

ENV H 538 A Wi 20: Public Health And The Built Environment

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7 January 2020

Winter Quarter 2020

University of Washington

EnvH 538: Public Health and Built Environment

Dept. of Environmental and Occupational Health Sciences, UW School of Public Health

UrbDP 538: Public Health and Built Environment

Dept. of Urban Design and Planning, UW College of Built Environments

EnvH 538 and UrbDP 538 are taught concurrently

Instructor

Andrew L. Dannenberg, MD, MPH

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Office hours by appointment

Phone 404-272-3978 (cell)

Class sessions: Thursdays, 5:00pm – 6:50pm, January 9 to March 12, 2020

Location: UW College of Built Environments, Architecture Hall, Room 160

Course Description

This interdisciplinary course focuses on the increasing recognition that the design of communities and of buildings can impact human health, especially among vulnerable populations. Community designs that feature parks, sidewalks, trails, public transit, and connectivity among destinations can encourage physical activity,

help prevent obesity and its associated health consequences, and reduce dependence on automobiles whose use contributes to air pollution, motor vehicle crashes, and pedestrian injuries. Increased attention to the health implications of the built environment has led to various innovative solutions, such as mixed-use Smart Growth developments, investments in bicycling and pedestrian infrastructure, incentives to reduce gentrification, and the use of health impact assessments to convey health information to community decision-makers.

Course Learning Objectives

At the conclusion of the course, students should be able to:

- Explain how the design of the built environment impacts public health both positively and negatively
- Critique the literature regarding health and built environment including its strengths and weaknesses
- Describe the methods used to assess the built environment and its impact on health and equity
- Describe the options available to promote healthy community design decisions
- Summarize the benefits of and barriers to working in an interdisciplinary environment

Student Evaluation

- Class participation 15%
- Written reflections on readings 30%
- Street and park audit 20%
- 3-5 page paper on research topic 20%
- Two-minute oral testimony 15%

Access and Accommodations: Your experience in this class is important to us. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to us at your earliest convenience so we can discuss your needs in this course. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to: mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu (<mailto:uwdrs@uw.edu>) or [disability.uw.edu](http://depts.washington.edu/uwdrs/) (<http://depts.washington.edu/uwdrs/>). DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructors and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

Academic Integrity: Students at UW are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity. UW is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and

other misconduct are serious violations of the UW Student Conduct Code (WAC 478-120). We expect you to know and follow the university's policies on cheating and plagiarism, and the [SPH Academic Integrity Policy](http://sph.washington.edu/students/academicintegrity/) [\(http://sph.washington.edu/students/academicintegrity/\)](http://sph.washington.edu/students/academicintegrity/). Any suspected cases of academic misconduct will be handled according to UW regulations. For more information, see the [UW Community Standards and Student Conduct website](http://www.washington.edu/cssc/) [\(http://www.washington.edu/cssc/\)](http://www.washington.edu/cssc/).

Religious Accommodations: Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/) [\(https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/\)](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/). Accommodations must be requested within the first two weeks of this course using the form at <https://registrar.washington.edu/students/religious-accommodations-request/> [\(https://registrar.washington.edu/students/religious-accommodations-request/\)](https://registrar.washington.edu/students/religious-accommodations-request/).

Class Schedule and Required Readings

Required textbook: *Making Healthy Places: Designing and Building for Health, Well-Being, and Sustainability*. Andrew Dannenberg, Howard Frumkin, Richard Jackson. Island Press, 2011. (abbreviated as MHP). Details about the book are available at www.makinghealthyplaces.com [\(http://www.makinghealthyplaces.com\)](http://www.makinghealthyplaces.com)

Other readings are provided on **Canvas Share Space** (<https://canvas.uw.edu/>).

