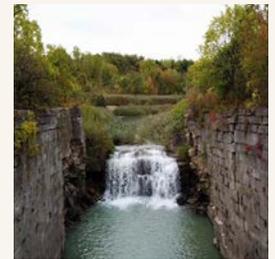


Shift 2019

Infrastructure
Architecture
Challenge



The images on the cover have been adapted from the photos submitted to the SHIFT Challenge. Please see individual sections for credit information.



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Ontario Association of Architects
111 Moatfield Drive
Toronto, ON
M3B 3L6
416.449.6898
www.oaa.on.ca

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Adele Weder, MASA, Hon. MRAIC

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President's message

ONTARIO ASSOCIATION OF ARCHITECTS

This book is both a culmination and a beginning!

It represents the satisfying conclusion of the years put into developing the OAA's new SHIFT Challenge. From the initial decision to revamp the awards program to the contributions of various committees, task groups and advisors in sharpening its specific focus, there was a long road leading up to the SHIFT launch at the 2018 OAA Annual Conference in Toronto. This book represents the result of not only those efforts, but also those of the teams behind the seven selections (and four honourable mentions) ultimately chosen by our jury. It is a permanent memento collecting their concepts and proposals.

However, this book also represents the start of something. The ideas illustrated in these pages are now being shared with the general public to continue a dialogue on how architectural thinking can be used to spur innovation to promote social equity or improve the places in which we live, work and play. Taken separately, these ideas could have significant impacts on improving various aspects of society. Taken together, they represent a holistic way of rethinking our built environment.

I'm very excited about this book, and the entire suite of concepts that are part of the SHIFT 2019 Infrastructure/Architecture Challenge. Within these pages, you'll see ideas that are new and familiar, modest and yet ground-breaking, and some with ambitions that are humbling. Our jury selected submissions from teams and from individuals, and from students and interns to experienced Ontario architects and educators.

As President of the OAA, I deeply appreciate and respect all of those who participated for their vision, passion and ability to pull together thought-provoking text, images and video in support of their ideas. I also offer my sincere congratulations to those whose submissions were selected by the jury.

While the SHIFT program is quite different from our traditional Design Excellence Awards, its mission to show how architectural thinking can have an important effect on people's lives speaks to the same OAA vision: "An Ontario in which architects are valued contributors to society, by creating a safe and healthy built environment that performs at the highest levels and elevates the human spirit."

Kathleen Kurtin, Architect
OAA, FRAIC
President

Introduction

In a world facing increasingly urgent and complex challenges—climate change, forced migration, poverty, an aging population and beyond—the need for responsible, innovative and inspiring architectural thinking has never been greater.

Architects are ideally suited to propose creative ideas. The SHIFT Architecture Challenge is a new OAA program created to highlight this distinct contribution architectural thinking brings to addressing key societal issues. It aims to showcase the profession's belief that good design can bring about positive change.

The program invites Ontario architects and their collaborative teams to respond to an identified area of concern using their skills and insights. It will run biennially, beginning with the SHIFT 2019 Infrastructure/Architecture Challenge.

The SHIFT Architecture Challenge recognizes those architects, both emerging and established, whose responses articulate the importance of architectural thinking as a social determinant that impacts the well-being of people and the planet, and reflect the capacity for design thinking to permeate all aspects of life.

SHIFT has been developed to expand the original OAA Awards Program, which celebrates buildings and service to the profession, to create something inspiring and relevant to the current needs of our society and communities. A more public-facing program, the SHIFT Challenge focuses on the ideas that architects, and their collaborative teams, can bring to a current societal issue.

The ideas collected in this book were evaluated for their ability to capture the public imagination, express innovation and creativity, demonstrate thoughtfulness and inclusiveness, inspire new ways of thinking and illustrate their capacity to bring the project's guiding principles to life.

The jury reviewed all of the submissions for clarity, excellence and quality of presentation in regard to five main criteria:

Innovation

Does the project defy convention and push thinking forward in a creative and original fashion?

Social Responsibility

Does the project promote values of social responsibility, human rights and sustainability?

Inspiration

Does the project spark new ideas and capture the public imagination, taking into consideration the quality of its visual materials and public-facing communication?

Inclusivity

Does the project promote a spirit of inclusiveness, situating architects as master collaborators?

Holistic Approach

Does the project represent a programmatic solution that goes beyond the built form, taking into consideration economic, sociological and ecological factors as well?

With the goal of increasing public dialogue, the SHIFT Architecture Challenge program will focus on opportunities to engage, expand and excite!



Lock 17 of the historic Third Welland Canal, constructed in 1887 (see p. 24).
Photo by David Donnelly and David Riganelli

The 2019 SHIFT Infrastructure/Architecture Challenge

INTRODUCTION TO THE THEME

For the first iteration of the SHIFT Challenge, the OAA asked Ontario architects and their colleagues to identify and address an infrastructure issue, either physical or social, where architectural thinking may be absent or under-represented.

In this program, “infrastructure” includes anything from roads, transit, water systems and electrical grids to housing, hospitals, museums, libraries and community centres. It also encompasses the less-tangible foundational aspects of society, profoundly structuring and governing our daily lives.

This topic is particularly timely because disconnects between our modern demands and our existing infrastructure systems can unfortunately create fundamental gaps in experience, accessibility, safety and quality of life. These disconnects reflect the realities of physical infrastructure and organizational structures/processes (policies, people, ideas and

communities). Many of these essential elements have failed to keep pace with transformative technological, economic, demographic and social changes.

The OAA challenged the architecture profession to examine these systems and propose new ways to understand, create or support the infrastructure that links our communities in order to address these connective elements. The goal was to find creative, transformative responses that show how architectural thinking can promote social equity, reduce isolation or embody social justice.

The 2019 SHIFT Infrastructure/Architecture Challenge sought unique, inventive ideas that promote public dialogue, shift public consciousness, affect society and drive change. The pages in this book highlight seven submissions, as curated by our jury (page 64) from 40 entrants, that are particularly powerful. **For more, visit www.shiftchallenge.ca.**

Jury observations

The seven selections chosen for the SHIFT 2019 Infrastructure/Architecture Challenge operate at different scales and different levels of architectural proposition. The jury felt that “the goal of showing how architectural thinking can promote social equity, reduce isolation or embody social justice” was embraced by the chosen submissions.

Infrastructure is an urgent issue. In the spirit of this challenge, individual authors and teams looked to tackle the complexity and the scale of infrastructure ideas. While proposals were not required to resolve a problem per se, those that stood out generally proposed “new ways to understand, create or support infrastructure that links communities” through design thinking.

The five criteria used to determine winning proposals were innovation, social responsibility, inspiration, inclusivity and showing a holistic approach. During the process, the 2019 SHIFT jury applauded an emerging strategy of using ‘places’ and ‘things’

(i.e. resources) often untapped or hidden in plain sight; many cities already have these resources, and ideas put forward show a new resourcefulness in repurposing urban infrastructure. This included abandoned canals, parkways and rail lines, such as *Rail to Trail*, and a *GO Bike* proposal on the GO train expansion lanes. Other projects, such as *Multi-tach*, reimagined a simple zoning proposition that would lead to a network of dispersed and ultimately more sustainable housing density as an antidote to a reliance on the proliferation of hyper-dense skyscrapers in a few locations in the urban core.

The jury unanimously observed that the awarded proposals, while compelling individually, are even stronger when taken together as a whole rather than in isolation. Considered together, the proposals highlight aspects of infrastructure utilizing increasingly scarce resources in ways that create an inclusive and polyvalent matrix for shared use and expanded common ground. Seen as a suite of propositions that are models for new and sometimes radical thinking about infrastructure, the awarded proposals are models that could be replicated in many similar situations and at a variety of scales. Grassroots initiatives and the renewal of civic life through adaptive reuse, alongside the appropriation of former infrastructure for future transit solutions, begin to suggest future partnerships that need to transcend the limitations of political and economic investment plaguing contemporary Canadian cities.

The jury was also impressed that proposals did not solely address the larger urban centres in Ontario. Many proposals were aimed at towns and rural areas that are currently struggling to justify infrastructure investment. Challenging the established way of thinking has broad applications: thinking of the cost of food or building materials in the North can have profound impacts for society.

One proposal stood out for acknowledging the architectural memory of significant infrastructure; *Re-engaging the Defunct and*



Photos by Jalani Morgan



Historic Welland Canal identifies our cultural industrial heritage that deserves to be repurposed rather than simply abandoned. The theme of repurposing existing infrastructure ran across many entries that the jury discussed.

The *Urban Energy Shift* proposal presents an argument at a variety of nested scales to create cities that truly produce energy at every scale—from the building to the node to the overall structure of the city. This ambitious vision treats infrastructure in a socially responsible and holistic manner, reminding the jury that although the rhetoric of the proposal sounds familiar, as a society we are far from achieving its goals.

At the other extreme of the urban scale is the proposal for grassroots transformation of civic space through the finely crafted *Story Pod*. In the context of the SHIFT Challenge, the jury was impressed with how the project may be replicable and—if presented as a model for civic engagement—may be funded and shared between community and municipal partnerships or other economic models without losing its uniqueness. Continuing the theme of smaller urban centres, *Immigrant Landscapes* is a student thesis that questions and examines how immigrants find welcoming infrastructure as they enter an urban centre in a smaller, Northern Ontario city.

All the awarded proposals display various degrees of understanding that good design must display quality of architectural thought as well as representation. This, too, was part of the SHIFT Challenge; the jury noted that the quality of submission was, in many cases, beautifully crafted, showing the design and presentation talents of OAA members.

In addition to the suite of seven selected projects, the jury felt that four other evocative projects met many of the five criteria of the SHIFT Challenge. *Revitalizing Suburbia* is an innovative analysis of the commuting dilemma in large cities. *Central Parkway* intelligently tackles the reuse of the highway traversing Ottawa that has been an urban debate for too long without any

real change. *Stuff Cloud* is a relevant and provocative critique for developing an architectural strategy to address the cycle of buy, use and waste that continues to mount. *Counterpublic of Union Station* is a student thesis that tackles the reprogramming of a grand civic space, forcing us to reconsider its role as a large public and civic infrastructure. These projects are particularly inspirational in the way that they present some aspect of infrastructure that could still be reconsidered through the use of innovative design thinking.

The message by the 2019 SHIFT Jury is that the SHIFT Challenge marks a significant shift in thinking about architecture beyond the design of specific buildings or particular typologies. As the first of its kind for the OAA, the 2019 SHIFT Infrastructure/Architecture Challenge has been a successful venue for tackling large themes that focus on architects as societal leaders, and allowed submissions to display architectural thinking and, at times, introduce solutions that need to inform the public debate about architecture, design, urban design and design-related activities for the 21st century city. This remains an ongoing 'challenge' for the profession of architecture.

— Text developed by jurors Dr. Terrance Galvin, Ilana Altman, Janna Levitt, Ken Greenberg and Raymond Moriyama as well as Jury Facilitator Toon Dreessen.

The Grand Trunk Railroad swing bridge that crosses the historic Third Welland Canal. Photo by David Donnelly.



PROJECT SELECTIONS

S
19



Rendering of a GO Bike Network segment, after transformation of surplus rail-corridor space into a cycling “highway.”

GO Bike

NAAMA BLONDER and MISHA BEREZNYAK (Smart Density)

GO Bike proposes to repurpose surplus land in existing rail corridors to create a network of grade-separated bike trails that complement the existing cycling network and allow safe and fast travel.

Municipalities in the Greater Toronto Area (GTA) have been improving their cycling infrastructure by building bike lanes. However, bike lanes tend to be useful only for short or medium-distance trips because the cyclists’ average speed is limited by the need to frequently stop at intersections. Trips over a few kilometres become too time-consuming; making such trips efficient requires a different kind of infrastructure, with trails that allow continuous cycling.

Many of the existing rail corridors have surplus space, and they are continuous and grade-separated, making them an ideal starting point for creating a higher-order cycling infrastructure. In the expansive GTA, a layer of express trails would extend the length of potential trips as far as 15 kilometres—the rough maximum that most are

JURY’S COMMENT:
THE KEY SIMPLICITY OF THIS IDEA IS ALIGNED WITH THE THEME: CREATING NEW USES FOR UNDERVALUED, UNDERUTILIZED INFRASTRUCTURE THAT IS HIDDEN FROM VIEW.





Photo rendering by Smart Density

prepared to cycle in a single journey. Eliminating intersections increases travel safety, especially in outlying areas where the only cycling routes are often on dangerous and high-traffic arterial streets, and allows a more relaxed, efficient and pleasant cycling experience.

Providing these trails in the railway corridors is the simplest and cheapest place to start. However, in the future, as the number of cyclists grows and the benefits of a grade-separated system become apparent, there could be sufficient political will to build grade-separated trails from scratch.

The GTA already has a few bike trails offering some level of separation from traffic, but they have various limitations. Most of those trails are within ravines, mainly in the City of Toronto. The ravine trails are well suited for recreational use, but since they are disconnected from the surrounding urban fabric and do not form a network, they are not ideal for everyday transportation. Another partially separated trail is the Martin Goodman Trail on the waterfront. It offers an advantage over regular trails by avoiding most conflicts with streets; however, it is only able to do this by being located at the edge of the city, which is a feature hard to replicate in other places.

The region has one existing bike trail along an active rail line—the two-kilometre West Toronto Railpath. It works very well and demonstrates the efficiency of a bike trail that is fully grade-separated, direct and easily accessible. At the same time, since this trail was conceived as a recreational linear park first and as a means of transportation second, it was elaborately landscaped and cannot serve as a cost-effective model that can be implemented at a large scale. For this reason, the GO Bike system proposes a more “bare-bones” approach to allow basic cycling/walking facilities to be built cheaply and quickly. Over

Existing grade-separated rail corridors can create 100 kilometres of fast bike lanes in the city.

