

University of Southern California  
Price School of Public Policy  
RED 362—Real Estate Development Fundamentals  
Fall 2021

Professor: Jorge De la Roca

Tuesday and Thursday, VPD 112, 12:00–1:50 pm

Office hours: Wednesday, RGL 326, 11:00 am–12:00 pm and by appointment

Zoom Meeting ID for office hours (during some weeks): 711 311 858 (passcode: 064819)

Email: [jdelaroc@usc.edu](mailto:jdelaroc@usc.edu)

### Course description and objectives

This course aims to understand the basics of professional Real Estate development & investment and the urban contexts in which both occur. We will cover the basic techniques of investment analysis and valuation. However, these tools are blind without a richer understanding of how land markets operate and how developers and investors assess and create value. By the end of this course, students will be able to:

- Explain the economic factors of urban growth and decay.
- Describe the location determinants for workers and firms between urban cores and suburbs.
- Analyze the links between the labor, land, and housing markets in response to urban shocks.
- Construct proformas for simple real estate investments.
- Determine the value and performance of real estate investments using proformas and financial ratios.

### Course organization and requirements

The course meets twice per week on Tuesdays and Thursdays. It is an intensive class with many assignments and several examinations. There is no time to fall behind; it will be harder to catch up. As such, students should attend every class and review the last lectures or assigned materials to contribute to in-class discussions. I want to emphasize the importance of your participation during class and group activities.

I will post all assignments on USC Blackboard. **Note that late assignments will not be accepted and will receive no credit. You must take exams at the scheduled time.** If you cannot turn in an assignment or take an exam for some exceptional reason, please let me know at least 48 hours in advance to come up with an alternative. Students who require special accommodations for exams must contact me during the **first three weeks** of classes. If you fail to meet the 48-hour frame, any extension that I may provide will always involve a grade penalty.

In the final group-based project (three students per group), students apply the skills they learn throughout the course. The goal is to pursue a first Real Estate investment in a property of their choice within a specified metropolitan area and subject to limited financial resources.

Both midterm exams relate to a course section (e.g., urban economics or real estate finance) and the final exam covers all the class material. I will send all announcements through USC Blackboard.

Students will be graded based on the following criteria:

- Homework assignments (4) 25%
- Final group-based project 20%
- In-class midterm exam 1 20%
- In-class midterm exam 2 15%
- Final exam 20%

A potential grading scale is the following (note that it is subject to slight changes):

- A. Work of excellent quality A (100–92), A- (92–88)
- B. Work of good quality B+ (88–84), B (84–80), B- (80–76)
- C. Work of fair quality C+ (76–73), C (73–71), C- (71–69)
- D. Work of minimum passing quality D+ (69–67), D (67–65), D- (65–63)
- F. Failure to adequately complete course work 63 and below

### Participation and attendance

Attendance and active participation are expected in the classroom. I do not grade attendance, but more than three absences may lower your final grade. (Please contact me in the next two weeks if you have an accommodation letter from USC's Office of Student Accessibility Services). **If you are experiencing illness, you should not attend class in person.** Please inform me in advance and I will arrange accommodations accordingly. You will not be penalized for not attending class in person under these circumstances.

### Teaching Assistant

Andrew Stables ([jstables@usc.edu](mailto:jstables@usc.edu)) and Nan Ni ([nann@usc.edu](mailto:nann@usc.edu)) will help during the course. Both will hold weekly in-person office hours at the RGL Student Lounge; Andrew on Mondays from 3:00–4:00 pm and Nan on Tuesdays from 10:00–11:00 am. Andrew may also hold Zoom office hours (Meeting ID: 447 144 4407—Passcode: Fall2021). You should contact them to set up an appointment and ask questions that are best addressed one-on-one.

### Class materials

- Required text: Moretti, Enrico. 2012. *The New Geography of Jobs*. New York, NY: Houghton Mifflin Harcourt.
- Suggested textbook: Geltner, David, Norman Miller, Jim Clayton, and Piet Eichholtz. 2013. *Commercial Real Estate Analysis And Investments*, 3<sup>rd</sup> edition. Mason, OH: OnCourse Learning.
- Required tools: MS Excel. There is no need to be an expert, but it will help you a lot especially during the second half. We will hold review sessions in class but you should start learning it in advance.

