This motorway interchange is surrounded by agricultural land and forest, not gas stations and motels as in the U.S. How did this happen, and why? Convincingly answering questions such as these with is at the core of research in City Design and Development.

Meeting Time
11.THG-CDD has two sections.
Section 1: Monday, 9 AM to 11 AM
Section 2: Wednesday, 9 AM to 11 AM
Both sections meet in the 10-485 classroom.

Stellar Site

Faculty
**Brent D. Ryan**, Associate Professor of Urban Design and Public Policy and Head of CDD, bdr@mit.edu

Instructor
**Hannah Teicher**, Second Year PhD Student in CDD, hteicher@mit.edu

Office Hours
Ryan: 10-485M, M 1 to 3 PM (signup at dusp.mit.edu/officehours)
Teicher: 10-485, TBA
Course Overview

The City Design & Development Thesis Prep seminar is intended to:

1. Introduce you to researching the built environment in general.
2. Assist you in identifying a meaningful, interesting, and researchable thesis topic.
3. Help you develop a structure, rigor, literature, and method for your thesis research.
4. Aid you in finding a thesis advisor who is appropriate for your investigation.

By the end of the semester, every student will have an approved thesis proposal together a thesis advisor to work with during the spring semester of 2016.

The world of research in city design and development is rewarding but often underexplored. Throughout the semester we shall look at previous examples of thesis projects within and beyond DUSP, examine a variety of research methods that you might use in your thesis project, discuss the ethics and conventions of social-science and design-related research, introduce you to a wide variety of bibliographic and data resources available at MIT libraries, and most importantly, excite, encourage, and assist you in developing a research topic, question, and hypothesis for your final semester at DUSP.

This seminar does not specialize in research methods per se, although it discusses some methods used to answer typical types of city design and development research questions. Additional training in research methods is available in other courses at MIT and DUSP, and your advisor will also be able to assist you with research methods.

The class Stellar site contains readings and other important class documents. It is also where you will submit your weekly class exercises.

Who takes CDD Thesis Prep?

All students enrolled in the Master of City Planning degree program within the Department of Urban Studies and Planning are required to take Thesis Prep prior to enrolling in Thesis during their final (generally spring) semester. MCP students typically enroll in the Thesis Prep appropriate to their program group (IDG during first year spring, CDD and HCED/EPP during second year fall). While students are not required to enroll in a specific Thesis Prep, CDD-related students generally find the topics and discussion areas of CDD Thesis Prep to be most useful and appropriate to their subject of interest.

Students enrolled in dual degree programs (MSRED, MArch, MST, etc) must satisfy the expectations and requirements of both departments or programs granting degrees. In order to fulfill DUSP degree requirements, dual degree students must satisfy all the MCP requirements for Thesis Prep, and submit an acceptable thesis proposal by the end of the fall semester, even
if the student would normally take an additional semester to complete the dual degree requirements. Students completing dual degree theses must also satisfy the DUSP-MCP requirement for a thesis defense and must have two advisors, one from each degree program.

Students pursuing Urban Design Certificates in CDD should note that their thesis need qualify as an urban design-related thesis in order to receive the certificate. The CDD Thesis Prep course instructor can help you clarify whether a proposed thesis topic is acceptable as an urban design topic during the semester. Qualification will ultimately depend on thesis advisor approval of the content of the final thesis submitted in the spring semester.

Thesis in another context (i.e. independent study) is highly unusual, and is only an option for those students graduating out of cycle or with particular, and predetermined, research needs and goals. Thesis in another context must be arranged by the advising faculty and thesis student prior to the beginning of the semester in which the student would take Thesis Prep, and communicated by the advising faculty.

**Meeting times**

Since a large number of students enroll in CDD Thesis Prep, and because presentation and discussion of student ideas is a very important part of the course, course enrollment (generally 20 to 25) is split into two sections, **Monday** and **Wednesday**. In Fall 2015, these both meet from 9 to 11 AM.

On the first day of class (Wednesday, September 9, 2015) you will be asked to give your preference for a section. By the end of September 9 (5 PM or so) the instructor will give you your assigned section. Sticking to your section is important to maintain a mutual history of discussion and familiarity with topics discussed in the section. This mutuality and collegiality would be reduced by students switching sections back and forth.

