



ES/SO 360 DESIGNING THE SUSTAINABLE CITY

IES Abroad Tokyo

DESCRIPTION:

"All the biggest problems that we face now (...) like global climate change or the pandemic, require collaborative efforts, not just the multiplication of the same sort of person a million times over." Peter Galison¹

Cities are not only where most of the world's population now lives, they also use 78% of the world's resources and produce more than 60% of greenhouse gas emissions. At the same time, innovating cities around the world are leading the way in responding to the crises of climate change and resource depletion by developing models for sustainable, resilient, equitable living. Experience has shown that cities are more successful in achieving their goals when they cooperate with each other, work together, and learn from each other. In this course, students will be asked to identify the most pressing sustainability issues in Tokyo. Working in small teams, they will design a new housing community that can offer solutions to the issues they have identified at the local level, taking into account the environmental, historical and social characteristics of their host city. They will be guided by their instructor as they work towards solutions to the identified problems. For some topics, substantive field visits and connections with local organizations will allow students to gather valuable data and information as they develop their projects, and problem-based learning will culminate in each team delivering a multi-media presentation to the group. Upon successful completion of this course, students will be able to demonstrate their sustainability literacy and ability to find innovative solutions to complex problems.

CREDITS: 3

CONTACT HOURS: 45

LANGUAGE OF INSTRUCTION: English

INSTRUCTOR: TBD

ADDITIONAL COSTS: Students are required to pay for their transportation to excursion sites and may also have to pay modest entrance fees to events and exhibitions.

PREREQUISITES: None

METHOD OF PRESENTATION:

The main outcome of this course is the challenge given to participants in groups to design a project aimed at tackling the sustainability problems identified in Tokyo. The methods of presentation are designed to support the students in this challenge. The following approaches will be used:

- Classes: will, in principle, be held in classroom and assigned locations.
- Lectures: the instructor will present key concepts from the readings and lead discussions based on them.
- Team presentations: student teams will give short presentations to the other teams on their work. Students will be expected to give comments and feedback to the other teams.
- Class discussion: the course will follow a flipped classroom approach, in which acquiring knowledge will occur outside class time, and classes will be devoted to discussions and presentations.
- Materials in Moodle: key readings, videos and online resources designed to develop a general understanding of the subject matter and foment discussion.
- Course-related trips: students will use these trips to inspire their designs and give them a chance to talk to people from local communities.

¹ Peter Galison, founder of The Black Hole Initiative at Harvard University, in "Stranger than anything dreamed up by sci-fi: will we ever understand black holes?" The Guardian, 26 May 2021



REQUIRED WORK AND FORM OF ASSESSMENT:

- Participation – 20%
 - Including concentrations, contributions, and reflections on course materials
- Individual assignments – 20%
 - Including:
 - How sustainable is my hometown?
 - Sustainability storyboard
- Field visit summaries – 10%
- Team assignments – 50%
 - Midterm exam: 20%
 - Presentation on the sustainability issues, lessons or successes of Tokyo, research design, methodology and preliminary findings if any.
 - Final Project: 30%
 - In-class group presentation (5%) of a completed project with its webpage (25%)

COURSE PARTICIPATION

Participation is essential in this course. Students are required to engage with assigned materials, and to participate actively both in their team activities and in their discussions with other teams. A general participation rubric will be shared with students. Students will carry out self-evaluation.

INDIVIDUAL ASSIGNMENTS

Students will be asked to complete two individual assignments to reflect on sustainability issues and actions.

1. Sustainability analysis of hometown
2. Sharing a story of their own sustainability actions and practices.

They will be conducted through the Moodle Workshop function. All students are required to carry out peer assessment. These two assignments are to be completed as a package.

TEAM ASSIGNMENTS

Students will be placed in teams and will take part in projects during the semester. Although the projects will be on the various issues identified by participants, they will focus on:

- (1) An analysis of the sustainability of Tokyo
- (2) Identification of a key sustainability issue in the city
- (3) Designing a project to tackle those problems.

Teams will present reports on their responses to these assignments throughout the semester. At the end of the course, each team will deliver a multi-media presentation on their final design. The assignments will be guided by the instructor in a staged fashion, and each team will receive feedback from their peers. Rubrics will be provided to guide the students in completing their assignments, although the rubrics will leave space for originality and creativity. Grades will be awarded based on the clarity and creativity of solutions, but also on the teams' ability to work together, and to exchange ideas. Collaboration, and adapting other teams' ideas to the local context will be positively evaluated. Team project webpages will show complete academic research with texts and visual aids such as (though not limited to) pictures, graphs, tables, and videos.

