

Master's Thesis Reviews

University of Waterloo
School of Architecture

Friday,
December 3rd,
2021

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Schedule

9:00 AM - 10:30 AM

Shahal Ahmed

Supervisor: Val Rynnimeri
Committee Members: Rick Andrighetti
Internal Reviewer: John McMinn
External Reviewer: Mark Sterling

Brian Tien

Supervisor: Tracey Eve Winton
Committee Members: Adrian Blackwell
Internal Reviewer: Marie-Paule Macdonald
External Reviewer: Miles Gertler

10:30 AM - 12 PM

Shaina Anne Coulter

Supervisor: Val Rynnimeri
Committee Members: Jane Hutton
Internal Reviewer: Rick Andrighetti
External Reviewer: Mark Sterling

12 PM - 1:30 PM

Logan Carragher

Supervisor: Jonathan Enns
Committee Members: John McMinn
Internal Reviewer: Val Rynnimeri
External Reviewer: Michael Piper

1:30 PM - 3:00 PM

Charlotte Damus

Supervisor: Jonathan Enns
Committee Members: Maya Przybylski
Internal Reviewer: John Straube
External Reviewer: Daniel Chung

3:00 PM - 4:30 PM

Stephanie Young

Supervisor: Maya Przybylski
Committee Members: Jane Hutton
Internal Reviewer: Marie-Paule Macdonald
External Reviewer: Cam Parkin

Beyond an Eyesore: Re-Imagining Scarborough's Strip Malls as a Network of Public Spaces

Shahal Ahmed

Supervisor: Val Rynnimeri

Committee Members: Rick Andrighetti

Internal Reviewer: John McMin

External Reviewer: Mark Sterling

9:00 AM - 10:30 AM



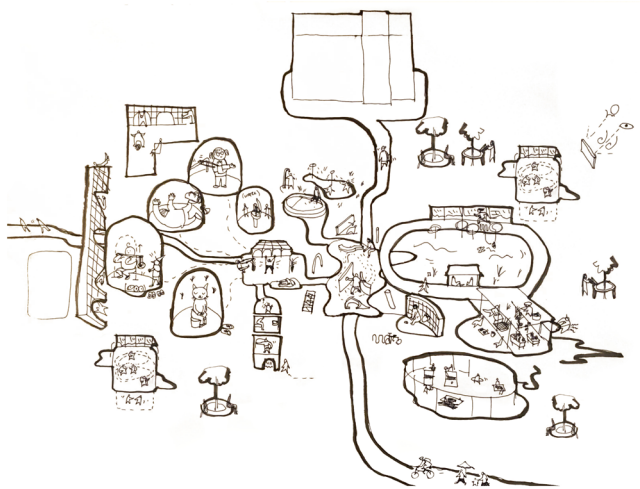
Abstract

This thesis is about the renewal of the vitality and public life of the post WW2 era strip malls located in the City of Toronto's former City of Scarborough. The main question of this thesis is, what is the emerging nature of the everyday accessible public space of a diverse pluralistic society in an inner suburban context? The outdoor plazas have remained the community's utilitarian providers of services and have evolved to become informal social destinations due to their easy accessibility and their variety of small local independent retailers. The design part of the thesis seeks to materialize the full potential of the strip malls by reimagining them as a connected network of public spaces, which together are pluralistic social destinations with urban design interventions that promote gathering for daily use and indoor and outdoor events. The work is accomplished through texts, narratives, maps, photographs, and drawings to understand the present situation and design a proposed situation through top-down and bottom-up methods following a design criteria established from literature and precedent analysis while addressing managerial challenges.

