WashU
Public Health

Fall 2025
School of Public Health

I. Course Title and Credit Requirements

People, Health & Place: International Perspectives on Urban Health, Physical Activity, and Design in Brazil and the United States					
Workday Department	PHCC	**Workday Course Number**	6013	**Section**	01

Credit Hours/Units	3	**Grade Option**	For credit
Instructor Name	Rodrigo Siqueira Reis	**TA Name**	Milena Franco Silva
Instructor Email	reis.rodrigo@wustl.edu	**TA Email**	f.milena@wustl.edu
Instructor Office Hours	By appointment	**TA Office Hours**	By appointment
Room Location*	For online classes: Zoom For in person classes: TBD	**Mode[1]**	Hybrid
Class Meeting Time(s)	Mondays from 11 AM to 2 PM	**Instruction Type[1]**	Lecture

Syllabus Table of Contents

II. Course Description

This course explores the intricate relationships between public health, urban design, and physical activity, emphasizing the comparative analysis of cities in Brazil and the United States. By applying the "necessity versus choice" model, students will critically assess how the built environment influences opportunities for active living—whether driven by necessity (e.g., transportation to work, labor demands) or by choice (e.g., leisure-time activities, recreation). The course will uncover how structural bias, social inequities, and urban policies contribute to disparities in access to physical activity and health outcomes in diverse cultural contexts.

Through practical activities such as Geographic Information Systems (GIS), Health Impact Assessments (HIA), Group Model Building (GMB), and policy evaluations, students will analyze how urban design, transportation systems, and access to physical activity resources differ between Brazilian and U.S. cities. The course emphasizes transdisciplinary collaboration and comparative learning, aiming to develop strategies to promote equitable access to both necessity- and choice-driven physical activity, advancing health equity across varied urban landscapes. By the end of the course, students will be equipped to:

- Understand the impact of urban design on health and physical activity patterns.
- Apply the "necessity versus choice" framework to assess urban health disparities.
- Propose contextually relevant and evidence-based interventions to improve opportunities for active living in Brazilian and U.S. cities.

Learning Outcomes:

- Develop a comprehensive understanding of how the built environment in Brazil and the United States shapes physical activity driven by both necessity and choice.
- Analyze the role of social determinants, urban policies, and spatial factors in promoting or hindering physical activity and health equity.
- Use different methodologies and tools to assess the impact of urban design features on active living.
- Integrate interdisciplinary perspectives to design innovative strategies that enhance physical activity and health outcomes within diverse urban settings.

III. Foundational Knowledge and Competencies Addressed in this Course:

1. Integrate perspectives from diverse sectors and professions in Brazil and the United States to develop strategies that promote population health through physical activity, using a transdisciplinary and cross-country approach.

Synthesize knowledge from public health, urban planning, transportation, and other sectors to address health needs influenced by necessity- and choice-driven physical activity. Use case studies and real-world problem-solving to foster collaboration across disciplines in promoting active and healthy urban environments.

2. Critically evaluate how structural bias, social inequities, and racism intersect with environmental and spatial factors to influence health outcomes and opportunities for physical activity in Brazil and U.S. cities.

Analyze how systemic biases and social determinants affect the distribution and access to physical activity opportunities, distinguishing between necessity and choice. Explore comparative frameworks to develop culturally relevant and equitable interventions in diverse urban environments.

3. Conduct comprehensive assessments of urban population needs, assets, and capacities affecting physical activity and health opportunities in diverse Brazil and the United States.
Apply qualitative and quantitative methods, including participatory research, GIS mapping, and environmental audits, to assess how built environment factors influence physical activity patterns by necessity and choice. Identify the unique strengths and challenges of urban populations in both countries.

4. Analyze and evaluate how space- and place-related policies affect physical activity patterns driven by necessity and choice and their impact on health and equity in Brazilian and U.S. urban contexts.
Critically analyze urban policies on transportation, housing, and recreational spaces for their influence on physical activity levels and health equity. Compare policy approaches and outcomes between both countries and propose modifications to enhance active living.

5. Design and implement strategies to identify stakeholders and build coalitions that support policies and programs promoting physical activity through the lens of necessity versus choice in different urban environments.
Create plans for stakeholder engagement, including community members, policymakers, and urban planners, to foster environments that support necessity- and choice-driven physical activity. Use culturally tailored approaches to partnership-building in both Brazilian and U.S. contexts.

IV. Texts, Materials, and Supplies

Readings and course materials will be drawn from a variety of disciplines, and PDF copies of the required readings will be available to students on the course Canvas site. **All the required and supplemental readings are outlined in the Course Outline section.**

V. Course Requirements & Grading

Grading Criteria and Scale

A	**93-100**
A-	**90-92**
B+	**87-89**
B	**83-86**
B-	**80-82**
C+	**77-79**
C	**73-76**
C-	**70-72**
F	**Below 70**

Note: The school does **not** award A+ or D grades.

Grades for this course will be determined through several assignments. We recognize that different kinds of assignments feed into the strengths of different students, and we work to provide a range of opportunities for you to show what you've learned.

Final Grade Breakdown:

Assignment 1: 30% of final grade

Assignment 2: 30% of final grade

Assignment 3: 30% of final grade

Engagement and Participation 10% of final grade

Role of Faculty and Student

Faculty Role: Instructors and Teaching Assistant will prepare and deliver course material; be available to students during office hours, after class, online, and by appointment for consultation; and provide timely and clearly explained feedback on student performance.

E-mail is the best way to contact us:
reis.rodrigo@wustl.edu and f.milena@wustl.edu for WashU students;
akira.hino@pucpr.br for PUCPR students;
crrech77@gmail.com for UFSC students;
inacioufpel@gmail.com for UFPEL students;
ricardobrandaorj@gmail.com for UERJ students.