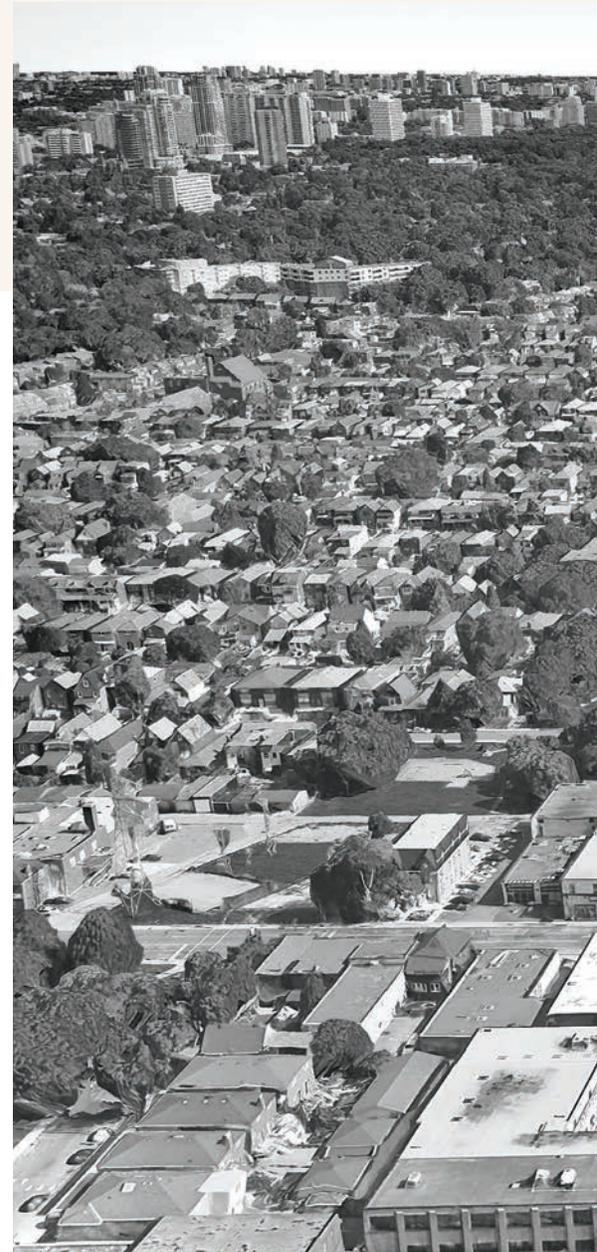




Photo rendering by Smart Density

time, heavily used sections and those near dense neighbourhoods would be enriched with additional amenities—essentially functioning as linear parks.

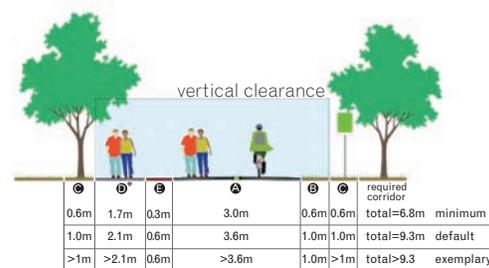
Our team identified which portions of the rail corridors had enough width to accommodate bike trails, accounting for the possibility of future rail track expansion. We determined that approximately 70 per cent of the existing railway corridors within Toronto have enough surplus space and they can contribute 108 kilometres of new, grade-separated trails.

Since the rail corridors are already mostly grade-separated and are planned to become fully grade-separated, building the trails is relatively straightforward. The major issues to be worked out are at street crossings. A few railway bridges currently have room for service vehicles that could be converted to bike trails, but in other cases, separate bicycle bridges would be required. For tunnels, where extra space is not available, the trails would have to come to the surface and cross the street at-grade.

The most likely candidates for the new system are those who ride for transportation and recreation, as well as walkers, joggers, rollerbladers and horseback riders. However, The GO Bike trails could also expand the mobility options of groups that are not normally associated with cycling infrastructure. The experience from places with well-developed cycling networks such as the Netherlands and Denmark shows that when the cycling trails are well protected, they also get used by people with mobility scooters, cargo-bikes, parents with child carriers and young children. Additionally, the ability to use battery-assisted bicycles to avoid sweating in the summer, and the elimination of conflicts with traffic that constitute a significant hindrance for cycling in the winter, provide opportunities for year-round mobility by bike.

Besides direct benefits to its users, the GO Bike network would also provide broad social, ecological and health benefits, particularly assisting outlying neighbourhoods, many of which lack good walking and cycling infrastructure. While we keep improving the regular cycling network in the GTA, this additional layer of grade-separated “express” trails would make cycling much more useful and enjoyable. The foundations of this network already exist—in our railway corridors—and it means we have an unusual opportunity to boost our cycling infrastructure cheaply, simply and quickly.

From the Toronto
Multi-Use Design
Guidelines.



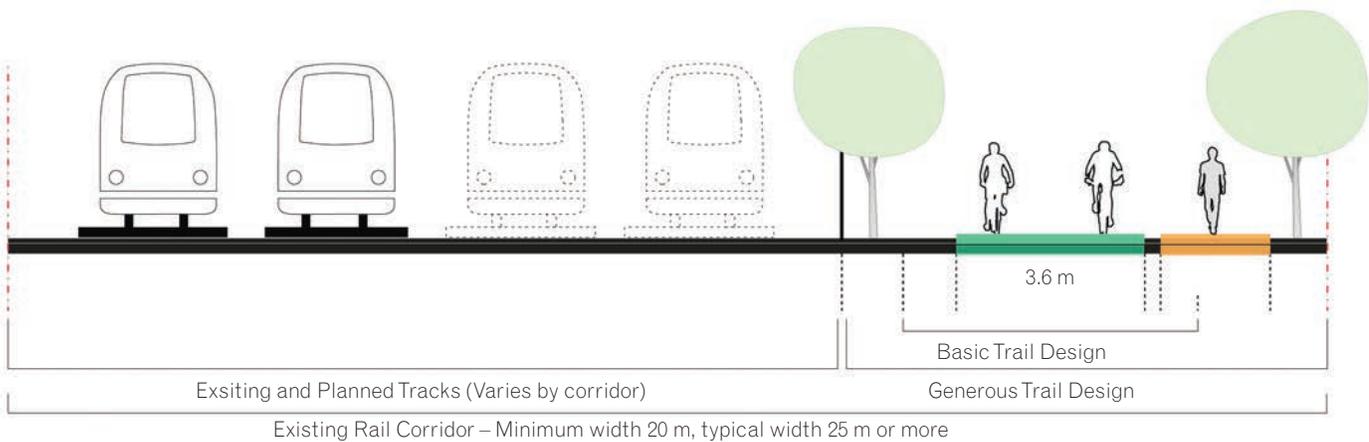
* Existing sidewalks may be retained at narrower widths in some situations

Typical section of the proposed design. The basic design alternative mixes bikes and pedestrians, and is appropriate for routes with lower anticipated bicycle traffic and for narrow rights of way while the generous design alternative is appropriate for busier routes.



LEGEND

- Existing/planned surface bike lane or path
- Existing grade-separated bike trail
- Proposed grade separated bike trail
- Proposed new connection
- Existing rail corridor



Renderings by Smart Density

Immigrant Landscapes

ARCHITECTURE IN THE AGE OF MIGRATION

SOPHIE MACKEY (M.Arch. candidate, Laurentian University's McEwen School of Architecture)

While North American cities are being transformed both architecturally and culturally by migration, their infrastructure is often too standardized and homogenous to accommodate diversity. Using Sudbury as a starting point, the project imagines an Immigration Support Centre that repositions the relationship between the people, ethnicity and place.

Like many other Northern Ontario cities, Sudbury is now turning to immigration as a way to confront its population decline. In 2010, the City of Sudbury initiated a Downtown Master Plan in an attempt to position itself as the “Capital of the North.” In parallel, the city published an Action Plan in 2011, promoting the city as a welcoming, safe and secure place to live. While the vision is well-intentioned, Sudbury is far from ready to adequately accommodate newcomers. Most services available in the city are not geared to the specific needs of newcomers. What’s more, many immigrants struggle with Sudbury’s lack of ethnic

JURY’S COMMENT:
THIS EXCITING PROJECT EMBRACES CONTEMPORARY POLITICAL THOUGHT IN HOW BUILT FORM CAN CREATE SOCIAL COMMUNITIES, BUILDING ON THE HISTORIC PRECEDENCE OF HOW IMMIGRATION CREATED NEIGHBOURHOODS GENERATIONS AGO. IT SPEAKS TO THE INTENT OF THE PROGRAM ON MANY LEVELS, REALLY SPEAKING TO CORE CANADIAN GOALS OF BEING A WELCOMING PLACE.





neighbourhoods (often present in bigger cities), which could otherwise serve as a comforting transition and permanent place for newcomers.

This brings to light the need to provide cities with inclusive designs that can welcome newcomers. Now more than ever, architects and designers are faced with the problem of designing for diverse communities. What if, instead of resorting to spatial homogenization, we started with the premise of cultural diversity in architecture as a crucial part of humanity?

Although this project aims to provide an architectural project for Sudbury, it is intended to be a framework of research that may be applied to other cities. Submitted as part of a 2019 M.Arch. thesis at the McEwen School of Architecture, it begins by exploring a universal framework to address the issues of inclusion for newcomers. A proper architectural response requires consideration of three factors: belonging, safety and well-being.

“Belonging” is achieved by connecting people to a place, so that newcomers can feel a sense of community and rise to a common sense of belonging. It is essential to create an environment that helps newcomers face the stresses and anxieties of their past lives and recent transitions—one that serves to architecturally facilitate their involvement with the wider community.

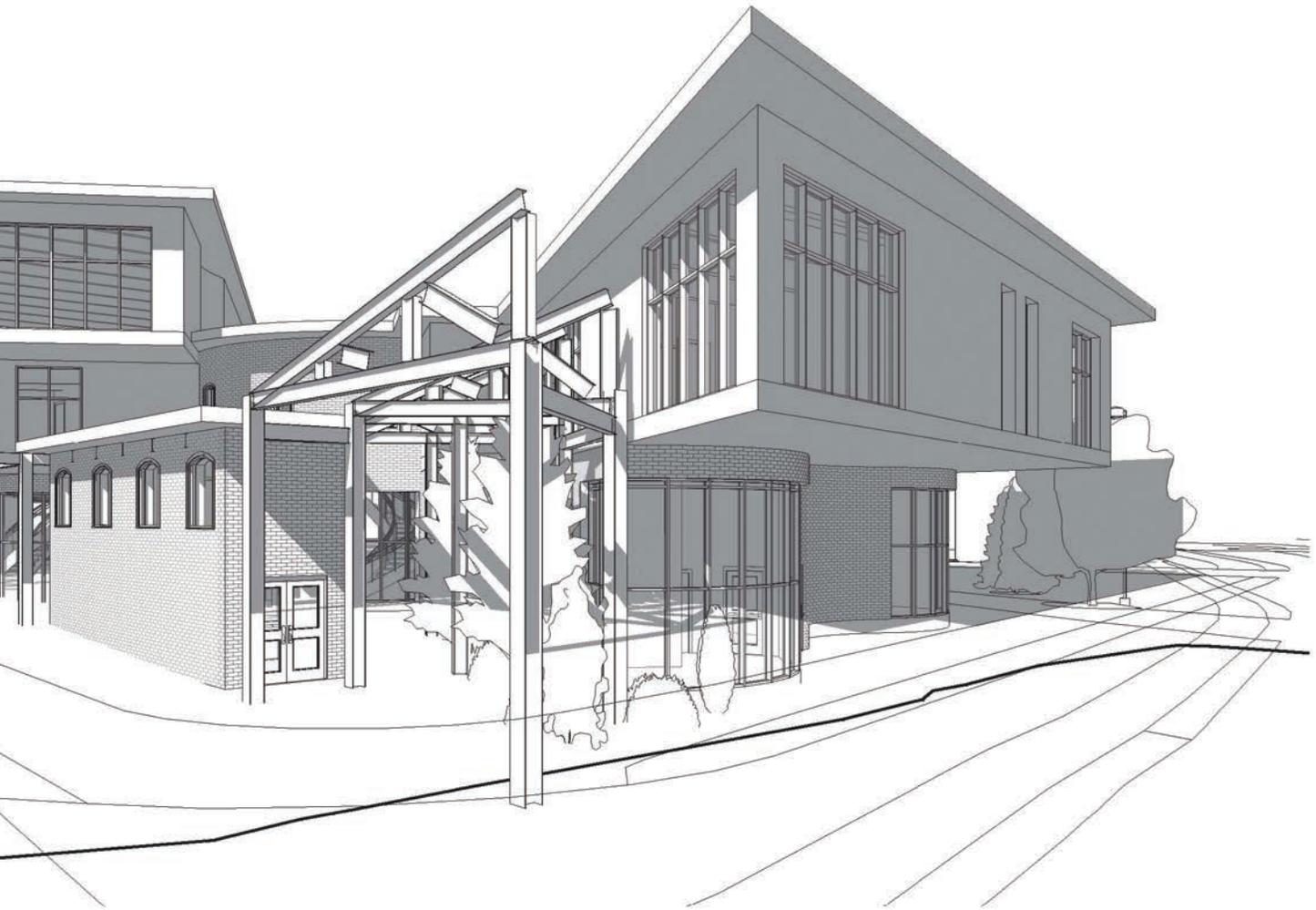
“Safety” can be enhanced through architecture. Features such as separate entrances, as well as partition-free transition spaces that facilitate social interactions, are a few ways to promote safety.

“Well-being” can be encouraged through a good atmosphere that promotes natural light, selective use of materials, sounds, movement and green spaces. All act together to promote a healthy mental state.

These spatial features and objectives lead to a thorough evaluation of possible programs. Categories such as education, social services, event spaces,



Rendering of the preliminary design of the Immigrant Support Centre. Materials such as steel and brick speak to Sudbury's hard-rock past, while the second-floor wood construction will project warmth, comfort and belonging.



daycare and healthcare are considered for the final building design. A multicultural market is designed for cultural and personal expression through food. A hypothetical “Common Kitchens” program could allow newcomers to make and share different foods, and even learn to cook in communal settings. A daycare allows parents to drop off their children before work or language classes. A library and language centre promote social interaction and allow for flexible spaces beyond a single function.

The project site of the Immigration Support Centre is on the border of the Donovan, a neighbourhood that has been home to many immigrants throughout the history of the city. The former site of the unofficial “hangout” for Finnish immigrants, it has served as a hospital, rooming house, printing house, store and, most recently, a Chinese restaurant. The site has seen diversity through the years, making it a perfect location for the new Immigration Support Centre. Further, it is adjacent to the N’Swakamok Native Friendship Centre, which could potentially broaden the integration of immigrants beyond the wider urban fabric of the city to the First Nations population in the area.

