Planting Imagination

Community Co-Design for Chinatown Toronto

Impact Report
July 2023

Impact Evaluation and Report by Tyler Fox
Supervised by Prof. Linda Zhang
Report Illustrations, Photography and Graphic Design with support from Michelle Ng and Shuning Xie
Backcover Illustration by Christie Jia Wen Carrière

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About the Project

Planting Imagination ran from April 2021 to March 2023 (during a pandemic recovery period) in Toronto's Chinatown West neighbourhood. It brought together a group of local Chinatown community organizations and Toronto Metropolitan University researchers to recruit 60 diverse 'Chinatown Activators' (CAs) and six Facilitators from across the community. Community Facilitators and Activators used virtual reality (VR) technology to co-design a local community garden and develop new visions for the future of Chinatown. This process strengthened community solidarity to enable local residents to more readily steward the future of the built environment and respond collectively to challenging events like the pandemic.

Project Investigators

Nominated principal investigator:
Prof. Linda Zhang, *Waterloo University School of Architecture (previously Toronto Metropolitan University (TMU) School of Interior Design)*

Co-applicants from PROTECH (Pandemic Rapid-response Optimization To Enhance Community-resilience and Health):

- Dr. Josephine P. Wong, *Ph.D., Professor, Daphne Cockwell School of Nursing, Toronto Metropolitan University, PROTECH*
- Dr. Kenneth P. Fung, *MD, Psychiatrist and Clinical Director, Toronto Western Hospital, University Health Network, Associate Professor, University of Toronto, PROTECH*
- Dr. Alan Tai-Wai Li, *MD, Physician, PROTECH*
- Dr. Mandana Vahabi, *RN, Ph.D., Professor, Daphne Cockwell School of Nursing, Toronto Metropolitan University, PROTECH*

Formal community partnerships:

- Danny Anckle & Beryl Tsang, *Cecil Community Centre*
- Nadine Villasin Feldman & Sarah Tumaliuan, *Myseum of Toronto*
- Veronica Ing, *Asian Queer Alliance Toronto (AQUA)*

Community organizers affiliated with various Chinatown grassroots organizations and community groups (not formal partnership):

- Amy Wang, *Long Time No See*
- An-Qi Shen, *Cecil Plant Friends*
- Bryn Rieger, *Cecil Plant Friends*
- Chiyi Tam, *Friends of Chinatown Toronto*
- Christie Carrière, *Tea Base*
- Dany Ko, *Asian Community AIDS Services*

Project Collaborators:

- Tyler Fox, *Community Engagement & Impact Evaluation Consultant*
- Janak Alford, *Technology Ecosystem Designer*
- Dr. Jimmy Tran, *Research Technology Officer, Toronto Metropolitan University Library*
- Michael Carter-Arlt, *Immersive Technology Specialist, Toronto Metropolitan University Library*
- Kelly Prevett, *Social Worker (gender-based violence), Mental Health Counsellor, Humber College*

Student researchers from Toronto Metropolitan University:
Reese-Joan Young (project coordinator), Lauren Chan, Alice Huang, Jialing Li, Michelle Ng, Victoria Nip, Vicky Wei Wang, Shuning Xie, Meimei Yang and Annabelle Zu

Translators:
Ashley Yim
Jessica Wang
Hanh Le

Context

Pandemics not only impact individuals' physical health, but pose long-term challenges for public health, community mental health and the built environment. An adequate response and recovery plan requires interdisciplinary collaboration and innovation that extends beyond the narrow scope of physical health. Planting Imagination brought together architects, cultural psychiatrists, interior designers, critical race theorists and public health scholars to address and unsettle dominant responses to COVID-19 challenges, including the impact of racism, stigma and exclusion on individuals, communities and neighbourhoods.

The site of this work was the neighbourhood of Chinatown West in downtown Toronto. Chinatowns work with what they have and create what they need through ecosystems of mutual aid. They're member-led, innovatively resourceful and above all, inclusive—characterized by radical acts of community care against a system which continuously excludes them. The Planting Imagination Team believes that the future of sustainable city design must be a collaborative act, so this work set out to explore new processes of working, designing and building together. Bringing together diverse disciplines and practices, Planting Imagination developed models of therapeutic VR co-creation through community co-design and co-fabrication sessions that prioritized the communities and neighbourhoods disproportionately impacted by COVID-19.

This project provided an opportunity for community members to transform their physical environments as a direct action against the deterioration of the physical environment of Chinatown West, due to COVID-19 related impact (i.e. restriction measures, racialized discrimination, disproportionate infections amongst its senior community members, exacerbated gentrification and more).

Using cutting-edge VR visioning and the principles of co-design, the Chinatown West community was provided with a platform to virtually envision the future of their own community and neighbourhood as a collaborative process. In doing so, they explored how we might transform the way we build and mobilize communities, (re)construct community identities, and strengthen the community's resilience to promote social justice and equity.

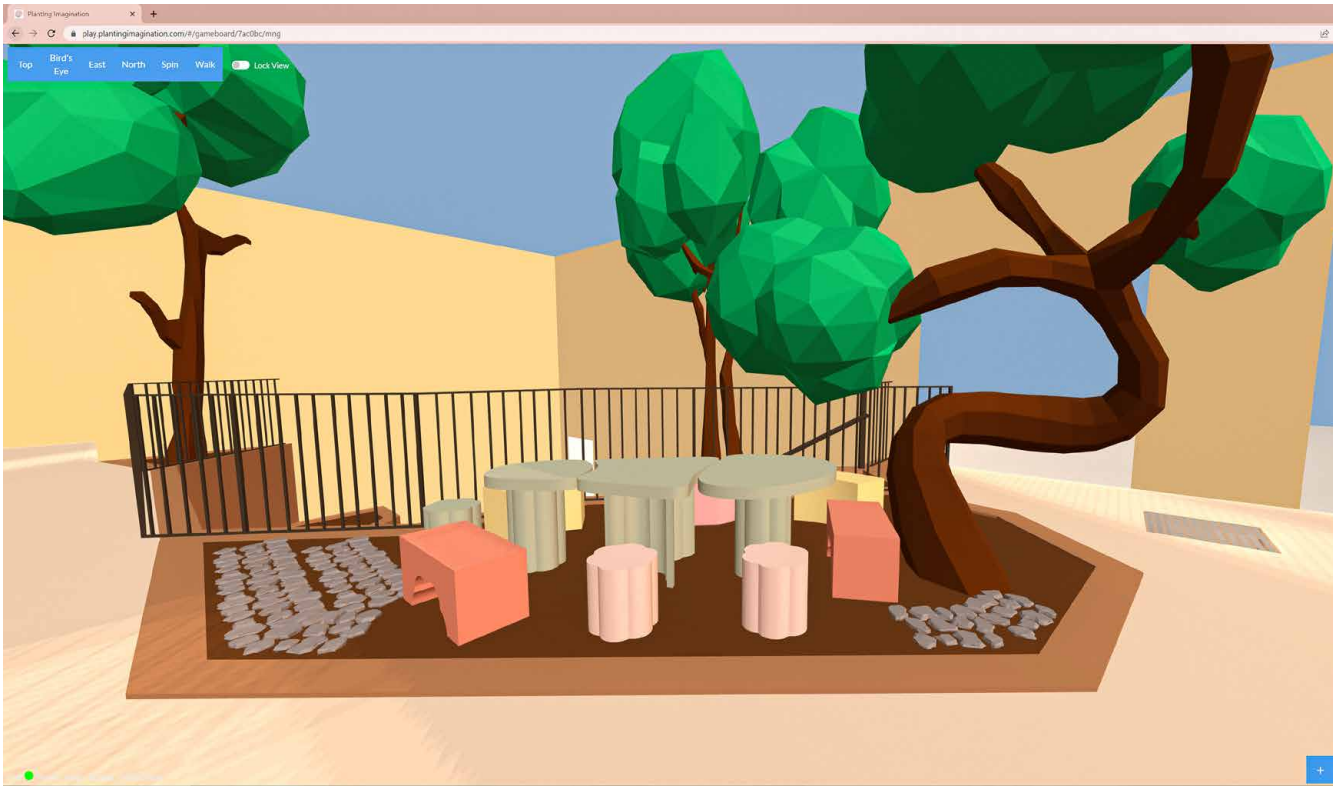

Figure 1. Web-browser-based VR design platform of Cecil Community Centre's garden, with furniture design of modular seating and terracotta tiles.

Figure 2. View of Cecil Community Centre's garden with built furniture layout of modular seating and terracotta tiles.

A New Model

The research project's intervention methodology and design included the three key elements explored below.

1. Collaborative Community Engagement Model (CCEM)

Community-based Participatory Research (CBPR), Community Coalition Action Theory (CCAT) and various co-design models served as initial templates to connect, mobilize, and align existing people and communities, processes and resources in Chinatown West. However, Planting Imagination addressed the limitations of more generic models of community-based research, which have failed to address a number of political, cultural, and technical challenges within the Canadian pandemic response and recovery context.[12]

Our CCEM model situated knowledge within the community and championed community members as empowered 'knowledge carriers' at all project stages. From the development of the research questions, to implementation and knowledge dissemination, this model worked to enable the community - as opposed to external researchers - to own the knowledge being produced. This shifts the traditional power disparity between professional and community researchers (which exist in models like community research and peer research).
Through the development of the CCEM framework, this project provided community members with:

- **Resources**, including training, technology and funding
- **Opportunities**, including paid research positions, personal development and community skills development
- **Agency**, through collective decision-making in design-research, democratizing digital technologies and design fabrication processes to shape the built environment

Together, these have the power to strengthen a marginalized community's capacity to address and redress the impact of COVID-19 on its members. This work sought to 'climb the rungs' of Arnstein's ladder of citizen participation[3] by enabling community members to take control of the processes that traditionally reside within the bounds of architecture and design experts.

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1 During the 2003 SARS crisis, over 60 Chinese organizations formed a coalition we participated in, while another distinct coalition was formed by the Taiwanese community. The two coalitions could not be merged due to historical, cultural, and political considerations. Members of our team were uniquely able to bridge both factions to mount a SARS Support Hotline by negotiating a number of political, cultural, and technical challenges. This level of community collaboration between the groups was unprecedented and has not recurred since.

2 Dong, W., Fung, K., & Chan, K. C. (2010). Community mobilization and empowerment for combating a pandemic. Journal of Epidemiology and Community Health, 64(2), 182-183. doi:10.1136/jech.2008.082206 Dong, W., Fung, K., & Chan, K. C. (2009). Coping with public health crisis. Dong W, editor. Public Health in the 21 Century. China: Renmin University Press.

3 Sherry R. Arnstein's "A Ladder of Citizen Participation," Journal of the American Planning Association, Vol. 35, No. 4, July 1969, pp. 216-224.