Expectations for Students: The course employs varied mediums for learning, both in-person and online, and follows a hybrid format with 20% of classes held in person. **Students are expected to participate fully in all activities, classes, and assignments—whether in person or online**. During class, students will be expected to actively listen to lectures from instructors and guest speakers, participate in group activities, contribute to class discussions, and be present and ask questions during class excursions that explore the built environment. Students will work in groups to integrate transdisciplinary and transcultural perspectives into a richer understanding of *People, Health, & Place* and propose new solutions that draw upon the contributions of various appropriate disciplines necessary for assessing the topic. The teams will be responsible for identifying and recommending positions for "real world" issues, documenting their work, and presenting at the end of the course. Students are expected to meet and collaborate with assigned group members outside of class.

Faculty Academic Integrity and Use of AI Policy
Students are expected to develop their own work in this class. Submitting content that has been generated by someone other than the student or was created by a computer application or tool, including artificial intelligence (AI) tools such as Chat GPT, is cheating and constitutes a violation of academic integrity. Students may use AI tools to help generate ideas or update spelling and grammar in their assignments. Students may use AI tools for literature searching, but using the generated summaries from these tools is not allowed.

The instructors will use detection tools created to help identify student work suspected to be in violation of the course AI use policy. Additionally, the instructors will critically assess the suspected work for common

characteristics of AI-generated work. Students whose work may be in violation of AI course policy will be expected to meet with the instructors to talk through the development of their assignment and indicate a full understanding of the topic of their work. If the student work is deemed to be created by a computer application or tool, they will be in violation of the academic integrity policy and be investigated by school or university conduct procedures.

For more information on the SPH Academic Integrity policy, please review the program specific student handbook: https://schoolofpublichealth.washu.edu/policies/student-handbooks/

Assignments and Homework

All required homework, as well as synchronous and asynchronous activities, are outlined in the Course Outline section. **Students are expected to review the Course Outline regularly to stay prepared for class**.

The following assignments are mandatory and must be completed as specified. Late submissions will incur a 10% deduction per day. **All work must adhere to AMA 11th edition style guidelines.**

Assignment 1 (30%)

People, Health & Place - Comparative Analysis of Urban Health and Design
Due Date: Week 9 (Oct 20th, 2025)

Assignment Overview:
This assignment invites students to explore the connections between urban health, physical activity, and the built environment by comparing two cities, one in Brazil and one in the United States. Students, **in pairs**, will use the "necessity vs. choice" framework to assess how urban design and social determinants of health influence active living opportunities and health equity. The assignment emphasizes interdisciplinary analysis and actionable recommendations for improving urban health, aligning directly with course competencies.

Aligned Competencies:
- Public Health Knowledge Integration: Synthesize perspectives from public health, urban planning, and transportation to address necessity- and choice-driven physical activity.
- Social Determinants and Policy Analysis: Critically evaluate the intersection of structural bias, social inequities, and urban design factors affecting health and physical activity.
- Comparative Urban Health Assessment: Conduct qualitative and quantitative data assessments to identify urban design influences on active living in diverse settings.
- Evidence-Based Interventions: Propose culturally relevant strategies to enhance physical activity and health equity through urban planning and policy.

Assignment Objectives:
- Apply the "necessity vs. choice" framework to analyze physical activity patterns in two cities.
- Evaluate social determinants and urban policies shaping active living opportunities.
- Develop evidence-based recommendations to address health disparities in urban environments.

Assignment Instructions:
City Pair Selection and Context (20%)
- Choose one city from Brazil (e.g., Curitiba, Rio de Janeiro) and one from the United States (e.g., St. Louis, New York City).
- Introduce the cities, covering demographics, health disparities, and urban design highlights, a; The selection of cities should align with the course themes and competencies.

Built Environment and Physical Activity Analysis (30%)
- Describe how the built environment influences necessity-driven (e.g., commuting) and choice-driven (e.g., leisure) physical activity.
- Highlight urban design features like walkability, public spaces, and transportation systems.

Social Determinants of Health and Policy Contexts (30%)
- Critically reflect how social determinants of health (e.g., safety, income, accessibility) and urban policies impact active living in each city.
- Compare and contrast how these factors vary between Brazilian and U.S. contexts.

Recommendations for Equitable Urban Health (20%)
- Propose 2 evidence-based interventions to promote active living tailored to each city's context.

- Ensure recommendations address both necessity-driven and choice-driven activity while advancing health equity.

Deliverables:

- Prepare a 3-minute presentation (3MT style of presentation) summarizing your findings, analysis, and recommendations.
- Submit an essay (2 pages, not including the references list, which should have 10-15 references) with an introduction, analysis, recommendations, and a conclusion.

Format:
Times New Roman, font size 11, simple space, align left. Margins Narrow .5"x .5" x .5". **See the template on Canvas.**

Grading Rubric:
City Overview and Context (10%): Clear, relevant introduction to selected cities with a strong connection to course themes and competencies.
Built Environment and Physical Activity Analysis (30%): Comprehensive assessment of urban design influences on physical activity.
Social Determinants of Health and Policy Contexts (30%): Insightful evaluation of social determinants and urban policies with a thoughtful comparative approach.
Recommendations (20%): Practical, culturally sensitive, and evidence-based proposals to improve active living through a health equity lens.
Presentation and Report (10%): Clear and well-structured essay and presentation.

Resources:
Course readings and lecture slides.
Urban planning and public health databases (e.g., World Health Organization Urban Health Initiative).

Assignment 2 (30%)

Built Environment & Physical Activity Assessment Report Using MAPS Global
Due Date: Week 12 (Nov 10th, 2025)

Assignment Overview: Students, **within the same Assignment 1 groups**, will work to assess a local neighborhood's built environment and its potential influence on physical activity using the **MAPS Global (Abbreviated Tool)**, an evidence-based audit for evaluating microscale features of pedestrian streetscapes. The goal is to assess how specific elements of the built environment, such as sidewalks, crossings, land use, aesthetics, and safety, contribute to necessity and choice-driven physical activity opportunities. The assessment will include comparisons with a similar neighborhood in Brazil and the United States, providing an international perspective on urban design and health.

