

INFRASTRUCTURE PLANNING AND FINANCE

Urban Design and Planning 466/566, Fall Quarter 2018

Class: Tuesday and Thursday, 3:30 to 5:20 pm
100 Gould Hall

Instructor: Prof. Jan Whittington
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Office hours: By appointment, 448D Gould Hall

Course Webpage: <https://canvas.uw.edu/courses/1226087>

This course is focused on infrastructure planning and finance and, more generally, on the relationship between planning and budgeting. The course is divided into three parts.

The course begins with an introduction to several infrastructure systems: water and sewer services, solid waste disposal, transportation, and fire services. In this segment of the course, infrastructure planning is distinguished from and related to budgeting and finance. We explore basic concepts, legal frameworks, politics, and processes used in the systems studied, including techniques in infrastructure planning aimed at estimating demand and predicting the effects of infrastructure projects on land use.

The second part is focused on local government finance. We study government's conceptual economic framework, budgeting approaches, and taxes such as property tax, sales tax, and user fees. We examine arguments for and examples of outcome-based, client-oriented programming and budgeting. The features of local finance are introduced with reference to the economic theories with which they are associated, including neoclassical, public goods, club goods, game theory, and transaction costs.

Infrastructure finance is the subject of the final part of the course. We examine the relationship between sources of funds and their uses for infrastructure. Our study includes all common forms of finance, such as pay-as-you-go, user fees, special districts, public and private debt, impact fees, exactions, and tax increment finance. We devote considerable attention to the equity and distributional issues that arise from alternative forms of finance. We study the assessment and prioritization of infrastructure investments in changing economic climates, the development of Capital Improvement Programs (aka Capital Investment Plans), and the implications of alternative forms of project and program delivery, such as public-private partnerships, design-build contracts, and privatization.

Required Texts:

John R. Bartle, W. Bartley Hildreth, and Justin Marlowe (eds). 2013. *Management Policies in Local Government Finance*. (6th Ed) Washington, DC: ICMA. (UW CBE Library 4-hour course reserves)

Justin Marlowe, William C. Rivenbark and A. John Vogt. 2009 (2nd edition). *Capital Budgeting and Finance: A Guide for Local Governments*. Washington, DC: ICMA. (ICMA Website, e-book)

David Dowall and Jan Whittington. 2003. *Making Room for the Future: Rebuilding California's Infrastructure*. San Francisco: Public Policy Institute of California. <http://www.ppic.org/main/publication.asp?i=399>

Disabled students are always welcome in my class. If you have a disability (physical, learning, or psychological) that makes it difficult for you to carry out the coursework as outlined and/or you require accommodations, such as note-takers, readers, or extended time on assignments and exams, please contact Disability Resources for Students. DRS is available at 206-543-8924 (Voice & Relay), or at uwdrs@uw.edu and will be able to provide you with information and review appropriate arrangements for reasonable accommodation. For more information: <http://depts.washington.edu/uwdrs/>.

Instructional Objectives

- + Describe the roles of local finance and political organization in urban planning
- + Explain the relationship between public facilities, growth, and local finance, and relate these issues to contemporary urban problems, such as urban sprawl.
- + Analyze a local infrastructure system.
- + Explain the local finance process, including key concepts, relationships, processes, theories, and approaches in local finance.
- + Address equity, long-range, and distributional issues in infrastructure planning and finance.
- + Analyze local budgets and fiscal issues through concepts and theories, and gain experience in capital improvement programming and budgeting.
- + Identify and apply the rules of thumb (standards and equations) employed in infrastructure planning and local finance, and analyze the assumptions and values underlying financing techniques.

Course Requirements (perfect grade = 400 points):

Quizzes based on readings	50
Participation in class discussions	50
Systems paper	100
Group project	100
Final exam (short essay answers)	100

Academic Standards

Turn assignments in printed, in person, at the beginning of class; with an additional electronic version submitted online. Grading will be based on content, organization, and measures of style appropriate to writing at the upper undergraduate or graduate level. Style refers to your method of citing sources, grammar, punctuation, and related issues. I (strongly!) urge you all to refer to the Chicago Manual of Style (16th Edition, University of Chicago Press) as you compose and edit your work. When in doubt, check it out. Papers that do not conform to Chicago Style will be marked down, lose credit for this assignment and impact your grade. See this site: <http://guides.lib.uw.edu/research/citations/citation-basics>. Please make use of the expertise and resources available to you. Odegaard Library has one of numerous writing centers on campus, available to you free of charge, as shown: <http://guides.lib.uw.edu/c.php?g=342041&p=2300216>.