LEARNING OUTCOMES:

By the end of the course students will be able to:

- Identify the key sustainability issues in Tokyo
- Critique sustainability policies in Tokyo
- Learn from the problem-solving experiences of people
- Recognize and explain the complexity and interrelatedness of sustainability challenges
- Differentiate between realistic and unrealistic goals for sustainability solutions
- Analyze the successes and failures of sustainability initiatives of other projects

ATTENDANCE POLICY:

At IES Abroad Tokyo, attendance is mandatory for all classes, including course-related trips. Given the three-hour format, missing one class is the equivalent of missing an entire week of a regular semester. Unexcused absences will result in grade penalties. The first unexcused absence will lower your final grade by one-third of a letter grade, and each additional unexcused absence will reduce your grade by a full letter grade. For example, one missed class turns an A into an A-, two missed classes turn it into a B-, three into a C-, and so on.

Absences are excused only for unavoidable reasons, such as documented illness or other circumstances approved in advance by the instructor. Lateness to class (including class excursions) may count as unexcused absences at the instructor's discretion. Missed exams, tests, presentations, or assignments can only be rescheduled for documented medical or family emergencies.

If a student has accumulated absences representing 25% of the total class hours, the Academic Program Manager (APM) and Centre Director (CD) will contact them to schedule a disciplinary review, and their home institutions will be informed of the result.

COURSE AND CLASS STRUCTURE:

The course will be scheduled to include three contact hours per week. This period will be used to cover the following:

1. Classroom and onsite contact hours.
2. Field visits in the city.
3. Teamwork and interactive assignments.

CONTENT:

Week	Content	Assignments and Readings
SECTION 1		
Week 1	Introduction to the course 1. Fieldtrip 1: The city of Tokyo 2. Full participants introductions 3. Expectations and goals	Kick off the course In this first class, we'll introduce ourselves to each other, put participants into teams and set out the aims and expectations of the course. Walk and Discover Tokyo-Marunouchi We're off walking so please do come dressed in suitable clothes and shoes. We want to think about sustainability in its broadest senses with a sustainability walk around Marunouchi. Participants will choose and head to one zone of the area with a map and spend about 90 mins discovering it in small groups with an emphasis on sustainability.
	Individual Assignments	Participants start to engage in individual assignments through Moodle Workshop. This workshop warms up participants and prepares them for better study of sustainability through a comparative lens. .

Week 2	Cities, climate change and sustainability 1. How to solve sustainability problems	- United Nations Human Settlements Programme, 2011, Cities and Climate Change: Global Report on Human Settlements, 2011, Earthscan, London- Washington DC, available for download: http://www.zaragoza.es/contenidos/medioambiente/onu/538-eng-ed2011.pdf (chapters 1, 3, 4, 5, 6) - Chelleri L. and Olazabal M. (eds.) 2012. Multidisciplinary perspectives on urban resilience: a workshop report, Bilbao: Basque Centre for Climate Change, Chapter 1, “Why Urban Resilience?”, pp 7-19.
		Participants discuss and share: - The impacts of climate change on the cities. - The existing framework of urban sustainability challenges. - Familiar approaches to sustainability. - Innovative ideas.
Week 3	What is sustainability? Ecosystem and energy perspectives 1. Creating a definition of sustainability 2. How to evaluate sustainability 3. Ecosystems and ecological concepts of sustainability 4. The basic science of climate change	- Fedkin, Mark V., “Sustainability, Definitions”, in Technologies for Sustainable Systems, Department of Energy and Mineral Engineering, PSU, available: https://www.education.psu.edu/eme807/node/575 - Berners-Lee, M., 2010, How Bad are Bananas, The Carbon Footprint of Everything, Green Profile, pp 7-14. - McKay, David J.C., 2009, Sustainable Energy Without the Hot Air, UIT, Cambridge, Chapter 15, “Stuff”, available: https://www.withouthotair.com/c15/page_88.shtml - Evelyn Richards. “Are tote bags bad for the environment? Why reusables can be problematic.” available: https://metro.co.uk/2021/11/04/are-tote-bags-bad-for-the-environment-the-problem-with-reusables-15533358/ - Caroline Wood. “Gulp. Your reusable coffee mug may be just as bad for the environment as a disposable.” available: https://www.fastcompany.com/90387684/gulp-your-reusable-coffee-mug-may-be-just-as-bad-for-the-environment-as-a-disposable - Carla Delgado. “You may need to read dozens of books each year to offset that new e-reader: Occasional readers should stick with paper for now.” available: https://www.popsi.com/environment/books-e-reader-sustainability/
		Participants share and discuss individual assignments: - Reflect what aspect or dimension of sustainability has been lacking from your mind and make a definition of sustainability in your own words. - Use “life-cycle assessment” as a concept to assess: which is more sustainable than the other? Tote bag vs. plastic bag; paper cup vs. mug cup; e-book vs. paper book. - What are the energy sustainability challenges facing cities today?