(Re)creation: an Alternative Proposal for a Fitness Gym

Brian Tien

Supervisor: Tracey Eve Winton
Committee Members: Adrian Blackwell
Internal Reviewer: Marie-Paule Macdonald
External Reviewer: Miles Gertler
9:00 AM - 10:30 AM



Abstract

The fitness space ranges in shape and size, from gyms, health clubs to yoga studios spread across the globe, symbolizing an ongoing fitness revolution which has grown and expanded over the past century. Fitness values vary from person to person; however, they are constructed by a history of economic, gendered, and social structures which influence how we value certain notions of beauty and health. Thus, the gym becomes the site for conflict between different ideals of the body, in a paradoxical space shaped by discipline, play, and pleasure.

(Re)creation is a design proposal for a fitness gym/community centre hybrid which revises the way we train our bodies in relation to our architectural surrounding, incorporating its walls, columns, and railings as tools for exercise, pushing and pulling our bodies, rather than simply being static objects within our vicinity. As the shape for our gym spaces are redefined, hopefully we begin to question the individualistic and commodified nature of our current fitness industry. (Re)creation explores the potential of architecture to dismantle the often-advertised hegemonic ideal body by promoting inclusivity for all bodies and providing a constructive space for both training and play.

In Defence of Soil - An Ontario Greenbelt Regeneration Strategy

Shaina Anne Coulter

Supervisor: Val Rynnimeri

Committee Members: Jane Hutton

Internal Reviewer: Rick Andrighetti

External Reviewer: Mark Sterling

10:30 AM - 12 PM



Abstract

Ontario's prime agricultural soils are in distress. Degraded by decades of intense conventional agricultural practices and threatened by the advancing footprint of suburban development, the once abundantly healthy layer of topsoil has been abused and exploited to produce ever higher yields of crops that will not even be consumed by Ontario communities. The Duffins Rouge Agriculture Preserve follows this land exploitation story. Of the 9,500+ acres of land within the preserve, 69% of the agricultural fields are producing grains destined for animal feed, global exports, and ethanol use. Dominant agricultural practices produce large parcels of monoculture fields. Laden with herbicides, pesticides, fungicides, and toxic dust from denatured topsoil, the fields contaminate Ontario watersheds and destroy essential ecosystems. Located within the Ontario Greenbelt, centred between lands owned by all three levels of government, Ontario's only designated agriculture preserve has the potential to become a landscape mosaic of healthy, diverse, and aggrading ecosystems that provide energy and life to surrounding communities. In *Defence of Soil* asks: how could the Duffins Rouge Agriculture Preserve support a repository of exemplary regenerative agricultural knowledge that is specific to Ontario's agricultural landscape? This thesis seeks to explore a series of landscape transformations that increase crop production in combination with practices that restore natural ecosystems. The regenerative strategies used in the design of the Agriculture Preserve aim to evoke a sense of place which challenges conventional notions of today's degraded rural landscapes—a place which upholds nourishing, ecological, and human-scale farming techniques. The Agriculture Preserve, as a site of collaborative practice, would involve leaders from government organizations and local Indigenous groups, farmers, community members, naturalists, landowners, and researchers to weave together local knowledge of the land and address the damage caused by outmoded farming practices. The design methodology proposes regenerative agriculture practices alongside landscape infrastructure to focus on building ecological and community resilience. By increasing public access, and fostering connections with nearby communities, this research will intimately connect community members with their local farmland. Through drawings, illustrations, maps, and data visualization, the thesis will demonstrate the key regenerative impacts this work could have on the landscape above, the communities nearby, and the soil below. Working to address the needs of both the community and the environment, this vision for the Duffins Rouge Agriculture Preserve exemplifies regenerative agriculture practices for Ontario, advocating for the land itself, and we who rely on it.