Assignment Objectives:
Apply the **MAPS Global Abbreviated** tool to assess key features of the built environment that influence physical activity in local neighborhoods.
Analyze how these features support or hinder necessity-driven (e.g., commuting) and choice-driven (e.g., leisure activities) physical activity.
Compare the findings from the neighborhood assessments, highlighting cultural and socioeconomic similarities and differences between Brazil and the United States.
Propose policy or environmental interventions based on the assessment to enhance opportunities for physical activity.

Assignment Instructions:
Neighborhood Selection & Context (10%)

- Choose one city in Brazil and one city in the United States with comparable population size. Within each city, select a low SES and a high SES neighborhood (using national census data from both countries), and within each neighborhood, select 2 street segments (8 street segments total, four segments in each city).

Application of MAPS Global Audit (40%)

- Conduct an online assessment using the **MAPS Global Abbreviated Tool** to systematically evaluate pedestrian environments, including sidewalk quality, crossings, destinations, aesthetics, and safety features.
- Provide a comprehensive analysis, capturing data on walkability and features that influence physical activity.
- Document findings using a combination of qualitative observations, photographs, and ratings as prescribed by **MAPS Global Abbreviated tool**.

Data Analysis and International Comparison (30%)

- Analyze the collected data to assess how the built environment supports or hinders physical activity, distinguishing between necessity-driven and choice-driven activity.
- Compare findings between the selected street segments and neighborhoods in Brazil and the United States.
- Discuss how cultural, socioeconomic, and policy factors shape each context's built environment, spatial inequalities, and physical activity opportunities.

Recommendations for Policy & Environmental Interventions (20%)

- Based on your analysis, propose recommendations for policy changes or environmental modifications (or both) to improve opportunities for necessity- and choice-driven physical activity in the assessed neighborhoods.
- Ensure that recommendations are evidence-based, feasible, and aligned with promoting health equity in urban design.

Deliverables:

- A **written report** of 4-5 pages, not including the references list, providing a brief introduction with an overview of the neighborhoods' demographics, land use patterns, and relevant health statistics (e.g., physical activity rates, health disparities). Describe the assessment approach and the analysis, comparative results, and policy recommendations.
- A **10min presentation** (no specific format or template).
- **Appendices** with MAPS Global audit sheets, photos, and supplementary data collected during the neighborhood assessment.

Format:
Times New Roman, font size 11, simple space, align left. Margins Narrow .5"x .5" x .5". **See the template on Canvas.**

Grading Rubric:
Neighborhoods Context & Overview (10%): Clarity in neighborhood selection, background information, and relevance to physical activity.
MAPS Global Abbreviated Audit Application (40%): Thorough and accurate use of the MAPS Global Abbreviated tool; detailed data collection and observations.
Data Analysis & International Comparison (30%): Comprehensive analysis of findings; thoughtful international comparison; understanding of context-specific factors influencing physical activity.
Recommendations for Policy & Environmental Changes (20%): Practical and evidence-based recommendations focus on enhancing equity and promoting active living.

Resources:
MAPS Global Abbreviated Tool (adapted to this assignment): Uploaded on Canvas
Article about MAPS Global validation in 5 countries:
https://ijbnpa.biomedcentral.com/articles/10.1186/s12966-018-0650-z
MAPS Global Abbreviated Protocol:
https://www.drjimsallis.com/_files/ugd/a56315_c04d7649c1aa4f95994e3ec57dbde8f9.pdf
Neighborhood Data Sources:

- Google Maps,
- Google Street View,
- Brazil Census Data: IBGE,
- United States Census Data: US Census and 500 cities CDC data,
- Local government urban planning resources,
- Academic articles focusing on Brazilian or U.S. neighborhoods.

Assignment 3 (30%)

Desktop Health Impact Assessment of Urban Policies

Due Date: Week 17 (Dec 15th, 2025)

Assignment Overview:

For this culminating assignment, students will apply the concepts of *People, Health, & Place* by conducting, **in a group of 4 people,** a **Desktop Health Impact Assessment (HIA)** of a proposed or under implementation environmental or policy intervention in Brazil or in the United States. A fully implemented intervention is not eligible for this assignment. The assignment analyzes how policy and environmental changes influence active living through the "necessity vs. choice" framework. Students will assess the built environment, social determinants of health, and potential key actors influencing power dynamics, while proposing culturally and evidence-based recommendations to promote equitable active living.

Aligned Competencies:

- **Health Impact Assessment Application**: Conduct a Desktop HIA to evaluate policy and/or environmental changes and their impacts on equitable active living in diverse urban contexts.
- **Policy and Social Determinants of Health Analysis**: Critically evaluate how structural bias, social inequities, and urban design factors shape health outcomes.
- **Evidence-Based Interventions**: Propose actionable and context-sensitive strategies to improve equitable active living through policy and/or environmental modification.

Assignment Objectives:

- Apply the Desktop HIA methodology to assess the health impacts of a policy and/or environmental change in an urban context.
- Evaluate how the changes affect physical activity, focusing on necessity- and choice-driven opportunities.
- Identify potential stakeholders to be engaged when proposing actionable recommendations to improve equitable active living

Assignment Instructions:

Intervention Selection and Context (10%)

- Select an intervention that is still in the planning or implementation phase (urban policy, program or project) - e.g., Curitiba's BRT system expansion, São Paulo's traffic safety measures, St. Louis' active transportation initiatives, New York's highline project expansion, implementation of Complete Streets in some city, or new developments like parks, public spaces, public transportation system, etc.
- Provide an overview of the intervention's goals, target population, and health and physical activity relevance.
- Explain why the intervention suits a Desktop HIA within the course's themes.

Desktop Health Impact Assessment (40%)

- Use a Desktop HIA framework to systematically evaluate the intervention's impacts on physical activity and health equity.
- Identify affected populations and assess accessibility, safety, infrastructure, and other social determinants of health.