January 9: Introduction to course; overview of public health and the built environment; Andrew Dannenberg

- MHP Preface.
- MHP Chapter 1. Introduction to healthy places.
- Corburn J. Equitable and healthy city planning: towards healthy urban governance in the century of the city. Chapter 2 in: E. de Leeuw, J. Simos (eds), *Healthy cities: the theory, policy, and practice of value-based urban planning*. pp. 31-41. Springer, 2017.
- Malizia EE. City and regional planning: a primer for public health officials. *American Journal of Health Promotion*. 2005; 19(5S):1–13.

January 16:

1. **Physical activity; injury. Guest speaker: Steve Mooney, PhD**, Assistant Professor, UW Dept. of Epidemiology, Harborview Injury Prevention and Research Center, sjm2186@uw.edu [\(mailto:sjm2186@uw.edu\)](mailto:sjm2186@uw.edu)
2. **Nature contact**

- MHP Chapter 2. Community design for physical activity.
- MHP Chapter 5. Injuries and the built environment.
- MHP Chapter 15. Contact with nature.
- Stewart OT, Moudon AV, Saelens BE, Lee C, Kang B, Doescher MP. Comparing associations between the built environment and walking in rural small towns and a large metropolitan area. *Environment and Behavior*. 2016; 48(1): 13-36.
- Mooney SJ, DiMaggio CJ, Lovasi GS, et al. Use of Google Street View to assess environmental contributions to pedestrian injury. *American Journal of Public Health*. 2016;106(3):462-469.

January 23:

1. **Access to healthy food. Guest speaker: Jesse Jones-Smith, PhD, MPH, RD**, Associate Professor, Dept. of Health Services & Nutrition Sciences Program, UW School of Public Health, jjoness@uw.edu (<mailto:jjoness@uw.edu>).
2. **Community design for air and water quality**
3. **Jason Roberts TED talk video to be shown in class:**
[How to build a better block: Jason Roberts at TEDxOU](https://youtu.be/ntwqVDzdqAU) (<https://youtu.be/ntwqVDzdqAU>)



(<https://youtu.be/ntwqVDzdqAU>)

- MHP Chapter 3. Food environments.
- MHP Chapter 4. Community design and air quality.
- MHP Chapter 6. Community design for water quantity and quality.
- Cooksey-Stowers K, Schwartz MB, Brownell KD. Food swamps predict obesity rates better than food deserts in the United States. *International Journal of Environmental Research and Public Health*. 2017, 14, 1366. <https://www.mdpi.com/1660-4601/14/11/1366> (<https://www.mdpi.com/1660-4601/14/11/1366>).
- Sokolow S, Godwin H, Cole BL. Impacts of urban water conservation strategies on energy, greenhouse gas emissions, and health: Southern California as a case study. *American Journal of Public Health*. 2016; 106(5):941-948. <https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2016.303053> (<https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2016.303053>).
- OPTIONAL: The Built Environment Assessment Training Institute offers two free online training courses on assessing the built environment for (a) Physical Activity, and (b) Nutrition. Time: ~ 4 hours.
<http://www.med.upenn.edu/beat/online-courses.html> (<http://www.med.upenn.edu/beat/online-courses.html>)

January 30:

READING REFLECTIONS FOR WEEKS 1 TO 4 DUE by 5:00pm

NAME OF PARK AUDIT PARTNER DUE by 5:00pm

1. **Transportation and land use. Guest speaker: Mark Hallenbeck, MS**, Director, Washington State Transportation Center; [tracmark@uw.edu \(mailto:tracmark@uw.edu\)](mailto:tracmark@uw.edu)
2. **Behavioral choices**
 - MHP Chapter 10. Transportation and land use.
 - MHP Chapter 17. Behavioral choices and the built environment.
 - Anderson ML, Lu F, Yang J. Physical activity and weight following car ownership in Beijing, China: quasi-experimental cross-sectional study. *BMJ*. 2019; 367: l6491.
 - Yu W, Chen C, Jiao B, Zafari Z. The cost-effectiveness of bike share expansion to low income communities in New York City. *Journal of Urban Health*. 2018; 95:888-898.
 - Aboelata M. Evergreen Cemetery Jogging Path, Boyle Heights CA. From *Built Environment and Health: 11 Profiles of Neighborhood Transformation*. Prevention Institute, Oakland CA, 2004. [**Note**: Read 1 profile on Evergreen Cemetery Path, not all 11 profiles].
<http://www.preventioninstitute.org/component/jlibrary/article/id-114/127.html?tmpl=component&print=1> [_\(http://www.preventioninstitute.org/component/jlibrary/article/id-114/127.html?tmpl=component&print=1\)](http://www.preventioninstitute.org/component/jlibrary/article/id-114/127.html?tmpl=component&print=1)
 - **OPTIONAL**: National Academies of Sciences, Engineering, and Medicine, 2019. *A Research Roadmap for Transportation and Public Health*. Washington, DC: National Academies Press. 2019.
<https://doi.org/10.17226/25644> [_\(https://doi.org/10.17226/25644\)](https://doi.org/10.17226/25644). 60 pages.