You may also meet with the THG-CDD faculty (Brent) or instructor (Hannah) during their respective office hours. These are listed on page one of this syllabus. Signup for office hours is online at dusp.mit.edu/officehours (MIT certificate required).

If you are unable to attend section due to religious holiday, etc, please notify the instructor at least two weeks prior.

**Requirements and Readings**

In order to successfully complete 11.THG-CDD, you must:
- attend and participate in class meetings and discussions;
- complete all reading assignments;
- complete all weekly exercises;
- participate in November’s thesis poster session; and
- develop a full thesis proposal over the course of the semester.
Please see the thesis schedule and deadlines below for more information on proposal dates.

Seminar readings generally come from Booth, W.C., G.G. Colomb, J.M. Williams (2008) The Craft of Research, third edition. Chicago, University of Chicago Press. The book is available in the MIT Coop for $17.00 new. It is cheaper online, and even cheaper as an E-book. You are required to purchase this book, and you will find it a valuable resource for developing your research ideas.

Important deadlines

For a detailed calendar, please see the full course schedule below. Beyond regular class assignment deadlines, Thesis Prep is subject to Institute and Departmental deadlines that need be carefully followed.

**Monday, October 26 or Friday, October 28 (5 PM)** As per DUSP Thesis guidelines (discussed during first day of class and posted on course Stellar page), 11.THG-CDD students must provide names of three potential thesis advisors to the THG-CDD Instructor. As per Thesis Guidelines in the MCP Handbook, students can hand in these names any time after October 5 should they so desire. **Do not panic!** Advisors need not be confirmed until after the Thesis Poster Session on November 24 (see below).

**Monday, November 2 or Wednesday, November 4.** By this date all 11.THG-CDD students need complete MIT’s Committee on the Use of Humans as Experimental Subjects (COUHES) training course online, and pass the COUHES on-line examination available at http://web.mit.edu/committees/couhes/. Please print out your successful exam confirmations and bring to class to hand in to the course instructor.

**Monday, November 23:** CDD Thesis Poster Session in room 10-485. At this session you will display and discuss your prepared poster with interested faculty and students. CDD and other DUSP faculty typically attend to learn about proposed thesis topics and to meet potential thesis students. The poster session is rewarding for all participants, both for students with and without confirmed advisors and/or readers.

**Monday November 30, or Wednesday December 2**
All 11.THG-CDD students must have applied for and received a COUHES waiver of research review by this date. The THG-CDD faculty will serve as supervisor of research in the event that your advisor is unable to sign your waiver application. Waiver materials may be found on the course Stellar page.

**Friday, December 4 (5 PM):** Turn in your full thesis proposal to both your advisor and the 11.THG-CDD instructor (room 10-485) for approval. Note: You need to include the department’s MCP thesis cover sheet as the first page of your submitted proposal (available on course Stellar site).
**Wednesday, December 9 (4:30 PM):** Deliver your approved thesis proposal to Sandy Wellford, the DUSP Academic Administrator (Room 7-346A).

### Units and Grading

Each student should sign up for 0-24-0 units for 11.THG-CDD in the Fall semester and again in the Spring semester. This unit number indicates that one will receive a total of 24 units of credit for the Thesis Prep class together with the actual thesis written in the spring semester. No letter grades are given in the fall – students will receive a “J” or a “U” indicating satisfactory (J) or unsatisfactory (U) progress in the thesis. Students will receive a letter grade from your thesis advisor for the full 24 credits upon completion of the thesis in the spring semester.

A “J” grade requires that one has successfully passed the course by submitting all assignments, submitting a draft thesis proposal, completing COUHES training and obtaining a COUHES waiver or approval for your thesis research, as well as having one’s final thesis proposal approved by both the thesis advisor and by the faculty for Thesis Prep (i.e. Brent).

A “U” grade indicates unsatisfactory progress in the course. A U will result if assignments, COUHES training and COUHES approval, a draft proposal, or an approved final proposal have not been submitted by the indicated deadline. Students receiving a “U” will need to complete all outstanding course requirements before being allowed to register for the spring semester. As the final thesis proposal has to be approved by both the course instructor and the thesis advisor, both the course instructor and your thesis advisor have the right to assign a “U” grade if necessary.

Each exercise during the semester will be graded with a “J+”, “J”, “J-” or U grade. These are self-explanatory, and are meant as an indication of a students’ progress. A U exercise grade must be converted into a J exercise grade to obtain a final grade of J in the fall semester.

