



Community Solutions Network

**Towards Creative Mixed Use:
Innovative Approaches to
City-Building**

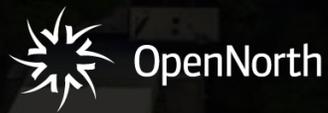
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Lead technical partner:



With funding provided by:



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About the Infrastructure Institute



An advisory, training, and interdisciplinary research hub at the School of Cities, University of Toronto

We seek to build local and global expertise in integrated planning for civil and social infrastructure, decision-making and project delivery.

Three Strategic Priorities

1. Advisory & Research
2. Training & Capacity Building
3. Engagement

What is Creative Mixed-Use (CMU)?

- Buildings bringing together private, public, and non-profit uses in creative ways
- Co-located uses and unexpected partnerships often deliver significant community benefits, often referred to as social purpose real estate (SPRE)
- Opportunity for sustained long-term solutions in delivering affordable housing and other critical social infrastructure

*image by Dan Toulgoet



Contemporary Mixed Uses

Private Mixes



Public Mixes



Public Use Infrastructure

Large Cultural Amenities



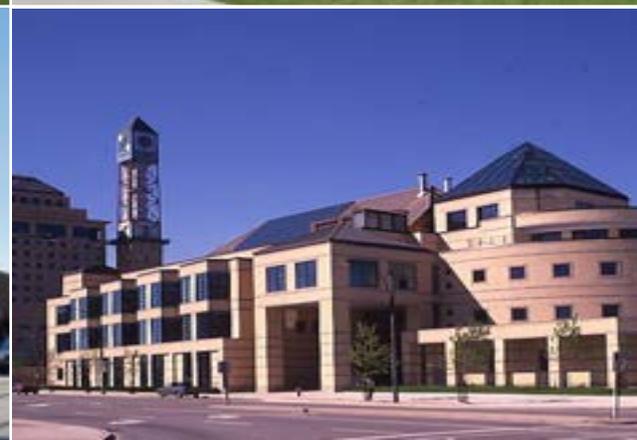
Schools / Learning Centres



Recreation Centres / Libraries

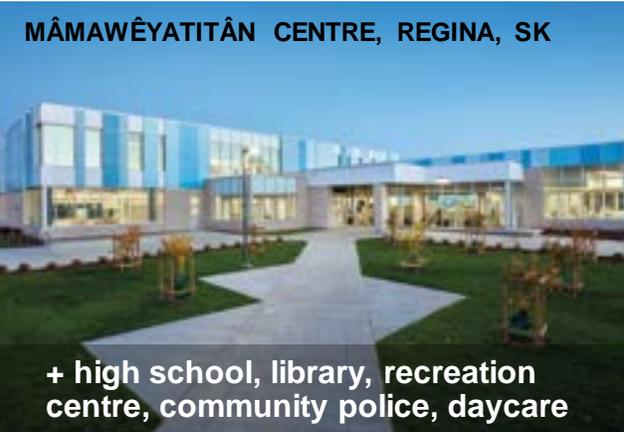


Affordable Housing



CMU Public Use Infrastructure

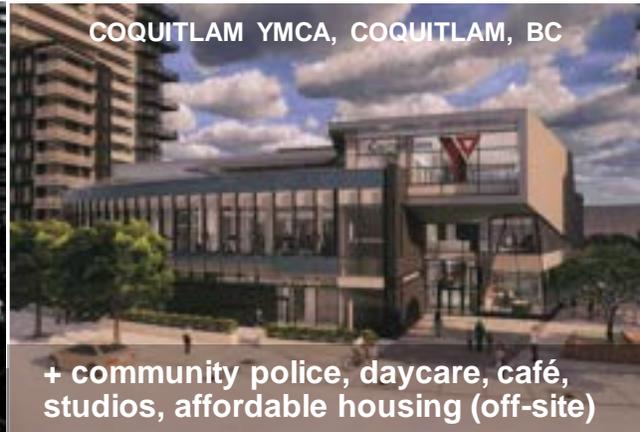
Large Cultural Amenities



Schools / Learning Centres



Recreation Centres / Libraries



Affordable Housing



Reasons for more CMU



Rapid land use
intensification



Vast infrastructure
needs, cash-strapped
governments



Increasingly
entrepreneurial
governments



CMU as "good
urban planning"