Week 4	Culture, ideology, and climate change: 1. How we can adapt and what we have learned. 2. The impact of culture on climate change and of climate change on culture 3. Cultural rights and traditional knowledge 4. How to change people's ideologies and worldviews, and how to learn from others	• UNESCO, 2020, Experts highlight the role of culture for climate change mitigation and adaptation, available: https://en.unesco.org/news/experts-highlight-role-culture-climate-change-mitigation-and-adaptation • Hoffman, Andrew J., 2019, "Climate Change and Our Emerging Cultural Shift", Behavioral Scientist, available: https://behavioralscientist.org/climate-change-and-our-emerging-cultural-shift/ • Massey, Justine Marrion, 2020, Climate Change, Culture and Cultural Rights, OHCHR. https://documents-dds-ny.un.org/doc/UNDOC/GEN/N20/207/39/PDF/N2020739.pdf?OpenElement • Ehrlich PR (2010) The MAHB, the Culture Gap, and Some Really Inconvenient Truths. PLoS Biol 8(4), available: e1000330. https://doi.org/10.1371/journal.pbio.1000330
		Participants discuss the relationship of beliefs and values to climate change and cultural shifts in tackling sustainability challenges in our world today, including: 1. What is a modern urban way of life? 2. What does that mean for urban sustainability in general, and for sustainability in Tokyo for example? 3. What is urbanism? 4. What variables account for the characteristics of urban life? 5. How much of this urbanism do you see in modern Tokyo? 6. Is modern urban culture different from one city to another, for example, your hometown and Tokyo or any other city where you have lived or visited? If so, what unique cultural sustainability challenges and opportunities does it provide?
Week 5	Designing for sustainability: an introduction to design thinking for cities 1. Introduction to problem-solving design principles The complexity of sustainability: the three pillars of sustainability	• Manzini, Ezio 2015, Design, When Everybody Designs. An Introduction to Design for Social Innovation. Online Lecture, https://vimeo.com/122184793 • Interactional Design Foundation. "Design Thinking," available on: https://www.interaction-design.org/literature/topics/design-thinking • Will Gallagher. "Why Tokyo is an extraordinary exception in housing" available: https://abundanthousingla.org/why-tokyo-is-an-extraordinary-exception-in-housing/ • Jullia Joson. "The Future of Sustainability in Japan: Paving the Way to Net Zero Energy Housing," available: https://www.archdaily.com/978260/the-future-of-sustainable-housing-in-japan-paving-the-way-to-net-zero-energy-housing • Tokyo Metropolitan Government. "Making Housing More Sustainable," available: https://www.tokyoupdates.metro.tokyo.lg.jp/en/post-931/
Week 6	Fieldtrip 2 to Nishiogikubo	This trip will show a specific local community and neighborhood in western Tokyo, where economic, environmental, and social sustainability are achieved through entrepreneur networks of both migrants and local

