

# GEODZ 852

## Geodesign Studio II: Urban/District-scale Challenges

**Course URL:** <https://courses.aanda.psu.edu/geodz852/>

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### Course Description

This course continues the student experience of learning in a problems-based, collaborative studio environment. The course builds upon the first studio experience. In GEODZ 852 students will be asked to apply the geodesign framework approach to real-world land design and planning challenges at a smaller, more detailed scale. The course focuses on the complexity of urban and district-scale landscape change issues. The studio format provides the closest approximation to a professional setting where multiple consultants and stakeholders collaborate on the process.

### Major Topics

GEODZ 852 is a 14-week session. There will be approximately 6.5 contact hours/ week. The studio learning process is iterative, so major topics are not tied to a specific point in the class, but rather are reinforced and revisited throughout the course. The major topics to be addressed are:

- **Studio method:** Build capacity for creativity through the iterative, collaborative nature of a design- and problems-based learning approach.
- **Evidence-based problems:** Formulate the details of the specific challenge through science and values-based investigation. In this course, the topics will focus on issues of urbanization as opportunity.
- **Decision-drive method:** Address paradox of the overabundance of knowledge by distinguishing what data and information are relevant to a challenge.
- **Spatialization of knowledge:** Recognize how spatial understanding of the future of a place is possible by envisioning feasible alternatives grounded in appropriate data.
- **Systems thinking:** Focus on networked human and natural ecosystems and comprehension of the series of interconnections and profound implications if changes occur.
- **Design Alternatives:** Develop sustainable, long-term design solutions that balance the creative and scientific processes in conjunction with relevant data and community desires.

This course will advance your skills in the collaborative geodesign process to address complex, problems-based urban design systems. Every urban area is part of a larger context, its region. This studio builds upon the knowledge about critical regionalism covered in the first studio, GEODZ 842. In GEODZ 852 the approach to understanding and addressing challenges in a place will take the student from the regional scale down to the complexity of landscape change issues embedded in urban and urbanizing areas. The process is comprehensive and considers the myriad factors that influence place, such as the environmental, economic, and cultural systems. Students will utilize and build upon a substantial amount of previous coursework and resources. The main assignment, the studio project, will be rooted in current topics and real-world challenges, and often the course will have a stakeholder entity or public audience interested in the outcomes.

The issues that may be addressed in this course reflect the diverse applications of design in urban settings. Cities face a variety of future challenges, such as outward migration and population decline in some places, while others face population growth due to rural-to-urban or climate induced migration. Other pressing issues include resource scarcity, access to clean air, water and open spaces, siting urban infrastructure, climate change impacts, weighing economic growth with cultural preservation, and the like. These require creative planning or design solutions to balance the complexity of factors and competing interests.

This is the second studio course and continues exposure to an approach that closely approximates a professional setting where multiple consultants and stakeholders collaborate on the geodesign process. In the studio, all students are responsible for exploring concepts and probing the ideas from a holistic, collaborative approach. Everyone contributes his or her own ideas and knowledge, but it is the role of a studio to explore and resolve these ideas as a group, to test and retest all ideas. A studio goes beyond a class discussion-- it is a special environment for unique intellectual and creative activity. The exchange of ideas is focused on a topic and aimed primarily at gaining a deeper understanding of the issues and opportunities, with the goal being to design sustainable alternative solutions to the problem.

## **Instructional, educational, and course objectives:**

Students who successfully complete this course will be prepared to:

1. Identify and synthesize the dynamic components of planning and design in cities, including the interrelationships of natural, cultural and economic factors on past, present and future designs.
2. Demonstrate the importance of balancing creative and scientific processes and their influence on geodesign solutions.
3. Approach a problem from a position of improved procedural knowledge (e.g., critical thinking, problem solving, spatial reasoning)
4. Consider urbanization as opportunity; judging the prospects for how effective urbanization can enhance community stability while addressing key environmental and economic factors.

5. Develop a collective understanding of other disciplines, the multidisciplinary geodesign process, and how different specialists engage and intersect with one another.
6. Demonstrate effective leadership in collaborative, transdisciplinary teams.
7. Apply a working knowledge of geospatial modeling tools that assess, visualize, and compare social, economic, and environmental consequences of design configurations over time.