- Include qualitative observations, GIS data, and evidence from course materials to support your analysis.

Stakeholder Identification and Policy Analysis (20%)

- Identify key stakeholders (e.g., community groups, policymakers, urban planners) and their roles in implementing or improving the intervention.
- Propose strategies to engage these stakeholders in addressing gaps and promoting active living.
- Critically analyze the intervention design and implementation, focusing on its inclusivity and impact on marginalized communities.

Recommendations for Policy Enhancement (30%)

- Propose 3 evidence-based recommendations to enhance the intervention impact on necessity- and choice-driven physical activity.
- Ensure recommendations are actionable, culturally relevant, and promote equitable active living.
- Highlight opportunities for cross-sector collaboration to implement these recommendations.

Deliverables:

- A **written report** (4-6 pages, excluding the references list) detailing the Desktop HIA process, findings, and recommendations.
- A recorded **ignite presentation** (20 slides, 5 minutes) presented by **one member of the team** summarizing the analysis and proposed interventions. The recorded presentations will discussed during a **Q&A session** in the final class**.**

Format for the written report:
Times New Roman, font size 11, simple space, align left. Margins Narrow .5"x .5" x .5". **See the template on Canvas.**

Grading Rubric:
Intervention Selection and Context (10%): Intervention relevance to course themes and clear articulation of its scope and impact.
Desktop HIA Application (30%): Comprehensive and systematic use of the Desktop HIA framework to assess health equity and physical activity impacts.
Stakeholder Identification and Intervention Analysis (20%): Insightful analysis of stakeholder roles and intervention inclusivity with innovative engagement strategies.
Recommendations for Intervention Enhancement (30%): Practical, culturally tailored, and evidence-based solutions that promote equitable active living.
Presentation and Q&A (10%): A clear and well-organized presentation, and full engagement of students in the Q&A session.

Resources:

Training:

1. https://ccnpps-ncchpp.ca/online-course-health-impact-assessment-step-by-step/

Readings on Desktop HIA tools:

1. https://hia.communitycommons.org/learn/how-to-conduct-an-hia/

2. https://ccnpps-ncchpp.ca/health-impact-assessment-hia-toolbox-cost-calculator-screening-grid-and-scoping-tool/

Examples of HIAs:

1. https://hia.communitycommons.org/explore/browse-all/
2. https://www.pew.org/en/research-and-analysis/data-visualizations/2015/hia-map

Extra materials:

1. https://www.epa.gov/sites/default/files/2017-07/documents/hia_resource_and_tool_compilation.pdf
2. https://iris.who.int/bitstream/handle/10665/367046/WHO-EURO-2005-7397-47163-69065-eng.pdf
3. https://iris.who.int/bitstream/handle/10665/373930/WHO-EURO-2023-8254-48026-71136-eng.pdf?sequence=1&isAllowed=y
4. https://ccnpps-ncchpp.ca/docs/HIAGuidesTools2008en.pdf
5. https://www.who.int/tools/health-impact-assessments

Policy and Data Sources: Urban planning reports, public health statistics, and international case studies.

Attendance, Participation, and Classroom Climate

Attendance Policy
This is a hybrid course, with 20% of classes held in person and the remainder conducted online.
Students will be prepared to engage in substantive discussions during class and with guest speakers. Attendance will be taken at each class session. Students are expected to be on time for class and come prepared, having read all required readings and assignments, and ready to participate in discussions. Participation is required for both in-person and online sessions. Students are expected to attend all class sessions unless prior arrangements are made with the instructor. Missing classes will result in the loss of in-class activity points.

Illness and Quarantine Policy
If you are ill, quarantined, or caring for someone who is sick, your health and well-being come first. Please notify the instructors as soon as possible if you will miss class due to illness or a personal emergency. Absences due to illness, quarantine, or caregiving responsibilities will be considered excused with communication and, when possible, documentation. In such cases, you will not lose participation points and alternative arrangements (such as asynchronous participation options or makeup assignments) will be provided to ensure you stay on track with the course content. We encourage open communication so that we can work together to find a solution that supports your academic success while accommodating life circumstances.

Participation Expectations
Discussion and participation are a major emphasis in this course and are tied directly to the course learning goals of collaborative engagement, critical thinking, and clear communication. This means that it is your responsibility to come to class ready and willing to take part in group knowledge-building. Your in-class participation grade will be primarily based on small group work, class discussions, and collaborative activities. This grade will also reflect your level of investment in our shared learning environment, including how often you contribute thoughtfully to discussions and how reliably you bring required materials to class. If you have concerns about your ability to participate (due to illness, internet access, or other barriers), please reach out to the instructors early so we can identify appropriate accommodations.

Technology Use & Netiquette (In Person and Online)
Technology in class should enhance—not detract from—learning. You may use laptops or tablets for note-taking and accessing class materials. Please refrain from using devices for unrelated tasks during class.

Zoom and Online Discussion Ground Rules
For live Zoom sessions or online discussions, please follow these expectations:

- Join Zoom sessions on time, with your real name visible and your camera on.
- Mute your microphone unless you are speaking.
- Use the "Raise Hand" feature or chat function to participate respectfully.
- Be respectful of differing viewpoints and contribute constructively.
- Avoid multitasking; your attention and presence matter, even in virtual space.

Technical Requirements and Support
To participate successfully in this course, you will need:

- A reliable internet connection.

- Access to a computer, laptop, or tablet.
- A webcam and microphone for Zoom sessions.
- Access to the Canvas course site and any additional EdTech tools specified.

Canvas
Canvas will be your central hub for this course. Students will use Canvas to:

- Access all required readings and course materials
- Submit assignments
- Participate in discussion threads
- View the course calendar and schedule (Syllabus)
- Check grades and instructor feedback
- Receive course announcements
- Please check Canvas regularly to stay current with course updates and deadlines. Notifications will often be posted there before being sent via email.