		residents in restaurants.
SECTION 2		
Week 7	What? Part I - Design Thinking step 1 - Identify the problem: what challenge can we identify in all three cities?	Brown, L. R. (2009), "Can We Mobilize Fast Enough?" In <i>Plan B 4.0: Mobilizing to Save Civilization</i>, Norton, W. W. & Company, Inc. (Ch. 10, p.143-167). available: http://www.earthpolicy.org/images/uploads/book_files/pb4ch10.pdf
		Every group identifies and presents sustainability issues or challenges in Tokyo as their research subject and decides on research designs and methodologies.
Week 8	What? Part II - Design Thinking step 2 - How will you tackle the sustainability challenge in your host city?	Hauser, O. P., Hendriks, A., Rand, D. G., & Nowak, M. A., 2016, "Think global, act local: Preserving the global commons" in <i>Nature</i>, available: https://www.nature.com/articles/srep36079
		Mid-term exam. - All groups will present. - The audience is required to comment and make suggestions to the group presenting.
Week 9	How? Part I - Design Thinking step 3 - Identify the key features of your solution	Brown, L. R. (2009) "Designing Cities for People", In <i>Plan B 4.0: Mobilizing to Save Civilization</i>, Norton, W. W. & Company, Inc. (Ch. 6, p.143-167). available: http://www.earthpolicy.org/images/uploads/book_files/pb4ch06.pdf
		Participants highlight and discuss the innovations of their approach in groups.
Week 10	How? Part II - Design Thinking step 4 - Apply design principles to your key solutions	
		Participants test designed solutions.

Week 11	Who? - Design Thinking step 5 - Who will benefit from your project? Who will lose out? Who are you doing this for?	- Susanne, Ricee. <i>Social Sustainability, Everything You Need to Know</i>. Available: https://diversity.social/social-sustainability/ - James, Paul, Liam Magee, Andy Scerri, Manfred Steger, 2015, <i>Urban sustainability in theory and practice: circles of sustainability</i>, New York: Routledge, Chapter 6, pp 107-136.
		Participants apply solutions with an emphasis on social sustainability.
Week 12	Course Conclusions	Final presentations and peer review. Course evaluation (15 mins) Self-evaluation of participation (10 mins)

COURSE-RELATED TRIPS:

Students will attend visits to a range of sustainability-related projects and destinations, as well as visiting experts in different fields depending on their topic. Some of the trips will be designed before the semester starts, whereas others will be recommended by faculty in response to the development of the team's research.

At the start of the program, students will participate in guided and self-guided tours in Tokyo, designed to introduce them to the key sustainability issues and concerns in the local context.

REQUIRED READINGS:

- Berners-Lee, M., 2010, How Bad are Bananas, The Carbon Footprint of Everything, Green Profile, pp7-14.
- Brown, L. R. (2009), "Can We Mobilize Fast Enough?" In Plan B 4.0: Mobilizing to Save Civilization, Norton, W.
- W. & Company, Inc. (Ch. 10, p.143-167). available: http://www.earthpolicy.org/images/uploads/book_files/pb4ch10.pdf
- Caroline Wood. "Gulp. Your reusable coffee mug may be just as bad for the environment as a disposable." available: <https://www.fastcompany.com/90387684/gulp-your-reusable-coffee-mug-may-be-just-as-bad-for-the-environment-as-a-disposable>
- Carla Delgado. "You may need to read dozens of books each year to offset that new e-reader: Occasional readers should stick with paper for now." available: <https://www.popsci.com/environment/books-ereader-sustainability/>
- Chelleri L. and Olazabal M. (eds.) 2012. Multidisciplinary perspectives on urban resilience: a workshop report, Bilbao: Basque Centre for Climate Change, Chapter 1, "Why Urban Resilience?", pp 7-19, available for download: <https://www.urbanresilienceresearch.net/2016/02/04/our-first-book-on-urban-resilience-available-online/>
- Diversity.social, Social Sustainability, Everything You Need to Know. Available: <https://diversity.social/social-sustainability/>
- Ehrlich PR (2010) The MAHB, the Culture Gap, and Some Really Inconvenient Truths. PLoS Biol 8(4), available: e1000330. <https://doi.org/10.1371/journal.pbio.1000330>
- Evelyn Richards. "Are tote bags bad for the environment? Why reusables can be problematic." available: <https://metro.co.uk/2021/11/04/are-tote-bags-bad-for-the-environment-the-problem-with-reusables-15533358/>
- Ehrlich PR (2010) The MAHB, the Culture Gap, and Some Really Inconvenient Truths. PLoS Biol 8(4), available: e1000330. <https://doi.org/10.1371/journal.pbio.1000330>
- Fedkin, Mark V., "Sustainability, Definitions", in Technologies for Sustainable Systems, Department of Energy and Mineral Engineering, PSU, available: <https://www.e-education.psu.edu/eme807/node/575>
- Hauser, O. P., Hendriks, A., Rand, D. G., & Nowak, M. A., 2016, "Think global, act local: Preserving the global commons" in Nature, available: <https://www.nature.com/articles/srep36079>