People Matter



What is unique and, and critical to my involvement and my family's involvement as philanthropists, is that it's going to be integrated into a for-market condo and it isn't going to be displaced to some far reaching municipality like Etobicoke, where it doesn't serve the needs simply because somebody decided let's push it out, and find a less expensive, marginal location

- PHILANTHROPIC CONTRIBUTOR

You know, as developers, we're building buildings that are here for 50 years, or 100 years. It's a bit of a legacy and I think some of the smaller developers, again who aren't just return driven, recognize the value now of quality architecture, quality design, urban intensification, what you're leaving behind and this is a chance to do something good and do something that improves this great city, which has given us great opportunity.

- PRIVATE DEVELOPER

Growing Network of Experienced Organizations

PUBLIC SECTOR



NON-PROFIT SECTOR / RELIGIOUS INSTITUTIONS



PRIVATE SECTOR



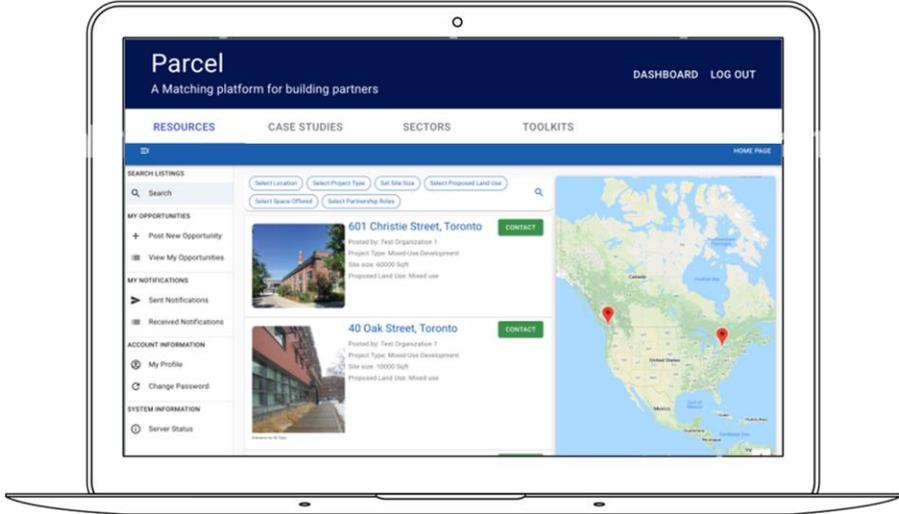


Tech's Role in Building a Supportive Ecosystem

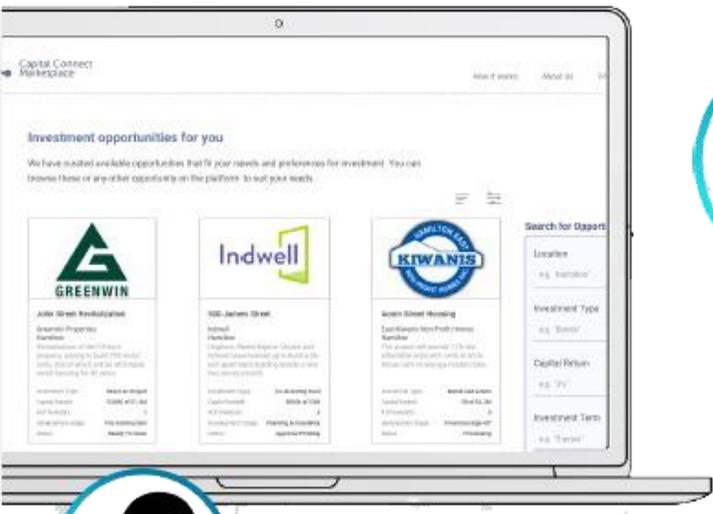
Emerging technological trends can help with building an ecosystem to support CMU projects:

- Partnership Networking & Matchmaking
- Data-driven Development Modelling

Partnership Matchmaking



- Networking & Matchmaking for partnerships is highly desired for those seeking to build social purpose mixed-use buildings
 - Development partnership
 - Investment partnership
- Identified as a large gap in our research by stakeholders interested in social purpose real estate
- Have been a concerted effort to use AI and tech to help with this gap



*Note: matchmaking applications shown are conceptual only

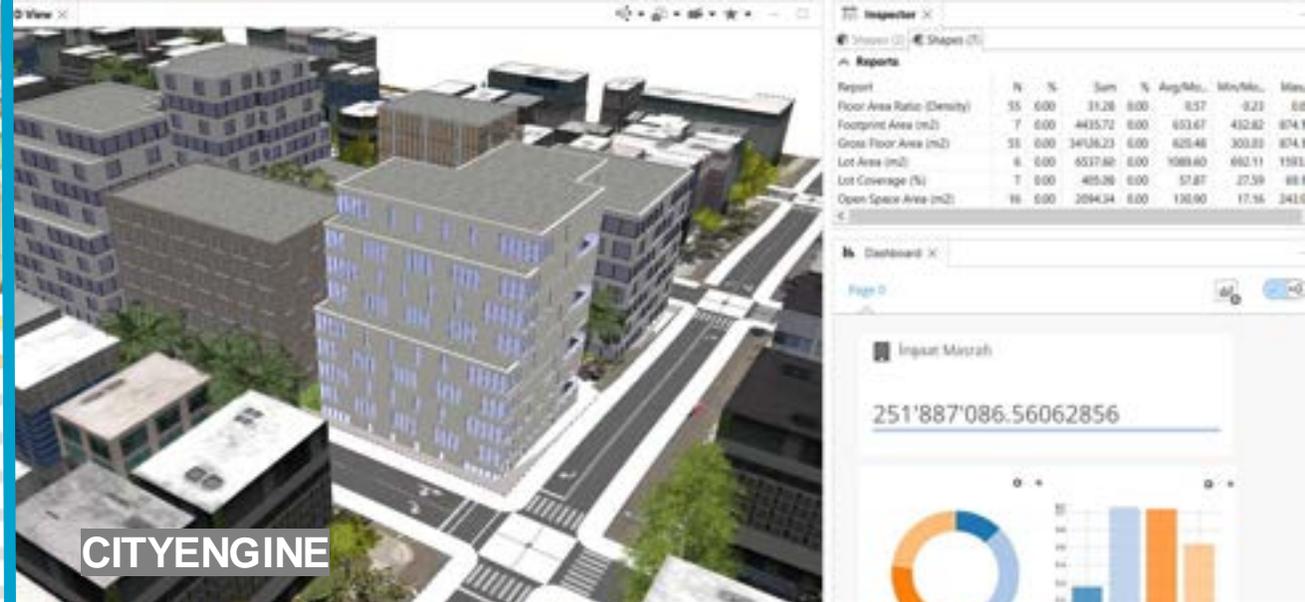


Data-driven Development Modelling

- Many new technologies that can help automate 3D building forms from a set of rules
 - Height, uses, angular planes, setbacks, lot coverage, etc
- Software applications integrate existing data, including zoning parameters, land parcels, and other geospatial data
- Also oftentimes linked to financial balance sheets to show feasibility