Successful Online Learners
Remote and hybrid learning requires proactive engagement. Successful online learners typically:

- Manage their time well and create a consistent study schedule
- Log in to Canvas and check email regularly
- Communicate early when problems arise (technical, personal, or otherwise)
- Participate actively in online discussions and activities
- Set up a dedicated, distraction-free workspace
- Stay organized and meet deadlines

To make the most of your remote learning experience, we encourage you to set personal goals for engagement and use all available support resources—including office hours, campus services, and peer support.

Creating an Inclusive and Respectful Learning Environment
This course aims to create an inclusive, respectful, and intellectually stimulating environment for all students. Everyone is expected to:

- Treat classmates, instructors, and guests with civility and respect
- Listen actively and consider alternative perspectives
- Avoid interrupting or dominating conversations
- Critique ideas—not individuals—and foster a collaborative spirit

If you ever feel excluded, uncomfortable, or concerned about classroom dynamics, please don't hesitate to speak with the instructors or the TA. We are here to support your learning and well-being, and we welcome feedback about the class climate

VI. Competency Alignment to Assignments and Course Activities

Module 1: Foundations of Urban Health, Physical Activity, and Built Environment (Weeks 1-7)
Goals: Introduce foundational concepts related to urban health, social determinants, the built environment, and the "necessity vs. choice" model of physical activity.
Activities: Discussions, readings on health equity, group mapping exercises, and debates on social determinants and access to physical activity.
Competencies: Focus on understanding how urban design influences health and physical activity (#1, #2).

Module 2: Methods and Tools for Urban Health and Physical Activity Assessment (Weeks 8-12)
Goals: Equip students with practical GIS, HIA, BEAT, and GMB skills to assess the built environment and its impact on physical activity.
Activities: GIS, GMB, HIA and BEAT training, hands-on assessments of neighborhoods in Brazil and the U.S.
Competencies: Build on practical skills in assessing urban health and developing actionable insights for promoting active living (#3, #4, #5).

Module 3: Case Studies & Application in Brazil and the United States (Weeks 13-17)
Goals: Apply concepts and tools in real-world case studies focused on Curitiba, St. Louis, and Rio de Janeiro to understand how different urban settings impact physical activity and health.
Activities: Analysis of Curitiba's planning and green spaces, St. Louis' spatial segregation, and Rio's informal settlements.
Competencies: Application and synthesis of all competencies, strongly focusing on developing interventions that address necessity and choice-driven activity through case study analysis.

VII. Course Outline
(This outline is subject to change)

Module 1: Foundations of Urban Health, Physical Activity, and Built Environment (Weeks 1-7)
Goal: Establish foundational knowledge on how urban design and social determinants shape physical activity patterns in Brazil and the United States, focusing on the "necessity vs. choice" model and its implications for health equity.

Week 1: Aug 25, 2025	Topic: **Introduction to Urban Health and Built Environment** Overview of course structure; history of public health in urban settings; introduction to the "necessity vs. choice" framework of physical activity. Lecturer: Rodrigo Siqueira Reis Required readings*:* Kimberly A. Rollings, Andrew L. Dannenberg, Howard Frumkin, and Richard J. Jackson:

	Built Environment and Public Health: More Than 20 Years of Progress American Journal of Public Health **114**, 27_33, **https://doi.org/10.2105/AJPH.2023.307451** Supplemental material: *Chapter 1 of the book Making Healthy Places: Designing and Building for Health, Well-being, Equity, and Sustainability. Second Edition. Editors: Nisha Botchwey, Andrew L. Dannenberg, Howard Frumkin. Island Press 2022.* In-class exercise: Course overview, discussion of foundational readings, initial exploration of necessity vs. choice in active living. Assignment due: *None*
Week 2: Sep 1, 2025	***NO CLASS – LABOR DAY***
Week 3: Sep 8, 2025	Topic: **Social Determinants of Health, Structural Bias, and Health Equity in Urban Design** Influence of social determinants, structural bias, and health disparities on physical activity patterns. Lecturer: Rodrigo Siqueira Reis Required readings: *Chapters 1 to 5 of the WHO Social Determinants of Health Report* Supplemental material: Kim J, de Leeuw E, Harris-Roxas B, Sainsbury P. Four urban health paradigms: The search for coherence. *Cities*. 2022;128:103806. doi:10.1016/j.cities.2022.103806 *Chapter 6 of the WHO Social Determinants of Health Report* In-class exercise: Analysis of readings; guest lecture on health equity in urban settings (focus on Brazilian and U.S. contexts); class debate on how social determinants influence necessity and choice in physical activity. Assignment due: *None* Asynchronous activity: Research Health Impact Assessments (HIA), including the different types that exist, and identify

	examples relevant to your areas of interest. Refer to the sources provided for Assignment 3. Watch the following training: https://ccnpps-ncchpp.ca/online-course-health-impact-assessment-step-by-step/
Week 4: Sep 15, 2025	Topic: **Built Environment & Accessibility: From Necessity to Choice** How walkability, transportation, and public spaces drive necessity- and choice-driven physical activity. Lecturer: Deborah Salvo Required Readings: *Salvo D, Jáuregui A, Adlakha D, Sarmiento OL, Reis RS. When Moving Is the Only Option: The Role of Necessity Versus Choice for Understanding and Promoting Physical Activity in Low- and Middle-Income Countries. Annu Rev Public Health. 2023;44:151-169.* In-class exercise: Group activity to map out urban design elements influencing physical activity and discuss how access varies by population and setting. Assignment due: Students select topics for their Comparative Physical Activity & Urban Design Case Study presentation. Asynchronous activity: Read about the Screening process of an HIA and apply the screening tool in two HIAs identified in the previous class. Refer to the sources provided for Assignment 3.
Week 5: Sep 22, 2025	Topic: **Violence, Safety, and Physical Activity Patterns** The role of perceived and actual safety in influencing physical activity, especially in lower-income communities. Lecturer: Cindy Mense Required Readings: *Chapter 5 of the book Making Healthy Places: Designing and Building for Health, Well-being, Equity, and Sustainability. Second Edition. Editors: Nisha Botchwey, Andrew L. Dannenberg, Howard Frumkin. Island Press 2022.* In-class exercise: Analysis of neighborhoods in Brazil and the U.S. through the lens of safety and activity; guest speaker on community safety.