- Hoffman, Andrew J., 2019, "Climate Change and Our Emerging Cultural Shift", Behavioral Scientist, available: <https://behavioralscientist.org/climate-change-and-our-emerging-cultural-shift/>
- Interactional Design Foundation. "Design Thinking," available on: <https://www.interaction-design.org/literature/topics/design-thinking>
- James, Paul, Liam Magee, Andy Scerri, Manfred Steger, 2015, Urban sustainability in theory and practice: circles of sustainability, New York: Routledge, Chapters 1 and 2, pp 3-37, available: https://www.academia.edu/9294719/Urban_Sustainability_in_Theory_and_Practice_Circles_of_Sustainability_2015
- Jullia Joson. "The Future of Sustainability in Japan: Paving the Way to Net Zero Energy Housing," available: <https://www.archdaily.com/978260/the-future-of-sustainable-housing-in-japan-paving-the-way-to-net-zero-energy-housing>
- Massey, Justine Marrion, 2020, Climate Change, Culture and Cultural Rights, OHCHR. <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N20/207/39/PDF/N2020739.pdf?OpenElement>
- McKay, David J.C., 2009, Sustainable Energy Without the Hot Air, UIT, Cambridge, Chapter 15, "Stuff", available: https://www.withouthotair.com/c15/page_88.shtml
- Susanne, Ricee. Social Sustainability, Everything You Need to Know. Available: <https://diversity.social/social-sustainability/>
- Tokyo Metropolitan Government. "Making Housing More Sustainable," available: <https://www.tokyoupdates.metro.tokyo.lg.jp/en/post-931/>
- UNESCO, 2020, Experts highlight the role of culture for climate change mitigation and adaptation, available: <https://en.unesco.org/news/experts-highlight-role-culture-climate-change-mitigation-and-adaptation>
- United Nations Human Settlements Programme, 2011, Cities and Climate Change: Global Report on Human Settlements, 2011, Earthscan, London- Washington DC, available for download: <http://www.zaragoza.es/contenidos/medioambiente/onu/538-eng-ed2011.pdf>
- Will Gallagher. "Why Tokyo is an extraordinary exception in housing" available: <https://abundanthousingla.org/why-tokyo-is-an-extraordinary-exception-in-housing/>

RECOMMENDED READINGS:

This is a list of readings recommended by the faculty which students can draw on during the semester to help them tackle issues or questions that arise during their research. The faculty team will also recommend additional other readings and materials throughout the semester, adapting to the direction that the teams' research is taking.

- Brown, L. R. (2009) "Designing Cities for People", In *Plan B 4.0: Mobilizing to Save Civilization*, Norton, W. W. & Company, Inc. (Ch. 6, p.143-167). a: http://www.earthpolicy.org/images/uploads/book_files/pb4ch06.pdf
- Chaplin et al, 2002, *Principles of Terrestrial Ecosystem Ecology*, 'The ecosystem concept', pp 3-13, 'Human Caused Changes in Earth's Ecosystem', pp 13-17, Springer Verlag
- Deutscher Forstwirtschaftsrat e.V., from Grober, Ulrich, 2012, *Sustainability – a cultural history* Green Books, available: <https://www.forstwirtschaft-in-deutschland.de/index.php?id=50&L=1>, see the following tabs: "German forestry" and the 2 short chapters "Sustainability" and "Boundaries of Sustainability"
- Eurostat, *Sustainable Development in the European union: Overview of Progress towards the SDGs in an EU context*, available: <https://ec.europa.eu/eurostat/documents/4031688/11010788/KS-01-20-192-EN-N.pdf/ae63aff0-a6f3-1d47-da83-c6886b9daaab?t=1592486268000>
- Frey, Wolfgang, 2011, *Freiburg Green City*, "Thoughts On Sustainability" pp. 10-29
- United Nations, Department of Economic and Social Affairs, *Sustainable Development Goals*, available: <https://sdgs.un.org/goals>
- Bowerman, T., 2014, "How much is too much? A public opinion research perspective" *Sustainability: Science, Practice, & Policy*. Volume 10, Issue 1, p.1-15. Available online at: http://sspp.proquest.com/static_content/vol10iss1/1209-044.bowerman.pdf
- Deutscher Forstwirtschaftsrat e.V., from Grober, Ulrich, 2012, *Sustainability – a cultural history* Green Books, available: <https://www.forstwirtschaft-in-deutschland.de/index.php?id=50&L=1>, see the following tabs: "German forestry" and the 2 short chapters "Sustainability" and "Boundaries of Sustainability"
- DMA Europa, *WEG helps to generate hydro-electricity for Windsor Castle*, available: <https://www.youtube.com/watch?v=wG-TBJC1R4c>