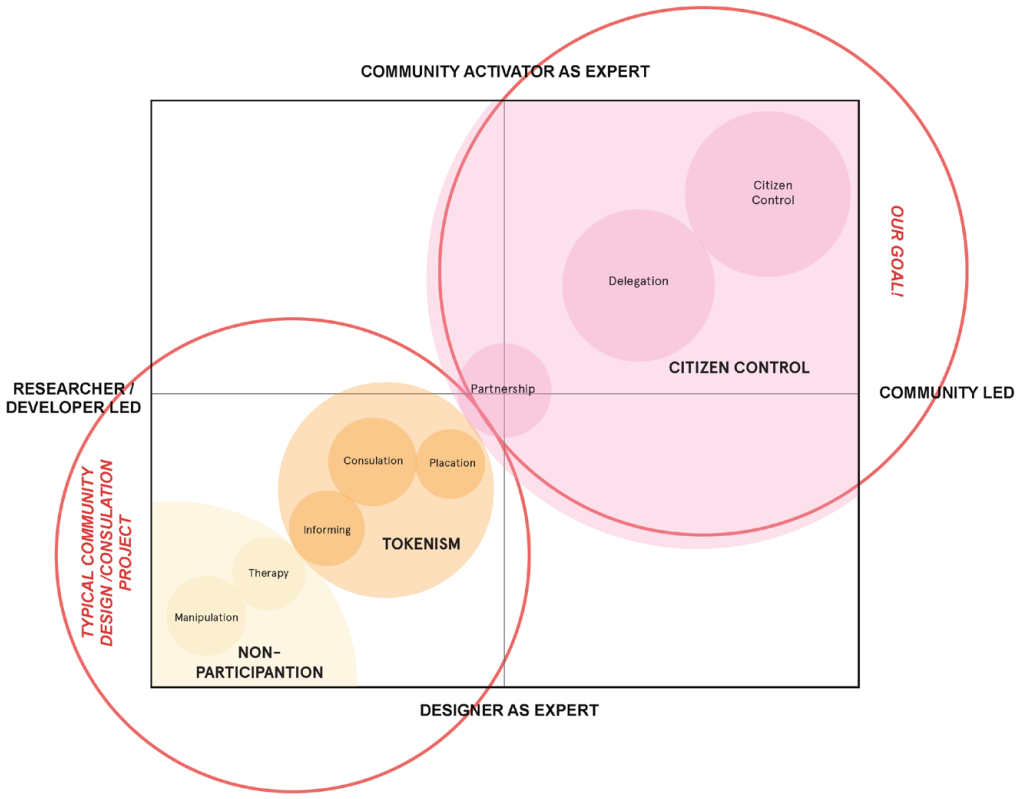


Figure 3. Two-axis representation of Arnstein's Ladder of Citizen Participation as mapped against design and community expertise.

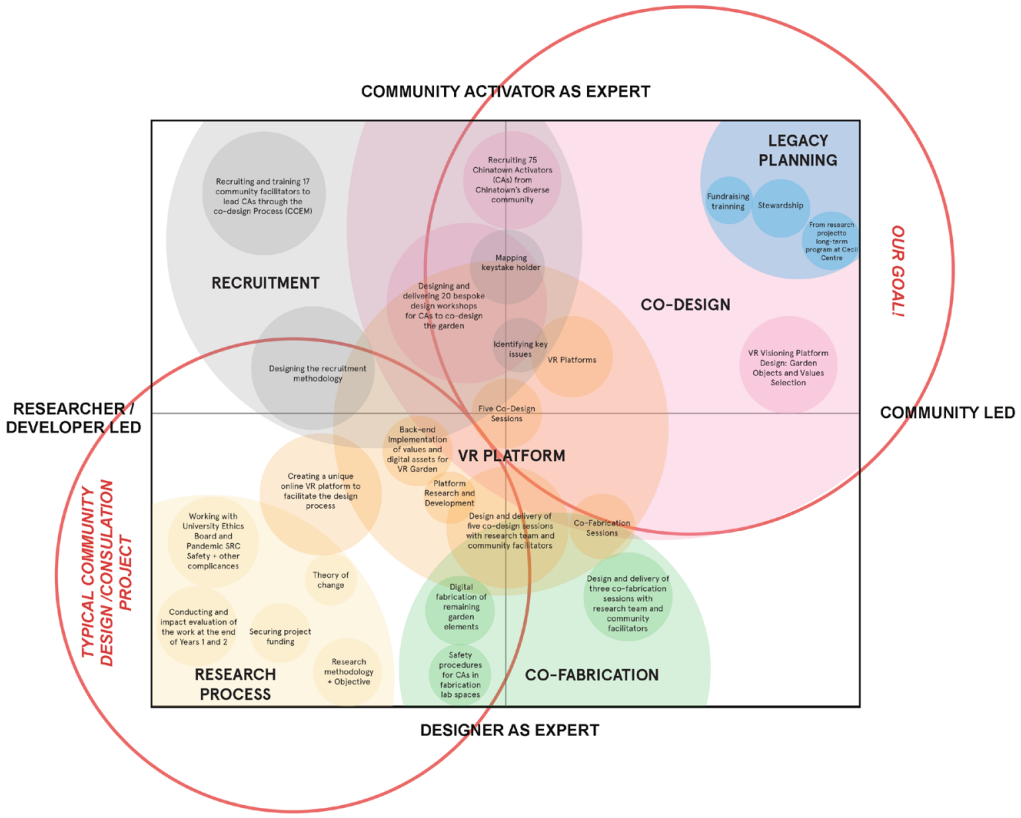


Figure 4. Planting Imagination's various project activities as mapped against two-axis representation of Arnstein's Ladder. This acknowledges the different realities of degrees of citizen participation needed throughout the project in order to prioritize the co-design process and community decision making in the design process.

2. Virtual Reality for Community Building & Empowerment (VR-CEB)

This research builds on and challenges the applications of existing single-user architectural and gaming VR technologies. In contrast, the technologies developed as part of this project provide shared VR experiences that are inclusive and collaborative, for the purposes of community wellness, resilience, and empowerment. The project explored how community-led and shared VR experiences can serve as tools for building community participation, agency and power to address a given community's psychosocial needs. When democratized, this technology has the potential to:

- Serve as the vehicle for bringing speculative fiction to life - a tool most commonly used to envision alternative realities and encourage community empowerment and collective healing
- Encourage community-led engagement with city planning through the practice of collective envisioning
- Provide positive therapeutic and public health benefits for users

With this in mind, the project team built a bespoke VR system to support residents to virtually imagine and collaboratively shape their own Chinatown gardens. This process included building and evaluating five collective VR platforms that were introduced to CAs during a series of co-design sessions. These platforms included:
Through a series of workshops, Chinatown

1. **A web-browser-based VR design platform** enabling live interaction between multi-users (up to 100 CAS) building on the gaming platform three.JS;

2. **A headset-based VR visualization platform** enabling users to review the latest collective design in 360 degrees, complete with interactive viewing and feedback interactions. This was created via Yulio and could be viewed via a mobile/tablet device and web browser.

3. **A tablet-based Augmented Reality (AR) visualization platform** enabling users to review the latest collective design in 360 degrees, which could be collaboratively viewed on a shared via Adobe Aero App.

4. **An in-person, live and interactive 360 degree VR projection dome** with physical VR controllers enabling up to 15 users to interact and move virtual objects. This was based in TMU Library's 360 Immersion studio VR dome.

5. **A 360 degree AR visualization platform** of the various stages of the design process, via Spekwork's mobile App platform for Hypercity AR Festival.

Activators (supported by upskilled Community Facilitators) designed a new community garden at Cecil Community Centre. The sessions progressed from passive participation through a pre-constructed VR environment, to active participation through co-created VR environments.

These sessions were structured to build upon a traditional design process (Pre-design, Concept Design/Schematic Design, Design Development and Construction), with additional emphasis on post-occupancy evaluation and legacy planning. The platforms above were built to correspond with each design phase.

Access to Technology:

Increase in technology access and design control before and after the project

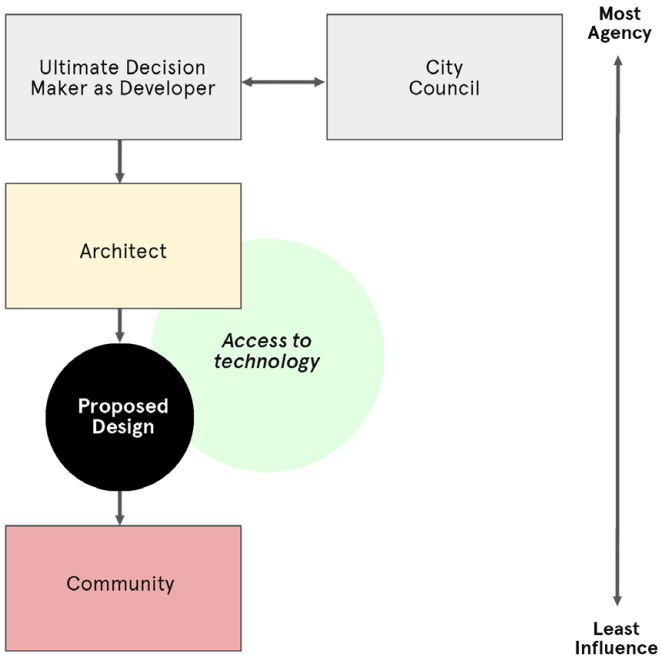


Figure 5a. BEFORE: Community participation in the design process of a prototypical community consultation model, where community members are often excluded from the design process and do not have access to design technologies. On Arnstein's Ladder, community consultations are considered tokenism used to gain public buy-in for predetermined designs and outcomes.