Assignment due: *None*

Asynchronous activity: Read about the Scoping process of an HIA and apply the Scoping tool in the same two HIAs identified previously. Refer to the sources provided for Assignment 3.

Week 6: Sep 29, 2025

Topic: **Urban Planning, Climate Change, and Physical Activity: Global Perspectives**
The impact of urban planning and climate change on health and physical activity; cross-country policy comparisons.

Lecturer: Milena Franco Silva

Required readings:
Giles-Corti B, Vernez-Moudon A, 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. 2016 Dec 10;388(10062):2912-2924. doi: 10.1016/S0140-6736(16)30066-6. Epub 2016 Sep 23. PMID: 27671668.

Franco Silva, M., Favarão Leão, A. L., O'Connor, Á., Hallal, P. C., Ding, D., Hinckson, E., Benmarhnia, T., & Siqueira Reis, R. (2024). Understanding the Relationships Between Physical Activity and Climate Change: An Umbrella Review. Journal of Physical Activity and Health, 21(12), 1263-1275. Retrieved May 19, 2025, from https://doi.org/10.1123/jpah.2024-0284

In-class exercise: Discussion on how urban planning and climate-related policies influence physical activity and public health across different global contexts, and application of findings from the readings to real-world scenarios.

Assignment due: Confirmation of topics for Case Study Presentation.

Asynchronous activity: Examine the assessment approaches used in the identified HIAs, referencing the sources provided for Assignment 3.

Week 7: Oct 6, 2025

NO CLASS – FALL BREAK

Module 2: Methods and Tools for Urban Health and Physical Activity Assessment (Weeks 8-12)

Goal: Build practical skills in assessing and analyzing urban health and physical activity using GIS, HIA, GMB, and other tools, focusing on comparative contexts.

Week 8:
Oct 13, 2025

Topic: **Integrating Tools for Comprehensive Active Living Assessment with communities and stakeholders**
GMB as a community participation methodology

Lecturer: Ana Luiza Favarão Leão

Required Readings:

Reis, R. S., Favarão Leão, A. L., Hino, A. A. F., de Paula da Silva, A. A., Silva dos Santos, C. E., Rech, C. R., Crochemore-Silva, I., Rios-Hernandez, M., de Oliveira, R. B., Fermino, R. C., Nogueira de Zorzi, V., & Florindo, A. A. (2025). Advancing Research and Practice in People, Health, and Place in Brazil: Using Community-Based System Dynamics to Identify Physical Activity Research Priorities. *Journal of Physical Activity and Health*, *22*(8), 959-970. Retrieved Aug 6, 2025, from https://doi.org/10.1123/jpah.2024-0902

Avila-Palencia, I., Garcia, L., Cleland, C., McGuinness, B., McHugh Power, J., McKnight, A. J., Meehan, C., Hunter, R. F., & on behalf of the SPACE team (2025). Mapping the complex systems that connects the urban environment to cognitive decline in older adults: a group model building study. Systems, 13(7), Article 13. https://doi.org/10.3390/systems13070606

Supplemental reading:
Hinckson E, Reis R, Romanello M, et al. Living actively and sustainably: the opportunity of combining the physical activity and climate change agendas. Published online July 2, 2025. doi:10.21203/rs.3.rs-6979732/v1

In-class exercise:

Assignment due: Present your proposed Desktop HIAs during class as preparation for the final assignment (Assignment 3).

Week 9:
Oct 20, 2025

Topic: **Health Impact Assessments (HIA) and the Built Environment**
Introduction to HIA; using HIA to evaluate urban design impacts on health and activity.

Comparative Physical Activity & Urban Design

	Lecturer: Rodrigo Siqueira Reis Required Readings: *Thondoo, M., Goel, R., Tatah, L. et al. The Built Environment and Health in Low- and Middle-Income Countries: a Review on Quantitative Health Impact Assessments. Curr Envir Health Rpt 9, 90–103 (2022). https://doi.org/10.1007/s40572-021-00324-6* *Kahlmeier, Sonja, Götschi, Thomas, Cavill, Nick, Castro Fernandez, Alberto, Brand, Christian. et al. (2017). Health economic assessment tool (HEAT) for walking and for cycling: methods and user guide on physical activity, air pollution, injuries and carbon impact assessments. World Health Organization. Regional Office for Europe. https://iris.who.int/handle/10665/344136* In-class exercise: Workshop on conducting an HIA for a local urban project; exploring HIA for necessity- vs. choice-driven physical activity. Assignment due: **Comparative Physical Activity & Urban Design Case Study Presentation.** Asynchronous activity: To prepare for the next class, students will watch the four modules of the virtual BEAT training. ***This class will be in person.***	**Case Study Presentation.**
Week 10: Oct 27, 2025	Topic: **Built Environment Assessment Training (BEAT) for Physical Activity** Understanding how the built environment influences physical activity. Applying tools to assess physical activity in the built environment, analyzing features that support necessity and choice. Lecturer: Aaron Hip Required Readings: *Glanz K, Handy SL, Henderson KE, Slater SJ, Davis EL, Powell LM. Built environment assessment: Multidisciplinary perspectives. SSM Popul Health. 2016 Feb 13;2:24-31. doi: 10.1016/j.ssmph.2016.02.002. PMID: 29349125; PMCID: PMC5757767.* In-class exercise: Assignment due: Begin data collection for Built Environment & Physical Activity Assessment Report.	