February 6:

PARK AND STREET AUDIT DUE by 5:00pm

1. **Climate change, resiliency, disasters. Guest speaker: Jeremy Hess, MD, MPH**, Associate Professor, Dept. of Emergency Medicine, UW School of Medicine, and Dept. of Environmental and Occupational Health Sciences, UW School of Public Health, [jjhess@uw.edu \(mailto:jjhess@uw.edu\)](mailto:jjhess@uw.edu)
2. **Discussion of park and street audit**
 - MHP Chapter 16. Resiliency to disasters.
 - Younger M, Morrow-Almeida HR, Vindigni SM, Dannenberg AL. The built environment, climate change, and health: opportunities for co-benefits. *American Journal of Preventive Medicine*. 2008; 35:517–526.
 - Fanzo J, Davis C, McLaren R, Choufani J. The effect of climate change across food systems: Implications for nutrition outcomes. *Global Food Security*. 2018; 18:12-19.
 - Dannenberg AL, Frumkin H, Hess JJ, Ebi KL. Managed retreat as a strategy for climate change adaptation in small communities: public health implications. *Climatic Change*. 2019; 153(1), 1-14.
<https://doi.org/10.1007/s10584-019-02382-0> [_\(https://doi.org/10.1007/s10584-019-02382-0\)](https://doi.org/10.1007/s10584-019-02382-0)

February 13:

1. **Green architecture, healthy buildings. Guest speaker: Heather Burpee, M Arch**, Research Associate Professor, UW Department of Architecture; Integrated Design Lab; burpee@uw.edu (<mailto:burpee@uw.edu>); Observational exercise in Architecture Hall to be done in class.
2. **Healthy places research and metrics. Guest speaker: Arthur M. Wendel, MD, MPH**, Medical Officer, Agency for Toxic Substances and Disease Registry, HHS Region 10, Division of Community Health Investigations, Seattle, wendel.arthur@epa.gov (<mailto:wendel.arthur@epa.gov>)
3. **Healthy workplaces, health care settings, and schools**
 - MHP Chapter 12. Healthy workplaces.
 - MHP Chapter 13. Healthy health care settings.
 - MHP Chapter 14. Healthy schools.
 - MHP Chapter 20. Measuring, assessing, and certifying healthy places.
 - Boehmer TK, Wendel AM, Bowers F, Robb K, Christopher E, Broehm JE, Rose K, Ralph J. S. Transportation and Health Tool: data for action. *Journal of Transport and Health*. 2017; 6:530-537.

February 20:

