
4-Nov	Meet in Lab all 3 hours	Work on Projects	
9-Nov	Meet in Lab all 3 hours	Work on Projects	
11- Nov	Meet in Lab all 3 hours	Work on Projects	
16-	Meet in Lab all 3 hours	Work on Projects	
Nov			
18-	Meet in Lab all 3 hours	Work on Projects	
Nov			

Date	Lecture Topic	Lab Topic	Assignment		
23-	Meet in Lab all 3 hours	Work on Projects			
Nov					
25-	NO CLASS - Thanksgiving Holiday				
Nov					
28-	Meet in Lab all 3 hours	Work on Projects			
Nov					
2-Dec	c Final Presentations - Possibly in Salem				
	Attendance Mandatory (Failure to attend will result in 10 percentage points being taken off your final grade.)				
10-Dec	Final Exam - Final Papers Due	11:00am	In my office (NOT electronically)		
			electronicany)		

Some Readings on Participatory GIS and Bottom-Up Planning

- Aberley, D. (1993). Boundaries of home: mapping for local empowerment, New Society Publishers. P. 1-16
- Barndt, M. (1998). Public participation GIS: Barriers to implementation. Cartography and Geographic Information Systems 25(2), 105
- Checkoway, B. (1997). "Reinventing the Research University for Public Service." <u>Journal of Planning</u> literature. 11(3):307-319.
- Chow, J. & Coulton, C. (1996). Strategic use of a community database for planning and practice. Computers in human services. 13(3), 57-72.
- Craig, W. and Sarah Elwood (1998). How and Why Community Groups Use Maps and Geographic Information. Cartography and Geographic Information Systems 25(2), 105
- Elwood, S. and Leitner, H. (1998). GIS and community-based Planning: Exploring the Diversity of Neighborhood Perspectives and Needs Cartography and Geographic Information Systems 25(2): 77.
- Greene, R. (2000). GIS in Public Policy. ESRI Press, Redlands, CA.
- Greene, R. (2000). GIS in Public Policy. ESRI Press, Redlands, CA. 72-83
- Harris, T. (1998). Empowerment, Marginalization and "Community -integrated" GIS. Cartography and Geographic Information Systems 25(2):67
- Henry, M. (2000).GIS: Computer planning tools for LHAs. Journal of Housing and community development. 57 (2), 26-27.
- Hoefer-R.A; Hoefer-R; Tobias-R.A (1994). Geographic information systems and human services. Journal of Community-Practice.1(3): 113-28, 1994.
- Israel, Barbara A., Amy J. Schulz, Edith A. Parker, and Adam B. Becker (1998). "Review of Community-Based Research: Assessing Partnership Approaches to Improve Public Health." <u>Annual Review of Public Health</u>. 19:173-202.
- Keating W. and Norman Krumholz (2000). Neighborhood Planning. Journal of Planning and Education Research 20(1) 111-114.
- Kent, R. B. & Klosterman, R. E. (2000). GIS and Mapping: Pitfalls for Planners. Journal of the American Planning Association. 66 (2), 189
- Kretzmann, J. and John McKnight (1993). Building Communities from the Inside Out: A Path Toward Finding and Mobilizing a Community's Assets" (Introduction Only). Evanston, IL: Institute for Policy Research. http://www.northwestern.edu/ipr/publications/community/introd-building.html



- Obermeryer, N. J. (1998). The Evolution of Public Participation. GIS Cartography and Geographic Information Systems 25(2):65.
- Queralt-M; & Witte-A.D (1998). A map for you? Geographic information systems in the social services. Social Work.43(5), 455-469.
- Reardon, K. (1998). "Enhancing the Capacity of Community-Based Organizations in East St. Louis". Journal of Planning Education and Research. 17(4)
- Sachs, Jeffrey D., Andrew D. Mellinger, and John L. Gallup (2001). "The Geography of Poverty and Wealth". Scientific American 284 no3:70-5 Mar 2001.
- Sawicki, D. & Flynn, P. (1996). Neighborhood indicators: A Review of the literature and an assessment of conceptual and methodological issues. Journal of the American planning association. 62 (2)
- Schlossberg, M. (1998). Asset Mapping and community development planning with GIS: A look at the heart of West Michigan United Way's Innovative Approach . Paper presented at the 27th Annual Meeting of the Association for Research on Nonprofit Organizations and Voluntary Action, Seattle, WA.
- Schlossberg, Marc and Elliot Shuford (2005). "Delineating 'Public' and 'Participation' in PPGIS". URISA Journal. 16(2), 15-26
- Sieber, R. E. (2000). "GIS Implementation at the Grassroots". URISA Journal 12(1). p. 15-29
- Somers, R. (1998) "Developing GIS Management Strategies for an Organization". Journal of Housing Research 9(1), 157-178.
- Spade, M. (1996). Mapping the needs of the poor. Clearinghouse review., 138-145.
- Talen, E. (1998). Visualizing fairness: Equity maps for planners. American Planning Association Journal. 22-38.
- Talen, E. (2000). "Bottom-Up GIS: A New Tool for Individual and Group Expression in Participatory Planning". Journal of the American Planning Association. 66(3). p. 279-294.
- The Urban Institute (1999). "Stories: Using Information in Community Building and Local Policy". Expanded Edition, July 1999. 41 pages.