- Ellen MacArthur Foundation, 2012, *Towards the Circular Economy Vol. 1: "An economic and business rationale for an accelerated transition"*, Available online at: <https://www.ellenmacarthurfoundation.org/assets/downloads/publications/Ellen-MacArthur-Foundation-Towards-the-Circular-Economy-vol.1.pdf>
- Fournier, V, 2008, "Escaping from the economy: the politics of degrowth", *International Journal of Sociology and Social Policy*, Vol. 28 No. 11/12, (pp. 528-545). Available online at: http://www.web.ca/~bthomson/degrowth/fournier_the_politics_of_degrowth_13mar08.pdf
- Freiburg Town Hall, *Environmental and Climate Protection in Freiburg*, Chapter 1.4, pages 27-33, available: https://greencity.freiburg.de/pb/site/freiburg_greencity/get/params_E1778569723/1693283/environmental%20and%20climate%20protection%20in%20Freiburg.pdf
- Green City Times, *Green City: Europe's solar city, Freiburg*, 4 pages, available: <https://www.greencitytimes.com/freiburg/>
- Hoornweg, Daniel; Bhada-Tata, Perinaz, 2012. "What a Waste : A Global Review of Solid Waste Management" *Urban development series;knowledge papers no. 15*. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/17388>
- International Institute for Sustainable Development, *Sustainable Development*, available: <https://www.iisd.org/about-iisd/sustainable-development>
- Smil, Vaclav, 2017, *Energy and Civilization*, Cambridge: MIT Press, ch 6, "Fossil-fuelled Civilization", pp 295-381
- Spanner Re2 GmbH, *Wood gasifier at Scotston Farm – Biomass Power Plant*, available: <https://www.youtube.com/watch?v=i9xmWJ4hAGs>
- Stevens, Jess, 2020, "Urban Forests: Nature as a Resource", *Biophillic Cities/Law and Policy*, Vol 3, No 2, available: <https://static1.squarespace.com/static/5bbd32d6e6669016a6af7e2/t/5eff40c2f00dfd0e1790aab0/1593786570683/Urban+Forest+Law+and+Policy.pdf>
- The B1M Limited, *3 Cool Ways to Cool Our Cities*, available: <https://www.youtube.com/watch?v=V4Y7VYVVD68> (8min.)
- Umwelt Bundesamt, 2019, *Rebound effects*, available: <https://www.umweltbundesamt.de/en/topics/waste-resources/economic-legal-dimensions-of-resource-conservation/rebound-effects>
- United Nations, Department of Economic and Social Affairs, *Sustainable Development Goals*, available: <https://sdgs.un.org/goals>
- US department of agriculture: *Sustainability*, pp 1-3 (Introduction plus 'Planning Rule Requirements'), page 9 (chapter 'Describe the ecological context'), available: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5130669.pdf
- Wirth, H., *Recent facts about photovoltaics in Germany*, Fraunhofer Institute ISE, ch. 2 and 3 (pp 5-6), ch. 13 and 14 (pp 38-43)
- WWAP (United Nations World Water Assessment Programme)/UN-Water. 2018. *The United Nations World Water Development Report 2018: Nature-Based Solutions for Water*. (P. 21-36 and 79-87) Paris, UNESCO. Available online at: <http://www.unwater.org/publications/world-water-development-report-2018/>
- Zivarts, Anna, "The '15-Minute-City' isn't made for disabled bodies", *Bloomberg CityLab*, April 2021, available: <https://www.bloomberg.com/news/articles/2021-04-22/the-people-that-the-15-minute-city-leave-behind>