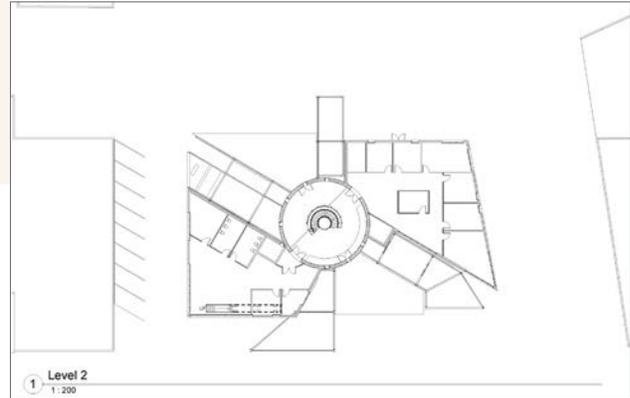
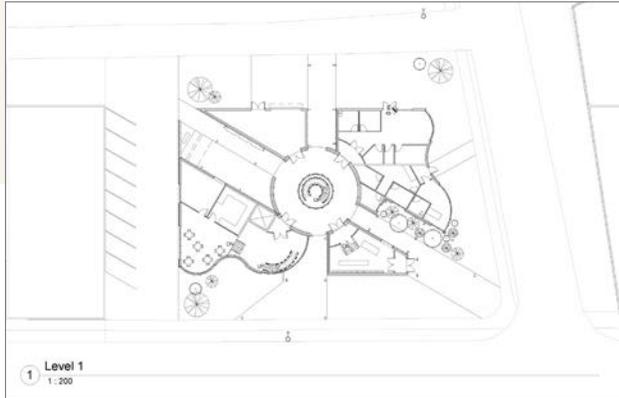
Although the site is located in the Donovan neighbourhood, it borders Downtown Sudbury, with an historical ethnic makeup of mainly Anglo-Saxon. These two neighbourhoods are separated by the physical barrier created by the train tracks.

The Downtown Master Plan focuses exclusively on the downtown core. This project shifts the urban centre from the current downtown toward the region of the project site. It establishes the new building as a space for cultural diversity instead of the office complex proposed in the current Downtown Master Plan. Included in the project is an urban park that would nurture public life and increase the opportunities for community participation, fostering inclusion within the existing local context. The use

of laneways in the project gestures to immigrants’ historic use of Sudbury’s laneways as informal cultural spaces. The project connects to the city, making it a main nexus of the new Downtown Master Plan. Under one roof, the Immigration Support Centre houses many NGO offices currently scattered throughout the downtown core. It aims to bridge the gap between the city and the site by transforming into a place where racial and cultural diversity is celebrated. It showcases the history of immigration in Sudbury and acts as a beacon of hope and change.

JURY’S COMMENT:

RATHER THAN ASSUME IMMIGRATION WILL HAPPEN IN MAJOR URBAN CENTRES, THIS PROJECT BUILDS ON THE LOCAL COMMUNITY’S DESIRE TO ATTRACT IMMIGRATION TO A NORTHERN CITY, AND HOW TO MAKE THAT APPEALING ON SOCIAL AND ECONOMIC LEVELS, CREATING THE IDEA OF A VIABLE COMMUNITY HUB THAT IS INTEGRATED WITH THE NEIGHBOURHOOD.



Above: Floor plans for the proposed Immigration Support Centre. The ground-level laneways gesture to the the city's historic lanes that connected immigrants to informal gathering places.

Right: Site plan of the proposed project, showing a plaza with an outdoor gym, rink, market, community gardens, outdoor fire-pit, playground and amphitheatre.



JURY'S COMMENT:
GOING FURTHER THAN LIBRARIES ALONE, THIS PROJECT COULD WORK IN A VARIETY OF SCALES AND CITIES ACROSS THE COUNTRY, SERVING AS BEACONS OF HOPE AND INSPIRATION. THIS IS A VERY REALIZABLE PROJECT, AND INTEGRATES PEOPLE WITH THEIR SENSE OF PLACE, REFLECTING BOTH THEIR PAST AND THEIR FUTURE POTENTIAL.

Renderings by Sophie Mackey

Re-Engaging the Defunct and Historic Welland Canals

DAVID DONNELLY (TCA | Thier + Curran Architects Inc.)

MARTIN BRESSANI (McGill University)

Grand infrastructure projects like dams, locks and manufactured canals have shaped our culture and transformed our landscapes. They are also, generally speaking, huge in size and require enormous resources to build. What happens to them when they are made obsolete? They can be repurposed to tell the embodied history of their construction and the cultural history of the surrounding community.

The Welland Canal has had four incarnations—in 1833, 1848, 1887 and 1932—and each reconstruction profoundly reshaped the Niagara Region and the nation. This grand infrastructure project linked the Great Lakes, ascended the Niagara Escarpment and brought economic prosperity and thousands of immigrants from around the world to Canada. These builders, stone masons, engineers, politicians and entrepreneurs established Canada's shipping independence from the emerging United States of

The current Welland Canal above Lock 7, showing the project site on the right. Buried beside Lock 7 is Lock 27 of the Third Canal, site of the proposed lookout tower.

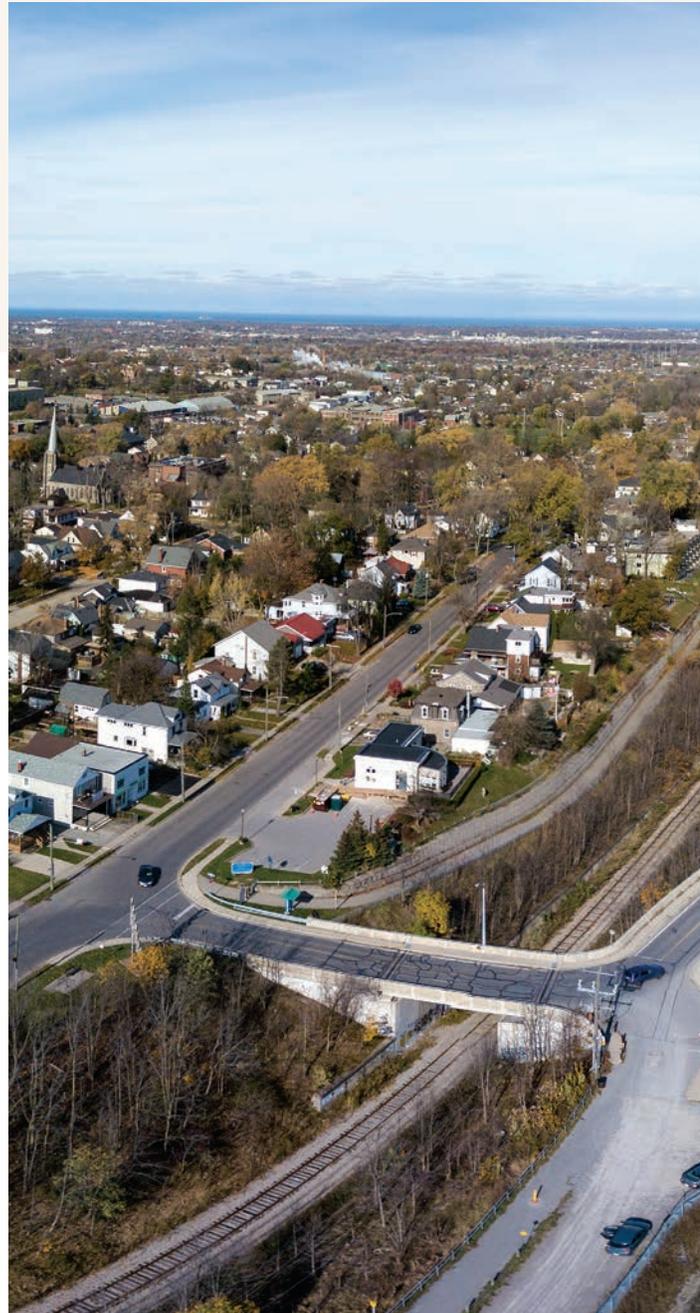




Photo by David Donnelly and David Riganelli

America, which had dominated shipping in the region by way of the Erie Canal. Today, the old locks of its three 19th-century iterations, which once carried ships from Lake Ontario to Lake Erie, are dispersed throughout the Niagara Region, mostly where the escarpment slope is the steepest and least accessible. They are often fenced off, inaccessible, overgrown and in a longstanding state of disrepair. The stone locks that are not buried are all that remain; the intricate lock doors have long been removed. Water still flows through the remaining locks, though it is less than 1 m deep in most places. This project imagines how the defunct 1887 iteration, the Third Welland Canal, could find a new place—both literal and figurative—in the contemporary environment of St. Catharines, Niagara Falls, Thorold and Niagara on the Lake.

The proposed new Welland Canal park, “Memory,” would be located near Niagara Falls and contain the remaining locks of the Third Welland Canal. The park connects the St. Catharines Museum and Welland Canals Centre, the Thorold and Beaverdams Historical Museum and the current Welland Canal. The incredible story of these canals is relayed along the remaining portion of the Third Canal. Here, a series of museum pavilions engage with the 19th-century stone locks—atop, beside or within. Each pavilion communicates a chapter of industrial history. Three pavilions are featured, outlining the engineering triumphs, the tragedy of the large number of workers who died building the four iterations of the canals and other stories in order to enrich our understanding of these projects.

The park begins at the St. Catharines Museum at Lock 3. From here, you cross a swing bridge over the current canal and into the park. Visitors can then behold a sequence of structures containing the embedded history of the region. First, the Engineering Museum celebrates the engineering triumphs of the canal. Its two exhibition rooms will



Rendering of the proposed lookout tower at Lock 7 of the current canal, adjacent to the buried Lock 27. From here, you can observe the Great Lakes freighters climb this massive aquatic stair case into the interior of the continent.

showcase drawings and models of the locks, and the impressive barge-like cranes and other machines that facilitated their construction. This pavilion evokes the engineering theme with its large sliding doors and a suspension bridge over the lock. From the bridge, visitors can behold the cascading water descending from the locks down the Niagara Escarpment. The pavilion is situated in close proximity to the Bruce



Lock 15 of the Third Welland Canal as it currently stands, with the forces of nature slowly reclaiming the defunct canal.



Photo and rendering by David Donnelly

Trail, and also functions as a rest point and gathering space for hikers and museum-goers alike.

Next, the Memorial Pavilion for Fallen Workers pays tribute to the workers who died during construction of the canals. This pavilion is the largest and the only one placed inside a lock; its design was inspired by haunting images of 19th-century shipbuilding within dry docks. Many of the workers were immigrants who had come to Canada in hope of a better future. The space relays stories of their escape from dire situations and their subsequent struggle in Canada with disease, exhaustion, alcoholism and work-related accidents. The death toll on the Fourth Welland Canal alone was 124; it is unknown how many died building the first three canals.

The final pavilion, the Observation Tower, was inspired by the existing lift bridges that span the canal. These beautiful vertical structures break an otherwise flat skyline, and have been in operation since the 1930s. The Tower sits atop the Niagara Escarpment, next to the current Welland Canal's Lock 7. From an observation area at ground level, visitors can watch the passing ships. An elegant wood structure holds up a steel veil. At the top, a compact glass-walled room keeps visitors comfortable in the winter. Its seven-storey height is the approximate depth of the current Welland Canal locks, so you can observe the path you just experienced, and its consumption by nature and time. Visitors can also see the tracings of the second and third canal in the streets of Thorold. Additionally, they can watch the massive Great Lake Freighter vessels climb this huge 100-m high Canadian staircase of water, concrete and steel from Lake Ontario into the interior of the continent.

The project reconnects the community with the grand infrastructure that helped nurture and shape it. Rather than let these amazing structures decay, this is an opportunity to celebrate them and let them tell the stories—both proud and tragic—of our history.

Photo by David Donnelly and David Riganelli



The Trunk Railroad swing bridge, in front of Lock 17 of the Third Welland Canal, where the Memorial for the Fallen Workers pavilion would stand.

JURY'S COMMENT:
THIS SPEAKS TO THE HISTORY OF WESTWARD EXPANSION AND PACE OF CHANGE IN THE COMMUNITIES. RAPIDLY BUILT INFRASTRUCTURE WAS ABANDONED QUICKLY AS SHIPPING NEEDS CHANGED. IT SPEAKS TO THE POTENTIAL SHIFT WE MIGHT SEE IN THE FUTURE AS WE ABANDON HIGHWAYS AND ROADS.

The proposed Memorial for the Fallen Workers. The design was inspired by 19th century images of ship building operations within drydocks.



Image by David Donnelly

Rail to Trail

IMAGINING A FUTURE LONDON

RYAN OLLSON, MAGDALEEN BAHOUR, RICHARD HAMMOND, SHANNON HAWKE, TYLER HEARN, JERRY KIM and **SIOBHAN LATIMER** (Cornerstone Architecture Incorporated)

London is located in Southwestern Ontario between Toronto and Windsor, along one of the most travelled corridors in the country. Centred around the confluence of the Thames River, the city is bisected by two major rail lines.

The one with the most significant impacts is the CP Rail line, with freight trains travelling through the city multiple times daily. The east and westbound trains cross intersections and industrial zones, and pass by parks, neighbourhoods and businesses alike, as they make their way through town. In their wake, frustrated, delayed pedestrians, cyclists and drivers are left to regroup and resume their travels.