Other class notes (please read)

- Please be respectful with cell phones. Do not text while I am talking. For that matter, do not email either.
- Checking e-mail during lab time is fine, but don't expect sympathy from the me if you are struggling with a lab or assignment if you choose to spend part of your time e-mailing or web surfing on non-class related items.
- Cheating is unacceptable and will result in a failing grade in this course and may result in your expulsion from the University. This includes plagiarism and I have had students fail and be expelled from cheating in my class. I am not on a mission to find cheaters, but I have no tolerance for it once it is discovered. For more information on plagiarism, see http://libweb.uoregon.edu/guides/plagiarism/students/.
- If you want to improve your writing skills, please take advantage of the instructors at Academic Learning Services. You are here at the University to improve your skills and learning to write effectively may be one of the most important skills you can obtain while a student. Some people

think that working with ALS is somehow embarrassing, however the reality is that students who take advantage of what this campus has to offer are the truly brilliant and resourceful ones.

Useful Web Sites - GIS and Community Issues (URLs not checked recently)

Neighborhood Evaluation Using GIS http://www.urban.uiuc.edu/faculty/talen/GISweb/main.html

Neighborhood Knowledge Los Angeles http://nkla.sppsr.ucla.edu City of Seattle http://www.ci.seattle.wa.us

East St. Louis Geographic Information

http://www.eslarp.uiuc.edu/egrets/ Retrieval System

Center for Neighborhood Technology http://www.cnt.org/news/demo/html Neighborhoods On-Line http://www.libertynet.org/nol/natl.html

http://oaklandnet.com/government/government23.html

City of Ontario, CA GIS http://www.ci.ontario.ca.us/gis/index.asp

City of Milwaukee's Assessor Office http://www.ci.mil.wi.us/citygov/assessor/assessor.htm

Center on Urban Poverty and http://povertycenter.cwru.edu/cando.htm

Social Change Nonprofit Sector Research Fund http://www.nonprofitresearch.org

Minneapolis Neighborhoods http://www.freenet.msp.mn.us/nhoods/mpls

Neighborhood Link - Cleveland http://little.nhlink.net/nhlink/

Right to Know Network http://WWW.rtk.net

Inforain – Oregon Coastal Mapping http://www.inforain.org/olmap.htm

West Philadelphia Digital Database http://www.upenn.edu/wplp/wpdd/wpddhome.htm

Community Indicators (Some with GIS)

THE COMMUNITY INDICATORS http://www.rprogress.org/progsum/cip/cip main.html **PROJECT**

Social Statistics Briefing Room http://www.whitehouse.gov/fsbr/ssbr.html

THE SOCIAL INDICATORS SITE http://www.ccsd.ca/soc ind.html

Asset-Based Community Development http://www.northwestern.edu/IPR/abcd.html

Institute Neighborhood Evaluation using GIS http://www.urban.uiuc.edu/faculty/talen/GISweb/main.html

National Neighborhood Indicators http://www.urban.org/nnip/

Project **ECOLOGICAL FOOTPRINT**

http://www.rprogress.org/programs/sustainability/ef/ GENUINE PROGRESS INDICATOR http://www.rprogress.org/projects/gpi/

Oregon Progress Board http://www.econ.state.or.us/opb/

Social Indicators: An Annotated http://www.ag.iastate.edu/centers/rdev/indicators/entry2.html Bibliography