## Course Organization

This summer, the International Olympic Committee (IOC) voted to award two consecutive summer games at once instead of at the usual four-year interval. The result is that Paris will host the games in 2024, and Los Angeles will host in 2028. The Summer Olympic Games is hosted by a different city every four years. IOC President Thomas Bach said in a press conference on June 9 that the L.A. and Paris bids represent "a golden opportunity for the Olympic Games and for the I.O.C."

One reason the IOC awarded the next two games is that both Paris and Los Angeles had most of the needed facilities already built, as opposed to having to construct new stadiums, Olympic villages, specific venues, transportation infrastructure, and other facilities. In addition, the facilities in Paris and Los Angeles are already being used, and will continue to be used after the games. The other reason is that good host cities are hard to find, especially those that can remain solvent through the process of hosting the Olympics.

When we originally formed the basic approach for this class, it was the idea that we would develop alternative scenarios for the State of Oregon as they sought to host a future Summer Olympic Games. Our goal is to explore alternative approaches for bringing the Olympic Games to Oregon in 2028. With Los Angeles being selected, this is obviously no longer an option. In addition, the IOC has preferred to move the Games to different parts of the world, and if that is the case then Oregon would not be considered soon.

To look at the silver lining, the selection of Paris and Los Angeles gives Oregon time to develop a plan of action on how to plan for future growth and improvements. Our goal is to provide strategies for developing facilities and infrastructure that meets current needs, but also positions Oregon for future efforts to host the Summer Olympic Games.

our goal will be to develop alternative concepts for providing the facilities, infrastructure, and support needed to make Oregon a viable candidate for the 2028 Olympics. This will include determining what facilities are needed to hold the games, if existing or new facilities are needed, what type of improvements need to be made to the infrastructure and transportation network, and how these facilities would be adapted after the games to support new opportunities in Oregon.

we will analyze the existing facilities, infrastructure, transportation network, and planned land use changes and population growth, and look at how these can be improved to provide the framework from which a future Olympic Game or similar event could be accommodated in Oregon.

## Tasks

The class will complete the following tasks:

1. Review materials for Oregon and the cities of Portland, Salem, Eugene, and Corvallis. Review overall long-range plans for the state and these cities.
2. Inventory and analyze existing data for Oregon and the cities of Portland, Salem, Eugene, and Corvallis. This data includes land use, housing, transportation network, multi-modal systems, parks and trails, natural resources, population trends, and other factors that help determine opportunities and constraints. Identify the types of growth, facilities, land use changes, infrastructure improvements, and other developments that are needed to meet short-term and medium-term goals.
3. Research previous Olympics to determine the types of facilities and infrastructure they needed, and compare these to what improvements we anticipate for Oregon.
4. Pick 2 Olympic Facilities (listed below) and develop basic design criteria for each.
5. Develop strategies for improving housing, open space, transportation (include autonomous cars and their impact), land use, multi-modal access, public facilities, etc. that would help set the stage for the Olympic Facilities identified in Step 4. The Olympic Facilities would be developed later. Develop a priority matrix and a timeline for these improvements. Consider the potential of future Olympic facilities in these strategies.
6. Develop suitability maps using ArcMap and GeoDesign Hub.
7. Determine the physical needs for each Olympic event (including facilities, seating for viewers, and support facilities)
8. Compare suitability maps for Olympic events with possible scenarios to improve housing, open space, transportation, multi-modal access, etc. and develop a priority matrix.
9. Develop alternative scenarios for an Olympic Games Masters Plan based upon the facilities and infrastructure concepts in step 5. Include all Olympic events and venues as well as recommended improvements/modifications to help meet project goals.
10. For selected Olympic venues, develop site specific concepts that give form to broader ideas. Show examples of similar projects developed for previous Olympic Games or other uses. Develop GeoPlanner Templates that provide site specific information. Use CityEngine to develop 3D representations of site concepts.
11. Develop alternative scenarios for adapting venues after the end of the Olympic Games.