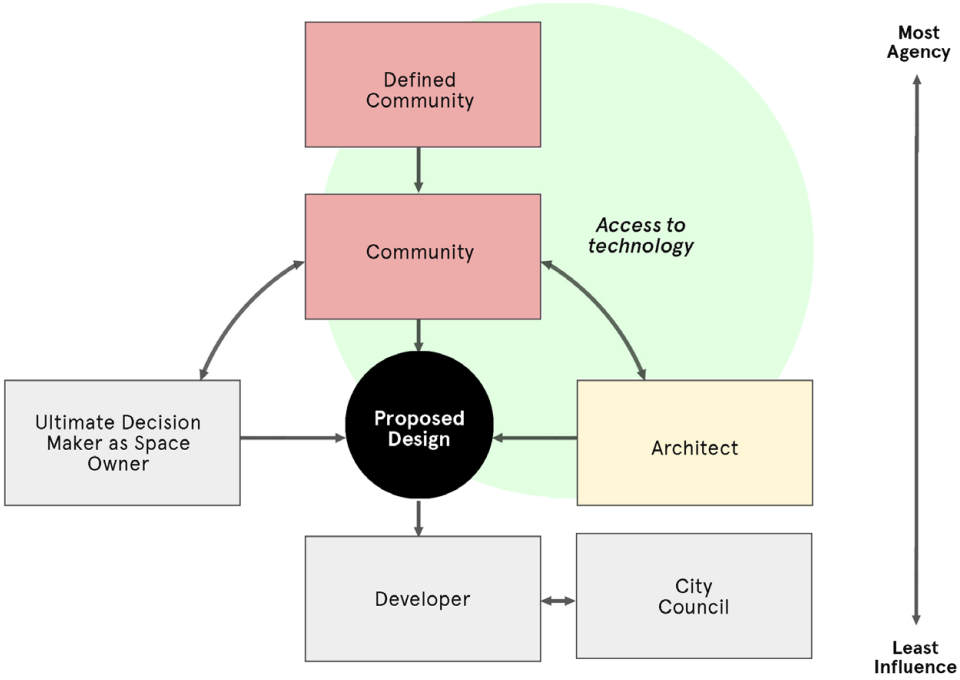
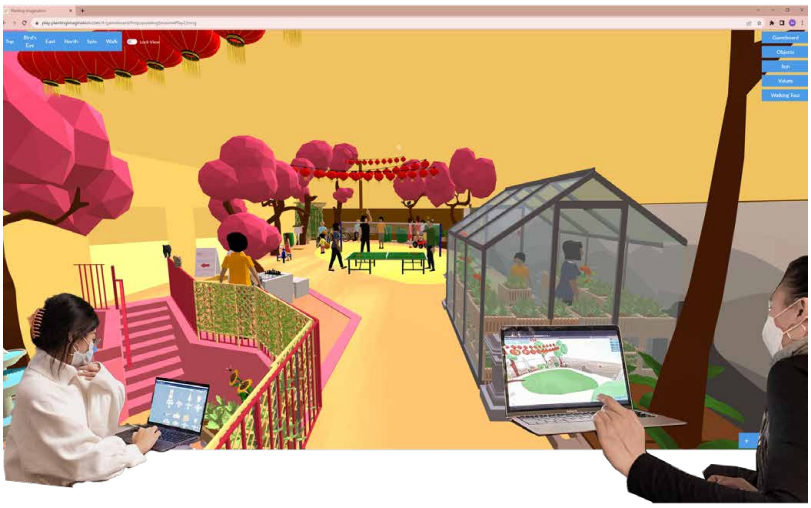
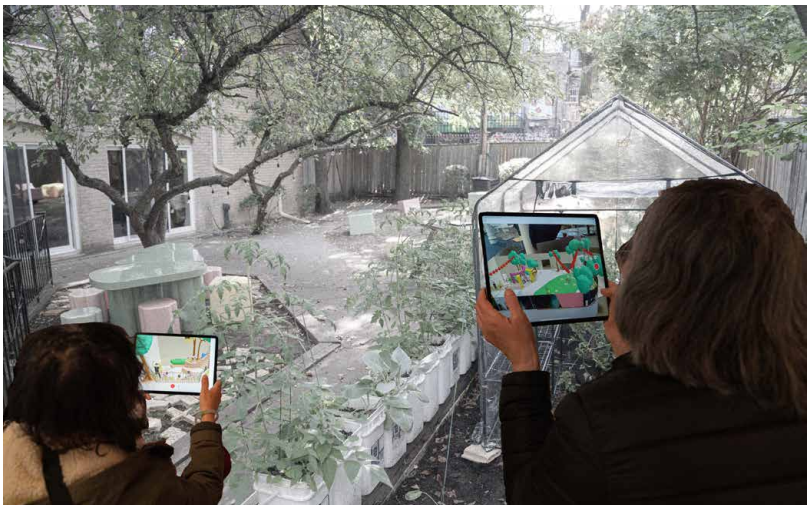


Figure 5b. AFTER: In comparison, the community participation in the design process of our VR-CEB model places community members at the centre of agency and control by providing access to design technologies and platform. Here the architect works for the community versus the ultimate decision maker or developer in the prototypical model above.



A web-browser-based VR design platform

A headset-based VR visualization platform

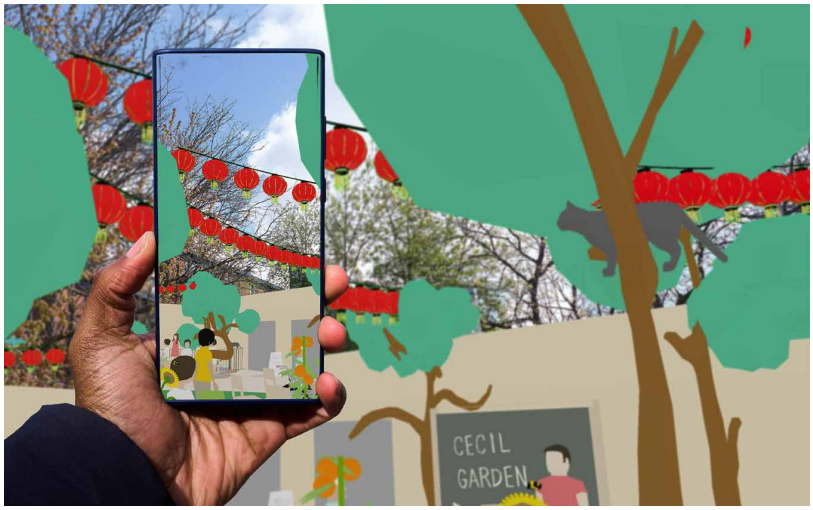


A tablet-based Augmented Reality (AR) visualization platform

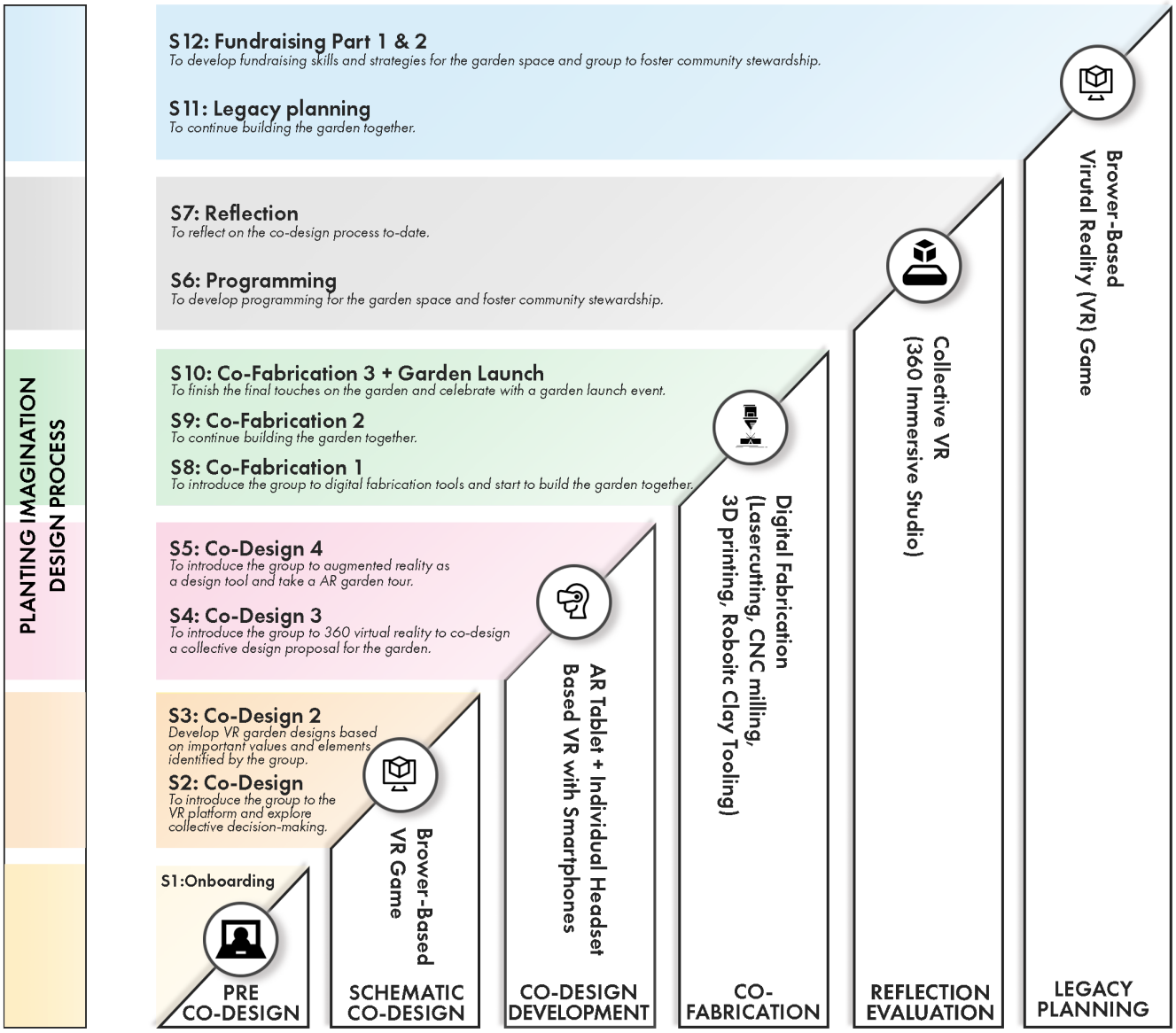
Figure 6. Five bespoke VR technology platforms developed for Planting Imagination and the physical garden.

An in-person, live and interactive 360 degree VR projection dome

A 360 degree AR visualization platform



An co-designed community garden



VERSUS

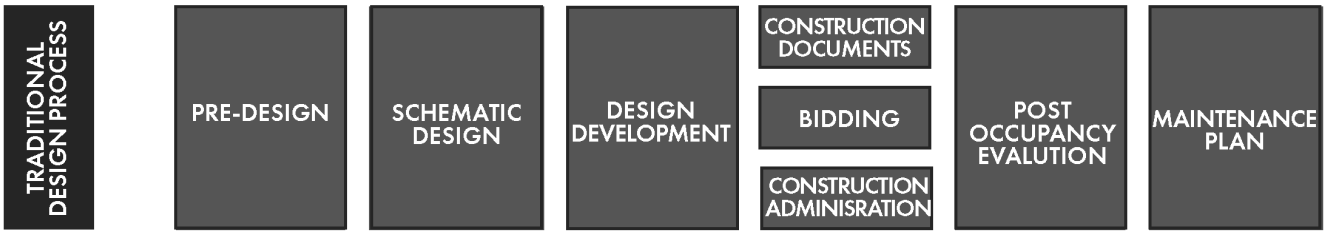


Figure 7. Planting Imagination design process compared to a traditional design process, illustrating which technologies where used in each design phase.

3. Community-led Empowerment through Design Action (CEDA)

This final phase of the work transitioned CAs from virtual environments to augmented realities, and finally to direct action on the real physical environvment. It culminated in the collaborative fabrication and installation of the community-led design on the Cecil garden site. This included planting, gardening, developing community programming and legacy planning.

The project championed community decision-making through democratizing design technologies and tools that are often out of reach of the general public. In order to enable community empowerment throughout the design process, the project team had to remove barriers both in terms of access and resources.