Once a vital industrial linkage, this portion of the rail line currently has negative impacts on the urban infrastructure. As the city continues to expand and intensify, more focus is being placed on the efficiency of its transportation infrastructure, which the rail line



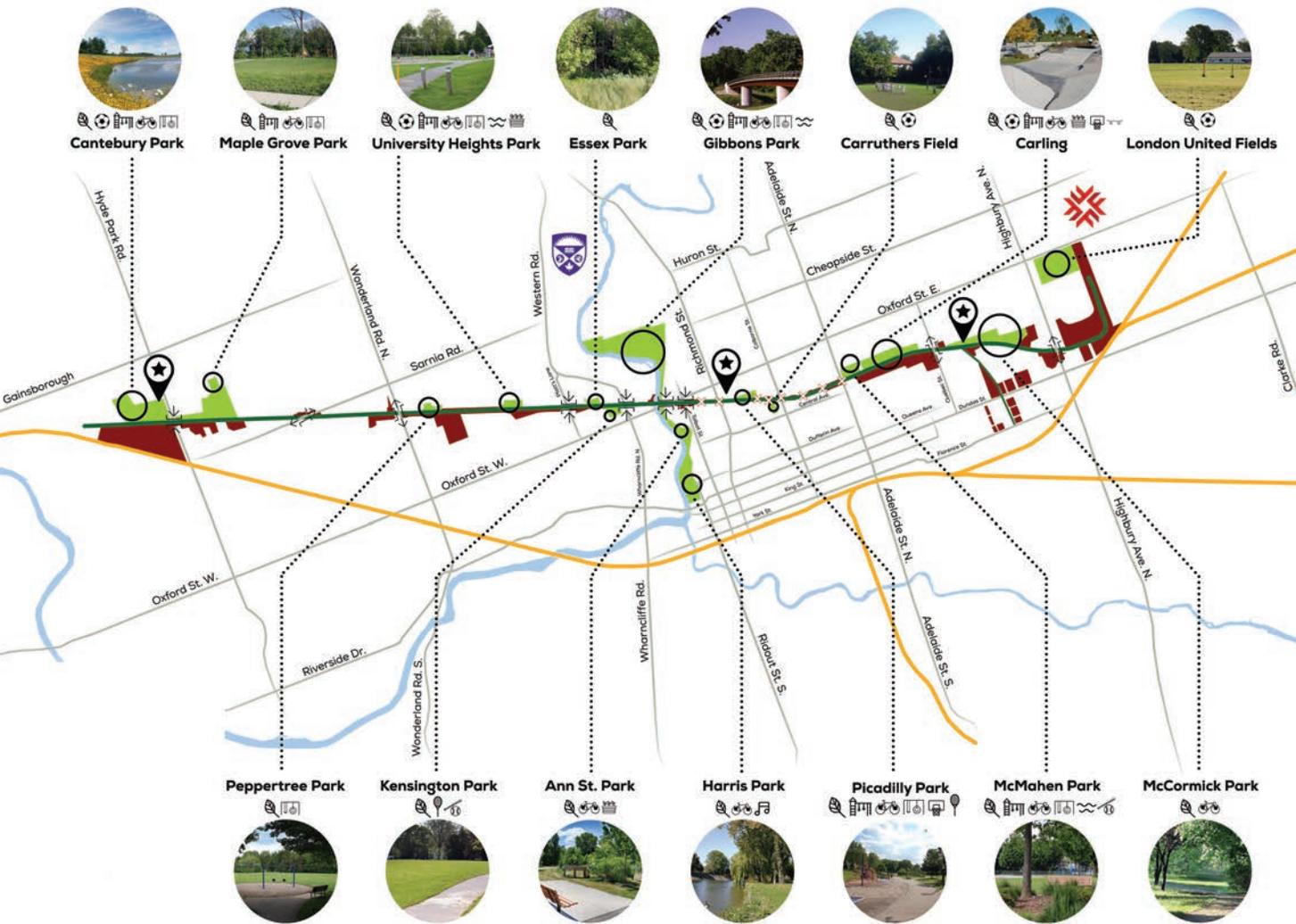


Photo rendering by Cornerstone Architecture

literally severs. No matter where one lives in the city, the effects this has on the urban environment are hard to ignore.

Anticipating the eventual decline of traditional rail freight, the team behind the Rail to Trail submission offer a vision for transforming the rail line into a green corridor through the city. They have also identified strategic interventions for improving the communities along the rail line while it remains in operation; this serves as a practical means of kick-starting its transformation.

Three sites have been identified for further exploration: an underutilized industrial area in Old East Village, a central business district along Richmond Row and a suburban site in Hyde Park in the west end.

Located at the east end of the trail in Old East Village, an emerging community with underutilized industrial land could be further developed to connect Dundas Street, the Western Fair Grounds and Boyle Community Centre with human-scaled interventions and naturalization of the industrial lands to create a new innovation hub for the City.

Centrally located along Richmond Row in downtown London, the former CP Rail station could be repurposed into a community hub, providing much-needed public services and amenities which focus on the vulnerable population in the area. Its architectural character, recollecting the rail era, makes it an effective landmark, both in its present context and as part of the re-imagined green corridor. Opportunities also emerge for new development and expanding residential and commercial spaces to engage the trail, providing a more cohesive link to the surrounding areas.

Anchoring the west end of the trail at Canterbury Park, Rail to Trail imagines a woodland oasis that embraces play, nature and wildlife. A combined stair and ramp connect the elevated portion of the trail with the park, doubling as a public amphitheatre. In partnership

Left: Re-purposing of the former CP Rail station serves as an incubator for expanded community services and development in Downtown London.

Right: Local businesses expand to inhabit underutilized and vacant lots along the rail line in Old East Village.



Connecting an elevated portion of the rail line to public pathways and an open-air pavilion provides opportunity to promote environmental stewardship in Canterbury Park and the Kelly Stanton Environmentally Sensitive Area.



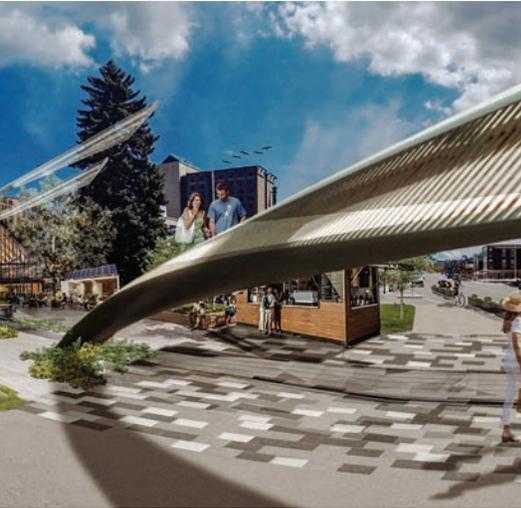
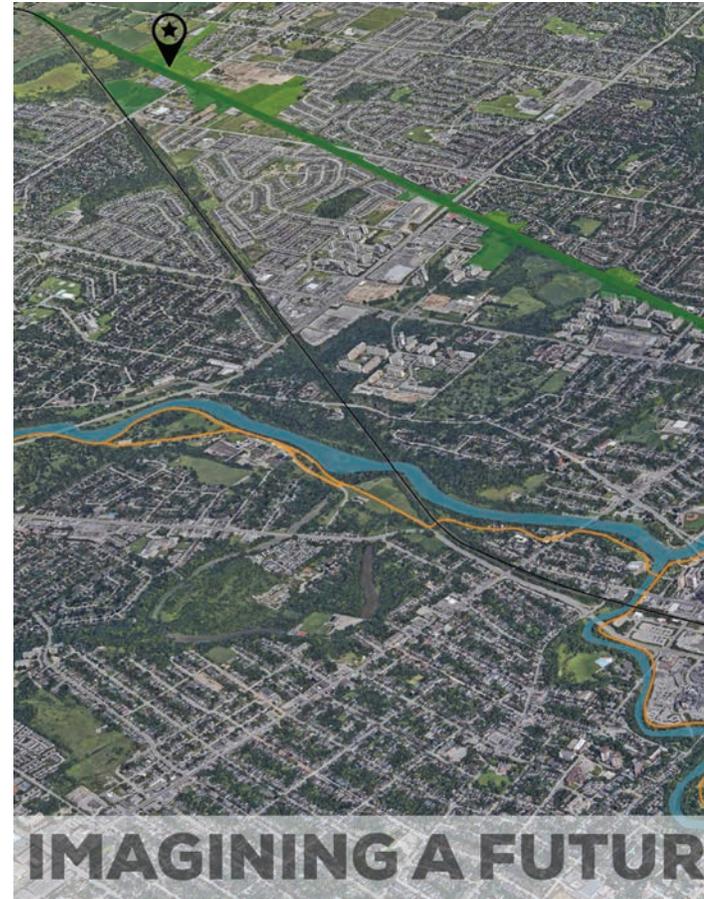


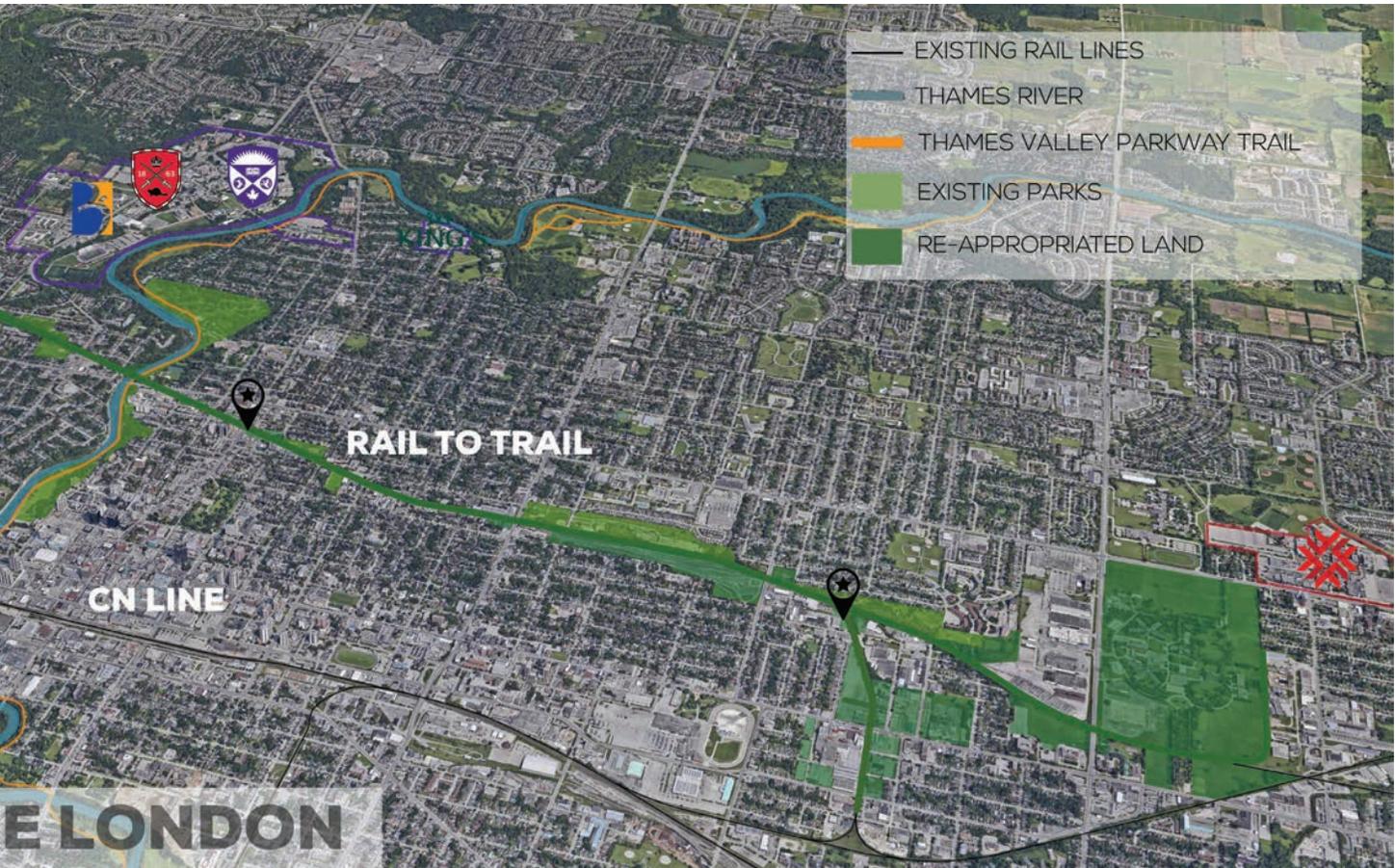
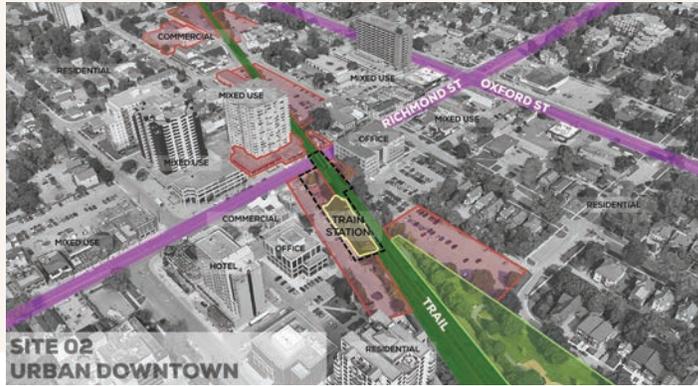
Photo renderings by Cornerstone Architecture

with Reforest London, trees would be planted more abundantly around the park with integrated pathways, wildlife attracting foliage and community gardens.

Over time, each of these interventions, in partnership with local business and community groups, can grow into a coordinated long-term strategy for adaptation of the rail corridor – re-appropriating the land for community use and gradually healing the physical scar the rail line has made in the urban fabric of London. In a sense, the CP Rail corridor would leave a unique legacy, transforming itself from a once-essential industrial corridor that divided the city to become a green linkage, reconnecting London from one end to the other.



JURY'S COMMENT:
 AT THE CONFLUENCE OF TWO RIVERS,
 AND WITH THE CONSOLIDATION OF RAIL
 SYSTEMS, THIS PROJECT SHOWS THE
 POTENTIAL INHERENT IN REUSING SOON-
 TO-BE-ABANDONED INFRASTRUCTURE AND
 CREATING PLACES FOR PEOPLE.



Municipal wastewater
systems diagram.

Urban Energy Shift

ZACHARY COLBERT (Carleton University's Azrieli School of Architecture and Urbanism)

ANTONIO GIOVENTU (Condominium Homeowners Association of British Columbia)

SHELBY HAGERMAN, JAMES NGUYEN, JASMINE SYKES and **CONNORTAMBORRO**

(Carleton University's Azrieli School of Architecture and Urbanism)

Imagine a near-future city, where individual buildings operate as power stations—self-sufficient nodes that store, capture and produce clean energy. This collaborative project between Carleton University, the Condominium Homeowners Association of British Columbia, and B.C. Housing in Vancouver puts forward a speculative solution to achieve this.

Urban Energy Shift proposes the transformation of existing wastewater infrastructure into a series of distributed and interconnected energy generation and storage systems. Here's how it would work: Every drop of water spends an average of three days being pumped, treated, consumed, pumped, treated and released back into nature through municipal water systems. Throughout this process, water is consistently flowing, either by gravity or pumping, in order to maintain a certain pressure levels and rates of flow. Tall buildings use pumps and tanks

JURY'S COMMENT:
BEAUTIFULLY PRESENTED, THIS PROJECT EMBRACES
THE TECHNOLOGICAL POTENTIAL OF OUR RAPIDLY
EVOLVING WORLD, AND SHOWS THE POWER OF
ARCHITECTURE TO TRANSFORM.