Plagiarism is defined as the use of creations, ideas or words of publicly available work without formally acknowledging the author or source through appropriate use of quotation marks, references, and the like. Plagiarizing is presenting someone else's work as one's own original work or thought. This constitutes plagiarism whether it is intentional or unintentional. The University of Washington takes plagiarism very seriously. Any student who is uncertain whether his or her use of the work of others constitutes plagiarism should consult the course instructor for guidance before formally submitting the course work. At minimum, visit the following site, which articulates University policy: <http://depts.washington.edu/pswrite/plag.html>. The State regulations governing student conduct can be found here: <http://apps.leg.wa.gov/WAC/default.aspx?cite=478-120-020>. Plagiarism is not acceptable, so I advise each of you to read a style manual in order to learn how to avoid it. You, as the author of your paper, are ultimately responsible for this. Anyone found to plagiarize will be given a failing grade for this assignment and their case reported to the Associate Dean for Academics for formal review.

Course Schedule

Date	Topic	Readings
27 Sept	Introductions	Carney, M. 2015. <i>Speech: Breaking the Tragedy of the Horizon – Climate Change and Financial Stability</i> . Bank of England. To read: http://www.bankofengland.co.uk/publications/Documents/speeches/2015/speech844.pdf To watch: http://www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx
2 Oct	Infrastructure Systems, Land Use, and Growth	Kelly, E. 1993. <i>Planning, Growth, and Public Facilities</i> . Planning Advisory Service Report, number 447. Chicago, IL: American Planning Association. Whittington, J. and C. Lynch. 2015. <i>Climate-informed decisions: The capital investment plan as a mechanism for lowering carbon emissions</i> . Policy Research Working Paper Series. The World Bank. Rusk, David. 2000. Growth Management: The Core Regional Issue. In <i>Reflections on Regionalism</i> . Bruce Katz, ed.; pp. 78-106. Washington, D.C.: Brookings Institution Press. Dowall and Whittington, Chs 1 and 2
4 Oct	Demand, Supply, and Pricing: <i>Water Systems</i>	Bauman, D., J. Boland, and W. M. Hanemann. 1998. <i>Urban Water Demand Management and Planning</i> . New York: McGraw-Hill. (Chs 1 and 3) Hanak, E. 2005. <i>Water for Growth: California's New Frontier</i> . San Francisco: Public Policy Institute of California. (Chs 1, 3, and 4) http://www.ppic.org/main/publication.asp?i=429 Cropf, Robert. "Water Resources" In <i>Setting Municipal Priorities 1990</i> , edited by Charles Brecher and Raymond Horton. New York: NYU Press.
9 Oct	Planning, Modeling, and Engineering Standards: <i>Transportation</i>	New Jersey Department of Transportation. 1989. <i>Managing Transportation In Your Community. A Municipal Handbook</i> . Trenton: NJ DOT. Institute of Transportation Engineers. 2010. <i>Designing Walkable Urban Thoroughfares: A Context Sensitive Approach</i> . Washington DC: ITE. (Ch 1) http://library.ite.org/pub/e1cff43c-2354-d714-51d9-d82b39d4dbad Edward Beimborn and Rob Kennedy. 2006. <i>Inside the Black Box: Making Transportation Models Work for Livable Communities</i> . Environmental Defense Fund. (43 pages) https://www4.uwm.edu/cuts/blackbox/blackbox.pdf Transportation Research Board, Committee for Determination of the State of the Practice in Metropolitan Area Travel Forecasting. 2007. <i>Metropolitan Travel Forecasting: Current Practice and Future Direction, Special Report 288</i> . Washington, DC: TRB. (Chs 4 and 5) http://onlinepubs.trb.org/onlinepubs/sr/sr288.pdf
11 Oct	Planning, Programming, and GIS: <i>Fire and Solid Waste Services</i>	Marlowe, Ch 3 Riordian, T.H., Maria E. Oria, and J.P. Tuss. 1989. "Dayton's Capital Allocation Process." In <i>Capital Project</i> , John Matzer (ed). Washington, DC: ICMA. Montgomery County Fire and Rescue Commission. August 11, 1999. Station Location and Resource Allocation Work Group. Phase 1 Draft Report. Figuroa, Roberto and Michael Kartusch. 2000. <i>Flaming to the Scene: Routing and Locating to Get There Fast</i> . Geospatial Solutions. De Kadt, Maarten. 1990. "Solid Waste Disposal." In <i>Setting Municipal Priorities 1990</i> , Charles Brecher and Raymond Horton (eds). New York: NYU Press.