## Suitability Maps to Produce (2 per student)

- Pedestrian/Bicycle Connectivity
- Parking
- Commercial/Mixed Use

- Environmental
- Low-density Residential
- High-Density Residential
- Public Open Space
- Transportation – Roads
- Public Transit
- Cultural/Historical

## **Anticipated Short-term and Medium-Term Improvements** (Prior to Olympics)

According to the Office of Economic Analysis, Oregon’s population of 3.8 million (2010) is expected to increase to almost 5.6 million by 2050.1 The 1.8 million additional people and businesses they work for will need new and expanded water, wastewater, and stormwater infrastructure

Existing and planned infrastructure systems will need to change and adapt to reduce greenhouse gas emissions, become more resilient to hazards such as earthquakes, landslides, and tsunamis, and be enhanced to better protect our water and air quality

Statewide Planning Goal 11 supports Urban Growth Boundaries by preventing extension of sanitary sewage facilities, but does not necessarily limit the extension of water for drinking and agricultural production.

The Portland/Vancouver area exports one fifth of its economic output, ranking second in the U.S.

- A transition from a suburban and semi-rural environment into a more urban community
- Affordable Housing
- Commercial and Multi-use development
- Transportation improvements (e.g., roads, marine, rail, air.)
- Pedestrian and hike/bike improvements
- Public Open Space
- Multimodal transportation
- Stormwater improvements (Portland Green Streets Program / Ecoroofs Program)
- Improve environmental function of natural areas in urbanized areas
- Community facilities
- Economic growth opportunities

## **Anticipated Olympic Sports**

The 2020 Summer Olympic program is scheduled to feature 33 sports and a total of 47 disciplines and 324 events.

- Aquatics
  - Diving (8)
  - Swimming (34)
  - Synchronized swimming (2)
  - Water polo (2)
- Archery (4) 10,000
- Athletics (47)
- Badminton (5)
- Baseball / Softball
  - Baseball (1)
  - Softball (1)
- Basketball (2)
- Boxing (13) 10,000
- Canoeing 8,000 – 10,000
  - Slalom (4)
  - Sprint (12)
- Cycling
  - BMX (2) 6,000
  - Mountain biking (2)
  - Road (4) 5,000
  - Track (10)
- Equestrian
  - Dressage (2)
  - Eventing (2) 20,000
  - Jumping (2)
- Fencing (10)
- Field hockey (2)
- Football (2) 60,000
- Golf (2) 30,000
- Gymnastics 12,000
  - Artistic (14)
  - Rhythmic (2)
  - Trampoline (2)
- Handball (2) 12,000
- Judo (14) 12,000
- Karate (8) 12,000
- Modern pentathlon (2)
- Rowing (14) 20,000
- Rugby sevens (2)
- Sailing (10)
- Shooting (15)
- Skateboarding (4)
- Sport climbing (2)
- Surfing (2)
- Table tennis (4) 10,000

- Taekwondo (8)
- Tennis (5) 20,000 (10,000 center court; 5,000 court 1; 3,000 court; 8x250 match courts)
- Triathlon (2) 5,000
- Volleyball 12,000
  - Volleyball (2)
  - Beach volleyball (2)
- Weightlifting (15) 5,000
- Wrestling
  - Freestyle (12)
  - Greco-Roman (6)

## Facilities

<b>Olympic Stadium</b>	75,000 spectators; post-Games 45,000 seat home of MLB/MLS team ... Opening and Closing Ceremonies, Athletics, Football
<b>Olympic Village</b>	17,000 athletes; post-Games mixed income housing, retail, recreation
<b>Aquatic Center</b>	20,000 spectators; post-Games 5,000 seat community pool, training and competition facility, swimming, diving, synchronized swimming, water polo
<b>Velodrome</b>	8,000 spectators; post-Games 3,000 seat community bike center, training and competition facility
<b>Broadcast/Media Press Center</b>	Broadcast facilities, 15,000 journalists; IOC Facilities, Media Press Center, post-Games high-tech offices, with emphasis on entrepreneurship
<b>Wrestling/Judo/Karate Center</b>	Wrestling, judo, karate, taekwondo; 12,000
<b>Cycling Center</b>	BMX track, road cycling; 5,000
<b>Triathlon Course</b>	5,000
<b>Beach Volleyball Park</b>	Beach volleyball; 12,000
<b>Shooting Center</b>	Shooting
<b>Sports Center</b>	Modern pentathlon (fencing), badminton, table tennis; 6,000