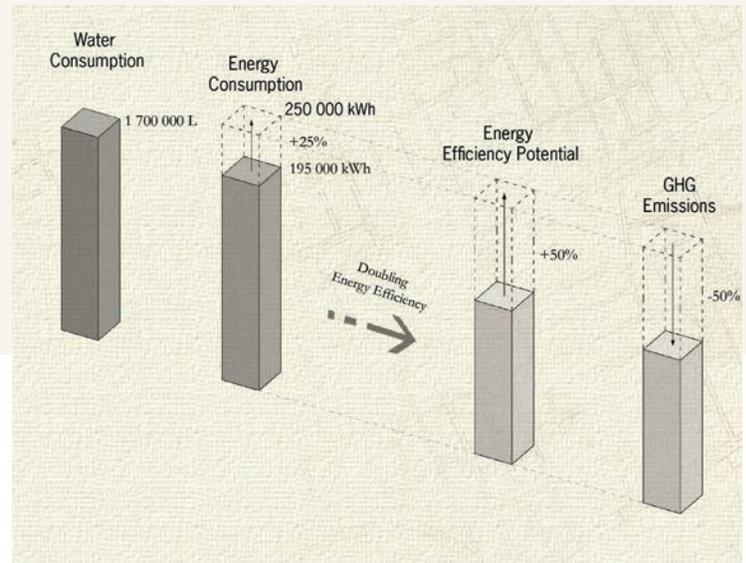


All renderings by Zachary Colbert, Shelby Hagerman, James Nguyen, Jasmine Sykes and Connor Tamborero

to maintain sufficient water pressure on all floors, and cities use pumps and gravity to move wastewater to water treatment facilities. Yet none of this potential energy is captured as water is accelerated by gravity and flows through the entire urban wastewater system. This potential energy source could be captured, stored and distributed in a conceptually similar way to power that is generated and stored by hydroelectric dams. While dam infrastructure projects are massive and located in remote regions, Urban Energy Shift envisions a smaller, distributed and interconnected energy infrastructure that would be scaled to the size of individual buildings and urban wastewater infrastructure and would be much closer to home. This nimbler approach to new energy infrastructure would increase energy efficiency in our buildings and cities.

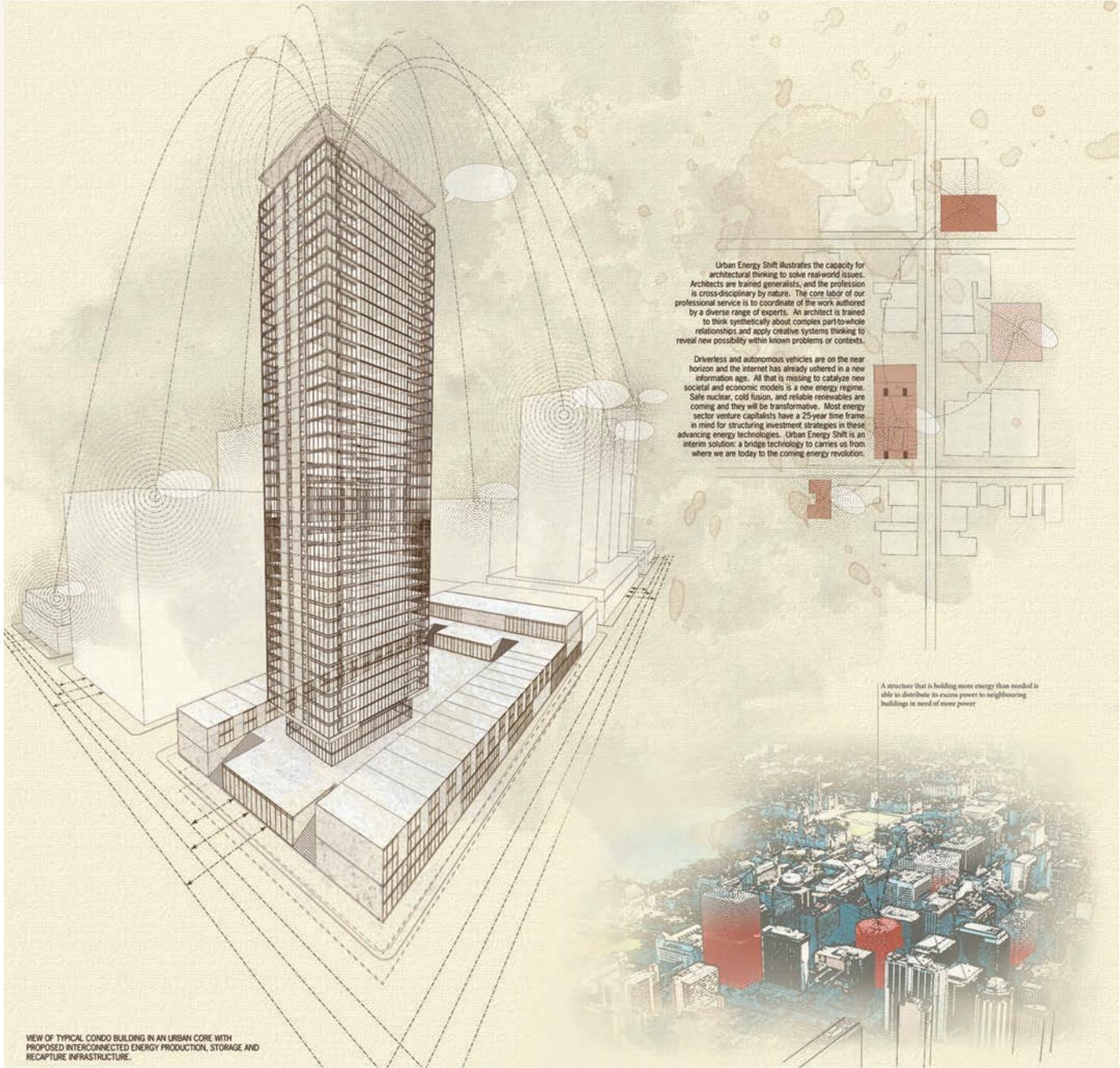
The power distribution grid has a similar history to municipal wastewater systems in that both were born out of the Industrial Revolution, when fast infrastructural advances were made in order to meet the needs of quickly growing cities and transforming economies. Today, our power distribution and wastewater systems both have their inefficiencies, but the way we produce, transmit and consume electricity is far more inefficient than our use of water. Most fossil fuel-based electrical generation strategies operate at 50 per cent efficiency or worse. Scaling up or down electricity production is a multi-day endeavour, involving long supply chains to source raw fuel materials. Worldwide, the majority of electricity generation methods also produce greenhouse gas emissions, further compounding environmental degradation caused by our current energy culture.

Our society does not yet have the tools and technology to capture this potential energy in the movement of this wastewater through buildings and cities, and that is the next step toward realizing this new, decentralized urban energy system. Renewable energy is all about intermittency—solar energy is only



Energy storage in building wastewater systems could significantly improve electrical grid efficiency and reduce greenhouse gas emissions.

Individual buildings could function as interconnected energy nodes.



Urban Energy Shift illustrates the capacity for architectural thinking to solve real-world issues. Architects are trained generalists, and the profession is cross-disciplinary by nature. The core labor of our professional service is to coordinate the work authored by a diverse range of experts. An architect is trained to think synthetically about complex part-to-whole relationships and apply creative systems thinking to reveal new possibility within known problems or contexts.

Driverless and autonomous vehicles are on the near horizon and the internet has already ushered in a new information age. All that is missing to catalyze new societal and economic models is a new energy regime. Safe nuclear, cold fusion, and reliable renewables are coming and they will be transformative. Most energy sector venture capitalists have a 25-year time frame in mind for structuring investment strategies in these advancing energy technologies. Urban Energy Shift is an interim solution: a bridge technology to carries us from where we are today to the coming energy revolution.

A structure that is holding more energy than needed is able to distribute its excess power to neighbouring buildings in need of more power

VIEW OF TYPICAL CONDO BUILDING IN AN URBAN CORE WITH PROPOSED INTERCONNECTED ENERGY PRODUCTION, STORAGE AND RECAPTURE INFRASTRUCTURE.

generated when the sun shines; the kinetic energy of wind turbines is only created when the wind blows. Much of the current engineering research in energy production is focused on how to capture and store energy from these intermittent sources, and great advances have been made in recent years. We can now be optimistic that the ability to capture and utilize the potential energy in wastewater systems could soon be viable. The buildings of the future could act together with other buildings in order to generate energy in an “energy internet.”

With this new distributed and interconnected set of energy sources, architects will design buildings to accommodate these new wastewater-based energy capture and storage infrastructures in sync with cycles of energy demand and in exchange with the city’s existing energy grid. The Urban Energy Shift proposal can be implemented even more viably in the Developing World, where urban environments often do not have robust existing centralized energy infrastructure systems.

The built environment is the largest contributor to global greenhouse gas emissions and professionals of the built environment must contribute to a shift in thinking about energy infrastructure. How we use and acquire energy is directly linked to some of the most pressing issues facing humanity: climate change, access to clean water, adequate food supply and geopolitical stability. Overcoming our addiction to fossil fuels is crucial in order to ensure a future for humanity on this planet. This can be accomplished through engaging questions of energy efficiency through the lens of architectural thinking to collaboratively develop new networks of distributed and interconnected urban energy capture and storage systems.

Cities could share energy storage potential to offset energy demand related to climatic differences within a region.

Existing water towers could be transformed into small scale energy storage devices in rural contexts.





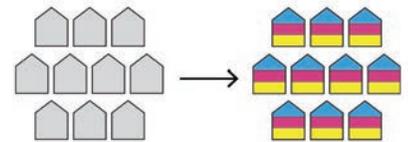
Multi-tach

ADDRESSING HOUSING INFRASTRUCTURE

JAEGAP CHUNG, SUE JEAN CHUNG, DEREK MCCALLUM, SUDIPTO SENGUPTA, HESAM ROSTAMI, HAMID IMAMI, ROBIN MCKENNA, MATTHEW MCKENNA and DAVID KOTEWICZ (Studio JCI Inc.)

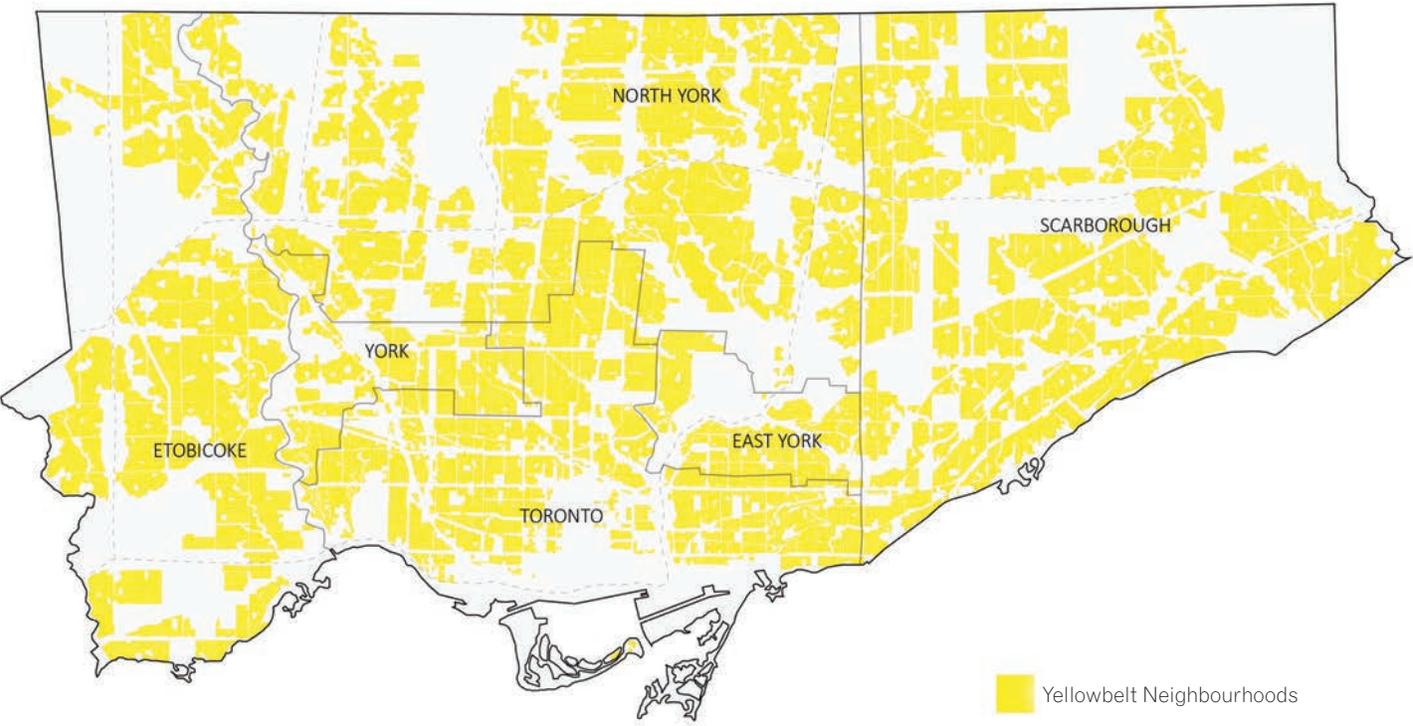
In rapidly densifying cities, access to a variety of affordable housing types is becoming a core issue. Over the next 25 years, Canada Mortgage and Housing Corporation (CMHC) data projects Toronto's population to increase by 1.2 million people in 300,000 households—this is something the current housing infrastructure seems ill-equipped to support. Current planning infrastructure restricts the market's ability to produce viable and efficient density solutions through large areas of the city dominated by single family detached homes. In response, the Multi-tach model development can play a role in addressing this challenge by providing multiple units within the form of a detached home (a multi-unit, detached building).

In Toronto, new units are mostly designated for already dense nodes and avenues, often in high-rise towers. In contrast, the "Yellowbelt" is a parcel of land that is zoned RD (Residential Detached) and covers



JURY'S COMMENT:
RE-EXAMINING ZONING IN THIS WAY LEGITIMIZES THE INFILL DEVELOPMENT THAT WE NEED, AND MAY ALREADY BE HAPPENING, IN A WAY THAT IS RESPECTFUL AND INNOVATIVE WHILE ADDRESSING THE CHALLENGING ENVIRONMENT OF DENSITY, INFILL AND HOUSING IN A SMART WAY.





Toronto's 'Yellowbelt'
typically zoned: R&RD



Image capture September 2018, copyright 2019 Google

much of the city. Here, zoning and planning policy restrict new housing to low-density, single-family detached homes. With some rethinking, the existing zoning restrictions would allow modest densification in these areas without greatly affecting the exterior character and fabric of the neighbourhood.

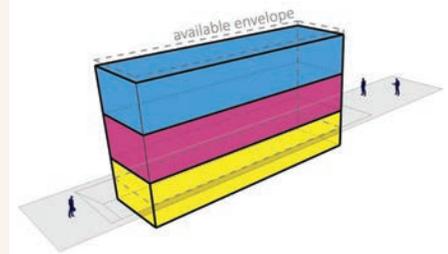
What is needed now is modest intensification through the introduction of multi-family buildings within the RD zone. But attempts to rezone single-family neighbourhoods or grant variances for mid- to high-rise apartment buildings inevitably draw a local backlash, as existing residents fear such incursions will negatively impact the look and feel of their streets. Multi-tach calls for a change in zoning to allow a carefully calibrated number of multi-family detached building containing three, four or five units. This proposal is based on the premise that the character of an existing neighbourhood is primarily defined through the exterior built form, and not the interior function of a building.