Week 11: Nov 3, 2025	Topic: **Introduction to Geographic Information Systems (GIS) and Microscale Assessment for Active Living** GIS and microscale assessment as tools for mapping physical activity opportunities; application in walkability and access analysis. Lecturer: Milena Franco Silva (GIS), Yi Wang (GIS), and Alexandre Augusto de Paula da Silva (MAPS Global) Required Readings: *Brownson RC, Hoehner CM, Day K, Forsyth A, Sallis JF. Measuring the built environment for physical activity: state of the science. Am J Prev Med. 2009 Apr;36(4 Suppl):S99-123.e12. doi: 10.1016/j.amepre.2009.01.005. PMID: 19285216; PMCID: PMC2844244.* *Pontin, F.L., Jenneson, V.L., Morris, M.A. et al. Objectively measuring the association between the built environment and physical activity: a systematic review and reporting framework. Int J Behav Nutr Phys Act 19, 119 (2022). https://doi.org/10.1186/s12966-022-01352-7* Supplemental readings: *Frank, L.D., Fox, E.H., Ulmer, J.M. et al. International comparison of observation-specific spatial buffers: maximizing the ability to estimate physical activity. Int J Health Geogr 16, 4 (2017). https://doi.org/10.1186/s12942-017-0077-9* In-class exercise: Which tools are most commonly used to assess the built environment using GIS? Topics include: land use mix, street connectivity, commercial diversity, access to public spaces, and tools for measuring routes. Micro-scale analysis focuses on the presence of infrastructure such as sidewalks and amenities. Assignment due: *None*	
Week 12: Nov 10, 2025	Topic: **Assessing Active Transportation and Urban Policy Impacts** How transportation policies influence active commuting and access to physical activity. Lecturer: Fabio Duarte	**Built Environment & Physical Activity Assessment Report.**

Required Readings:

Berrigan D, Troiano RP, McNeel T, Disogra C, Ballard-Barbash R. Active transportation increases adherence to activity recommendations. Am J Prev Med. 2006;31(3):210-216. doi:10.1016/j.amepre.2006.04.007

Chaix B, Kestens Y, Duncan S, et al. Active transportation and public transportation use to achieve physical activity recommendations? A combined GPS, accelerometer, and mobility survey study. Int J Behav Nutr Phys Act. 2014;11:124. doi:10.1186/s12966-014-0124-x

In-class exercise: Group discussion of assessment findings; peer feedback on Built Environment & Physical Activity Assessment Reports.

Assignment due: **Submit the Built Environment & Physical Activity Assessment.**

This class will be in person.

Module 3: Case Studies & Application in Brazil and the United States (Weeks 13-17)

Goal: Apply concepts and skills learned through city-specific case studies, focusing on urban design, physical activity, and health equity in both countries.

Week 13: Nov 17, 2025

Topic: **Curitiba, Brazil: Urban Planning, Zoning, Public Transit, and Green Spaces**

Sustainable urban planning in Curitiba; the impact of zoning, BRT, and green spaces on physical activity.

Lecturer: Rodrigo Siqueira Reis

Required Readings:

Mercier, J., Duarte, F., Domingue, J., & Carrier, M. (2014). Understanding continuity in sustainable transport planning in Curitiba. Urban Studies, 52(8), 1454-1470. https://doi.org/10.1177/0042098014538526

Rabinovitch, Jonas. "Innovative land use and public transport policy: The case of Curitiba, Brazil." Land Use Policy 13.1 (1996): 51-67.

Santos, D. S. dos ., Hino, A. A. F., & Höfelmann, D. A.. (2019). Iniquidades do ambiente construído relacionado à atividade física no entorno de escolas públicas de Curitiba, Paraná, Brasil. Cadernos De Saúde Pública, 35(5), e00110218. https://doi.org/10.1590/0102-311X00110218

	In-class exercise: Case study on Curitiba's planning approaches; discussion on how its policies support necessity- and choice-driven activity; guest lecture on urban planning. Assignment due: Reflection paper on the applicability of Curitiba's planning strategies to U.S. contexts.
Week 14: Nov 24, 2025	***NO CLASS – THANKSGIVING***
Week 15: Dec 1, 2025	Topic: **St. Louis, USA: Spatial Segregation and Health Disparities** The role of spatial segregation and the historical context of St. Louis in contributing to health disparities and shaping access to physical activity opportunities. Lecturer: Scott Krummenacher Required Readings: *Harvey, Thomas, McAnnar, John, Voss, Michael-John, Dutchtown South Community Corporation, Action St. Louis, and Sierra Club. Environmental Racism in St. Louis (August 31, 2019).* In-class exercise: GIS analysis of St. Louis neighborhoods for disparities in access to physical activity resources; group discussion on spatial segregation's effects on necessity- and choice-driven activity. Assignment due: Policy recommendations for addressing spatial segregation in promoting active living.
Week 16: Dec 8, 2025	Topic: **Health Impact Assessments (HIA) and the Built Environment** Introduction to HIA; using HIA to evaluate urban design impacts on health and activity. Lecturer: Rodrigo Siqueira Reis Required Readings: *Thondoo, M., Goel, R., Tatah, L. et al. The Built Environment and Health in Low- and Middle-Income Countries: a Review on Quantitative Health Impact Assessments. Curr Envir Health Rpt 9, 90–103 (2022). https://doi.org/10.1007/s40572-021-00324-6* *Kahlmeier, Sonja, Götschi, Thomas, Cavill, Nick, Castro Fernandez, Alberto, Brand, Christian. et al. (2017). Health economic assessment tool (HEAT) for walking and for cycling: methods and user guide on physical*