ARCGIS URBAN

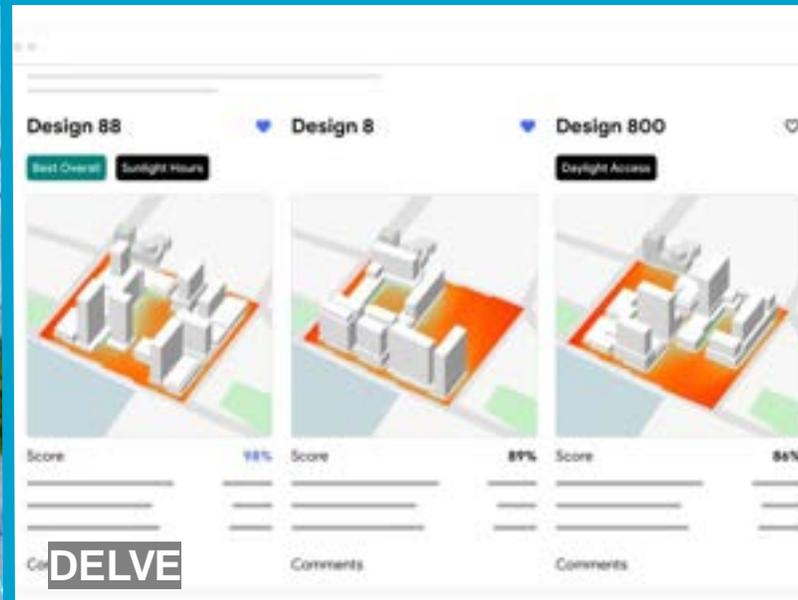


CITYENGINE

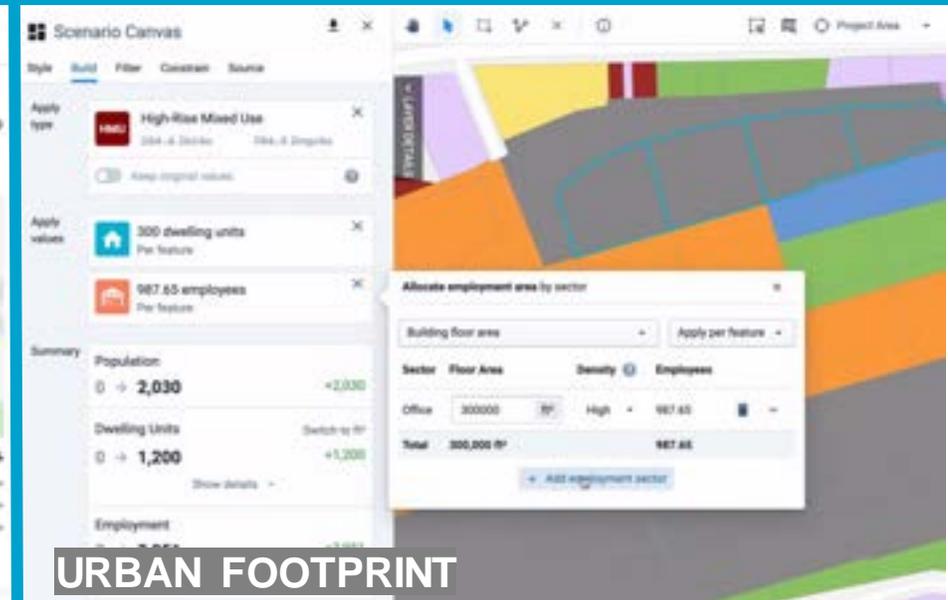
City modelling tools



3D CITYPLANNER



DELVE



URBAN FOOTPRINT



How does this support Creative Mixed Use?

Gain high-level insight on the impact of a policy or design choice

- Development scenarios generated quickly and cost-efficiently
- Analyze data to make informed decisions

Better Public Engagement

- Socialize concepts effectively
- Virtual collaboration



Community Solutions Network

Case Study: SPRE Municipal Site Redevelopment)