The team tackled barriers to inclusion and equity within VR by first addressing the diverse needs of participants in the delivery of sessions, including by providing live translation in English, Mandarin and Cantonese. Through various delivery choices, they addressed access needs arising from: ethno-racial background and language (for newcomers who may not yet speak English), technological and economic resource (for those who did not have access to a computer, internet, or VR headset), age (for seniors who needed intergenerational support), gender (to address the ways in which gender factors into COVID-19 impact) and ability (for hearing and vision impairment).

From a resource perspective, a number of CAs did not have access to high speed internet, computers, or VR headsets; but most had access to smartphones with data plans, making a smartphone browser-based VR experience an important engagement option. However, the team also needed to ensure inclusion for those who did not have access to a smartphone, computer, or internet at home. So, where possible, each session was delivered twice, once virtually and once in person. This dual format provided in-person access to those who could not access the technologies from home. In addition, VR headsets were mailed to each CA at the start of the project.

Figure 8. Technology platforms used as mapped against chronological co-design sessions delivered. This illustrates the transition from shared VR platforms, to AR to digital fabrication technologies, and finally to the physical construction of the garden.

Figure 9. Rendering of a VR garden co-design of Cecil Community Center's lower garden, created by Chinatown Activators during one of the sessions.

Session Plan

Over the course of a year, Chinatown Activators participated in the sessions pictured below. The arc of the project took them through the journey of learning about the project, the garden and AR/VR; to co-designing and working together to physically build the garden; to collaboratively planning future programming for the space; and finally, to learning how to fundraise to ensure the sustainability of the garden and its programs.

Figure 10. Collage timeline of the Planting Imagination sessions showing technologies used.

SESSION 2: CO-DESIGN 1

SESSION 3: CO-DESIGN 2

SESSION 5:CO-DESIGN 4

SESSION 4: CO-DESIGN 3

SESSION 10: CO-FABRICATION 3

SESSION 11: LEGACY PLANNING

Session Plan:

LEGACY SESSIONS *February - December 2023, Cecil Centre*

Bi-weekly sessions led by CAs legacy programming groups: Fundraising, Gardening, Food and Arts+Culture

SESSION 11 Legacy planning *November 30, 2022, Cecil Centre*

To develop and discuss stewarding the space including Chinatown Activator continuation for next season and beyond.

SESSION 12 Fundraising *Dec 11, 2022 +Jan 15, 2023, Cecil Centre*

To develop fundraising skills and strategies for the garden space and foster community stewardship.

SESSION 10 Garden launch *August 25, 2022, Cecil Centre*

To finish the final touches on the garden and celebrate with a garden launch event.

SESSION 9 Co-fabrication 2 *July 30, 2022, Cecil Centre*

To continue building the garden together.

SESSION 8 Co-fabrication 1 *June 29, 2022, Cecil Centre*

To introduce the group to digital fabrication tools and start to build the garden together.

SESSION 7 Reflection *May 28, 2022, Online*

To reflect on the co-design process to-date.

SESSION 6 Programming *April 26 & 30, 2022, Online & Cecil Centre*

To develop programming for the garden space and foster community stewardship.

SESSION 5 Co-design 4 *March 28 & April 2, 2022, Online & Cecil Centre*

To introduce the group to augmented reality as a design tool and take a AR garden tour.

SESSION 4 Co-design 3 *March 11 & 12, 2022, Online & Cecil Centre*

To introduce the group to 360 virtual reality to co-design a collective design proposal for the garden.

SESSION 3 Co-design 2 *February 26, 2022, Online*

To further develop virtual reality garden designs based on important values and design elements identified by the group.

SESSION 2 Co-design 1 *February 12, 2022, Online*

To introduce the group to the virtual reality garden game platform and explore collective working and decision-making.

SESSION 1: Onboarding + Values *January 29, 2022, Online*

To introduce the group to the project, get to know each other and explore needs and values.

Knowledge Generated:

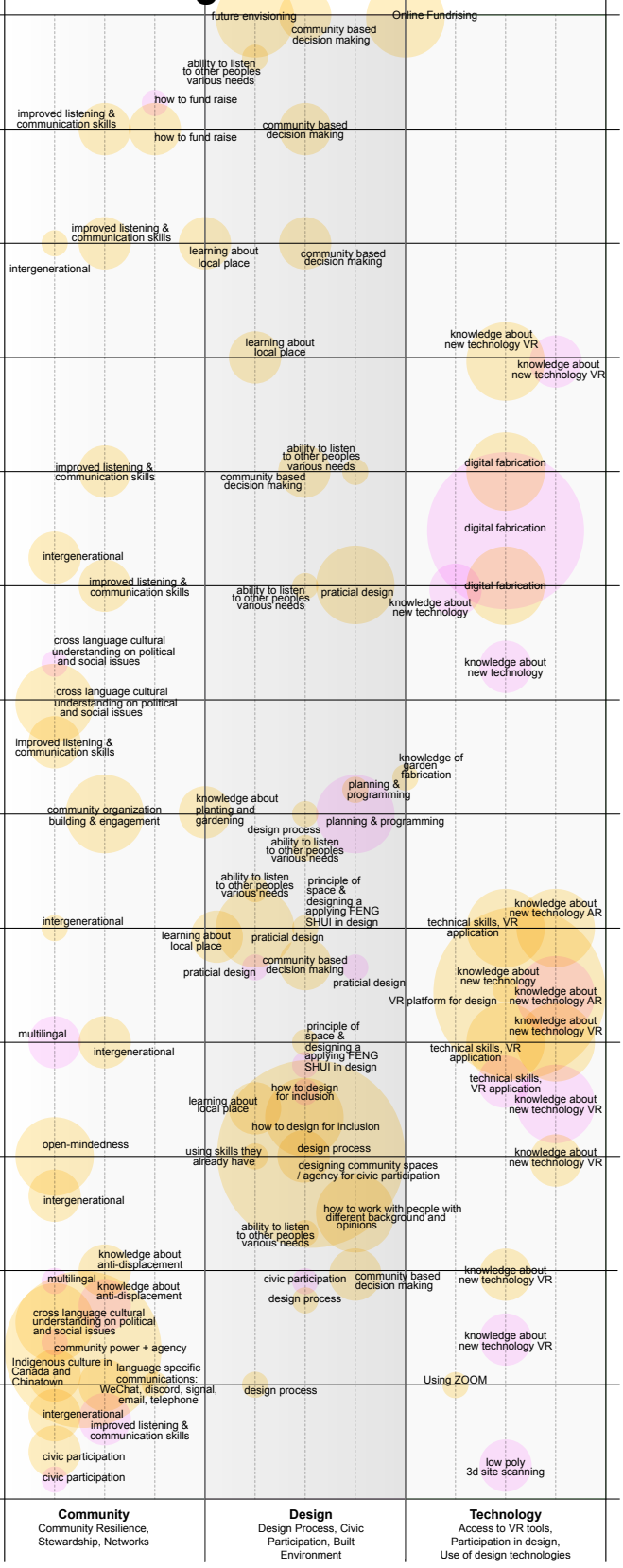


Figure 11. Session scheduled and types of knowledge mobilized and gained based on reflection interviews with Chinatown Activators.

Project Activities

		PROJECT PHASE						
		RESEARCH	RECRUITMENT	DESIGN	VR PLATFORM	DELIVERY	FABRICATION	LEGACY
2021	SPRING – Research Approvals and Set up	Community Partnerships (Cecil Community, Protech, AQUA, Myseum) Research Methodology Development Research Ethics Pandemic SRC safety Research Data Management	CA outreach student researchers onboarding + trainning					Methodology Design
	SUMMER – Research Planning+Methodology	Theory of Change + Impact Evaluation Community Agreements Key organizations +stakeholders Translation	Community researcher (CA) recruitment Community steering committee Community selection panel	Identify Key Issues Mapping Key Stakeholders Garden site partnership	R&D for co-design VR platforms	Key issues and stakeholders session		
	FALL – Outreach and Recruitment		Selection panel induction trainning Recruit Community Facilitators (CF) Recruiting 60 Chinatown Activators Cecil Centre recruitment Focus Groups at Cecil Centre		VR platform development for accessibility, inclusion, and collective use Web-based VR design platform development	Design Session Plan + Coordinate Schedule with Cecil Centre		
	WINTER – Recruitment		CA Selection notification and in-take CF Facilitation Training	Fieldwork: 3D scanning Co-develop workshops for CAs	Developing design process and workflow for co-design in VR			
2022	WINTER – PRE-DESIGN	debrief + reflection		3D scan + garden measurement 3D asset modeling	Inline VR Garden Game to facilitate co-design	Onboarding Session Anti-displacement knowledge share		
	SPRING – SCHEMATIC DESIGN	debrief + reflection Identifying key issues		Community digital asset 3D modeling	Develop Headset based VR platform	Co-design Session Co-design Session		
	SPRING – DESIGN DEVELOPMENT	impact survey and interviews		Programming Feng Shui Knowledge	Develop AR Platform	Co-design Session Programming Session community ownership session	Material Durability and Fabrication Testing	Programming Session
	REFLECTION	debrief + reflection		Finalized garden design		Reflection Session	Material Ordering Lead Time	Reflection Session
	SUMMER – FABRICATION			Furniture details design Landscaping R&D Construction documents Cost Analysis and Optimization	Develop MR Platform Collective 360 VR (immersion studio)	Co-fabrication Session Co-fabrication Session	Digital 3D modeling from CA co-design Digital fabrication - CNC Furniture fabrication Ceramic tile fabricaiton	
	FALL – FABRICATION				Develop interactive controls in collective VR	Co-fabrication Session	Arborist evaluation and long term planning Shrubbing and Grubbing of Garden Onsite Installation	Legacy Planning Session
	GARDEN LAUNCH	impact survey and interviews			Update VR platform to reflect final design	Garden Launch Party	Onsite Installation	Fundraising Trainning
2023	LEGACY PLANNING	project handover impact evalution and impact report		CA led planter design and build CA led Legacy design and programming		Documenting the garden Knowledge mobilization: Long Winter AR Festival +Myseum of Toronto	CA led installation of garden beds, compost, seeding, planting	CA led programming CA led future funding applications

Figure 12. Project activities mapped against project timeline.

Methodology

This project posited that through recruiting and training Community Facilitators to deliver VR and design workshops to support Chinatown Activators to co-design an anti-displacement garden, the Chinatown community would ultimately be better equipped to work together to steward the future of the built environment.

The project team developed a Theory of Change (pictured below) to help conceptualize the ways in which the activities being delivered would lead to short, medium and long-term outcomes, all working towards an ultimate goal that envisioned a more empowered stewardship of community spaces in Chinatown. This pushed the team to set up evaluation processes that asked questions about social change, to ensure the research was fully centred on social impact.