16 Oct	State v. Local Capital: <i>Transportation and the Evolution of Technology</i>	Dowall and Whittington, Chs 3, 4, and 10 Flyvbjerg, B. 2002. "Underestimating Costs in Public Works Projects: Error or Lie?" <i>Journal of the American Planning Association</i> , 68 (3) 279. Whittington, Jan. 2012. "When to Partner for Public Infrastructure?" <i>Journal of the American Planning Association</i> , 78(3) 269-285. Woo, Jesse and Whittington, Jan and Arkin, Ronald, "Urban Robotics: Achieving Autonomy in Design and Regulation of Robots and Cities" (March 21, 2018). SSRN: https://ssrn.com/abstract=3145460
18 Oct	Local Finance I: <i>Rational Planning, Public Goods Theory</i> Systems Paper Due	Bartle, Chs 1, 2 and 3 Pigou, Arthur C. <i>The Economics of Welfare</i> . 1920. Part I Chapter II, Part II Chapter II, and Part IV Chapter II. http://www.econlib.org/library/NPDBooks/Pigou/pgEW.html Hardin, Garrett. "The tragedy of the commons." <i>Science</i> 13 December 1968, 162 (3859): 1243-1248. Nash, John. "Two-person cooperative games." <i>Econometrica</i> 21 January 1953, 1: 128-140.
23 Oct	Local Finance II: <i>Neoclassical Economic Theory, Public Choice, and the Property Tax</i>	Bartle, Ch 8 Heikkila, Eric. 2000. <i>The Economics of Planning</i> . New Brunswick, NJ: CUPR, Rutgers University. (Chs 1 and 5) The Concise Encyclopedia of Economics. "Adam Smith (1723-1790)" Library of Economics and Liberty, 2008. http://www.econlib.org/library/Enc/bios/Smith.html Krugman, Paul. "Who was Milton Friedman?" The New York Review of Books. February 15, 2007. http://www.nybooks.com/articles/archives/2007/feb/15/who-was-milton-friedman/ Friedman, Milton. "Free to Choose." PBS. 1980. Volume 1: The Power of the Market. (first 28 minutes) https://www.youtube.com/watch?v=f1Fj5tzuYBE Tiebout, Charles. "A pure theory of local expenditures." <i>The Journal of Political Economy</i> , 64 (5): 416-424.
25 Oct	Local Finance III: <i>Forecasting, Club Goods, and Non-Property Taxes</i> Assign Group Project	Bartle, Chs 9 and 10 (plus excerpt from Aronson and Schwartz, Ch 5) Buchanan, James. "An economic theory of clubs." <i>Economica</i> , New Series, 32 (125): 1-14. California Constitution, Article 13A. http://law.justia.com/constitution/california/article_13A.html "California Governor Jerry Brown's Proposition 13 Address", June 8, 1978. YouTube. http://www.youtube.com/watch?v=xCueOgnluDg&feature=related On the Block, "Do you really understand Proposition 13?" SF Gate, http://blog.sfgate.com/ontheblock/2011/11/07/do-you-really-understand-prop-13/ The Merrow Report, "Learning Matters: First to Worst (2004)". PBS. YouTube. http://www.youtube.com/watch?v=oTtAdJi1AjQ&feature=related
30 Oct	Local Finance IV: <i>Strategic Planning, Budgeting, Transaction Cost Theory</i>	Bartle, Chs 4 and 6 (7 optional) Dowall and Whittington, Ch 5 Rubin, I. 1996. "Budgeting for Accountability: Municipal Budgeting for the 1990s" <i>Public Budgeting and Finance</i> . Summer 1996. Coase, R. H. "The problem of social cost" <i>Journal of Law and Economics</i> , 3 (October 1960): 1-44. Williamson, Oliver. "The theory of the firm as governance structure: from choice to contract" <i>The Journal of Economic Perspectives</i> , 16 (3) (Summer 2002): 171-195. Williamson, Oliver. "New institutional economics: taking stock, looking ahead" <i>Journal of Economic Literature</i> , 38 (3) (Sept 2000): 595-613.