### Small Print

#### Thesis Expectations

The thesis process is a collaborative one between thesis writer, thesis advisor, and (to a much lesser extent) thesis reader(s), and all involved have certain responsibilities, and rights. The latter were the subject of discussion in MCP Committee in 2014-15 and have been published in clarified form in the MCP Handbook online. We will discuss these on the first day of class.

#### Reading and Discussion

A note on reading. Reading is an important part of every aspiring researcher’s job. Reading good writing can be inspiring, particularly if it is related to a topic you like. Reading also identifies those areas of research that previous writers have already explored or have begun to explore, thereby updating you as to the state of the art on the topic. We therefore ask you to be a dedicated reader this semester: not only to pay close attention to the few
required seminar readings, but to investigate, early and often, readings related to your topic on your own initiative. Reading now will save you much time later. At the same time you should expect to read works related to your topic throughout your thesis research and writing period.

You will also gain much inspiration and confidence from actively discussing and debating your thesis ideas with your fellow students, both during seminar hours, when your discussions will be moderated and joined by the faculty and instructor, and outside of class. DUSP students are a talented lot and each of you has a lot to contribute, both individually and as a colleague of your fellow students. Share your thoughts with others and you will find thesis prep, and thesis writing, to be intellectually and personally fulfilling.

Faculty advising

DUSP has one of the largest planning faculties in the US and the CDD faculty resources for advising are accordingly rich. There is an abundance of faculty in CDD, both full time, part time, and lecturer, who are available to advise students. Each faculty member in CDD has committed to advising two MCP CDD students, and it is a committed department policy to distribute thesis advising across faculty, rather than having only a few faculty advise many students, and other faculty advise none. Part of the thesis prep process will be to advise and appraise students of the breadth of the faculty advising possibilities, so that students are able to consider the full range of DUSP faculty as possible advisors and readers.

COUHES

Since 2003, MIT has required all theses completed as part of the requirement for an Institute degree to comply with guidelines generated by the Institute’s Committee on the Use of Human Experimental Subjects (COUHES). Essentially, the aim of COUHES is to ensure that all research treats human subjects in a respectful and humane manner. COUHES reviews all thesis outlines to ensure that they are likely to comply, or be exempt from, COUHES regulations. Almost all DUSP MCP theses are found to be exempt, meaning that further review is not required as long as the thesis researcher complies with basic guidelines such as obtaining written or oral permission for interviews, etc.

Academic integrity

As you probably know, plagiarism and cheating are considered academic crimes at MIT. Never turn in an assignment that you did not write yourself, never submit an assignment for this seminar that you already submitted for another course, and never borrow or take information from another author without permission or citation. Doing so may lead to serious consequences in line with recognized Institute procedures. Please familiarize yourselves with the Institute’s guidelines for meeting the standards of academic integrity at http://web.mit.edu/academicintegrity/ or ask the course faculty or instructor if you have further questions.
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CDD Thesis Prep Course Exercises

Note: Please hand in a paper version of each assignment at the beginning of class for each deadline, and post each assignment as a PDF to the course Stellar site before class time. Both are required.

Exercise 1: Observing Phenomena
Due Sept. 14 (Section 1) and Sept. 16 (Section 2).

This assignment will assist you in identifying a puzzle, problem, or event relating to the built environment that is potentially meaningful to investigate and write about in your thesis. Phenomena are, plainly, something you’ve noticed, something that interested you, perhaps something that troubled you or made you think again. What did you notice? Why? (We will discuss phenomena more during the first class, using the “Spanish Motorway case” on the first page of the syllabus as an example.)

For this assignment, consider a phenomenon you have encountered/witnessed – something that has prompted your curiosity, and brought up questions. Write a half page description of the phenomenon, describing where and when you observed or otherwise became aware of this phenomenon, and potentially why and how this phenomenon is occurring. In addition, include maps, photographs, or other documentation to elaborate on the phenomenon. Print up to 3 maps/photographs on 8.5x11 sheets and bring to class to pass around during discussion.

You do not have to have personally encountered a phenomenon in order to have become aware of it; you may have read a news story or observed something in another way besides personally. But often, phenomena which become meaningful for thesis investigations are something that students have personally encountered. In this exercise, try to plumb your personal knowledge and experience; this experience may be the beginning of your thesis.

You will discuss your phenomenon in class.