It Takes a Village A Retrofit Framework for Improving Health and Community in Car-Dependent Suburbs

Logan Carragher

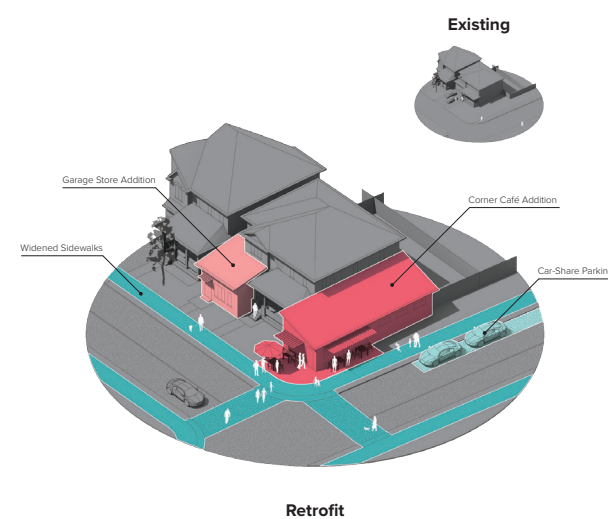
Supervisor: Jonathan Enns

Committee Members: John McMinn

Internal Reviewer: Val Rynnimeri

External Reviewer: Michael Piper

12 PM - 1:30 PM



Abstract

Car-dependent suburban sprawl is an outdated planning methodology that no longer reflects North-Americans' environmentally-concerned lifestyles and patterns of living. Developing most significantly after World War II, suburban expansion took North-American town planning in a markedly different direction than the traditional community-centered village planning relied on previously. Suburbs provide less expensive housing than in cities, quieter neighbourhoods, and are ideal for nuclear families. These benefits however do not outweigh their health, social, and environmental concerns. Suburbs are obesogenic, their car-dependency results in a plethora of health ailments, as well as decreases residents' overall satisfaction with life. Socially, suburbs promote segregation which decreases civic engagement, and they consume valuable time due to the commuting necessity, this erodes the social identity of the region. Lastly, the extensive amount of space they take up eats into nature and farmland, and the carbon emissions per-capita are much higher than in cities.

As a product of the Covid-19 pandemic, work-from-home culture is now widely accepted out of necessity, resulting in more time spent in suburbs. It has also initiated a migration of city dwellers moving to the suburbs and exurbs, taking advantage of the housing prices and distanced work culture. As such, it is more important than ever to re-examine the composition of suburban neighbourhoods to provide a better quality of life to residents. This thesis explores the opportunities in existing suburbs, using a retrofit framework to supplement single-family and semi-detached home neighbourhoods to better support more time spent there. It proposes that a certain level of centeredness or villageness is what is missing from suburbs, and considers neighbourhood identity, social gathering spaces, ease of pedestrian transit, and resource availability as parts of a solution. Existing suburbs have the potential to become healthier, self-supporting communities that are no longer so heavily reliant on city centers, box stores, and the automobile.

Walls of Air: A Retrofit for Equitable Indoor Air Quality

Charlotte Damus

Supervisor: Jonathan Enns

Committee Members: Maya Przybylski

Internal Reviewer: John Straube

External Reviewer: Daniel Chung

1:30 PM - 3:00 PM



Abstract

Despite the known efficacy of physical separation as a method of preventing the spread of diseases, significant portions of the population experienced higher levels of vulnerability during the Covid-19 pandemic due to the lack of space within their overcrowded homes. Already common in spaces such as hospitals where there is a high risk of contaminant spread, explorations into the use of ventilation and filtration as mitigation tools increased in public spaces as the airborne nature of the virus became prominent. Fewer residential examples of these environmental mitigation strategies exist notwithstanding the recognized health benefits of good indoor air quality. An investigation into existing and developing environmental technologies, and stories gathered from media sources and interviews detailing domiciliary Covid-19 mitigation strategies form a basis for exploration within the residential landscape. Inserted alongside the Tower Renewal Project, this thesis features the often poorly ventilated and overcrowded postwar towers of Toronto, culminating in a retrofit proposal that considers the role of ventilation and filtration in decreasing the vulnerability of residents in an existing tower. The potential for indoor air quality deterioration and disease-spread driven by climate change encourages further development of the proposed active and passive strategies to provide equitable air quality to decrease population vulnerability.