1 Nov	Capital Budgeting, CIPs, and Equity Issues Group Project: First Deliverable Due	<p><i>Capital Improvements Programs: Linking Budgeting and Planning</i> by Robert A. Bowyer (1993) PAS Report 442. Chicago, IL: American Planning Association Press.</p> <p>Marlowe, Ch 1 and 2</p> <p>Beatley, Timothy. 1988. Equity and Distributional Issues in Infrastructure Planning: A Theoretical Perspective. In <i>Public Infrastructure Planning and Management</i>.</p> <p>Lucy, William. 1988. "Equity Planning for Infrastructure." In <i>Public Infrastructure Planning and Management</i>.</p>
6 Nov	Capital Financing	<p>Bartle, Chs 11 and 12</p> <p>Marlowe, Chs 5 and 6</p> <p>Matzer, John Jr. 1989. "Selecting Financing Options." In <i>Capital Projects</i>.</p> <p>Dowall and Whittington, Ch 9</p> <p>King, L. M. 1995. "Operating and Capital budget Reform in Minnesota: Managing Public Finances Like the Future Matters" <i>Government Finance Review</i>. February, 1995.</p>
8 Nov	Bond Finance Group Project: Second Deliverable Due	<p>Marlowe, Chs 7 and 8</p> <p>Dowall and Whittington, Ch 8</p>
13 Nov	User Fees and Special Districts	<p>(excerpt from Aronson and Schwartz, Ch 12)</p> <p>Dowall and Whittington, Chs 6 and 7</p> <p>Mitzany and Manatt. 2002. <i>What's So Special About Special Districts?</i> Sacramento: California Senate Local Government Committee. www.csda.net. Click on "about special districts"</p> <p>Little Hoover Commission. <i>Special Districts: Relics of the Past or Resources for the Future?</i> Sacramento, CA. 2000.</p>
15 Nov	Exactions, Tax Increment Financing, and the Cost of Sprawl	<p>Burchell, R. W., D. Listokin et al. 1994. Chapter 10. "Shared Infrastructure Costs." In <i>Development Impact Assessment Handbook</i>. Wash. D.C.: ULI</p> <p>Casella, Sam and Kim, T.J., C.W. Forrest, and K.A. Przepyszny. 1984. "Tax Increment Financing." PAS Report 389. Chicago: American Planning Association.</p> <p>Kasowski, Kevin. Feb. 1993. "The costs of sprawl, revisited." PAS Memo. APA.</p>
20 Nov	Public-Private Partnerships and Privatization	<p>Marlowe, Ch 4 and 9</p> <p>Bartle, Chs 15 and 16</p> <p>Osborne and Gaebler. 1992. <i>Reinventing Government</i>. (Ch 3)</p> <p>Sclar, Elliot. 2000. <i>You Don't Always Get What You Pay For</i>. Ithaca, NY: Cornell University Press. (Ch 5)</p> <p>Warner, Mildred and Amir Hefetz. 2008. "Managing Markets for Public Service: The Role of Mixed Public-Private Delivery of City Services" <i>Public Administration Review</i> 2008 (Jan/Feb): 155-166.</p>
27 Nov	Presentations Group Project: Third Deliverable Due	

29 Nov	Discounting and Cost-Benefit Analysis	(excerpt from Aronson and Schwartz, Ch 6) Heikkila, Eric. 2000. Understanding Cost-Benefit Analysis. In <i>The Economics of Planning</i> . Pp. 171-193. Dorfman, Robert. 1993. "An Introduction to Benefit-Cost Analysis." In <i>Economics of the Environment</i> . NY: W.W. Norton and Co. Porter, Theodore. <i>Trust in Numbers</i> . Princeton University Press. 1995. (Ch 7)
4 Dec	Public-Private Partnerships and Private Project Finance	Marlowe, Ch 4 Sagalyn, Lynne. Public/Private Development: Lessons from History, Research and Practice. <i>Journal of the American Planning Association</i> 2007, 23 (1): 7-22. FitchRatings. <i>Global Infrastructure & Project Finance Outlook: Special Report, February 2009</i> . February 18, 2009. (Section on US Toll Roads) FitchRatings. <i>US Toll Roads and the 2007-2008 Recession: A Diagnosis of Performance</i> . June 11, 2009. Guasch, Luis. 2004. <i>Granting and Renegotiating Infrastructure Concessions: Doing it Right</i> . World Bank. (Preface, and Chapters 1-3) http://regulationbodyofknowledge.org/wp-content/uploads/2013/03/Guasch_Granting_and_Renegotiating.pdf Spiller, Pablo. 2008. "An Institutional Theory of Public Contracts: Regulatory Implications." <i>Working Paper 14152</i> . National Bureau of Economic Research. http://www.nber.org/papers/w14152 Spiller, Pablo. 1996. "Institutions and Commitment." <i>Industrial and Corporate Change</i> , 5 (2) 1996: 421-452..
6 Dec	Presentations Group Project: Fourth Deliverable Due Exam Review	Dowall and Whittington, Ch 11
13 Dec	Final Exam	4:30-6:20pm, GLD 100