<b>Basketball Arena</b>	Basketball, volleyball; 22,000
<b>Sailing/Surfing Center</b>	Sailing, surfing; 10,000
<b>Fencing/ Wrestling Center</b>	Fencing, taekwondo; 6,000 & wrestling; 8,000
<b>Equestrian Center</b>	Equestrian - jumping, events, dressage
<b>Mountain Bike Center</b>	Cycling (mountain bike)
<b>Baseball Stadium</b>	Baseball, softball; 30,000
<b>Rowing Center</b>	Rowing
<b>Tennis Center</b>	Tennis
<b>Skateboard Park</b>	Skateboarding
<b>Whitewater Center</b>	Canoeing; 500 meters long course

## Facilities for Class Projects (pick 2)

### Top priorities

- **Olympic Stadium ... new Timbers Thorns Stadium**
- **Olympic Village ... mixed income housing**
- **Aquatic Center ... Aquatic Center / aquatic themed recreational facility**
- **Velodrome / Cycling Center ... Velodrome / cycling themed recreational facility (possibly the same facility as...)**
- **Broadcast/Media Press Center ... Media center / office / startup incubator space**
- **High speed rail or other rapid transportation options between Portland, Eugene and Corvallis.**
- **Increased public transportation within the city and to and from venues / hotels (may be possible to handle with additional rolling stock on existing light rail and streetcar lines and additional bus services)**

### Secondary Projects

- **Indoor Sports Center**
- **Beach Volleyball Park**
- **Shooting Center**
- **Equestrian Center**
- **Baseball Stadium**
- **Tennis Center**
- **Skateboard Park**



- **Whitewater Center**

Note from client: W can house these at existing venues / handle with existing infrastructure (e.g. Airport) and/or leverage Airbnb type sharing economy for.

Note from client: I personally would like to keep everything as close to downtown as possible and develop everything we need in one location as a sustainable, low / zero carbon and waste walkable mixed income neighborhood.

## **Popularity of Events**

Summer Olympic sports are divided into five categories (A – E) based on popularity. The current categories are:

**Cat. Sport**

- A athletics, aquatics, gymnastics
- B basketball, cycling, football, tennis, and volleyball
- C archery, badminton, boxing, judo, rowing, shooting, table tennis, and weightlifting
- D canoe/kayaking, equestrian, fencing, handball, field hockey, sailing, taekwondo, triathlon, and wrestling
- E modern pentathlon, golf, and rugby

## **Criteria**

- Locate the majority of venues within 5 miles of the Olympic Village.
- pedestrian focused
- mixed-income housing,
- easy access to transit and services
- plenty of retail, office and recreational space
- healthier, safer, and more equitable communities
- affordable housing
- upgraded transit options
- community recreation facilities
- pedestrian and bike paths
- autonomous vehicles

## **Basic Principals**

- Leverage facilities and infrastructure improvements to prepare for an upcoming Olympic Games bid
- Community First - Plan all new infrastructure and facilities for the long-term community use first, and then adapt them for the Games
- Develop Responsibly - Avoid unnecessary road and hotel development and limit congestion by prioritizing pedestrian, cycling and public transit, and promoting car, bike and home sharing programs
- Source Locally - Benefit all of Oregon by sourcing food, packaging, building materials, labor, and services from Oregon suppliers first.
- Build Green - Ensure all new facilities, including the Olympic Stadium and Village, are LEED certified.
- Zero Waste - Make Oregon 2028 the first zero waste Olympics with reusable, recyclable and compostable materials
- Low Carbon - Strive to create a zero carbon Olympics, and move Portland closer to being a low carbon city by 2035.
- Autonomous Cars – Plan for how this will change society and the physical layout of our cities.