### Student etiquette

We will hold two classes on Zoom. USC Price has created a short video illustrating Zoom etiquette. You must view this video before the first class. Keep in mind the following etiquette tips:

- Please mute yourself when you are not talking and do not use the chatroom for non-class related matters
- Use a headset with and external mic for the best audio quality and the “raise hand” feature to let me know you have a question or comment.
- “If it’s not appropriate in class, it’s not appropriate online.”

## Academic conduct

Plagiarism—presenting someone else’s ideas as your own, either verbatim or recast in your own words—is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, *Behavior Violating University Standards* [policy.usc.edu/scampus-part-b](http://policy.usc.edu/scampus-part-b). Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct.

## Academic accommodations

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to the instructor (or to a TA) during the first three weeks of the semester. Website and contact information for DSP: [click here](#), (213) 740-0776 (Phone), (213) 740-6948 (TDD only), (213) 740-8216 (FAX), [ability@usc.edu](mailto:ability@usc.edu).

## Support systems

**We are sc:** This site will replace the usc Coronavirus site over time and has resources and information unique for this semester, including FAQs, COVID-19 testing, Student Health, Mental Health, Housing and Dining, Community Guidelines, Trojan Learn and Check (both required before returning to campus), International FAQs, etc.

**usc Experience:** This site will become usc’s interactive quad for the semester, including events and unique online experiences.

**usc Student Basic Needs:** A site for students to request assistance for basic needs from usc, including food insecurity, housing, financial aid, and technology, which can include a Hotspot (for internet access) and a loaner laptop.

**usc Keep Teaching Student Toolkit:** Includes tools and resources to help students learn, collaborate, communicate, and participate in the online learning environment, including Zoom, Slack, and Google Drive.

**National Suicide Prevention Lifeline,** 1 (800) 273-8255, 24/7 on call

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

**Office of Equity and Diversity (OED),** (213) 740-5086

Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

Title IX Office, (213) 821-8298

Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

usc Campus Support & Intervention, (213) 740-0411

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity Equity and Inclusion at usc

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

usc Emergency: UPC, (213) 740-4321; HSC, (323) 442-1000, 24/7 on call

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

usc Department of Public Safety: UPC: (213) 740-6000; HSC, (323) 442-120, 24/7 on call

Non-emergency assistance or information.

## Broad course schedule

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Week 1, Aug 24–Aug 26	Class overview. Why study Real Estate?
Weeks 2–3, Aug 31–Sep 7	Urban areas: Why do cities exist? Explaining urban growth
Weeks 3–4, Sep 9–Sep 16	Urban areas: Location choice. The monocentric city model
Weeks 5–6, Sep 21–Sep 28	Urban areas: Suburbanization
Week 6, Sep 30	Urban areas: Zoning
Week 7, Oct 5	Urban areas: First midterm review and Q&A
Week 7, Oct 7	Urban areas: First midterm examination
Week 8, Oct 12	Urban areas: Racial residential segregation (Zoom class)
Week 8, Oct 14	Fall break (No class)
Week 9, Oct 19	Real Estate fundamentals: Introduction
Week 9, Oct 21	Real Estate fundamentals: Proformas (Zoom class)
Week 10, Oct 26	Real Estate fundamentals: Discount rate and present value
Week 10, Oct 28	First follow-up on final assignment
Week 11, Nov 2–Nov 4	Real Estate fundamentals: Mortgages and debt in proforma
Week 12, Nov 9–Nov 11	Real Estate fundamentals: Financial ratios and valuation
Week 13, Nov 16	Real Estate fundamentals: Guest speaker
Week 13, Nov 18	Real Estate fundamentals: Second midterm review and Q&A
Week 14, Nov 23	Real Estate fundamentals: Second midterm examination
Week 14, Nov 25	Thanksgiving holiday (No class)
Week 15, Nov 30–Dec 2	Final assignment presentations
Week 16, Dec 14	Final exam (cumulative), 11:00 am–1:00 pm

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## Detailed course schedule and readings

### Week 1. Class Overview

We review the course organization. We define a metropolitan area and discuss some stylized facts of urbanization and metro areas in the United States. We provide a brief description of how the Real Estate space and asset markets operate.