To capture this change, the team took a mixed-methods approach to measuring the impact of the work, using both quantitative tools (baseline and final surveys) and qualitative tools (1:1 interviews and focus groups). Throughout the life of the project, the following data was collected (in English, Mandarin and Cantonese) for inclusion in this report:

- Demographic information from 45 Chinatown Activators
- Baseline survey completed by 47 Chinatown Activators and final survey completed by 34 Chinatown Activators
- Baseline survey completed by 5 Community Facilitators and final survey completed by 4 Community Facilitators
- Mid-project reflection sessions with 16 Chinatown Activators and 4 Community Facilitators
- 1:1 baseline interviews with 5 Chinatown Activators
- Final 1:1 interviews with 4 Chinatown Activators and 1 representative from Cecil Community Centre

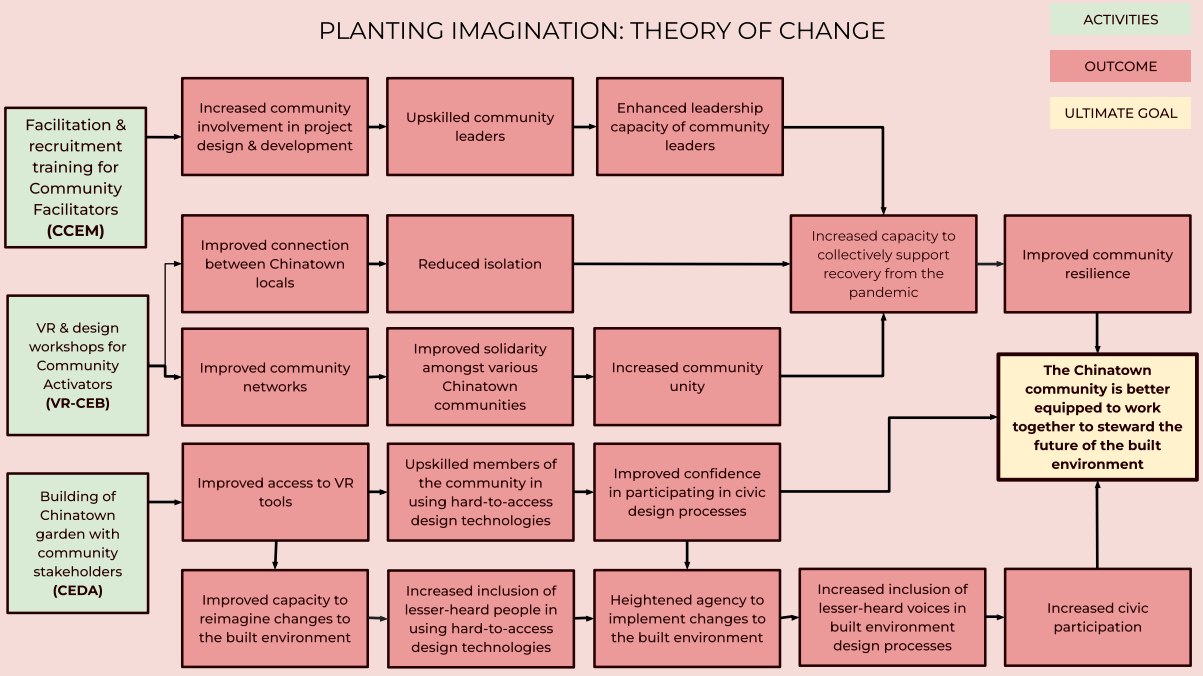


Figure 10. Theory of change

Figure 13. CAs co-designing with AR Garden Game Chinatown (above). CAs future and legacy planning session (bottom left). CAs in the Collaboratory at Toronto Metropolitan University's Library, creating clay pavers for the garden (bottom right).

Participant Recruitment

The recruitment process for Chinatown Activators was designed carefully, with the intention that it would be open, flexible and extremely accessible. This encouraged all members of the community, particularly seniors and those who do not speak any English or have access to digital technologies, to get involved.

The goal was to arrive at an ethical, equitable and accessible recruitment process that would reach lesser-heard and historically silenced members of the community, as well as help connect more local residents with Cecil Community Centre. There was also a desire to provide a direct route to involvement for existing Cecil members. This process pushed the team to expand their understanding of who is considered to be a Chinatown community member beyond geographic territory. In particular, this helped account for those who have been displaced, or are facing displacement from Chinatown due to the forces of gentrification.

The recruitment process sought to reach diverse representatives from the Chinatown community across generations, disciplines, geographic boundaries, language, immigration status, ability, ethnocultural background, and more. The team worked to engage first generation newcomers and seniors facing social isolation due to language barriers; 1.5 and 2nd generation young professionals; newly arrived East Asian international students living in residence; 3rd+ generation Canadians who frequent Chinatown for culinary tourism and cultural community; and newcomers from the diverse and often marginalized communities who frequent Chinatown's affordable and inclusive business and services.

To reach all of these people, the team worked with community leaders to identify highly impacted and marginalized groups within the community to carry out targeted recruitment.

Outreach

In order to achieve the above, the project focused on two streams of recruitment:

Recruitment Stream A: Wider Chinatown community

- Outreach to the general public of Chinatown, beyond the walls of Cecil Community Centre.

Recruitment Stream B: Cecil Community Centre members

- All Cecil Community Centre members were eligible to participate and were provided with information about the project through focus groups and targeted outreach.

Targeted recruitment outreach techniques included:

- Mobilizing personal networks through word of mouth and community connections
- Flyering across Chinatown
- Conducting a review midway through the process to assess which demographic groups hadn't yet registered interest, and carrying out a focused push to recruit them
- Posting on social media platforms including Wechat (for seniors) and Twitter
- Circulating flyers amongst student groups
- Conducting a Mapping Key Stakeholders session with community facilitators and partner organizations and identifying outreach networks to reach those stakeholders

Figure 14. Recruitment flyer in English (also available in simplifed Chinese, Traditional Chinese and Vietnamese).

Applicants

Ultimately, 135 applicants registered their interest in the project. From this group, the selection panel recruited 30 Chinatown Activators, and an additional 32 Cecil Community Centre members joined the project along the way.

The language breakdown of applicants was as follows:

- 55 applications submitted in English
- 75 applications submitted in simplified Chinese
- 5 applications submitted in traditional Chinese
- 0 applications submitted in Vietnamese

The diversity of the CA cohort (reflected in the demographic data below) is evidence of the success of the project's inclusive recruitment process.

Chinatown Activator Application Form (English)

Do you want to create a shared future for chinatown? Are you Interested in working together to design a commmunity garden in Chinatown using virtual reality?

A group of Chinatown community Organizations and X University Toronto researchers are working together to bring the local community together to come up with new visions for the future for Chinatown - and we would love for you to join us!*

We'll meet once every 2 weeks to:
- Talk about a future of Chinatown that works for locals
- Learn how to use virtual reality (VR) to create new visions for different parts of Chinatown
- Work together to redesign and add to a community garden in Chinatown
- You'll be paid $20/hour for your time

You can join if you;
- Consider yourself a member of the Chinatown community and/or someone who cares about
- Chinatown and its future
- Are 18 years old or above
- Live, stay, work or study in the Greater Toronto Area
- Can speak at least one of four languages; Cantonese, English, Mandarin, or Vietnamese
- Can commit to participating in a minimum of six out of ten 2.5 hour sessions over six months
- Can join as an individual - cannot be representing an institution or organization

Register your interest in joining this project as a Chinatown Activator by answering the questions below.

Do you prefer to register by phone?
If you need assistance filling out this form or prefer to register over the phone, please call this number and leave your name and phone number

Figure 15. Application / Interest registration form in English (also available in simplifed Chinese, Traditional Chinese and Vietnamese)

Figure 14. Chinatown Activators and Chinatown Facilitators at Cecil Community Centre, for Myseum Intersections Festival 2023 Symposium.

Selection Process

The selection process was set up as follows:

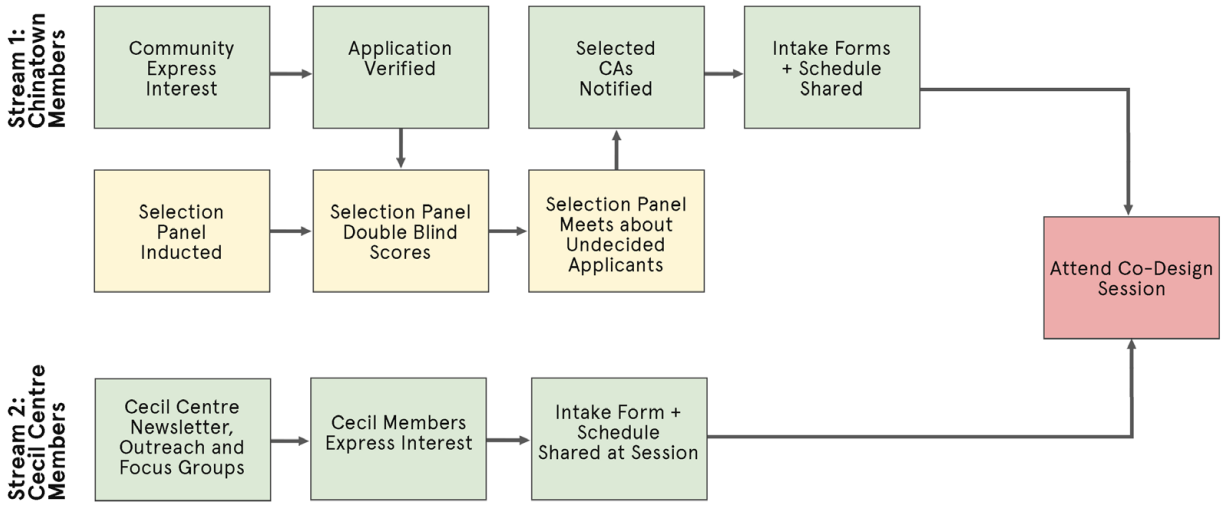


Figure 15. Dual-stream recruitment and selection process.

A selection rubric was created in line with the application form, which centred on connection to the community and interest in the project, as opposed to skill level. This was done with the intention of striking a balance between being able to efficiently narrow down suitable applicants and avoiding the exclusion of potential participants who usually wouldn't be accommodated in more traditional design projects.

Criteria	Poor - 1	Satisfactory - 2	Excellent - 3
Connection to Chinatown	Candidate does not demonstrate a past connection to Chinatown or its community	Candidate demonstrates a minor connection to Chinatown or its community	Candidate demonstrates a significant connection to Chinatown and its community
Capacity to work in a team	Candidate does not demonstrate the capacity to work in a team	Candidate demonstrates some capacity/experience of working in a team	Candidate demonstrates significant experience/capacity of working in a team
Commitment to community involvement in the development of Toronto's Chinatowns	Candidate does not show any interest in community involvement in the development of Toronto's Chinatowns	Candidate shows tangential interest in community involvement in the development of Toronto's ChinatoWwns	Candidate shows significant interest in community involvement in the development of Toronto's Chinatowns
Interest in learning about how to use virtual reality technologies to design community spaces	Candidate does not show any interest in learning about how to use virtual reality technologies to design community spaces	Candidate shows some interest in learning about how to use virtual reality technologies to design community spaces	Candidate shows significant interest in learning about how to use virtual reality technologies to design community spaces

Figure 16. Example of selection rubric criterias.