Beyond Utility

Stephanie Young

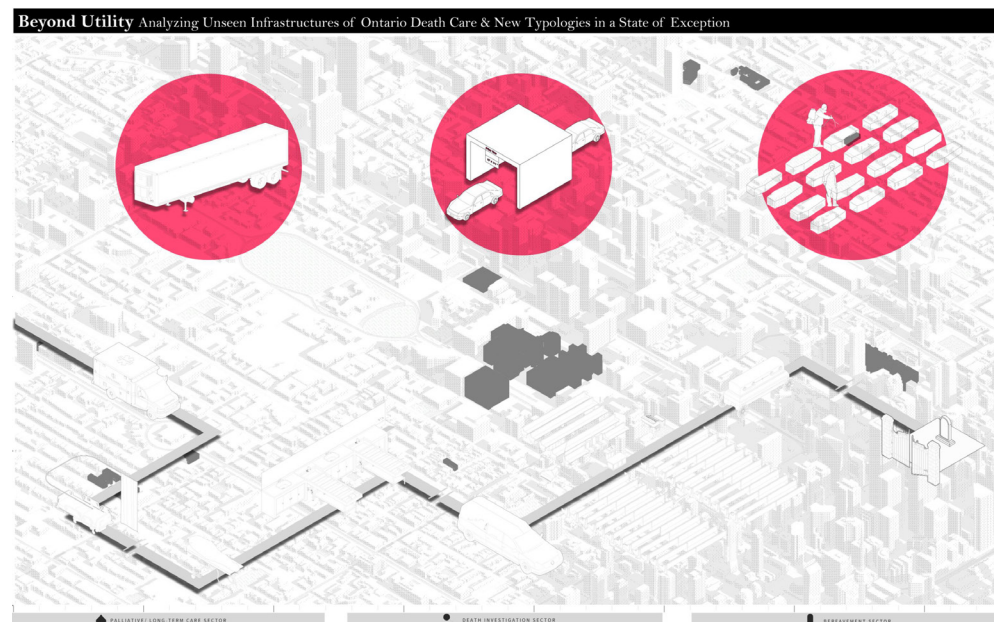
Supervisor: Maya Przybylski

Committee Members: Jane Hutton

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External Reviewer: Cam Parkin

3:00 PM - 4:30 PM



Abstract

As the world enters its third year of the Covid-19 pandemic, death rates have dropped significantly from peaks experienced since the first wave in 2019. However, physical remains still stand in various ad-hoc constructions that address a global issue - a shortage of space within morgues for the deceased. Historically, institutions within the death care system have operated under precarious conditions due to the time sensitivity of procedures, spatial restrictions of operations, and a lack of resources and external support. With the impending crisis of global population aging, extreme conditions documented during the pandemic (ie temporary morgues and mass graves) may re-emerge as permanent typologies, thus challenging conceptions of scalability in operations, spatial impacts, and quality of care. With limited documentation on the guidelines of dead body management, Beyond Utility illustrates the time-sensitive and operational constraints within each unit typology and makes visible an otherwise unseen system. While ad-hoc constructions have addressed capacity concerns temporarily, the death care system has inherent and growing capacity needs. Identification of critical peaks leading to the emergence of ad-hoc solutions provides a basis of new work needed. While the evaluation of ad-hoc typologies at the construction scale demonstrates the limited capabilities should existing services not be expanded. Major stakeholders and their roles are identified by chronicling the journey of dead bodies within the city - from the place of death to its final resting ground. A visibility matrix provides a basis for identifying critical points within each institution, and exploded isonometrics offer technical details and methods of construction. While temporary constructions have addressed immediate concerns for the management of bodies in a mass fatality incident, Beyond Utility aims to give context to the emergence of these new typologies and examines its spatial and functional impacts throughout the process of bereavement.