## Possible Facilities to Use

1. Downtown Portland
  - Moda Center
  - Oregon Convention Center
  - PSU/UP Facilities
  - Providence Park
2. Beyond Downton
  - Expo Center
  - Portland International Raceway
  - Forest Park
  - Oregon Coast
3. Corvallis
  - Reser Stadium
  - Gill Coliseum
4. Eugene
  - Hayward Field
  - Matthew Knight Arena
  - Autzen Stadium

## GIS Data

Most of the geospatial data you need for this project has been downloaded and is available via PSU servers. If you need additional geospatial data, the following sources may prove to be useful.

- City of Portland ... <http://gis-pdx.opendata.arcgis.com/>
- Oregon Spatial Data Library ... <http://spatialdata.oregonexplorer.info/geoportal/>
- City of Corvallis ... <http://www.corvallisoregon.gov/index.aspx?page=163>
- Oregon Geospatial Enterprise Office ... [gis.oregon.gov](http://gis.oregon.gov)
- Oregon/Washington BLM GIS Data ... <https://www.blm.gov/or/gis/data.php>
- Oregon Metro ... <https://gis.oregonmetro.gov>
- Links to Oregon statewide GIS data ... [library.uoregon.edu/map/or/gis\\_or.htm](http://library.uoregon.edu/map/or/gis_or.htm)

## Readings

There are many readings for this class on Canvas. In addition, the following sources may prove useful.

**10 of the best stadiums and venues from past Olympics.**

<https://www.dezeen.com/2016/08/10/10-best-stadiums-venues-architecture-past-olympics/>

**13 of the most innovative Olympic venues through the years.**

<https://www.deviantworld.com/art/design/13-innovative-olympic-venues-years/5/>

**All about the Sochi 2014 venues.** <https://www.olympic.org/news/all-about-the-sochi-2014-venues>

**Alumus designs equestrian venue for 2012 Olympic Summer Games.**

<https://one.arch.tamu.edu/news/2012/4/27/olympic-equestrian-design/>

**As L.A. eyes 2024 Olympics, Tokyo struggles to plan 2020 games.**

<http://www.latimes.com/world/asia/la-fg-olympics-tokyo-struggles-2020-20151105-htmlstory.html>

**Atlanta 1996 Olympics: How the venues look now.** <http://www.ajc.com/news/atlanta-1996-olympics-how-the-venues-look-now/h6RfdXWD0KvFp9EkAWw5qO/>

**Atlanta's Olympic venues meet varying fates since 1996.**

<http://collegefootball.ap.org/article/atlantas-olympic-venues-meet-varying-fates-1996>

**Autonomous driving is here, and it's going to change everything ...**

<https://www.recode.net/2017/4/19/15364608/autonomous-self-driving-cars-impact-disruption-society-mobility>

**Could Oregon Host the 2028 Summer Olympics? ...**

[http://www.oregonlive.com/sports/index.ssf/2016/07/2028\\_oregon\\_olympics.html](http://www.oregonlive.com/sports/index.ssf/2016/07/2028_oregon_olympics.html)

**D.C.'s team begins laying out plan to host 2024 Summer Olympic Games.**

[https://www.washingtonpost.com/business/capitalbusiness/dcs-team-begins-laying-out-plan-to-host-2024-summer-olympic-games/2014/11/22/af88d65e-71c7-11e4-8808-afaa1e3a33ef\\_story.html?utm\\_term=.143634228e41](https://www.washingtonpost.com/business/capitalbusiness/dcs-team-begins-laying-out-plan-to-host-2024-summer-olympic-games/2014/11/22/af88d65e-71c7-11e4-8808-afaa1e3a33ef_story.html?utm_term=.143634228e41)

**Enhance Oregon's Transportation Infrastructure.**

<http://www.oregonbusinessplan.org/initiatives/enhance-oregons-transportation-infrastructure/>

**Facilities for 2016 Rio Games draw scrutiny from Olympic officials.**

<http://www.houstonchronicle.com/sports/article/Facilities-for-2016-Rio-Games-draw-scrutiny-from-7258581.php>