St. Louis United Way Social Indicators http://www.stlouisunitedway.org/

Developing GIS-Based Indicators

Studies for Assessing Housing article under review by URISA (as of 5/01)

and Neighborhood Quality: The Case of Milwaukee

The Development and Community

Application of the Social http://www.asu.edu/caed/proceedings00/FREDERIC/frederic.htm

Assets and Vulnerability Indicators (SAVI) Project

KIDS COUNT Census Data Online http://www.aecf.org/kidscount/census/



PPPM 436 / 536: Applied GIS & Social Planning Papers: Criteria for Grading

Explanation

• This criteria sheet explains the type of criteria that I will use to evaluate the walkability papers. Please refer to this list as you draft and edit your memos, so you can critically evaluate your own work

Criteria	Description
Background	The paper: Introduces the topic to the audience Explains the context of the topic in the wider public policy setting
Research	The research: • Provides a sound rationale for the applicability of GIS to analyze the issue
Methodology	 The paper clearly explains the methodology used in the GIS analysis, but succinctly and only as needed for the audience at hand The methodology should be transparent - i.e. the decision points and assumptions should be clear and the path chosen should be adequately justified
Analysis and Reflection	The paper: Integrates the larger issue with the GIS analysis Links the GIS analysis to new policy / programmatic recommendations
Bonus for Creativity and Innovation	 No exact criteria, but it might be: The sophistication of your map output The tasteful integration of map and text into your report Style of the end product that makes it accessible to the general public NOTE: Creativity should not override fulfilling the other criteria listed above
Skills	Sophistication of GIS skills

Remember that these are very short policy memos so your ability to integrate the above criteria into a short space will be quite challenging. Also, the target audience is policy makers, so your goal is to communicate your overall point, not to cram everything into a 2 page limit. If it makes sense to write the policy memo and include supplemental materials, like extra maps, more background info, technical descriptions of your process, you may do this.



PPPM 436 / 536: Applied GIS & Social Planning Term Paper: Criteria for Grading

Explanation

• This criteria sheet explains the type of criteria that I will use to evaluate the term papers. Please refer to this list as you draft and edit your paper, so you can critically evaluate your own work

Criteria	Description	
Background	The paper: Introduces the topic to the audience Explains the context of the topic in the wider public policy setting	
Research	 The research: Provides a sound rationale for the applicability of GIS to address the problem in question 	
Methodology	 The paper clearly explains the methodology used in the GIS analysis The methodology should be transparent - i.e. the decision points should be clear and the path chosen should be adequately justified 	
Analysis and Reflection	The paper: Integrates the policy dilemma and the GIS analysis Links the GIS analysis to new policy / programmatic recommendations	
Bonus for Creativity and Innovation	 No exact criteria, but it might be: The sophistication of your map output The tasteful integration of map and text into your report Style of the end product that makes it accessible to the general public NOTE: Creativity should not override fulfilling the other criteria listed above 	
Poster	 Does it tell a story Is it easy to read up close and from a distance Can it stand on its own without need of personal explanation 	
Presentation (for PPPM536 only)	 3-5 minutes !!!!! state the issue state the gap in knowledge or conventional thinking what was your GIS approach how does your project give some new insight how should new knowledge be incorporated into new policies 	
Skills	Sophistication of GIS skills	
Writing	See following page	



Instructor Guide Written Communication

Please note: although these criteria are listed for the category "written communication," the quality of your writing often affects the criteria listed above. Use this sheet as a checklist to help you edit your paper.

CRITERIA	Needs work	Fair	Good	Very Good	Comments
Logical document structure VERY IMPORTANT					
• Clear flow of paper					
• Clear structure to sections					
Logical Argument VERY IMPORTANT					
• Clear topic sentences					
 Links between paragraphs 					
Links within sections					
Appropriate tone					
• Objective: paper avoids bias					
and prejudice					
• Assertions: supported by					
evidence (references, clear					
information, stories) and not					
just opinion					
Appropriate voice					
 Appropriate use of active and 					
passive voice					
Awareness of audience					
Grammar					
Referencing					
• Consistent use of references					
• Preferred format: (author					
date) system					
Overall Topic & Sophistication					
of analysis					
Also					
• Don't overuse bullets (use for					
lists only)					
• Use graphics and pictures to					
support text, but not replace it					
 Proofread, proofread, 					
proofread					