Exercise 2: Brainstorming thesis topics.
Due Sept. 21 (Section 1) and Sept. 23 (Section 2).


Brainstorm a list of three or four potential thesis topics that interest you. You do not have to commit to any these topics and are free to alter them later. At this point your thesis ideas may well be loosely defined, but attempt to think narrowly rather than broadly when specifying potential topics. The topics do not need to be related to each other, and should describe subjects or questions that fascinate or frustrate you, or that you simply think are important. In
guiding your selection, give some thoughts to the scope of the topic: is it too large to study and research in a single academic year? Generally more focused topics have a greater likelihood for conversion to a successful thesis.

Your proposed thesis topics should in some way be related to, derived from, or associated with the phenomenon you presented in Exercise 1. Generally several topics may be associated with a single phenomenon; the challenge is to decide which topic is most meaningful, important, and researchable.

For each topic, write two or three sentences describing why you think the topic is important, and compose a list of at least three ‘keywords’ for each topic that you think may link your topic to existing literature. Assignment 2 should be a one page document.

You will discuss your brainstorming ideas in class.

Exercise 3: Reading MCP theses.
Due Sept. 28 (Section 1) and Sept. 30 (Section 2).

Read one of the MCP theses selected from the given list (on course Stellar page) or from your own investigations (if selecting a thesis not on the list, please confirm with course faculty prior to reading), and write a one-page summary of the thesis topic and research question.

Identify three related theses, skim them and write a second page briefly summarizing these theses. Two pages total.

In your writing, address the following questions: What is the thesis topic or topics?? Why was the topic interesting or important? Did you detect a “research question” and if so what was it? Which data and methods were used and/or answered the question? If there was a research question, was it convincingly answered? How do the three theses form a body of work? Do they make a collective argument?

Many theses are on dspace.mit.edu, particularly those post-2004 (and increasingly previous ones too). They may be found at http://dspace.mit.edu/.

You will discuss your selected theses in class.

Exercise 4: Developing a Bibliography.
Due Oct. 5 (Section 1) and Oct. 7 (Section 2).

Now that you have a strong sense of your thesis topic, you can familiarize yourself further with the literature in your subject. This is a critical step in engaging your investigations with the broader realm of studies on the topic. In order to write an excellent thesis every author needs to be aware of what has been written before on her/his topic, to identify the interesting gaps in the literature, and to build her/his investigation on the shoulders of those who have investigated a similar subject before.

Develop a two-page annotated bibliography of at least 10 references concerning your nascent thesis topic. At least half of the references should be books or academic articles. The others can and should be diverse; some will probably come from the Internet in the form of press articles, opinion pieces, etc. Familiarize yourself with the readings you list (i.e. read them or at least understand their arguments) and provide a one-to-three-sentence summary of the arguments in each reference.

Where possible, begin to reference your articles in electronic form. If you cannot find desired references at MIT, Harvard is likely to have it, either in the library or as an electronic resource.

You will discuss your bibliography in class in the context of your research topic and question. By the end of this week everyone should have a well-developed, interesting, researchable thesis topic with a robust literature.

**Exercise 5: Thinking about Theory (lecture).**
Due Oct. 12 (Section 1) and Oct. 14 (Section 2).

Exercise in preparation.

**Exercise 6: Formulating research questions.**
Due Oct. 19 (Section 1) and Oct. 21 (Section 2).


You will now convert your preliminary topic into a research question. Write a short paragraph on the research topic that interests you most, using the formula proposed by Booth et al. on page 51:

1. Topic: I am studying...
2. Question: Because I want to find out what/why/who...
3. Significance: In order to help my reader understand...
Answer each with one to two sentences. The whole should be no more than half a page long. You will present your answers in class.

Exercise 7: Presenting your thesis topic and research question.
Due as in-class presentation Oct. 26 (Section 1) and Oct. 28 (Section 2)


Write a one-page summary of your thesis reflecting your thinking at this point in time. Within your writing please articulate your topic of study, research question, literature that you have thus far found to be of interest, and *potential* professional implications. If you find that you have multiple research questions, focus on the primary one that you hope to address in your final proposal. You will present your ideas in class in a 7-minute presentation.

These one-page summaries will be aggregated and shared with CDD faculty, for their review and to help you initiate your search for a possible thesis advisor.

Exercise 8: Research Methods (lecture).
Due Nov. 2 (Section 1) and Nov. 4 (Section 2).