**FedEx CEO: Infrastructure Needs to Be Updated, Expanded (Video).**

<https://www.bizjournals.com/portland/video/MwbzNjOTE6w4DIJXxSI0hP82MYwQlhBi?page=5>

**From 2 Weeks to 50 Years - Designing Olympic Facilities That Last Beyond the Games.**

<http://www.gensleron.com/lifestyle/2012/7/25/from-2-weeks-to-50-years-designing-olympic-facilities-that-l.html>

**Goe: A Portland bid for the 2028 Summer Olympics comes straight from Fantasy Land ...**

[http://www.oregonlive.com/trackandfield/index.ssf/2016/10/goe\\_a\\_portland\\_bid\\_for\\_the\\_2028.html](http://www.oregonlive.com/trackandfield/index.ssf/2016/10/goe_a_portland_bid_for_the_2028.html)

**Here's How Rio's Olympic Venues Actually Turned Out.**

<https://www.fastcodesign.com/3062567/heres-how-rios-olympic-venues-actually-turned-out>

**Hosting The Olympics Is A Terrible Investment.** <https://fivethirtyeight.com/features/hosting-the-olympics-is-a-terrible-investment/>

**How Oregon's infrastructure report card compares to the West in 10 critical areas.**

[http://www.oregonlive.com/trending/2017/03/how\\_oregon\\_compares\\_to\\_the\\_wes.html](http://www.oregonlive.com/trending/2017/03/how_oregon_compares_to_the_wes.html)

[http://www.oregonlive.com/olympics/index.ssf/2017/01/los\\_angeles\\_city\\_council\\_appro.html](http://www.oregonlive.com/olympics/index.ssf/2017/01/los_angeles_city_council_appro.html)  
**Infrastructure Projects.** <https://www.pwd.org/infrastructure-projects>

**London 2012 Olympic Park Master Plan, United Kingdom.** <http://www.designbuild-network.com/projects/2012olympic-park/>

**London 2012 venues and infrastructure already providing strong Games legacies.**  
<https://www.olympic.org/news/london-2012-venues-and-infrastructure-already-providing-strong-games-legacies>

**London 2012.** <http://www.aecom.com/projects/london-2012/>

**Los Angeles City Council approves 2024 Olympics bid  
Modernize Oregon's Infrastructure.**

[https://www.eiseverywhere.com/file\\_uploads/0d1b8cebf30b8b57597ed6b6cf7fc17f\\_InfrastructureBrief.pdf](https://www.eiseverywhere.com/file_uploads/0d1b8cebf30b8b57597ed6b6cf7fc17f_InfrastructureBrief.pdf)

**My view: Building permanent Olympic facilities will cut costs, free up billions to improve quality of life.** <http://www.deseretnews.com/article/865660307/My-view-Building-permanent-Olympic-facilities-will-cut-costs-free-up-billions-to-improve-quality.html>

**Nearly 20 Years Later, The Legacy Of Atlanta's Olympic Venues Is Still Being Written.**  
<http://www.wbur.org/news/2015/06/05/atlanta-olympic-venue-lessons-for-boston>

**Neglected and Recycled Olympic Stadiums From Around the World.**  
<http://news.nationalgeographic.com/2016/08/world-olympics-rio-stadiums-games-sports/>

**Olympic challenge: How do host cities fare after the games?**  
<http://www.cbsnews.com/news/olympic-challenge-how-do-host-cities-fare-after-the-games/>

**Olympic Games: Transport Infrastructure Development.**  
<http://www.transportnexus.com/olympic-games-3/>

**Oregon 2028 - A Different Kind of Olympics ...** <http://oregon2028.com/>

**Oregon 2028? Local company wants to help bring Olympics to Oregon ...**  
<http://www.kgw.com/sports/olympics/oregon-2028-local-company-wants-to-help-bring-olympics-to-oregon/319043752>

**Oregon Food Infrastructure Gap Analysis.** <https://ecotrust.org/media/Food-Infrastructure-Report-exec-summary.pdf>

**Oregon's infrastructure needs are vast.** <http://pamplinmediagroup.com/but/239-news/304936-181807-oregons-infrastructure-needs-are-vast->