RESEARCH PROJECT PAPERS DUE by 5:00pm

1. **Balancing health, equity, and development decisions in planning. Guest speakers: Cailin Henley, MPH**, Alta Planning and Design, cailinhenley@altaplanning.com (<mailto:cailinhenley@altaplanning.com>); **Gene Duvernoy, JD, MBA**, President and CEO Emeritus, Forterra, euge@forterra.org (<mailto:euge@forterra.org>)
2. **Community engagement**
3. **Discussion of research papers**
 - MHP Chapter 9. Vulnerable populations and the built environment.
 - MHP Chapter 19. Community engagement in design and planning.
 - Aboelata MJ, Bennett R, Yañez E, Bonilla A, Akhavan N. Healthy development without displacement: realizing the vision of healthy communities for all. Prevention Institute. 2017. 27 pages. <https://www.preventioninstitute.org/publications/healthy-development-without-displacement-realizing-vision-healthy-communities-all> (<https://www.preventioninstitute.org/publications/healthy-development-without-displacement-realizing-vision-healthy-communities-all>)
 - Corburn J, Curl S, Arredondo G, Malagon J. Making health equity planning work: a relational approach in Richmond, California. *Journal of Planning Education and Research*. 2015; 1–17.
 - International City/County Management Association (ICMA). Active living for older adults: management strategies for healthy and livable communities. http://www.ca-ilg.org/sites/main/files/file-attachments/resources_Active_Living.pdf (http://www.ca-ilg.org/sites/main/files/file-attachments/resources_Active_Living.pdf)

February 27:

1. **Community redevelopment and affordable housing. Stephanie Van Dyke**, Seattle Housing Authority, Stephanie.VanDyke@seattlehousing.org (<mailto:Stephanie.VanDyke@seattlehousing.org>).

> **FIELD VISIT** < to Yesler Terrace at 5:00pm; meeting location there to be determined

1. Mental health, social capital

- MHP Chapter 7. Mental health and the built environment.
- MHP Chapter 8. Social capital and community design.
- MHP Chapter 11. Healthy homes.
- ChangeLab Solutions. Preserving, protecting, and expanding affordable housing. Executive Summary. http://www.changelabsolutions.org/sites/default/files/Preserving_Affordable_Housing-EXECUTIVE_SUMMARY_FINAL_20150401_0.pdf
(http://www.changelabsolutions.org/sites/default/files/Preserving_Affordable_Housing-EXECUTIVE_SUMMARY_FINAL_20150401_0.pdf)
- South EC, Hohl BC, Kondo MC, MacDonald JM, Branas CC. Effect of greening vacant land on mental health of community-dwelling adults: a cluster randomized trial. *JAMA Network Open*. 2018; 1(3):e180298. <https://jamanetwork.com/journals/jamanetworkopen/issue/1/3>
(<https://jamanetwork.com/journals/jamanetworkopen/issue/1/3>)
- **OPTIONAL**: Seattle Housing Authority. Renewing Yesler's promise: the redevelopment of Yesler Terrace. 2019. https://www.seattlehousing.org/sites/default/files/Brochure_Redevelopment_of_Yesler_Terrace.pdf
(https://www.seattlehousing.org/sites/default/files/Brochure_Redevelopment_of_Yesler_Terrace.pdf)

March 5

1. **Local health department panel on healthy community design. Guest speakers: Keri Moore, MPH**, Healthy Communities Specialist, Snohomish Health District, kmoore@snohd.org (<mailto:kmoore@snohd.org>); **Richard Gelb**, Environmental Planner, Public Health - Seattle & King County, [Gelb@kingcounty.gov](mailto:Richard.Gelb@kingcounty.gov) (<mailto:Richard.Gelb@kingcounty.gov>)
2. **Policy and legislation**
 - MHP Chapter 18. Policy and legislation for healthy places.
 - Jernigan DH, Sparks M, Schwartz R. Using public health and community partnerships to reduce density of alcohol outlets. *Preventing Chronic Disease*. 2013; 11(10):E53.
 - Chauvin J, Pauls J, Strobl L. Building codes: an often overlooked determinant of health. *Journal of Public Health Policy*. 2016; 37(2):136-148.
 - Salvesen D, Evenson KR, Rodriguez DA, Brown A. Factors influencing implementation of local policies to promote physical activity: a case study of Montgomery County, Maryland. *Journal of Public Health Management and Practice*. 2008; 14(3):280-288.