* A hypothetical case based on a true story

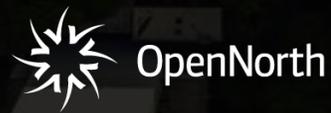
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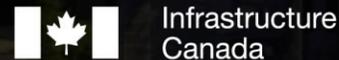
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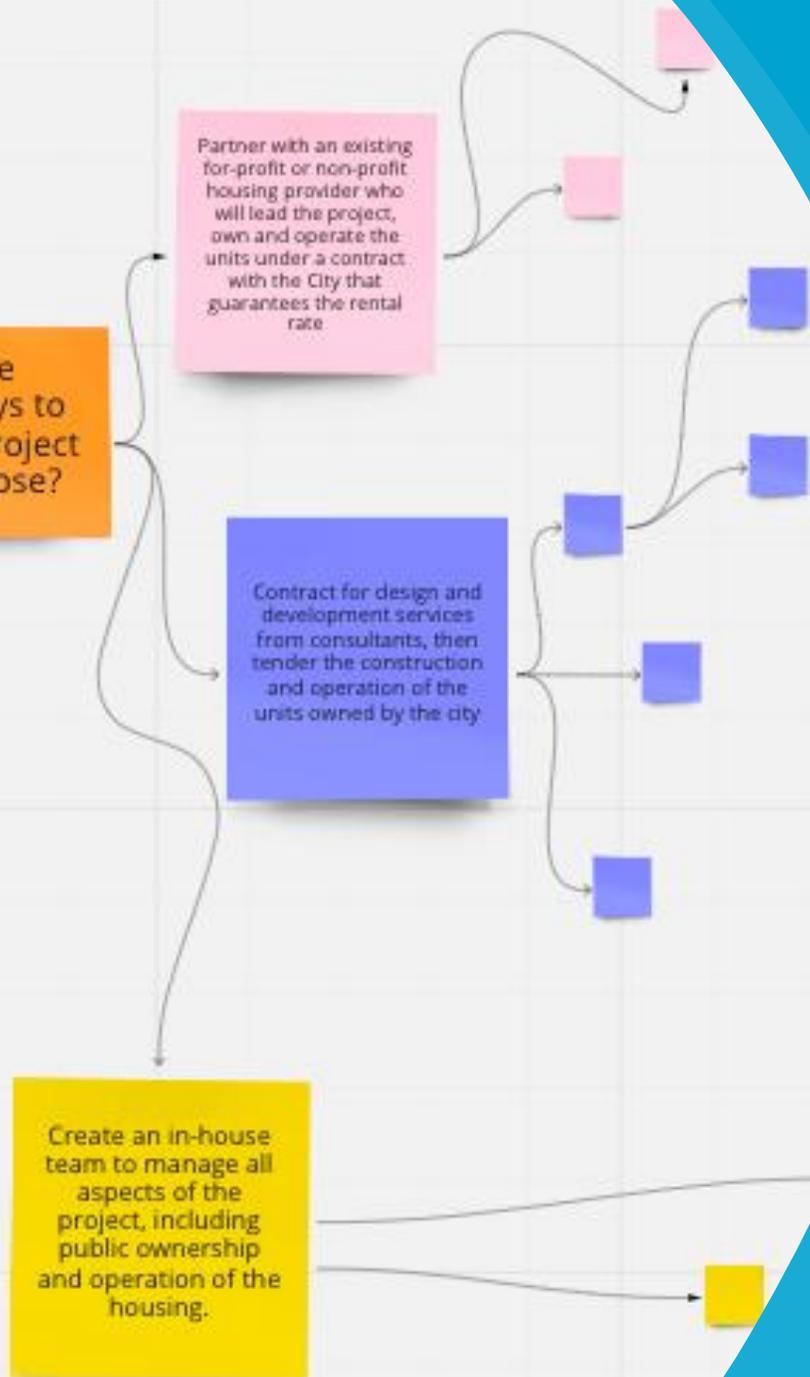
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Which of the following 3 ways to carry out this project would you choose?



Use Miro to join the conversation!

- Miro is a virtual white board, please visit the link shared in the chat to access
- You can move around the board using your mouse or trackpad (go to 'Settings'--> 'Preferences'--> 'Navigation device' to change how this)
- Use the toolbar on the left to add objects to the board
- Or feel free to just put your thoughts in the chat! Our team can add it to the board after

Case Background: Redeveloping Public Lands

You are the director of the
Planning and Building Services
Department at the City of St.
Thomas, Ontario



- St. Thomas is a small/mid sized city of 42,918 in Elgin County, Southwestern Ontario.
- The City frequently gets ranked as one of the best places to live in Ontario, most recently by Maclean's magazine in 2021 and in 2022 by Zoocasa as the best place to purchase a home below the national average price.
- Despite the praise for the City, parts of the downtown have experienced years of underinvestment. There are now areas with derelict buildings, shabby surface parking lots, and vacant open plots of land.