**Paris And Los Angeles Will Score Summer Olympics 2024 And 2028 ...**  
<https://www.forbes.com/sites/andrewbender/2017/06/12/paris-and-los-angeles-will-score-summer-olympics-2024-and-2028/#4591ba9350a2>

**Portland should focus spending on improving roads, other infrastructure, audit finds.**  
[http://www.oregonlive.com/politics/index.ssf/2017/04/portland\\_should\\_focus\\_spending.html](http://www.oregonlive.com/politics/index.ssf/2017/04/portland_should_focus_spending.html)

**Portland Struggles to Remain a Leader in Public Transit.**  
<http://www.governing.com/topics/transportation-infrastructure/gov-portland-oregon-struggles-to-remain-leader-in-public-transit.html>

**PORTLAND'S INFRASTRUCTURE INVESTMENTS.**  
<https://www.portlandoregon.gov/bps/article/392387>

**Postgame: Reinventing an Olympic landscape one slice at a time.**  
<http://www.pwlpartnership.com/our-news/2016/postgame-reinventing-olympic-landscape-one-slice-time>

**Rethinking Olympic Infrastructure.** <https://lsecities.net/media/objects/articles/rethinking-olympic-infrastructure/en-gb/>

**Rio 2016 Olympics: Your guide to all 27 venues set to be used during the games.**  
<http://www.mirror.co.uk/sport/other-sports/athletics/rio-2016-olympics-your-guide-8504830>

**Rio 2016 reveals design of first Olympic golf course in over a century.**  
<https://www.olympic.org/news/rio-2016-reveals-design-of-first-olympic-golf-course-in-over-a-century>

**SPECIAL SERIES: The Vancouver Summer Olympic Games (Part I).**  
<http://www.vancitybuzz.com/2012/08/vancouver-summer-olympic-games-part-i/>

**The best Olympic architecture.** <https://www.architecturaldigest.in/content/the-best-olympic-architecture/>

**The future of mobility: Autonomous vehicles are going to dramatically change the world - so when does the revolution begin?** <https://www.theglobeandmail.com/globe-drive/self-driving-cars-are-going-to-dramatically-change-our-world-so-when-does-the-revolution-begin/article32650833/>

**The London 2012 Olympic Games Legacy Plan – A successful case of strategic urban design?** [http://www.academia.edu/8753081/The\\_London\\_2012\\_Olympic\\_Games\\_Legacy\\_Plan\\_A\\_successful\\_case\\_of\\_strategic\\_urban\\_design](http://www.academia.edu/8753081/The_London_2012_Olympic_Games_Legacy_Plan_A_successful_case_of_strategic_urban_design)

**The London Olympic Facilities Are Cleverly Designed To Outlast The Games.** <https://www.fastcompany.com/1835673/london-olympic-facilities-are-cleverly-designed-outlast-games>

**The Olympics are too big for one city to host. It's time to share the joy.** <https://www.theguardian.com/sport/2016/apr/05/olympic-games-host-city-share>

**The Social and Cultural Impacts of Hosting the Olympic Games.** <http://www.aperianglobal.com/social-cultural-impacts-hosting-olympic-games/>

**Tim Wendel: Build permanent facilities for Olympics.** <http://www.spokesman.com/stories/2016/aug/13/tim-wendel-build-permanent-facilities-for-olympics/>

**Tom Fazio to Redesign Tokyo Course for 2020 Olympics.** <http://www.golf.com/tour-and-news/tom-fazio-chosen-redesign-tokyos-kasumigaseki-course-2020-olympics>

**Want to transform a street? Propose your idea to Better Block PDX.** <https://bikeportland.org/cats/infrastructure>

**What the Summer Olympics would look like in Vancouver.** <http://www.vancitybuzz.com/2016/04/vancouver-summer-olympics-false-creek-flats/>

**With the Olympics Over, Six Former Host Cities Worth Visiting.** [https://www.nytimes.com/2016/08/28/travel/olympics-rio-2016-london-barcelona.html?\\_r=0](https://www.nytimes.com/2016/08/28/travel/olympics-rio-2016-london-barcelona.html?_r=0)