March 12:

Student presentations in class: Two-minute testimony

READING REFLECTIONS FOR WEEKS 5 TO 10 DUE by 5:00pm

1. Student testimony

2. Built environment in the developing world; future built environments

- MHP Chapter 23. Urban health in low- and middle- income countries.
- MHP Chapter 24. Built environments of the future.
- Jackson RJ, Dannenberg AL, Frumkin H. Health and the built environment: 10 years after. (Commentary). *American Journal of Public Health*. 2013; 103:1542-1544.
- Giles-Corti B, Moudon AV, Reis R, Turrell G, Dannenberg AL, Badland H, Foster S, Lowe M, Sallis JF, Stevenson M, Owen N. City planning and population health: a global challenge. *Lancet*.
[http://dx.doi.org/10.1016/S0140-6736\(16\)30066-6](http://dx.doi.org/10.1016/S0140-6736(16)30066-6) [_ \(http://dx.doi.org/10.1016/S0140-6736\(16\)30066-6\)](http://dx.doi.org/10.1016/S0140-6736(16)30066-6)

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Optional course readings

- MHP Chapter 21. Training the next generation to promote healthy places. (includes discussion of job opportunities in field)
- MHP Chapter 22. Healthy places research: emerging opportunities.
- MHP Glossary
- Urban Land Institute. *Building Healthy Places Toolkit: Strategies for Enhancing Health in the Built Environment*. Washington, DC: Urban Land Institute, 2015. 95 pages. <http://uli.org/wp-content/uploads/ULI-Documents/Building-Healthy-Places-Toolkit.pdf> [_ \(http://uli.org/wp-content/uploads/ULI-Documents/Building-Healthy-Places-Toolkit.pdf\)](http://uli.org/wp-content/uploads/ULI-Documents/Building-Healthy-Places-Toolkit.pdf)
- American Planning Association. *Planning for Equity Policy Guide*. 2019. 29 pages.
<https://planning.org/publications/document/9178541/>
[\(https://planning.org/publications/document/9178541/\)](https://planning.org/publications/document/9178541/)

Class discussions of readings

All assigned readings should be completed prior to class. We plan to allow time for discussion of the readings in the second hour of our class sessions. For the *Making Healthy Places* book chapters, there are Discussion Questions available online at <http://makinghealthyplaces.com/wp-content/uploads/2011/08/Discussion-Questions.pdf> [_ \(http://makinghealthyplaces.com/wp-content/uploads/2011/08/Discussion-Questions.pdf\)](http://makinghealthyplaces.com/wp-content/uploads/2011/08/Discussion-Questions.pdf). We may discuss these questions in class as time permits.

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Class activities/requirements

Reading Reflections: DUE DATES: January 30 and March 12

For **each** of the assigned readings each week (chapters and articles), write one paragraph (typically ¼ to ½ page long, single spaced) responding to the following questions: “Considering the focus of the class on health and built environment issues,

- Should the reading be used in this course next year, using scale of 1 (definitely delete) to 5 (definitely keep)?
- What information in the reading was new to you?
- How does the information in the reading relate to your background and interests?
- How might the information in the reading be useful to you in your future work?”

Deliverables: Set of reading reflections accumulated into a file (Part 1 and Part 2) uploaded to Canvas. Within each set of readings, use MHP chapter number/title or article author’s name as subheadings to clearly identify the reading to which the reflection belongs.

DUE January 30: Reflections Part 1 covering weeks 1 to 4 of readings

DUE March 12: Reflections Part 2 covering weeks 5 to 10 of readings

Field exercise: Park and Street Audit DUE DATE: February 6

1. Review combined park and street audit tool posted on Canvas.
2. Provide instructor with student names in working pairs no later than **January 30**.
3. Work in pairs with a classmate from another college or school (such as CBE and SPH) to conduct an audit of one local park and an adjacent street that leads to the park.
4. Deliverables to be uploaded in a single file to Canvas, clearly labeled to indicate who worked in your group:
 1. Map of park and adjacent street with key features noted.
 2. Completed audit tool for that park and street, including recommendations for how that park and street could be improved.
 3. Up to 10 digital photographs highlighting important features – please use low resolution photos. Include brief captions with each photograph.