A Multi-tach complex would respect and conform to the character of each street and neighbourhood in which it is inserted: its scale, proportions and landscaping. Moreover, each complex will have its own shared infrastructure amenities, including stormwater management solutions. Onsite cisterns can gather water to alleviate flooding concerns during heavy storms, and store it for later use in landscape irrigation. In this way, such developments will conform to the intent of the Official Plan. By respecting existing zoning regulations around height, density and setbacks, the character of these residential areas will not be fundamentally altered.

It is quicker and less costly to build complexes at the Multi-tach scale than larger apartment buildings and high-rise towers. Critically, this new stock will arrive to market faster than the high-rise tower developments due to significant efficiencies in the approval and construction process. In those larger

projects, a typical timeline including land assembly, zoning and site plan approvals, multiple submissions and construction will yield several hundred units in five to seven years. At this smaller scale, Multi-tach is capable of reaching the market in just one to two years, providing condominiumized housing stock, thereby addressing the shortage of housing supply faster.

Offering a greater variety of sizes and prices for individual units than a typical high-rise unit,

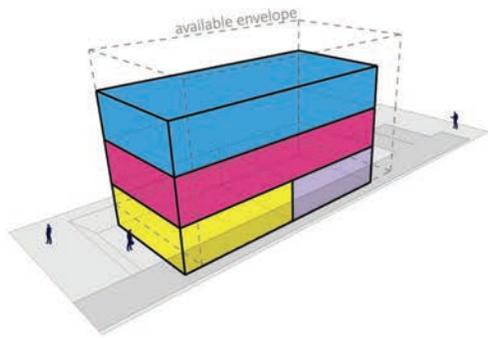


Site A - 20' Lot 3 Units (900sf)

Lot Area 2400 SF
GFA 1800 SF
Density 0.75

Pro-forma – 11.69% profit	
\$ 890,000	Land costs
\$ 594,000	Hard costs
\$ 396,200	Soft costs
\$ 1,880,200	Total project costs
\$ 2,100,000	Total sales revenue
\$ 219,800	Profit



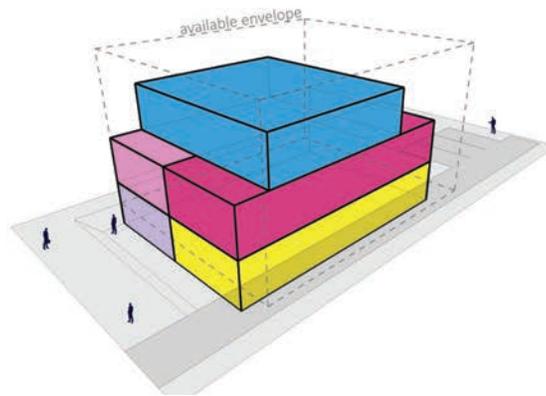


**Site B - 40' Lot
4 Units (700sf – 1,400sf)**

Lot Area 4800 SF
GFA 2800 SF
Density 0.58

Pro-forma – 14.47% profit

\$ 990,000	Land costs
\$ 924,000	Hard costs
\$ 663,200	Soft costs
\$ 2,577,200	Total project costs
\$ 2,950,000	Total
\$ 372,800	Profit



**Site C - 60' Lot
5 Units (1,100sf – 1,500sf)**

Lot Area 7200 SF
GFA 3800 SF
Density 0.53

Pro-forma – 15.71% profit

\$ 1,400,000	Land costs
\$ 1,281,000	Hard costs
\$ 862,300	Soft costs
\$ 3,543,300	Total project costs
\$ 4,100,000	Total
\$ 556,000	Profit



Image capture September 2018, copyright 2019 Google

the Multi-tach will encourage greater diversity in traditionally exclusive neighbourhoods, providing home ownership opportunities to demographic groups whose members have been disproportionately priced out of the housing market.

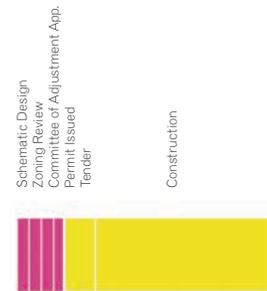
Implementation of Multi-tach in the Yellowbelt will connect more people to existing local businesses and make better use of underutilized city services in low-density neighbourhoods, such as public transit and underpopulated schools that would be otherwise in danger of closing.

As neighbourhoods gradually transition to include more Multi-tach developments, opportunities to create shared solutions will emerge. Landscaping and maintenance will be coordinated between multiple lots, and block energy plans will become feasible allowing technologies such as a centralized geothermal heating/cooling system. Typically too onerous for a single homeowner, high initial costs will be spread out over many homeowners. Together, these shared networks would limit the strain on already overburdened city infrastructure.

The Multi-tach model allows the development sector to grow beyond the large companies capable of financing condominium towers that dominate the industry today to include small-scale individuals and investors. Sample pro-formas have been created across the various Multi-tach models to demonstrate that profitability in the 12 to 15 per cent range is feasible with current land prices and associated hard and soft projects costs.

While high-density development is straining municipal infrastructure, Multi-tach offers opportunities for shared sustainable energy and servicing strategies. Introducing this type of development alongside detached single-family homes will efficiently expand the housing supply and offer greater market variety without building high or encroaching on additional land.

Time and process required to bring various development types to market



MULTI-TACH HOUSING

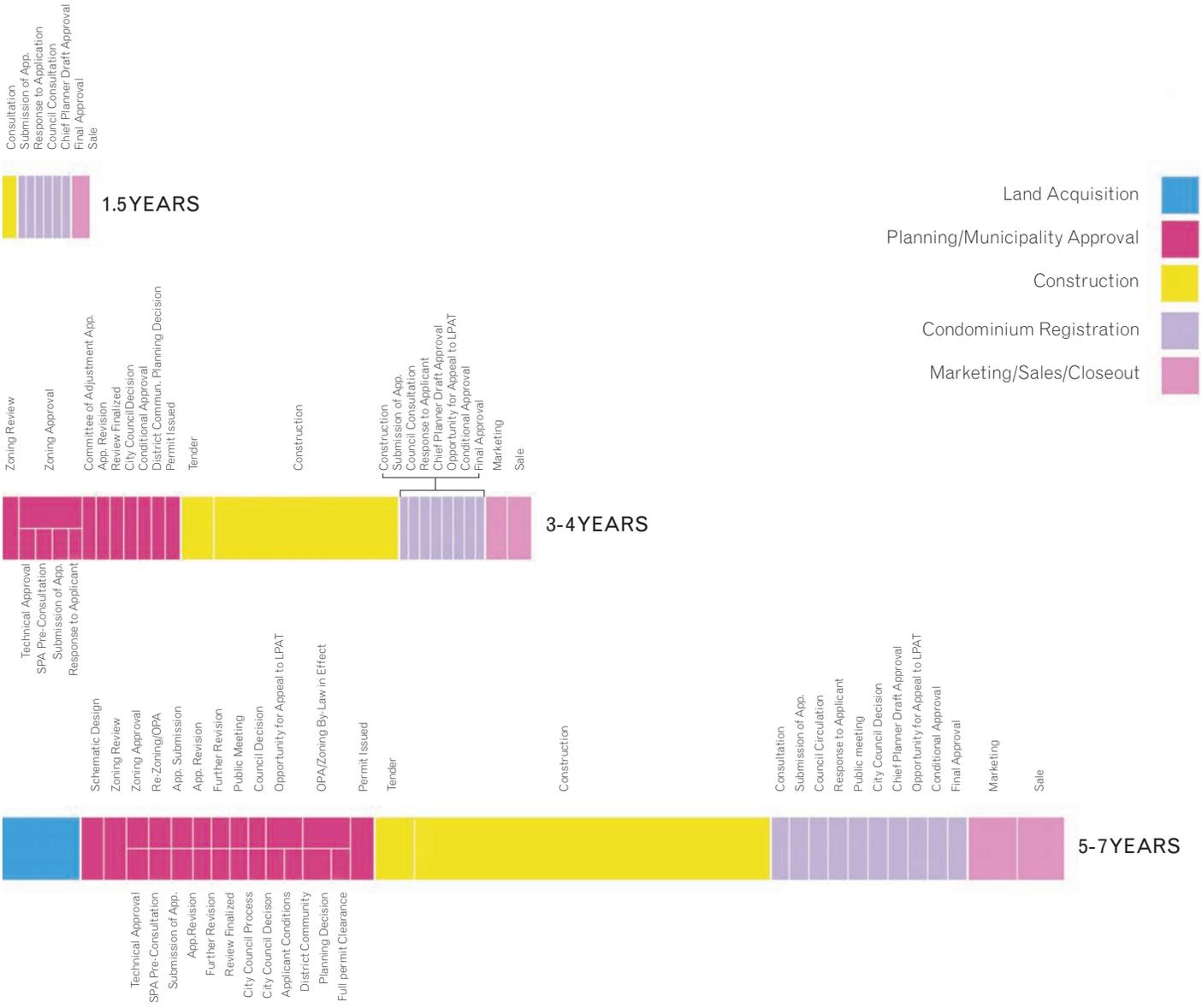


MID-RISE APARTMENT & TOWNHOUSES



HIGH-RISE APARTMENT

JURY'S COMMENT:
THERE IS A CLEAR STATEMENT OF THE PROBLEM, AND THE SOLUTION SHOWS THE RESOURCES AND METHODOLOGY TO SOLVE IT. IT CUTS OUT THE EXTREMES OF OVERDEVELOPMENT AND FOCUSES ON PRIVATE-SECTOR INNOVATION TO WORK WITH THE SUNK CAPITAL IN EXISTING COMMUNITIES, SUCH AS SCHOOLS AND TRANSIT.



Story Pod

GRASSROOTS TRANSFORMATION OF CIVIC SPACE

KELLY BUFFEY, ROBERT KASTELIC and **AARON FINBOW** (Akb Architects)

SCOTT MUNRO, BILL MCTAVISH and **TED KURELLO** (HollisWealth)

MARK AGNOLETTO, STEPHANIE DYRIW, JEFF BOND and **TOM MINICHELLO** (Town of Newmarket)

CHICO EZECHIELS (CFlow Design)

Story Pod is a small lending library located on the edge of a prominent civic square, Riverwalk Commons, in downtown Newmarket, Ontario. The pod employs compact, eco-friendly design as a means of creating a lively hub for community exchange, tactile social interaction and the promotion of literacy.

The Story Pod originated in a public-private partnership between the municipality of Newmarket and local business HollisWealth. The idea for a communal book exchange emerged with the intent to foster values of sharing and inclusion in the public sphere. The project springs from a well-coordinated team effort: publisher Scholastic Canada and Newmarket Public Library provided the initial supply of books, HollisWealth donated funds to acquire

Two walls pivot open like the covers of a book, inviting visitors to engage.





Photo by Shai Gil

materials, Akb Architects donated time toward the design and the Town of Newmarket fabricated and now maintains the pod.

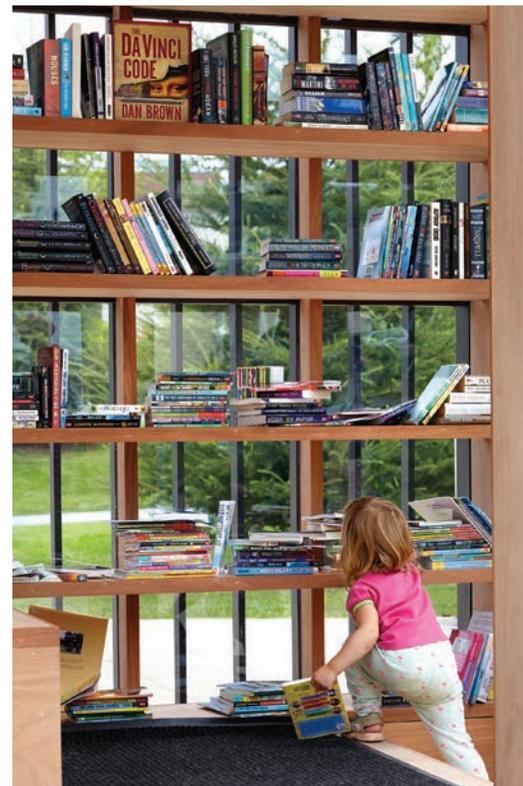
The design team chose a pure and simple form for ease of construction and for maximum impact in compactness, transportability, energy efficiency and ease of construction. When closed, the abstract black volume—eight feet wide by eight feet deep by 10 feet high—acts as an urban marker, drawing curious residents from nearby Main Street. As citizens move around the box, the rhythm of its vertical black slats changes. The tightest spacing articulates opaque walls, the larger gaps (backed by transparent polycarbonate) allow light to filter through, and the widest openings showcase the book stacks, creating further intrigue.

During the day, two walls pivot open on custom-designed hinges, encouraging people to come inside. In its transformation, the dark exterior gives way to a carefully detailed interior clad in light, warm wood, containing a wall of books and levels of integrated seating. With both walls fully open, the space of the pod extends outward, encouraging visitors to take or leave a book while also supporting larger gatherings and reading sessions with students and teachers. At night, with the doors closed, LED lighting powered by rooftop solar panels glow through the exterior battens, providing ambient light for evening activities. During the winter, the pod is transported off-site for storage and maintenance; recessed channels in the base accommodate a standard forklift for efficient transportation.

Since its inaugural opening in 2015, the Story Pod continues to receive a stream of books donated by local citizens of all social groups. It has also drawn

JURY'S COMMENT:

A WONDERFUL PROJECT THAT SHOWS THE POTENTIAL OF SMALL, HIGHLY POLISHED WORKS OF ARCHITECTURE TO FORM PARTNERSHIPS WITH PRIVATE- AND PUBLIC-SECTOR NEEDS.



Bookshelves provide easy access for users of all ages.

Photo by Shai Gil

Located within the Riverwalk Commons public park, Story Pod draws residents from Newmarket's nearby Main Street and the adjacent riverside walking trails.