Readings: Moretti (NGJ): Introduction; Chapter 1, "American Rust";  
Chapter 2, "Smart Labor: Microchips, Movies, and Multipliers."  
Supplementary: United Nations. 2019. "World Urbanization Prospects 2018: Highlights";  
readings Frey, William. 2012. "Population growth in metro America since 1980:  
Putting the volatile 2000s in perspective."

### Weeks 2–3. Urban areas: Why do cities exist? Explaining urban growth

We examine some economic factors that explain the existence of cities, mainly agglomeration economies, and discuss the empirical evidence and mechanisms behind them. We then study urban growth/decline based on a city's economic base and the multiplier effect. To this end, we learn a labor market demand and supply framework.

Readings: Moretti (NGJ): Chapter 3, "The Great Divergence";  
Chapter 4, "Forces of Attraction."  
Supplementary: Owen, David. 2004. "Green Manhattan";  
readings Judis, John B. 2020. "It's the economies, stupid";  
Badger, Emily. 2020. "Density is normally good for us. That will be true  
coronavirus too";  
Davidson, Justin. 2020. "COVID-19 data reveal that urban density is not  
the enemy."

### Weeks 3–4. Urban areas: Location choice. The monocentric city model

We highlight stylized facts of a city's built-up area, mainly how density and building height vary as we move away from the city center. We then examine firms' and workers' location choices within a city and introduce the monocentric city model to explain the tradeoff between commuting costs and demand for land in cities. We will understand bid-rent curves and how land consumption varies throughout a city.

Readings: Moretti (NGJ): Chapter 5, "The Inequality of Mobility and the Cost of Living";  
Chapter 6, "Poverty Traps and Sexy Cities";  
Chapter 7, "The New Human Capital Century."  
Bertaud, Alain. 2015. "Spatial distribution of land prices and densities:  
The models developed by economists."  
Supplementary: The Economist. 2019. "Modern cities become less dense as they grow";  
readings Shah, Neil. 2015. "The end of the suburbs and four other American  
migration myths."

Assignment 1: Due September 14.

### Weeks 5–6. Urban areas: Suburbanization

We present suburbanization patterns in the United States and other developed countries, underscoring the main differences between both. We then examine the causes of suburbanization for

firms and households, such as transportation technology changes and the financing of public services. We also define urban sprawl and analyze whether there is a role for government intervention and the implications associated with government policies.

- Readings: Mieszkowski, Peter and Edwin S. Mills. 1993. "The causes of metropolitan suburbanization."  
Burchfield, Marcy, Henry G. Overman, Diego Puga, and Matthew A. Turner. 2006. "Causes of Sprawl: A Portrait from Space."
- Supplementary: Glaeser, Edward L., Matthew E. Kahn, and Jordan Rappaport. 2008. "Why do the poor live in cities? The role of public transportation";  
readings Baum-Snow, Nathaniel. 2007. "Did highways cause suburbanization?"

### **Week 6. Urban areas: Zoning**

We present an economic view on land regulation and explain the externalities associated with zoning policies. We then study the causes, characteristics, and consequences of three types of zoning policies: use zoning, fiscal zoning, and characteristics/design zoning. Lastly, we examine the implications of growth controls, mainly the case of an urban growth boundary.

- Readings: Postrel, Virginia. 2007. "A tale of two townhouses";  
suburbanization."  
Fischel, William A. 1997. "Comment on Carl Abbott's 'The Portland region: Where cities and suburbs talk to each other and often agree'."

Assignment 2: Due September 30.

### **Week 7. Urban areas: First midterm examination**

We review Assignment 2 or the previous midterm during class on Tuesday, October 5. You should prepare remaining questions you may have for the first midterm on Thursday, October 7.

### **Week 8. Urban areas: Racial residential segregation**

We show the differences in whites' and minorities' preferences for their neighborhoods' racial composition. We continue examining how extreme segregation can arise from social interactions in white preferences when the share of minorities in a neighborhood reaches a 'tipping' point. We then discuss the enduring effects of segregation policies in U.S. metropolitan areas, such as 'redlining' maps, homeownership, housing values, and credit access.