Case Background: Redeveloping Public Lands

- The City has come to own one vacant plot of land in the downtown area, a 2-acre site at 16 Queen Street
- The site is in a very good location, but there has been a pattern of under investment in the nearby area for many years.
- Most of the buildings in the surrounding area are 2-4 stories high, while there is a taller 8 story building nearby.
- At past development consultations, residents have voiced a desire for redevelopment in the area, while concerns exist about **building height** and a need for **affordable housing in the City** in the face of a province wide housing crisis.



Vision, Skills and Capacity

- After internal meetings with your staff and discussions with the City council and community, you decide that the City's mission and vision can best be realized by developing a mixed-use building that includes spaces for social services with housing up above
- You recognize that undertaking a development of this scale may be a stretch for the City on its own, as you have experience operating housing but have not managed housing construction projects of this scale recently
- **Which of the following 3 ways to carry out this project would you choose?**
 1. *partner with an existing for-profit or non-profit housing provider who will lead the project, own and operate the units under a contract with the City that guarantees the rental rate*
 2. *contract for design and development services from consultants, then tender the construction and operation of the units owned by the city*
 3. *create an in-house team to manage all aspects of the project, including public ownership and operation of the housing.*
- **What skills would you need within your team to deliver this undertaking based on the option to carry out the project that you chose?**
- **What are the risks associated with your chosen approach?**



Financing the Project

You decide to partner with an established non-profit housing developer to manage the construction and operation of the building. The building will have 4 stories and 65 affordable housing units. The funding options available are as follows:

- Your non-profit partner funds the entire affordable housing project by including market rental housing units in the building and street level retail. The building will have no parking to save significant construction costs.
- Your City finance department proposes selling all of single family homes in the City's affordable housing portfolio to fund the new project, which would remain in public ownership. Once sold, however, the public resource of the single family homes is gone permanently
- Apply to CMHC programs to fund part of the project, which will be owned by the City and leased to the non-profit operator. This will require a \$6 million contribution from the City.

Which funding option would you take? Or are there other options you may explore?

Innovative Building Technologies

There are two technological innovations that you are exploring for the project:

Modular construction for the building would speed up the build time and lower the project cost by around %15; however, there is no modular construction contractor in St. Thomas, so the contract would be awarded to a firm outside the city. It would also not be possible to customize the social services spaces on the main floor of the building.



Including environmentally sustainable options like high efficiency windows and an electric heat pump system would add \$2 million to your upfront cost but save money over 15 years of operating the building and lower rents for tenants.

Would you approve the additional up-front expense? What are the risks associated with implementing these environmentally sustainable options?

Making the Financials Work

In early 2022, the project has received City Council approval and funding from CMHC and the provincial government has been lined up.

However, prior to breaking ground, the non-profit developer reports that due to inflation and higher interest rates, project prices have gone up and the building is no longer financially viable as is. The project risks being stalled.

Which of the 3 ways to keep the project on track

- **Add 3 additional floors to the height of the proposed 4 story building, raising more revenue but making it taller than neighbouring buildings.**
- **Contributing an additional \$5 million in City money to the project**
- **Shrink the size of the building and reduce community spaces on the main floor to cut costs and keep within the available budget**

- **What are the tradeoffs and risks associated with your chosen approach?**
- **How could innovative building modeling and visualization technologies assist in making this decision?**



Community Engagement and Consultation

- You organize a public consultation meeting to engage with the local community about the project
 - Emotions run high at the meeting. There are supporters for the project.
 - There is also a significant, vocal group of residents from the surrounding community who have expressed fears of increased criminal activity and property price drops in their neighbourhood if new affordable housing units and a high-profile social service space is built on the site.
 - There are also concerns voiced about shadows from the height of the building and traffic due to the lack of on site parking.
 - You feel that some of the comments have been derogatory and prejudiced against future low income residents and social service users.
- **How would you as the meeting facilitator respond to these prejudicial comments?**
 - **If you chastise the speakers you may be seen as not giving sufficient consideration to their concerns**
 - **If you say nothing, you risk alienating and further marginalizing low income residents and social service users.**





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A graphic element for the School of Cities logo, consisting of a grid of dots of varying sizes arranged in a pattern that suggests a city skyline or a network.