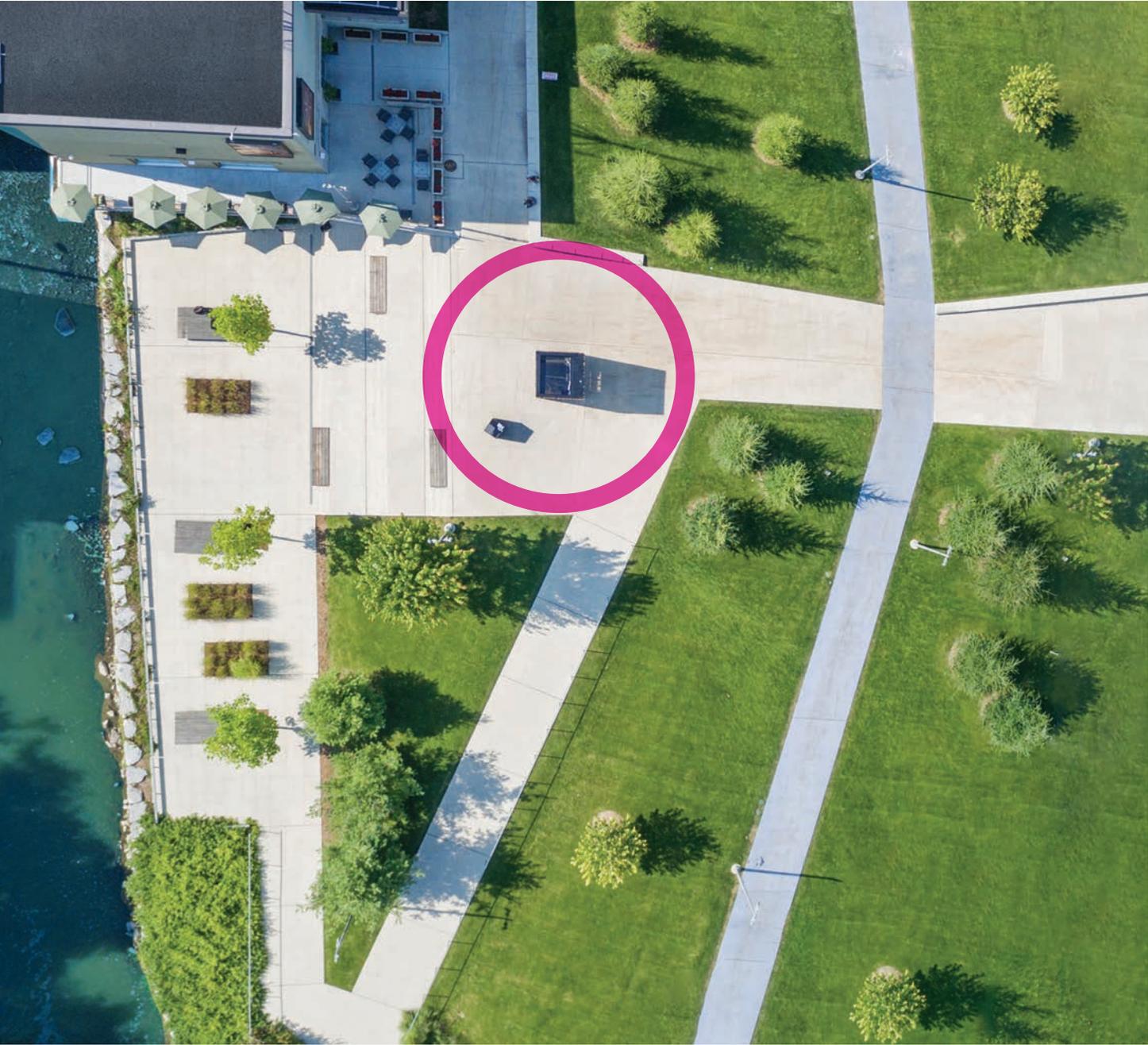


Photo by Bob Gundu

international attention, which has led to a recent partnership between the Town of Newmarket and Gumi, South Korea, for the construction of additional pods abroad. In 2016, representatives from the city of Gumi visited the original Story Pod and, together with the Mayor of Newmarket, signed an official friendship agreement—a partnership with intent to build multiple pods in South Korea. These pods would be used to enhance Gumi’s current “One Book, One City” community reading program that encourages everyone to read and discuss the same book. The first of these pods in Gumi, South Korea was completed and opened in 2017.

With additional pods planned, the hope is that trades and affiliated groups will use local materials and building practices to adapt the pod’s construction to each unique environment and industry.

Story Pod has touched the public imagination as it directly promotes literacy, civic engagement and inclusiveness. It exemplifies the tremendous impact that a small structure can have on both an urban and international scale.

At night, when the doors are locked, solar-powered LED lights glow through the lattice work, provide ambience for night markets and community events.

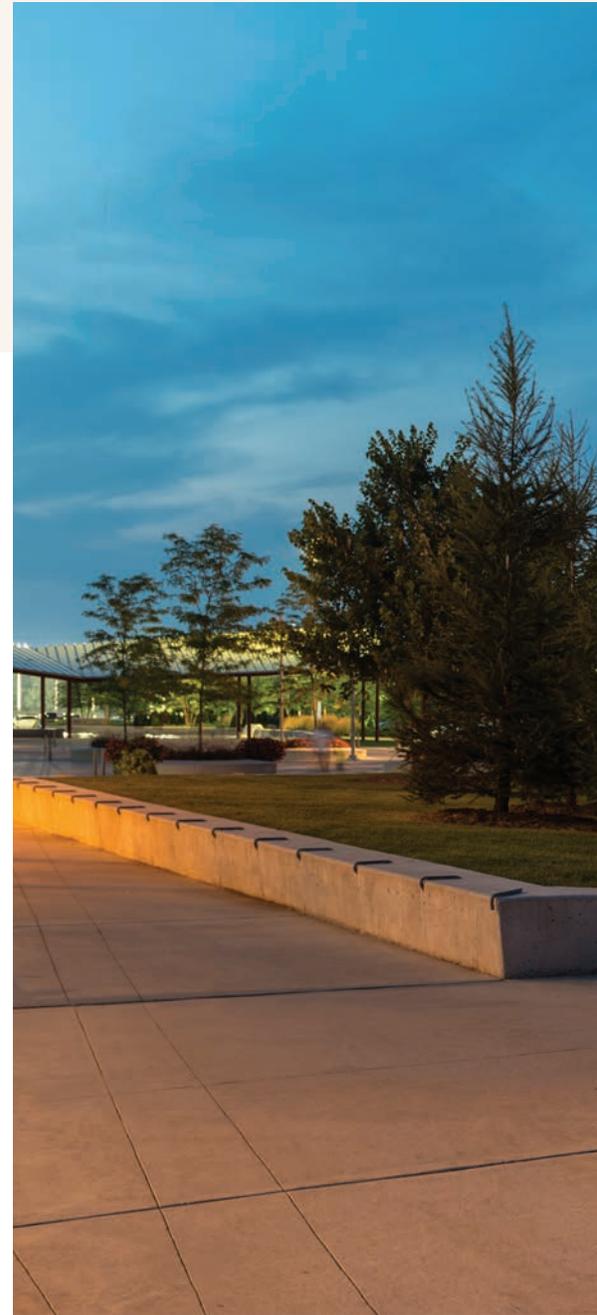




Photo by Bob Gundu





HONOURABLE MENTIONS

Central Parkway Study

MARTIN TITE, JOHN COOK, ALEX LEUNG and SEAN FRIGHT (grc architects inc.)

Central Parkway is an urban-design study project that imagines alternatives to the Queensway, which runs through—and divides—the traditional pre-war neighbourhoods of downtown Ottawa. At a moment when the Province of Ontario continues to widen and expand this invasive and unsightly freeway, this project imagines the possible benefits if the Queensway were developed differently. This thought-experiment is not a rhetorical proposal; it shows how we can use the significant new research on land values, development and sustainable planning to rethink our current urban design practices.

As built, the Queensway is a blight, degrading the landscape, depressing property values, wasting land, separating neighbourhoods and failing as transportation infrastructure at every rush hour. And yet, this 65-ha site is also a great potential resource for the City of Ottawa.

The study found rich alternative uses for the freeway site and surrounding brownfield lands—removing it from the downtown core, transforming the land for other uses and enabling development and intensification on the site. This study analyzed the vehicular and pedestrian logistics at every intersection along the 7-km stretch of land created by the hypothetical removal of the highway. It also identified an opportunity to generate up to 86 ha of downtown development sites, enabling more than 230,000 square

metres of new real estate in a prime location.

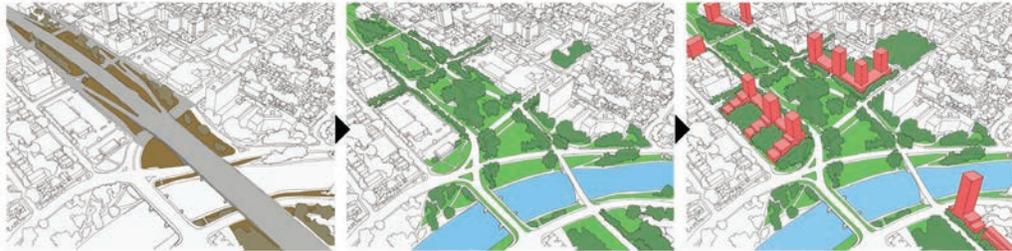
The existing highway infrastructure could be moved below grade, or transformed into a boulevard. This would free up the ground for parkland and the adjacent lands for new housing and other development, bounded by 37 ha of new green space. Existing linear parks would be united into a single network with a new east-west cycling and pedestrian route. Citizens would then be able to enjoy a nationally significant space that beautifies Ottawa's downtown core.



JURY'S COMMENT:

THE PROJECT PUSHED THE ENVELOPE IN THINKING ABOUT URBAN HIGHWAYS. THE IDEA OF A GRAND PROJECT, AT A CITY-WIDE SCALE, CAPTURES THE IMAGINATION AND SHOWS THE POTENTIAL OPPORTUNITY TO RECONNECT COMMUNITIES.

A solution



A. Remove the Queensway from the traditional core of the city.

B. Transform the land. A new central Parkway

C. Enable redevelopment and intensification.



Renderings by grc architects inc.

Stuff Cloud

A SMART INFRASTRUCTURE FOR BUYING, SELLING, SHARING, SWAPPING AND REMAKING THINGS IN CITIES

J. ALEJANDRO LÓPEZ (ALD Studio)

Can we radically improve the way we consume and dispose of things in cities? Can it be done in a way that reduces waste and unnecessary consumption while enhancing the physical and social environments of a city? The market for household goods continues to grow, as attested by the rise of online retailers and their sophisticated systems of distribution, logistics and sales. On the flip side, the infrastructure required to dispose of, recycle and upcycle these goods once they are no longer wanted should also continue to grow in size and sophistication. Does a higher consumption of new things necessarily require a higher output of waste? And do we need more new things in the first place?

The Stuff Cloud is a speculative system for buying, selling, sharing, swapping and remaking things in cities. This theoretical, internet-based system aims to disrupt wasteful consumption patterns by increasing alternative modes of exchanging things between people in cities.

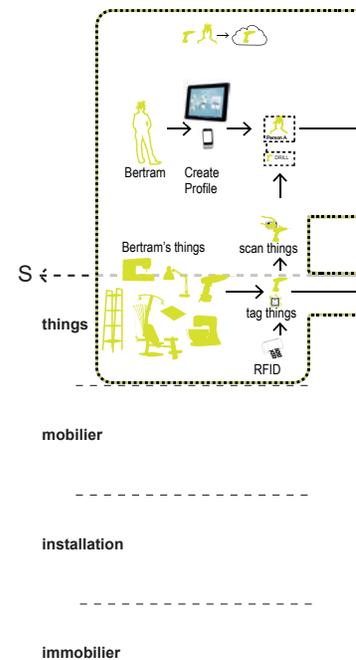
The building blocks of the Stuff Cloud are the interactions between humans and their things. People would receive a unique identification number for each of their items. Harnessing web-based technology to make an open-source digital marketplace, it becomes possible to add an image and details about each thing

to the Stuff Cloud. Once your things are “in the cloud,” Stuff Cloud can suggest various scenarios for use or exchange—for instance, sharing things with nearby friends or swapping with strangers across the city.

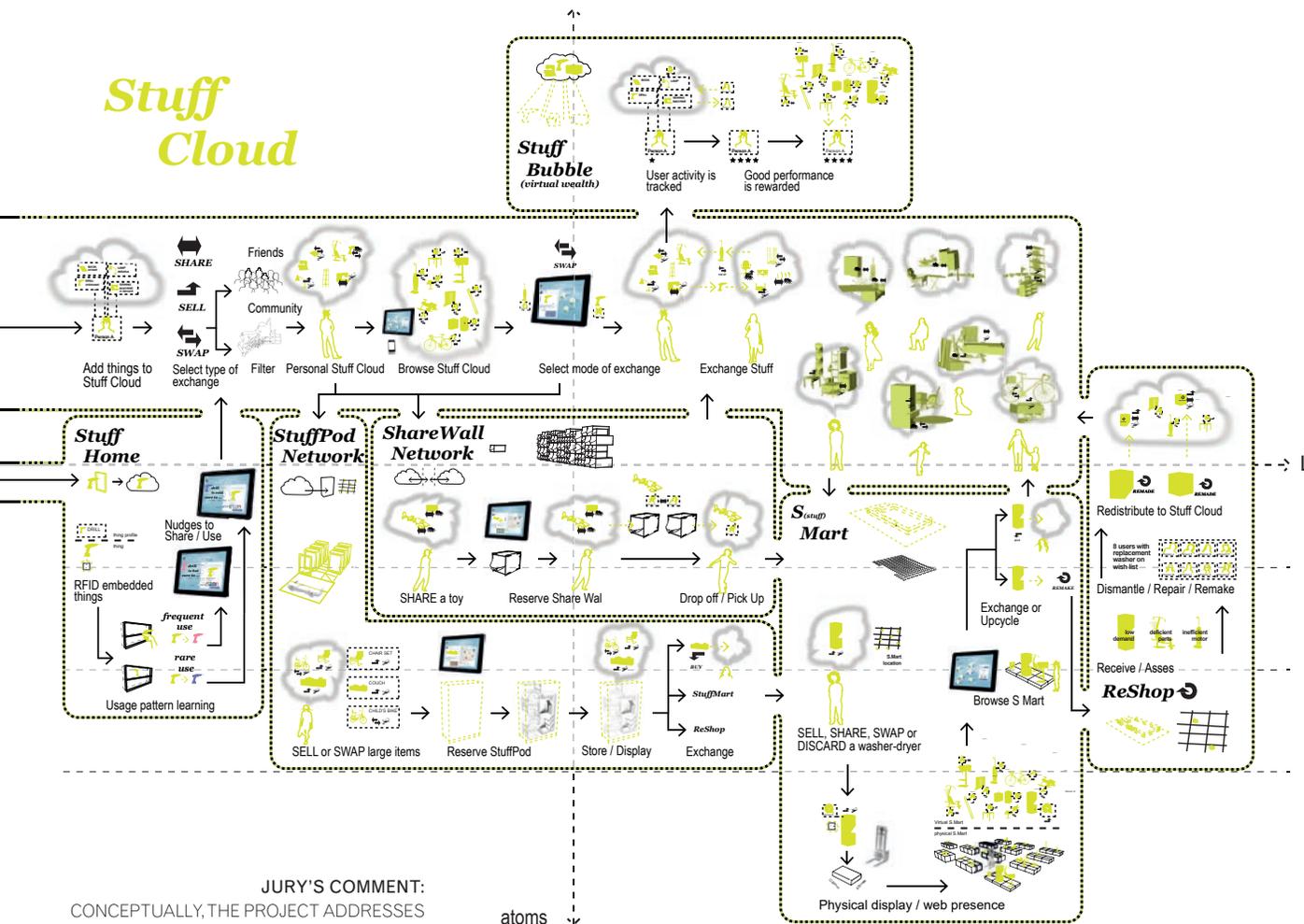
The Stuff Cloud can process the data gleaned from our interactions with our things to provide us with better insights on what we really want or need. This introduces new scenarios for ownership and exchange, potentially altering the way in which we exchange and dispose of things in public spaces.