A selection panel comprised of five project and community representatives blindly scored each of the applicants, after which the project team assessed the demographic makeup of the selected applicants to ensure it was representative across age, gender, sexual orientation, ethnicity and language.

Application Process

Potential candidates registered their interest by completing an accessible Airtable form themselves, or by calling or texting a number on the flyer to complete the form with someone from the research team. The form had three short questions that could be typed, voice recorded, or video recorded, depending on the applicant's preference. The form was available in four languages: English, traditional Chinese (Cantonese), simplified Chinese (Mandarin) and Vietnamese.

Chinatown Activator Demographics

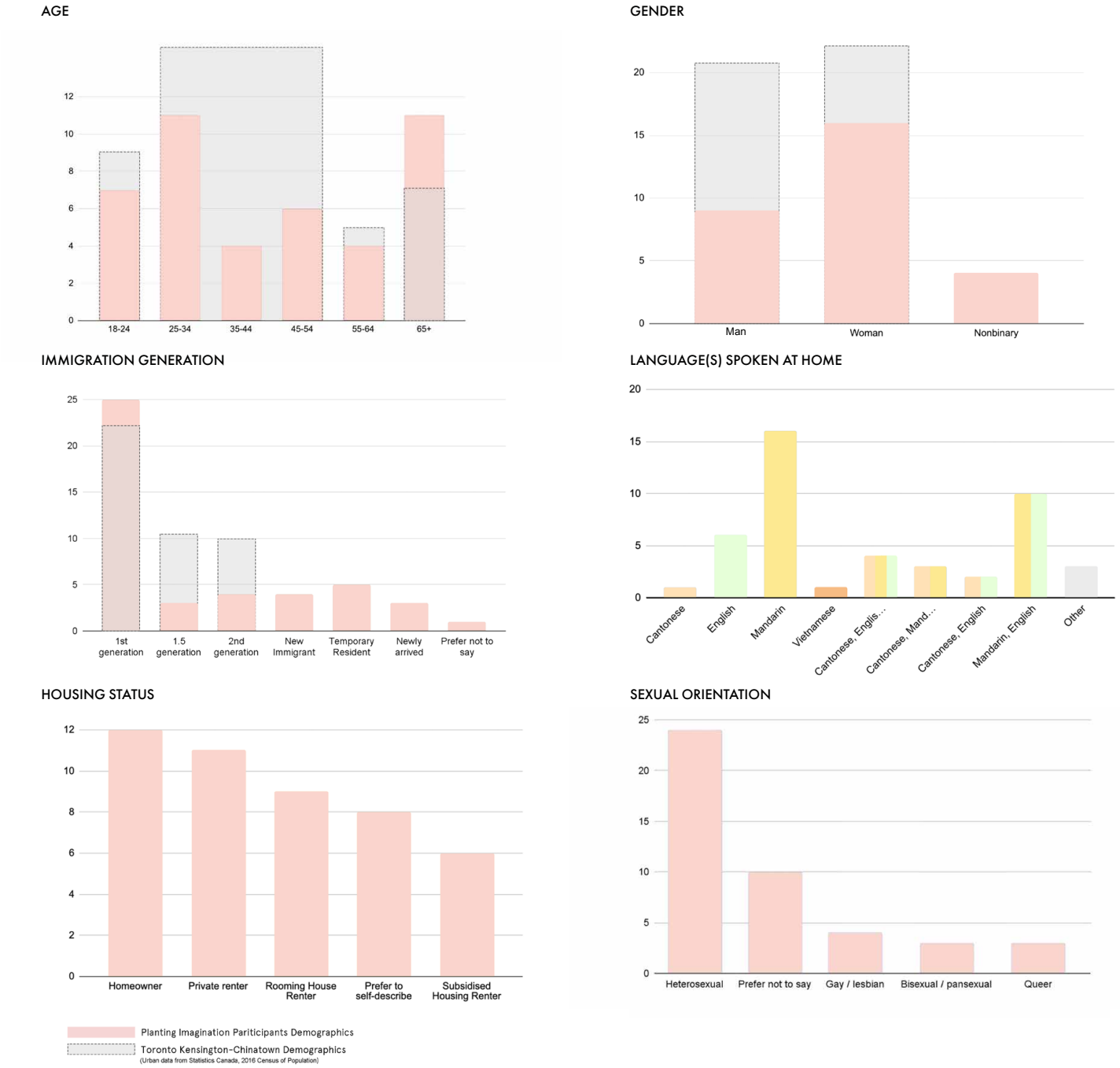


Figure 17. Participant demographics represented in bar graphs.

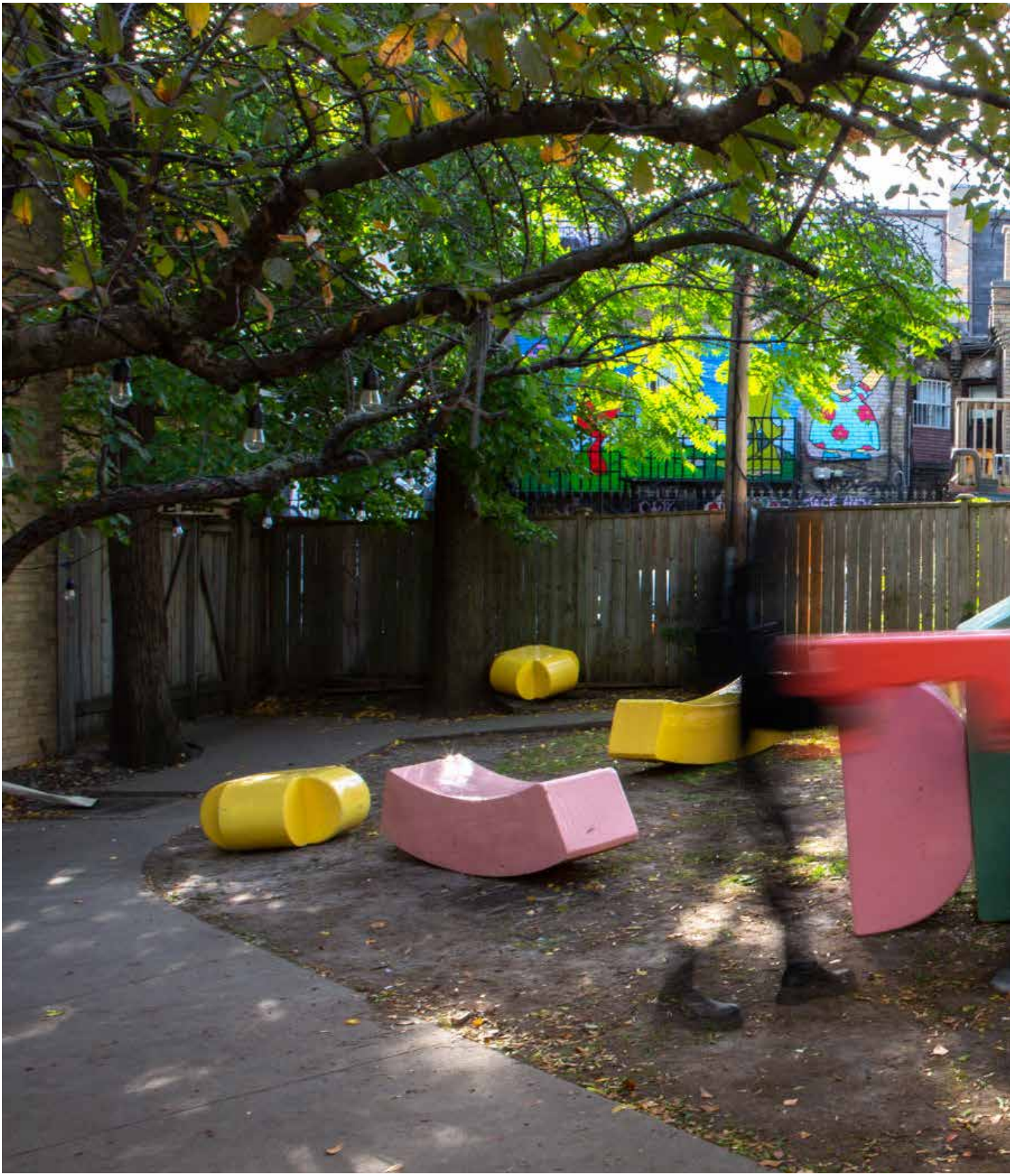


Figure 18. CAs rearranging the flexible furniture at Cecil Community Centre's back garden

Findings

1. The project improved participants' wellbeing and strengthened the community networks and resilience of the Chinatown residents involved.

The VR and design workshops enabled progressive changes to community networks and resilience throughout the project to bring it closer to its ultimate goal. The way in which the team predicted this would play out is illustrated in the coloured section of the logic model below. Evidence of how this worked in practice is presented and explored further in this section.

Planting Imagination improved connection between Chinatown locals and deepened community networks through its ability to bring people from different backgrounds together.

In particular, it facilitated significant intergenerational connection amongst residents involved, in many cases for the first time. This enabled participants to build community and solidarity at a particularly trying time.

The project also had the unintended but welcome outcome of making newer immigrants to Canada feel included and involved in the community - contributing more widely to increased unity.

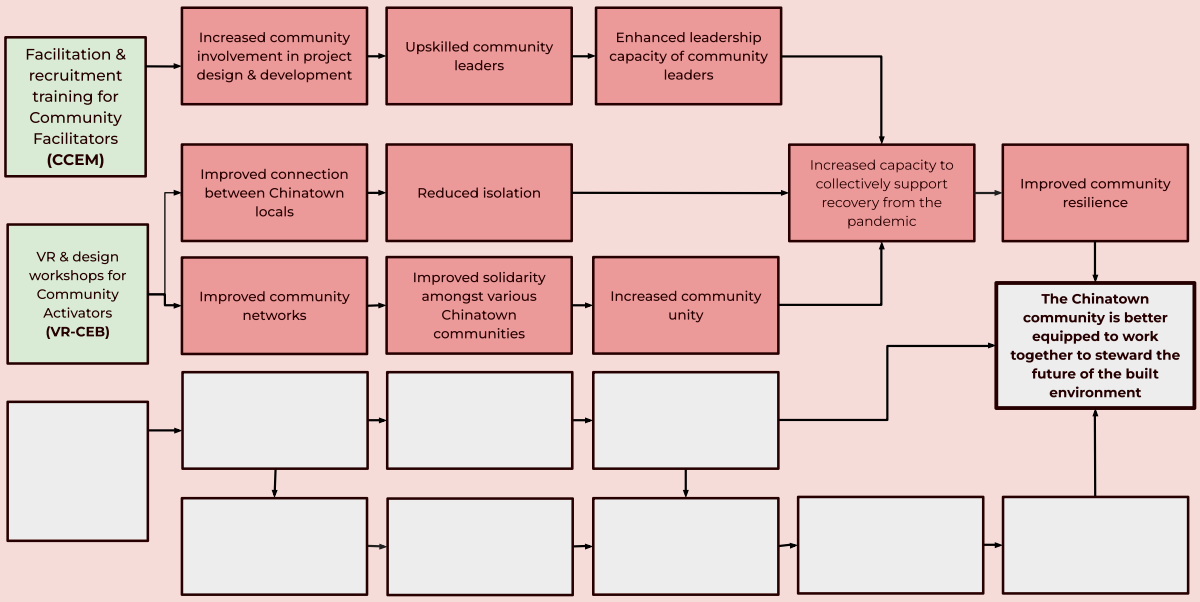


Figure 19. Theory of Change highlighting pathway to strengthened community resilience.

