

## ARC2014: Design Studio 4 – Comprehensive Building Project Winter 2024

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### HOUSING THE YELLOWBELT



Highrise of Homes, SITE James Wines, 1981

#### Overview:

The fourth and last in the sequence of core studios, the Comprehensive Building Project takes on integrated design practices to arrive at advanced building design as inseparable from the design of its site, urban, cultural, and environmental contexts.

The studio will confront the double crisis of the climate emergency and housing shortage in Toronto. As the city needs to build more housing due to population growth, it also needs to reduce drastically and urgently its CO<sub>2</sub> emissions. The studio will consider solutions to this paradoxical equation and reimagine how we build buildings to meet our social needs while not exceeding the ecological ceiling of our planet.

#### Site:

The site is within Toronto's Yellowbelt, which today covers 75% of the land area exclusively designated for detached housing. The project anticipates a much-needed evolution of a neighborhood toward a denser and more mixed-use future. As such, this studio is also a contribution to Toronto's mayor Olivia Chow recent call for a "Generational Transformation of Toronto's Housing System to Urgently Build More Affordable Homes."

#### Project:

The project is the design of a new large-scale mixed-use co-op housing project on the underutilized land of the Toronto District School Board (TDSB) in [Glen Park](#). Together with the housing program, the project will ask the students to consider the long-term vision for the site and its role to foster community use and supports local residents.

#### Organization:

While the whole studio will work on the same site, program and deliverables throughout the semester, each instructor will stake a starting point and frame a specific approach for their group. Students will work in pairs for the entire semester.

The course will be informed by the participation and synchronization of the group of co-requisite courses on structure and building science and a team of outside consultants to form a team-teaching model that allows for and promotes new depths of study and design resolution.

These conversations will inform the negotiations between design intent, internal and external constraints and integrate criteria related to life cycle, circularity and constructability. Students will be working with a carbon budget of zero and apply a whole-life carbon methodology to evaluate the performance of their design by quantifying and representing the relatively invisible forces shaping the material dimensions of buildings such as energy use, embodied carbon, material supply chains and thermodynamics.



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