Introduction
The Moreton Bay Region, located just north of Brisbane, Australia is poised to undergo a major intensification of urban development over the next few decades – spurred by a rapid influx of multi-sector investments – and is projected to double in population by mid-century. Given this staggering rate of anticipated urbanization, the regional government has laid out a conceptual framework for supporting development with a focus on the 30-minute city concept – that is a city in which everyone can get from home to work, school, and all other critical destinations within a half-hour.

In the Moreton Bay Region, the goal is to leverage emergent technologies such as ‘level five’ autonomous mobility systems and ‘smart’ connected streets and infrastructure, in order to test new forms of highly integrated polycentric urbanization. Successful polycentric regional formation requires that each urban node maintains a distinct identity, while simultaneously contributing to a holistic, integrated, and legible metropolitan system of shared land uses, infrastructures, and resources. Furthermore, as the processes of urbanization continues to come into direct contact (and conflict) with the regional landscape, urban design must be able to work within the context of dynamic ecologies and environmental indeterminacy.

This studio asks:
• What is the future of polycentric peri-urban form as embodied by the Moreton Bay Region?
• How can comprehensive technological transitions be integrated with existing infrastructures and developing urban centers to generate new accessible, livable, and equitable regional forms?
• What are the roles of landscape design, land-use planning, and new architectural typologies in shaping these future urban processes?

The studio and its themes have emerged from a series of workshops conducted with the MRBC, MIT faculty, students, and researchers at the Leventhal Center for Advanced Urbanism (LCAU). In addition, the studio will run parallel to an urban planning studio at the University of the Sunshine Coast (USC) in Australia. USC students and faculty will provide MIT students with local insight, on-the-ground data collection, and comprehensive geospatial analysis.

*Prerequisites for DUSP students: UD Skills (or prior allied design field experience)
Phase 1: Regional Scale Systems
The studio will begin with a comprehensive analysis of regional landscape systems, transportation networks, and development patterns, which together form the unique context of the Moreton Bay Region. This phase will be conducted in concert with an urban planning studio at the University of the Sunshine Coast (USC) and will culminate in the production of a regional impact analysis and planning framework for complete adoption of autonomous mobility systems. This work will be used to reveal spatial relationships between land use changes, housing availability, commute times, environmental risks, etc.

Phase 2: 30-Minute Cities
Groups of students will investigate one of three 30-minute nodes (identified through prior workshops with MBRC and the LCAU). Each team will determine which spatial parameters will be used to identify their node’s geographic boundaries based on an in-depth account of local land-uses, demographics, key institutions, commuting patterns, industry profiles, existing transport systems, etc. In this phase, teams will propose 2-3 strategic urban design scenarios for each node. Each scenario will offer a different vision for how autonomous vehicles might be leveraged to improve connectivity and overall development of the 30-min city. Teams will also suggest key sites for neighborhood design proposals that can be used for phase 3.

Phase 3: Envisioning Future Districts
Students will select a neighborhood to work on for the final phase based on the ideas and proposals generated in the first half of the semester. New teams will form based on intersecting interests. For this final phase of the studio, students will be asked to work within their selected site(s) to develop specific district-scale design proposals for a complete transition to autonomous/driverless (AD) mobility systems. These proposals will be grounded in real-world data, but they will also be visionary, drawing from speculative projections and industry forecasting. Each project should reflect strong positions on the role of autonomous technology in shaping regional development within the context of the Moreton Bay Region and beyond.
Weekly Schedule
The following schedule is a working draft. Some changes may occur throughout the semester.

Week 1: Introduction
September 5
• Student and faculty introductions
• Syllabus overview, Q+A
• Launch Assignment 0

Week 2-3: Regional Polycentric Analysis
September 10
• Faculty lecture (Alan Berger) - Introduction to the 30-minute city concept for suburban regions (with a focus on the Australian and Moreton Bay context)
• Launch Assignment 1
September 12
• Skype presentations by USC faculty and students – 6:00pm EST (confirmed)
September 17
• Studio working session (with group desk crits)
September 19
• Pin-up Assignment 1

Week 4-6: 30-Minute City Framework
September 24
• Faculty presentation (Rafi Segal) – Introduction to the three 30-minute nodes as identified through previous workshops with MBRC and LCAU
• Launch Assignment 2
September 26
• Studio working session (with group desk crits)
October 1
• Studio working session (with optional desk crits)
October 3
• Studio working session (with optional desk crits)
October 8
• Studio working session (with group desk crits)
October 10
• Pin-up Assignment 2
• Launch Assignment 3a

Week 7-15: Designing the Autonomous District
October 15
• No class (Institute Holiday)

October 17
• Pin-up Assignment 3a
• Launch Assignment 3b
October 22
• Studio working session (with group desk crits)
October 24
• Pin-up Assignment 3b.
• Launch Assignment 3c
October 29
• Studio working session (with group desk crits)
October 31
• Pin-up Assignment 3c.
• Launch semester project and divide into working teams
November 5
• Faculty presentation (Jonah Susskind) – ‘Futurism in design’
• Studio working session (with group desk crits)
November 7
• Studio working session (with group desk crits)
November 12
• Studio working session (with optional desk crits)
November 14
• Pin-up semester project initial progress
November 19
• Studio working session (with group desk crits)
November 21
• Studio midterm review with invited guests (internal and external)
November 26
• Studio working session (with group desk crits)
November 28
• No class (Institute Holiday)
December 3
• Studio working session (final review dry-run)
December 5
• Studio working session (with group desk crits)
December 10
• Possible Final Review with invited guests (external)
December 12
• Possible Final Review with invited guests (external)
Selected References

At the conclusion of this course, a studio report will be compiled showcasing the pedagogical objectives and the student work produced during the semester. This report will be printed by the LCAU and a copy will be made available for each of the students in the class. To facilitate this process, certain file submission requirements and graphic standards must be complied with. Please reference the following guidelines for all submitted work.

- All files must be submitted with the following naming convention: `lastname1 lastname2 fall2019_assignment1_DrawingTitle.pdf`
- All files must be submitted as PDFs unless otherwise specified
- All physical models must be well photographed and submitted as JPGs @ 300dpi
- All drawings presented in reviews must include image caption information including titles
- All written statements and responses must be submitted as a Microsoft Word doc or RTF
- Final boards must be submitted as a packaged In Design folder with all referenced drawings properly titled (for possible publication) in links folder.

Above: Student work from previous Joint Urban Design studio. Ali Al-Sammarraie and David Maina. Fall 2018