Bringing different people together

Both Chinatown Activators and Community Facilitators felt that one of the strengths of the project was its capacity to bring people from different class and ethnicity backgrounds, as well as different ages, together in service of a shared vision.

> *"this sort of like **opened up connections based on like mutual interest or mutual values.**"*

> *"you are interacting with different people, and **seeing how the design should be in the perspectives of different people.**"*

> *"Many of us come from different levels in various areas of Toronto, including **residents, citizens, immigrants, new immigrants, older and younger**, and everyone agrees that this is the only way we can achieve...a social effect."*

> *"this let me see the other side of this Chinese community, that is, there are still people who are...above the middle class. **This made me change how I see Chinatown** quite a bit."*

Facilitating intergenerational connection

Eight participants (including a Cecil representative) mentioned the unique ability of the project to bridge divides between older and younger members of the Chinatown community, as well as carve out space to include seniors in all aspects of the project.

> *"the project has...allowed me to...be surrounded with more like non-English like communication, and I **connect with like older folks in that way**, and it's been really, really, really nice, because I just haven't been able to do that."*

> *"Originally [I] expected difficulties in communication due to age differences, but not only were there no issues in communicating, the **young people made the older folks feel younger.**"*

Both younger participants and seniors explained that they learned something new from one another.

> *"it's...the first time that I found out **Chinatown has so many talented grandpas, grandmas.**"*

> *"it's mainly a lot of young folks...and our team is also very young and full of energy. It brought us a lot of this kind of fresh...energy, right? And **their experiences, including the software they use, are all very...eye-opening for us,** very fun. Because we have never used it before."*

> *"we have a lot of young, queer people.... there's also been sort of that **knowledge exchange** in that sense [with the older generation]."*

Increased sense of social belonging

In some cases, participation in the project also deepened newer immigrants' sense of social belonging in Chinatown, and Canadian society more broadly.

> *"And then, this made me also think that maybe the designs I make could somewhat impact this community. For example, we were talking about that project, like that screen, I thought if I insisted on this idea, then people could sit here to watch movies in the future. **I have this sense of pride, where I think I at least did something for this community, like the few years I've***

> ***been in Canada, I at least contributed something to society.***"

> *"the over-modern facilities and architecture of Chinatown currently make people feel a little alienated. Through this project, everyone felt that Chinatown was taken seriously. Hope to start from the community to drive the design of the whole Chinatown.* ***This can not only make the new immigrants have a more sense of presence, participation and intimacy; but also deepen the degree of social participation.***"

> *"the topic of this project is very good, very important, and it's* ***very suitable for some of our Chinese immigrants...and others needing to cultivate culture.***"

Making connections and reducing social isolation

In addition to facilitating connection generally, the project served as a bridge to connect community members with each other during the pandemic context, reducing social isolation amongst participants in the short term and increasing the strength of their connections over time.

Multiple Chinatown Activators felt that their involvement in the project helped them reconnect with their community through the lonelier months of the pandemic.

> *"Originally I was feeling socially anxious,* ***but through the project, I got to meet and befriend some committee friends.***"

> *"I found that* ***I've been networking a lot****...like a casual networking in a way, but I do appreciate that sort of opportunity."*

> *"I found [the AR tools] very helpful, especially during the pandemic where you really cannot get together. And you know, put some model together and then look how it looks like...I think that* ***the technology helps connect us.***"

Cecil's Strategic Manager noted that this seemed to be widespread across many of the participants who engaged in the work.

> *"I've really sort of noticed sort of a greater attention, I think, to collective community. I'm gonna call it, like, community mental health...****I've certainly noticed a decrease in social isolation.***"

These new connections bolstered some people's mental health, motivated them to get more involved in social activities and in some cases, enabled them to make new friends and expand their networks. By the end of the project, 82% of CAs said they felt connected to other members of the Chinatown community, up from only 66% at the start.

> "**The project brought back my social motivation**. I'm more motivated to do in-person activities and actually meet people face-to-face. Through the pandemic, I felt a bit rusty socially."

> "I started my [gender] transition, like the end of [2020]. So it was almost like within that transition...was also that really big focus on connecting with as many people as you can, because relationships always change. And especially with **the pandemic that just segmented a lot of people.**"

Strengthening links to a local 'anchor' organization

The project not only strengthened connections between participants, but also with Cecil Community Centre itself. The work brought new residents through the doors of the community centre, linking them with a reliable community

organization that may serve multiple needs (including health-related ones) over time.

Cecil's Strategic Manager explained how the strengthening of these links speak to the broader public health elements of this work, noting that it engaged people who might not have had access to vaccination clinics or other health screenings, and encouraged them to access these health services via the community centre.

> *"it's also sort of figured into things like vaccination clinics and so forth, because, you know, we offer other kinds of services and so getting people just to be reminded to do things like get their flu shots and boosters....because we're a catalyst within the community,* ***we were also able... to move a lot of the participants into, health-seeking behaviors.****"*

Community building and solidarity

CAs and facilitators alike commented on the fact that the project has enabled people from across the community to (re)build solidarity with one another. By the end of the project, 82% of CAs said they felt supported by their community over the last six months, up from 79% at the start.

> *"through the pandemic there has been a big urge to want to be able to give back to the Chinatown community, and* ***it has been really nice to connect with people on a shared vision and work towards a common goal*** *with other community members."*

> *"It's a very difficult time....And everyone's a little bit lost, or they don't know what will happen in the future. It's just very bleak, especially now with prices soaring....* ***this opportunity means that we're all designing a future together, which means there is hope, right?*** *There's a future."*

The opportunity to build community is perceived to have been particularly important in a pandemic context, where some of that community connection had been lost or fractured due to lockdown measures coinciding with the increase in anti-Asian racism across the city.

> *"****The project has re-established social networks and relationships that were broken during the pandemic.*** *The project worked as a catalyst for natural Chinatown community gatherings. We're returning to what Chinatown used to be about before it got so gentrified: hanging out with our neighbours."*

> *"The project and garden have felt like it is* ***helpful to advocate our rights and that Asian people should not be forgotten.****"*

Although the survey data showed no change in terms of participants feeling more able to work with their community to collectively respond to challenges like the pandemic (77% of participants reported that they already felt able to do so at the start), the qualitative data above clearly points to the fact that the project provided a space for Asian community members to support each other and build solidarity in the context of rising anti-Asian racism and displacement across the city - a key factor in improving community resilience overall.

Overall, connections between CAs, Community Facilitators and Cecil Community Centre were created, deepened and strengthened through this project. Participants perceived that this helped them get through the final phases of the pandemic, and the first phases of recovery, through improving their wellbeing, bolstering their feelings of community belonging and helping them build solidarity with people with whom they wouldn't normally cross paths. This is evidence of the success of one of the primary goals of the project: to develop therapeutic models of VR co-creation that prioritize communities disproportionately impacted by the pandemic.

Figure 20. Facilitators teaching CAs how to use the AR Garden platform (above). Facilitator's and CAs at the Garden Launch (below).

Figure 21. Facilitators and Chinatown Activators using the AR Garden.

2. The project enabled access to new technologies for a diverse group of Chinatown residents; but a lack of detail around how the technologies work in practice prevented participants from fully grasping how they might use them in wider civic design contexts.

The process of designing and building the garden with community members improved their access to, and confidence working with, VR tools throughout the project, which played a part in bringing it closer to its ultimate goal. The way in which the team predicted this would play out is illustrated in the coloured section of the logic model below. Evidence of how this worked in practice is presented and explored further in this section.

The project's focus on democratizing mixed reality technologies provided participants with new knowledge about both the way AR and VR tech works, as well as their functional application within design. However, some participants and Community Facilitators felt that there could have been a greater focus on technical skills, as opposed to just awareness-raising.

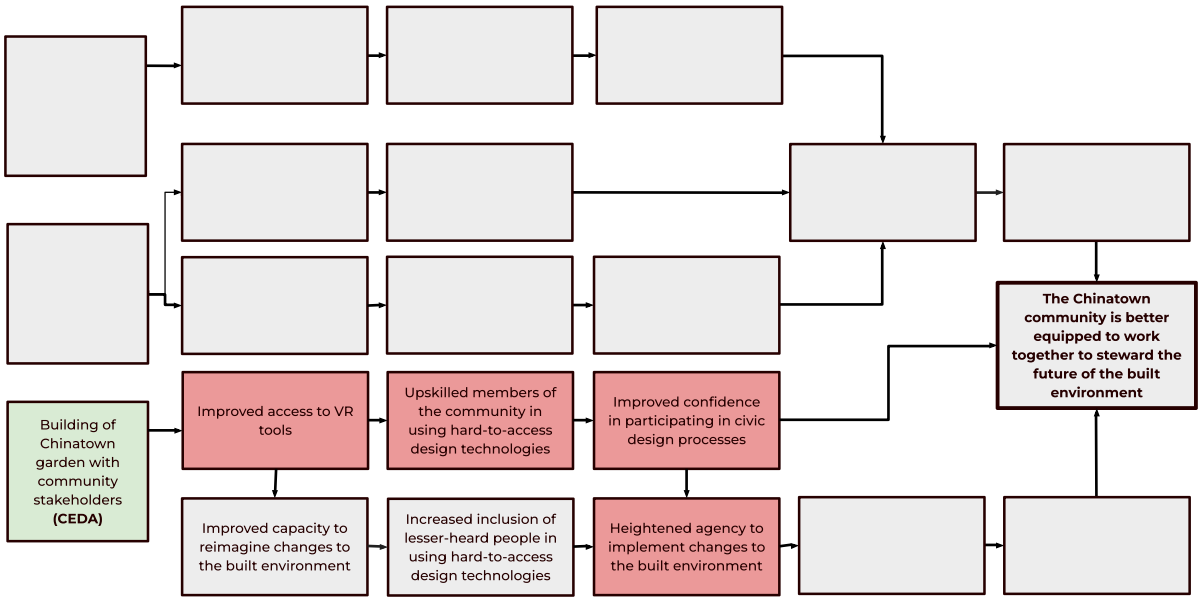


Figure 22. Theory of Change highlighting pathway from improved access to technology to increased participation and agency.