Research in City Design and Development is made even more interesting by the position of the field between the arts, the social sciences, and professional practice. There are therefore a broad range of potential methods possible for your thesis research. Research methods are essentially the process by which you gain primary information about your topic: they are critical to any thesis.

Write a two-page essay describing three research methods that you feel are most relevant to your thesis. You may discuss qualitative or quantitative methods.

Nov. 9 and 11: no class due to Veterans Day holiday.

Exercise 9: Hypothesis and Impact
Due Nov. 16 (Section 1) and Nov. 18 (Section 2).
Reading: John Zeisel, 2006, *Inquiry by Design, Revised Edition*. Read pp 34-41. This reading will be posted to Stellar.

Even as you poise a research question, you should have an idea, even a conviction, of the potential answer to your research question. This idea/conviction is called a hypothesis, and it is an important component of research, as you will be testing your hypothesis by carrying out data collection and ultimately answering your research question.

Theses should also consider the potential meaning that the research finding will have on the profession, the client, the research community, or the general public. Urban planning research is particularly concerned with this impact, as planning is an applied field concerned with action and reality.

In this exercise, please state a one-sentence hypothesis in the form of “I hypothesize that I am going to find...” and conclude the sentence with what you think you are going to find as a result of your thesis research.

As part two of this exercise, please provide a paragraph in which you describe the likely interest that your audience – any of the above listed or others – will have in your thesis once complete.

You will discuss your hypothesis and impact in class.

**Exercise 10: CDD Thesis Poster Session.**
Present on Monday, Nov. 23, time TBD, in 10-485 (both sections).

The poster session gives you an opportunity to present your thesis ideas to fellow CDD faculty and students, as well as the DUSP community in general. This presentation will help you confirm your thesis advisor and reader. Many advisor-reader teams are confirmed at this session, so it is very important.

Please prepare a poster summarizing your thesis ideas, plot it on a 20x30in page (landscape or portrait format), and pin up no later than 4:45PM. Late plotting is NOT acceptable (plotting takes at least three times longer than you think it will...) and a poster not pinned up by the beginning of the poster session will be given a U exercise grade.

We recommend that you prepare your poster in Adobe Illustrator or Photoshop and save the finished document as a PDF file for printing.

On the poster, note your topic, research question, intended methods of investigation, and professional/intellectual implications. You may mention some literature references if you think they might help orient the audience to your topic. Your poster should emphasize your research question and area of interest, and possess an attractive graphic quality.
Due Monday Nov. 30 (Section 1), Wednesday Dec. 2 (Section 2).

In consultation with your thesis adviser, prepare a 5-page draft of your thesis proposal. Include (page 1) your research question and why it is interesting and important; (page 2) the data you expect to collect and how; (page 3) the methodology you expect to use to analyze the data; (page 3) expected results and implications; (page 4) a preliminary work schedule for the spring semester (include the dates when you expect to complete your literature review, and data collection in particular), and (page 5) an annotated bibliography of the relevant literature you have identified so far. Please note your COUHES-related thesis methods in the document.

Also, please provide evidence that you have obtained a COUHES waiver by this date. Please bring a printed copy of your waiver to class and hand in to the course instructor (Kian). Revisions of your COUHES protocol are acceptable after this date, but you must have successfully made a first application for a waiver by this date.

Final Thesis Proposal.
Due Monday, Dec. 5, 5PM.

Complete your final thesis proposal for review by your advisor and Thesis Prep faculty. Please use the required cover sheet, available for download on the course Stellar site.

Final Thesis Proposals should be 8–12 pages in length, double-spaced. Some sample proposals will be available for review from the course instructors. Please submit two printed copies of your proposal – one to your advisor, and one to the 11.THG-CDD faculty, and a copy to the course Stellar page. Proposals may NOT be submitted late, or students may receive a U grade for the course. Thesis proposals must be submitted both in paper format and to the Stellar page in order to be considered for approval.

Collect your signed thesis cover sheet/proposals from your advisors and from 11.THG-CDD faculty on Wednesday Dec. 10, make any requested changes (hopefully minor) and submit to Sandy Wellford, the DUSP Academic Administrator (Room 7-346A), by 4:30 PM that day.

Congratulations! You now have a completed and signed thesis proposal. Now the fun really begins... your thesis research and writing itself! Good luck!