- Readings: Card, David, Alexandre Mas, and Jesse Rothstein. 2008. "Tipping and the dynamics of segregation";  
Aaronson, Daniel, Daniel Hartley, and Bhash Mazumder. 2019. "The effects of the 1930s HOLC 'redlining' maps."
- Supplementary: Cutler, David M., Edward L. Glaeser, and Jacob L. Vigdor. 1999. "The rise and decline of the American ghetto";  
readings Williams, Aaron and Armand Emamdjomeh. 2018. "America is more diverse than ever—but still segregated."

### **Week 9. Real Estate fundamentals: Introduction**

We turn into the Real Estate asset market. We study the characteristics that make Real Estate unique and the cyclical behavior of Real Estate markets. We also cover the stages of Real Estate development briefly.

### **Week 9. Real Estate fundamentals: Proformas**

A proforma is a document used to organize and forecast cash flow assumptions for a property. We discuss how the role of cash flows and time frame affect the structure of a proforma. We then study proforma's main components and focus on the revenue and operating expenses of a property.

### **Week 10. Real Estate fundamentals: Discount rate and present value**

Proformas have different time frames and cash flows over time. We investigate in detail the time frame component of proformas to standardize the value of an investment. We study the compounding of interest rates and the concepts of present and future value. We examine how to incorporate opportunity costs, inflation, and risk in the value of money over time. We finish by introducing the concept of discount rate and understanding how it affects project value.

Class discussion on the effects of regulation:

- The Economist. 2015. Space and the city.
- Grabar, Henry. 2016. The incredible shrinking megacity: How Los Angeles engineered a housing crisis.

### **Week 10. First follow-up on final assignment**

At this stage, students must have formed their groups (three students per group) for the final assignment. You need to decide the metropolitan area you will invest in and be ready to discuss two or three projects you consider as potential investments.

Assignment 3: Due October 28.

### **Week 11. Real Estate fundamentals: Mortgages and debt in proforma**

We study the structure of mortgages and the most common types of mortgages. We go through applications of level-payment or self-liquidating mortgages in Excel. We continue analyzing debt service in the proforma and examining the concepts of leveraged and unleveraged cash flows.

Class discussion on the affordable housing crisis:

- Buhayar, Noah and Christopher Cannon. 2019. How California became America's housing market nightmare.
- Dougherty, Conor. 2019. Why \$4.5 billion from big tech won't end California housing crisis.

### **Week 12. Real Estate fundamentals: Financial ratios and valuation**

We study the most common financial ratios used in Real Estate, such as the cash-on-cash, the free and clear return, and the debt constant. We continue examining other relevant ratios from the lender's perspective, such as the loan-to-value, the debt coverage, and the break-even point. We then explain the concept of capitalization rate as a proxy for project value in Real Estate and the Internal rate of return (IRR) as a complementary measure of value.

Class discussion on the effects of gentrification:

- Badger, Emily. 2015. Here is everything we know about whether gentrification pushes poor people out.
- Cortright, Joe. 2015. In defense of gentrification.
- Capps, Kriston. 2019. The hidden winners in neighborhood gentrification.

Assignment 4: Due November 11.

**Week 13. Real Estate fundamentals: Guest speaker**

We will have a guest speaker on Tuesday, November 16. Attendance is highly encouraged. On Thursday, November 18, we will have a short review of the second midterm. You should prepare the remaining questions you may have.

Additional readings we may cover if time allows:

- Badger, Emily. 2016. *It takes way too long to build new housing in expensive cities.*
- Michele, Lerner. 2018. *10 years later: How the housing market has changed since the crash.*

**Week 14. Real Estate fundamentals: Second midterm examination**

The second midterm examination will take place on Tuesday, November 23. The exam is not cumulative and only covers lectures after the first midterm.

**Week 15. Final assignment presentation**

Please find detailed instructions in USC Blackboard. The goal is to pursue your first Real Estate investment using all the tools we have studied in class. For this final assignment, you need to work in groups of three students. The project is due Tuesday, November 30, and includes a group presentation with approximately 12-14 minutes slides, including questions from the audience.

Final examination: Tuesday, December 14, 11:00 am–1:00 pm