	activity, air pollution, injuries and carbon impact assessments. World Health Organization. Regional Office for Europe. https://iris.who.int/handle/10665/344136 In-class exercise: Workshop on conducting an HIA for a local urban project; exploring HIA for necessity- vs. choice-driven physical activity.	
Week 17 (part 1): Dec 15, 2025	Topic: **Rio de Janeiro, Brazil: Informal Urban Settings and Physical Activity** Informal settlements (favelas) in Rio; balancing necessity- and choice-driven activity in challenging environments. Lecturer: Janice Perlman Required Readings: ***Chapters 6 and 12 of the book*** *Perlman, J. E. (2009). Favela: four decades of living on the edge in Rio de Janeiro. Oxford University Press.* Supplemental Material: *Perlman, J. E. (2009). Favela: four decades of living on the edge in Rio de Janeiro. Oxford University Press.* *Brandão, B. H. B., & Bueno, L. M. de M. (2018). Intervenções de mobilidade e acessibilidade em programas de urbanização de favelas: análise em São Paulo e Rio de Janeiro de 1996 a 2012. Arquitetura Revista, 14(2), 231–242.* https://doi.org/10.4013/arq.2018.142.11 *Magalhães, Alexandre. "O" legado" dos megaeventos esportivos: a reatualização da remoção de favelas no Rio de Janeiro." Horizontes antropológicos 19 (2013): 89-118.* In-class exercise: Case study review of Rio's favelas and their impact on active living; interactive discussion on improving opportunities for physical activity in informal settings. Assignment due: Develop solutions for enhancing physical activity in informal settings, drawing from global examples.	
Week 17 (part 2): Dec 15, 2025	Topic: **Final Presentations and Course Synthesis** Synthesize course themes and present Policy Impact Assessments. Lecturer: Rodrigo Siqueira Reis	**Final Desktop Health Impact Assessment Presentation and Report.**

	In-class exercise: Student presentations on final projects; group reflection on course takeaways and future applications. Assignment due: **Presentation and Report of the Final Desktop Health Impact Assessment** ***This class will be in person.***

***** Text highlighted in grey indicates assignments due on that day, while text in **red** denotes final submissions or presentations scheduled for that day. **Weeks highlighted in grey denote in-person classes (week 9, week 12, and week 17). Students should also be attentive to synchronous and asynchronous activities.**

VIII. Washington University Academic Support & Policies

Academic Integrity

Effective learning, teaching and research all depend upon the ability of members of the academic community to trust one another and to trust the integrity of work that is submitted for academic credit or conducted in the wider arena of scholarly research. Such an atmosphere of mutual trust fosters the free exchange of ideas and enables all members of the community to achieve their highest potential.

In all academic work, the ideas and contributions of others (including generative artificial intelligence) must be appropriately acknowledged and work that is presented as original must be, in fact, original. Faculty, students and administrative staff all share the responsibility of ensuring the honesty and fairness of the intellectual environment at WashU.

For additional details on the university-wide Academic Integrity policy, please see: https://wustl.edu/about/compliance-policies/academic-policies/undergraduate-student-academic-integrity-policy/

Academic integrity is a serious offense that may lead to warning, probation, suspension, or expulsion from the University. All instances of academic integrity allegations will be reported to Academic Integrity in the Office of the Provost, who will hold an initial meeting and then determine next steps with the student. For more information on the academic integrity policy, procedures, frequently asked questions, and who to contact, visit Academic Integrity in the Office of the Provost. The academic integrity policy, process, and information listed there applies to undergraduate students enrolled in all Schools and programs and master's level students in the McKelvey School of Engineering, the Sam Fox School of Design and Visual Arts, the School of Continuing and Professional Studies, Brown School and the School of Public Health. For all other programs, please see the Contacts page.

In all cases of academic integrity violations, the instructor shall make an academic judgment about the student's grade on that work and in that course, which shall not be considered a sanction for prohibited conduct under this policy.

Turnitin

In taking this course, students may be expected to submit papers and assignments through Turnitin for detection of potential plagiarism and other academic integrity concerns. If students do not have an account

with Turnitin and/or do not utilize Turnitin when submitting their papers and assignments, the instructor may upload your paper or assignment to Turnitin for processing and review.

Unauthorized Recording and Distribution of Classroom Activities and Materials

The following applies to all students in my class: "Except as otherwise expressly authorized by the instructor or the university, students may not record, stream, reproduce, display, publish or further distribute any classroom activities or course materials. This includes lectures, class discussions, advising meetings, office hours, assessments, problems, answers, presentations, slides, screenshots or other materials presented as part of the course. If a student with a disability wishes to request the use of assistive technology as a reasonable accommodation, the student must first contact the Office of Disability Resources to seek approval. If recording is permitted, unauthorized use or distribution of recordings is also prohibited.

Sexual Harassment and Assault

If you are a victim of sexual discrimination, harassment or violence, we encourage you to speak with someone as soon as possible. Understand that if you choose to speak to me as an instructor, I must report your disclosure to my department chair, dean, or the Gender Equity and Title IX Compliance Officer, which may trigger an investigation into the incident. You may also reach out to the Relationship & Sexual Violence Prevention (RSVP) Center to discuss your rights and your options with individuals who are not mandatory reporters. https://titleix.wustl.edu/students/confidentiality-resources-support/

Religious Holidays

To ensure that accommodations may be made for students who miss class, assignments, or exams to observe a religious holiday, you must inform me in writing before the end of the third week of class, or as soon as possible if the holiday occurs during the first three weeks of the semester. For more information, please see the university's Religious Holiday Class Absence Policy

When requesting a religious accommodation, please send an email to the instructor and the TA with the following information:

- The specific date(s) you will be observing the holiday
- A brief description of the observance, if you are comfortable sharing
- Any class activities, assignments, or exams that will be affected
- Any suggested alternatives or preferences for makeup work (if applicable)

All requests will be handled respectfully and in confidence. Our goal is to support your full participation in both your academic and religious life, and I encourage you to reach out as early as possible so we can make any necessary arrangements without disruption to your learning.

Emergency Preparedness

Before an emergency affects our class, students can take steps to be prepared by downloading the WashU SAFE App. In addition, each classroom contains a "Quick Guide for Emergencies" near the door.

Resources for Students

WashU provides a wealth of support services that address academic, personal, and professional needs. To start exploring resources that can help you along the way, please visit: Resources for Students.