Research project paper: DUE DATE: February 20

1. Review research methods and topics listed in *Making Healthy Places* Chapter 22. *Healthy places research: emerging opportunities*.
2. Select a topic of interest from this chapter and write a 3-5 page single-spaced paper first describing briefly why the topic is important, and then describing in more detail how you would design a research project to add to our knowledge about this topic. Paper should include:
 - Proposed study design
 - Types of skills research team would need
 - Characteristics of a study population (and of comparison group if needed)
 - Data sources

- Methods such as surveys, informant interviews, use of existing datasets
- Types of analyses
- Ethics concerns (if any)
- Types of results that might be found in such a study
- Possible implications of such results.

Deliverable: 3-5 page single spaced paper uploaded to Canvas.

Two-minute testimony: DUE DATE: March 12

1. Pick a current topic related to a proposed change in the built environment (locally or elsewhere) that has health implications.
2. Prepare a two-minute oral testimony that might be delivered to a city council, legislature, zoning board, or other decision-making group conveying the health concerns about the project and how it might be improved to promote health or mitigate adverse health impacts.

Deliverable: Upload topic of testimony to Canvas (one sentence or less), and give a 2 minute (timed) oral presentation **during March 12 class**. You do not need to submit a written version of what you present to the class.

The topic you pick may be a real or fictional, and may be Seattle-based or from your hometown or elsewhere. You may find a topic in the local newspaper. The proposed project may be favorable to health that you want to support, or could be bad for health that you want to discourage. Your task is to convey to the decision-makers in 2 minutes the impact of the proposal on health and urge them to consider health as part of their decision. Feel free to be creative on your topic. Some examples of possible topics –

- A bill to close three nearby community schools and build one large new school on cheap land farther from the students it serves
- A bond issue to provide more funding for new parks and for maintaining existing parks
- A bill to build a new sports stadium and demolish homes of 1000 low income persons
- A bill requiring 10% of city transportation funds be used to improve bike and pedestrian infrastructure in the city
- A proposal to allow e-scooters on all roads, trails, and sidewalks in the city
- A zoning proposal to require that houses be built on large lots and to forbid mixed use developments
- A bill to set aside land for more community gardens (P patches) in the city
- A proposal to allow apodments (tiny apartments) to be built in Capitol Hill

The format of your 2 minute testimony should be as follows:

- First introduce yourself: “I am [your real name] representing XYZ organization (real or fictional) or speaking as a public health professional or as a concerned citizen”
- The location today is Seattle City Council or wherever.
- The topic today is the proposed bill to do (one sentence maximum)

- Then provide succinctly how the proposed bill affects health and the built environment and how you are urging the decision-maker to vote or to improve the proposal.

Optional opportunity: Writing and editing book chapters

Dr. Dannenberg and co-editors recently began work on writing a second edition of the textbook *Making Healthy Places* (www.makinghealthyplaces.com [_.\(http://www.makinghealthyplaces.com\)_](http://www.makinghealthyplaces.com)) to be published in 2021. There will be unfunded opportunities for students to become involved in writing and editing specific chapters from January to September 2020. Please let Dr. Dannenberg know if you are interested in becoming involved in this work.

Course Summary:

Date	Details	
Thu Jan 30, 2020	 Reading reflections, Part 1, Weeks 1 to 4 _.(https://canvas.uw.edu/courses/1354879/assignments/5212727)_	due by 5pm
Thu Feb 6, 2020	 Park and street audit _.(https://canvas.uw.edu/courses/1354879/assignments/5239364)_	due by 5pm
Thu Feb 20, 2020	 Research project paper _.(https://canvas.uw.edu/courses/1354879/assignments/5212748)_	due by 5pm
Thu Mar 12, 2020	 Reading reflections, Part 2, Weeks 5 to 10 _.(https://canvas.uw.edu/courses/1354879/assignments/5212740)_	due by 5pm
	 Two minute testimony _.(https://canvas.uw.edu/courses/1354879/assignments/5212765)_	due by 5pm