As alternative modes of owning and exchanging things gain popularity, a physical infrastructure supporting these exchanges would take shape. This could come in the form of “smart lockers,” pods and large-scale pop-up shops. The end result would be an infrastructure built from the bottom-up in response to its immediate social context and, more importantly, as a result of authentic versus manufactured demand for consumer items.

A conceptual road map of the renewable life-cycle of a shared object through the Stuff Cloud project.



Stuff Cloud



JURY'S COMMENT:

CONCEPTUALLY, THE PROJECT ADDRESSES THE CHALLENGES OF THE SHARING ECONOMY AND THE CULTURAL SHIFT AWAY FROM ROOMS AND HOUSES FILLED WITH THINGS. IT QUESTIONS THE NATURE OF HOW STORAGE COULD WORK, AND HOW SCARCE RESOURCES MIGHT BE MANAGED.

Revitalizing Suburbia

BUILD INTEGRATED COMMUNITIES

CONNIE LEI (Intern Architect)

Suburban residents largely rely on cars to get them to their jobs in the city centre. The hours of long-distance commuting from home to workplace take a heavy toll on the commuters' time, energy and mental health—not to mention the wider environmental cost. How can we minimize this commute? This project introduces the prototype of a new kind of workplace structure, centred around “Hub” addresses.

The Hub concept is a design strategy for the City of Vaughan, one of the major sources of commuters to the downtown Toronto area. The proposal consists of a hypothetical reconfiguration of the working landscape to reduce or eliminate the need to commute, and a building complex to accommodate that reconfiguration.

The project would both reflect and facilitate the shifting nature of work, wherein more people are willing and able to work near their suburban homes and walk to their workspace each morning. The building would be designed for the specific needs of telecommuters, startups and relocated head-office staffers. A well-designed complex of office space, conference rooms, research libraries, quiet spaces and so forth could be shared among users. The Hub would incorporate housing types to specifically accommodate a wide range of demographics in terms of age, financial situation, career stage and social needs.

With amenities such as community centres and retail outlets, it would also be a place for the community to meet, socialize and to host extracurricular events and workshops. The design strategy aims to provide a safer street, with less traffic and more “eyes on the street.” With a reduced dependency on cars, workers and residents will turn to alternative transportation options such as bike-sharing to access the Hub. This will transform a typical suburban building into a device that bring people together to integrate work, life and play. With government, corporate and industry support, the Hub would attract more workers who would want to live near or within it while being in proximity to commercial facilities, which would facilitate the continued decentralization and make a critical mass of density to provide local customers for the retailers. The building is not defined by a single purpose, but rather will complement, consolidate, and maintain the existing facilities.

The Hub project will encourage collaboration and the expression of cultural identity for the modern dweller. The proposal aims to support a healthy way of life and sustain growth in the revitalization of suburban communities.

Architecture as the medium of revitalization.
Top: Southeast perspective view.
Bottom: Northeast perspective view.

JURY'S COMMENT:
AN INTERESTING IDEA TO CREATE
COMPLETE COMMUNITIES AND INTEGRATE
LIVE-WORK-PLAY SPACES IN SUBURBAN
SETTINGS ASKS PROVOCATIVE QUESTIONS
ABOUT THE NATURE OF SUBURBAN
REVITALIZATION.



Renderings by Connie Lei

The Counterpublic of Union Station

AIDAN MITCHELMORE (Intern Architect)

Toronto's Union Station holds the potential to reimagine Toronto's strained commuter infrastructure, the city's connection to a redeveloped waterfront, and the role of downtown public space. As the country's busiest transit terminal, Union Station has been undergoing a massive revitalization project since 2011. The current renovation will bring in a large number of retail outlets, transforming it into a commercial shopping centre. The revitalization demonstrates a privileging of the urban consumer over citizen. This proposal, adapted from its author's 2017 thesis at the University of Waterloo, suggests an alternative future.

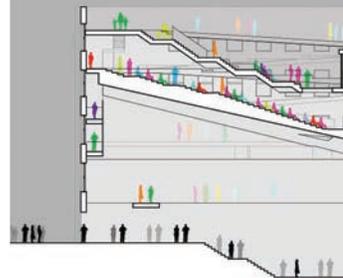
As a foil to the commercial offerings, The Counterpublic of Union Station project would enrich Union Station with public programs such as a library, a resource centre, homeless shelter, health services (including a safe-injection site) and a network of versatile gathering spaces. The spaces would host performances, discussions, public demonstrations and special events that would together celebrate a new cultural landmark and re-politicize Union Station's function as a civic space.

The proposal is deliberately respectful of existing heritage designations protecting Union Station from overdevelopment. With the historic Station built primarily in steel, stone, and plaster, The Counterpublic of Union Station introduces wood

to its material palette: a sustainable resource that can be engineered to allow for wide spans and thus greater structural freedom. Wood's association with domesticity also makes it a fitting material for a more intimate "counterpublic."

While radical, the proposal is legally, financially, and architecturally viable. It is restrained by the limits put forth by the City of Toronto and the logistics of building within a hub of major transit infrastructure. However, as outlined in Richard Sennett's *Spaces of Democracy* and Michael Warner's *Publics and Counterpublics*, carefully calibrated forms in a public forum can create the ideal settings for democratic encounters and exchange. This proposal explores how the confrontation of difference is fundamental to such democratic exchange, and how a diversity of uses within the Station remains critical to ensuring its renewed public function.

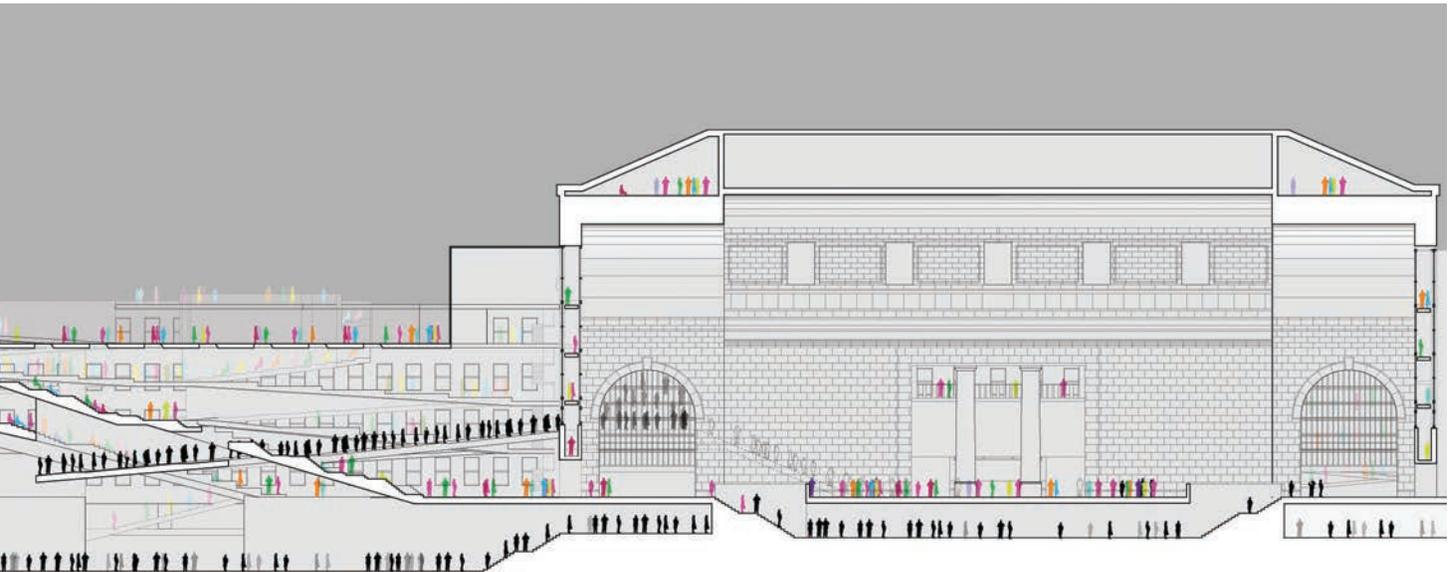
This section shows the relationship between the proposed Counterpublic of Union Station, and the existing Great Hall.



Detail view of 1:200 physical model of Union Station. Colourful figures indicate the proposal's intervention, while monochromatic figures indicate Union's existing and revitalized areas.



JURY'S COMMENT:
AN EXCITING ACADEMIC EXPLORATION OF THE PUBLIC REALM, THIS PROJECT QUESTIONS THE NATURE OF PRIVATE, FOR-PROFIT INVESTMENT IN PUBLIC INFRASTRUCTURE. WHAT WE EXPECT TODAY, IN TERMS OF THE CORPORATIZATION OF PUBLIC ASSETS, IS QUESTIONED IN THE NATURE OF HOW PUBLIC ASSETS ARE MAINTAINED AND OPERATED.



Renderings by Aidan Mitchelmore

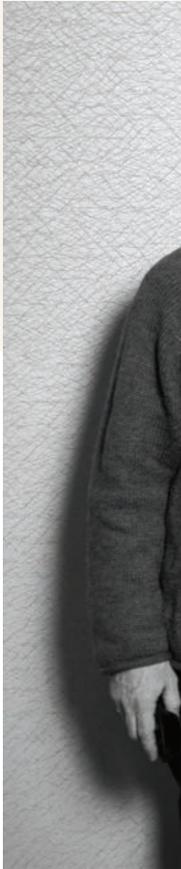
Jury members

Dr. Terrance Galvin is the Founding Director of Laurentian University's McEwen School of Architecture. He began his architectural studies at the University of Toronto and graduated with a Bachelor of Environmental Design Studies and a Master of Architecture from the Technical University of Nova Scotia. Terrance holds a post-professional Master's Degree in History and Theory from McGill University and a Doctorate in Architecture from the University of Pennsylvania. He has taught architecture design, theory and history at McGill University and at Dalhousie University, where he served as the Director of the School of Architecture. He has participated in design award juries in Nova Scotia and Ontario, in addition to serving on several boards governing architectural education and practice in Canada, including the role of past-president of the Canadian Architectural Certification Board.

Ilana Altman is a cultural planner, designer and consultant. As Co-Executive Director of Programming and Visitor Experience at the Bentway, she works with the community to reveal and implement new possibilities for public space. Among other notable firms, Ilana has worked with Studio Daniel Libeskind, Diller Scofidio + Renfro and KPMB Architects. She has led the curation and design of exhibitions and installations at the San Francisco Museum of Modern Art, the Museum of Arts and Design in New York and the Art Gallery of Ontario. She has also worked closely with artists on public art installations for Toronto's Nuit Blanche. In 2014, Ilana founded the Artful City—a Toronto collective that aims to advance public art research, policies and imaginations. She founded and served as the Executive Director of the Pavilion Project from 2015 to 2017.

Janna Levitt is an architect and urban advocate based in Toronto. She co-founded LGA Architectural Partners (formerly Levitt Goodman Architects) in 1991. Janna has led LGA projects throughout Ontario, including Laurentian University's new McEwen School of Architecture, the University of Waterloo School of Architecture, the Mabelle Arts Park Pavilion, Kitchener Public Library's central library, the Toronto Birth Centre and the Kiln Building Redevelopment at Evergreen Brick Works. She is an Adjunct Professor at the University of Waterloo School of Architecture and Dalhousie University School of Architecture. Janna lectures widely on architecture and the arts and is an active jury member and panellist on architectural and urban design issues across the country. She has been an Arts Build Ontario mentor, and from 2011 to 2015 served on the RAIC Steering Committee for Canada's Architecture Pavilion at the Venice Biennale. Janna is currently on the Metrolinx Design Excellence Review Panel and the Waterfront Toronto Design Review Panel.

Ken Greenberg is an urban designer, teacher, writer and principal of Greenberg Consultants in Toronto. For more than four decades, he has focused on the planning and rejuvenation of downtowns, waterfronts, campuses, regional growth management and new communities. He has worked throughout North America and Europe in cities as diverse as Toronto, Amsterdam, New York, Boston, Montreal, Ottawa, Calgary, Washington D.C., Paris, Detroit and San Juan, Puerto Rico. He is a co-founder and vice chair of the new City Building Institute at Ryerson University in Toronto, and a frequent writer for periodicals. His book, *Walking Home: The Life and Lessons of a City Builder*, was published in 2011 by Random House and his new book, *Toronto Reborn*,





was published in 2019 by Dundurn. The former Director of Urban Design and Architecture for the City of Toronto, Ken was the recipient of the 2010 American Institute of Architects Thomas Jefferson Award for Public Design Excellence and the 2014 Sustainable Buildings Canada Lifetime Achievement Award.

Raymond Moriyama is renowned as one of the most accomplished and revered architects in the country. Among his landmark designs are the Ontario Science Centre, Canadian Embassy in Tokyo, Canadian War Museum in Ottawa, Saudi Arabian National Museum in Riyadh and the Meewasin Valley 100-

Year Plan in Saskatchewan. He also designed several buildings at Brock University from the 1970s through the latest campus expansion, and served as the University's chancellor from 2001 to 2007. Raymond was responsible for creating the RAIC International Prize, which celebrates a single work of architecture that is judged to be transformative within its societal context and reflects his conviction that great architecture transforms society. As well as 11 honorary doctorates, Raymond is the recipient of the Order of Ontario, Order of Rising Sun Japan, International Fellow of RIBA, Hon.AIA, RAIC Gold Medal and the Companion of the Order of Canada.

Left to right:
Dr. Terrance Galvin,
Ilana Altman,
Janna Levitt,
Ken Greenberg,
Raymond Moriyama.

Shift
2019