Gaining new understanding about AR & VR

Across the interviews and reflection session, six CAs spoke about their experiences learning about AR and VR as a highlight of the project, or as an example of the one of the new skills they picked up through participating in the work.

> *"VR is the highlight of the project! Was a little afraid to learn new technology, but curious about what magical effects VR can present...**VR became more joyful became after learning about it!**"*

> *"**the shared database with the virtual reality was very new**, and it was also really interesting to see that like every time we were going in...it was constantly adding more things as we went on."*

> *"**I didn't know about that AR one that you have mentioned...so it's for sure one thing that I've learned**....I only use VR goggles to watch movies before, and I've never used that app, and I think that app is really fascinating."*

By the end of the project, 76% of CAs said they felt confident in their ability to use virtual reality technology, up from 70% at the start. One interviewee even highlighted the possibility of making use of the technology in other contexts.

> *"That software, it was a breath of fresh air. I thought, hey, this thing is pretty good, and the team members taught us how to use it step by step. And through this entire process, we discussed and brainstormed with each other....**In the future, we may have the chance to master this software in other projects.**"*

The above is a significant achievement considering a quarter of the participants on the project were seniors, many of whom experience the impacts of digital exclusion on a daily basis.

Access to new tools and technologies

Some of the CAs, as well as a Cecil representative, spoke about the ways in which having access to new technologies provided community members with a chance to participate where they might not have been able to get involved in the conversation before.

> *"after seeing it through a virtual space design...**some elements that we originally imagined have been reflected.** So I feel that there's quite a big takeaway."*

> *"I think **this is a very good technology, like it can let people from this community to really participate.** After all, they are the people who really live there. So the overall design may still need professional people to do the overall design, but some details, like how many chairs are needed in this place - because we may not know the traffic of that place, or whether everyone go there normally - but people in that community will definitely know."*

> *"there's a huge digital divide that exists between racialized, lower income communities and access to tech. And so this was one of those experiences where **we kind of really leveled the playing field around VR.**"*

By making hard-to-access technologies accessible, the project democratized the design process and enabled CAs to collectively envision the future of a community space.

One CA also felt that the group's access to new technologies actually served as the starting point for bringing them together.

> *"I think a turning point was when we used those VR glasses...the reason why everyone was willing to participate in this*

> *project...is largely due to the application of this technology. So this actually counts as* ***a common point of interest for us, so based on this point, we then started more conversations.****"*

This supports the project's original hypothesis that access to shared VR experiences can help address a community's need for connection and belonging, particularly in a more isolated pandemic context.

CAs keen to learn more technical skills

Some facilitators and a few CAs felt that there could have been a stronger focus on teaching the concrete technical skills involved in using AR and VR for design.

> *"I actually still haven't seen and mastered how to download a software...so* ***we can't play it at home, or do it in my spare time.*** *I haven't grasped this operation since the beginning of downloading."*

For some, there was an expectation that sessions would have a greater focus on building technical skills than they actually did.

> *"****my expectation was that there was going to be more educational content around like how this stuff actually worked****....I think that was a little bit of a gap there for me in terms of like how much understanding people actually got around the technology, beyond like knowing that it existed."*

> *"from my personal feeling, it is still different from the [recruitment] poster. Because* ***the emphasis on the poster is that we'll use VR technology...that's turned to be very shallow, which feels boring****, so the old people also find it boring; in fact, the young people also find it boring."*

By the end of the project, the survey data showed no change in CAs' confidence in their ability to use virtual reality technology to reimagine what their neighbourhood could look like. Coupled with the qualitative data above, this points to a need to provide further technical skills training in future projects (beyond passively partaking in VR experiences), not only to improve CAs' confidence around use, but also to enable wider feelings of agency around using this type of tool to implement changes to the built environment (on their own and beyond the project).

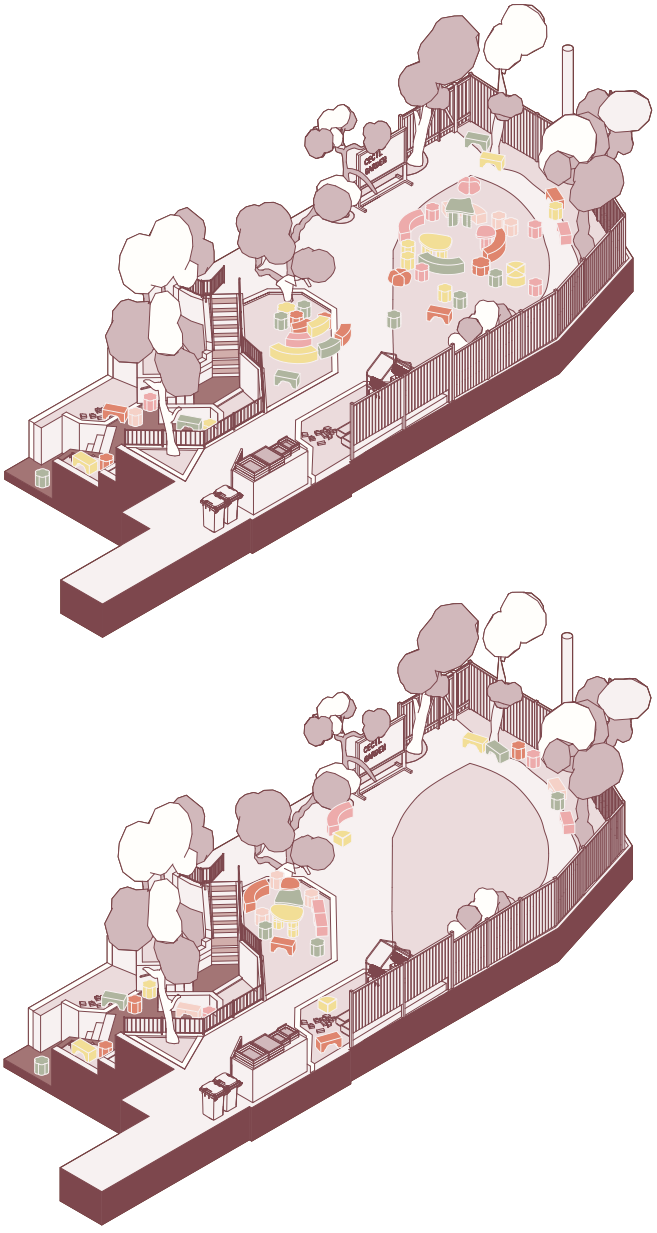


Figure 23. Illustartion of different configurations of the co-designed garden.

Figure 24. Colourful furniture pieces in situ at Cecil Community Centre

3. The project provided an opportunity for participants to pick up new hard and soft skills, as well as the tools to reimagine changes to the built environment.

Both CAs and Community Facilitators were upskilled through their experiences participating in training, as well as designing and building the garden - all of which played a part in bringing the project closer to its ultimate goal. The way in which the team predicted this would play out is illustrated in the coloured section of the logic model below. Evidence of how this worked in practice is presented and explored further in this section.

CAs and Community Facilitators picked up various skills through the design process. Both groups also recognised the unique ability of the project to bring together diverse skill sets from across the community. Overall, this project has helped both CAs and Facilitators build confidence around various skills and equipped them with some of the skills to reimagine community space.

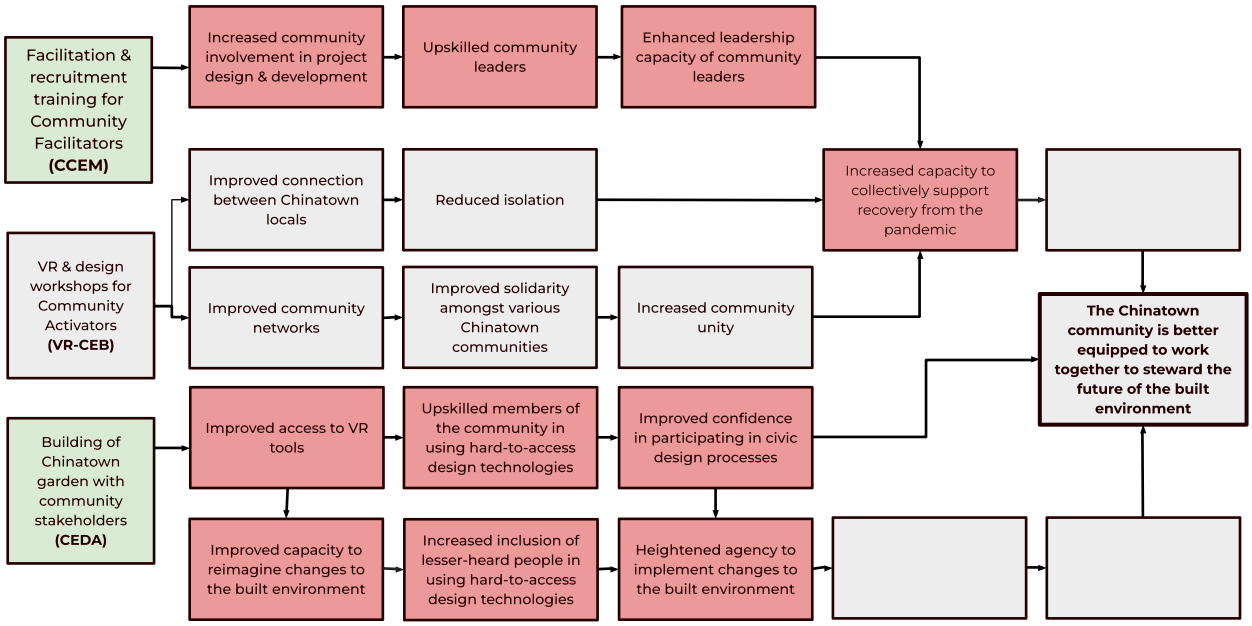


Figure 25. Theory of Change highlighting the pathway to gaining the tools to remimagine the built environment.

Bringing together diverse skill sets

Some CAs spoke about the ability of the project to not only bring together a group of diverse people, but people with a wide set of relevant skills who complement each other and can contribute to different aspects of the work.

> *"there are old, middle-aged, young people, students, and teachers, your teacher leading the students as a team, and then there are managers and managers of this garden...there are those who can speak Chinese and English, and* ***we can all combine them together to express a form with multiple elements.****"*
>
> *"This kind of a huge force,* ***this wisdom, and the participation of other amateurs and our residents****; I think this project will definitely do well."*
>
> *"The joint* ***collaboration of lay people (Chinatown residents) and professionals is an innovation*** *and a highlight of the project."*

Upskilling community members

Both CAs and Community Facilitators gained

new skills through participating in this work. CAs provided the following examples of skills they picked up over the course of the project:
CAs had the chance to learn some technical skills that they wouldn't have had access to in other contexts. The below experience particularly stood out for one CA:

> *"That 3D printing one, that one left a strong impression on me. There's also when we were actually hands-on making those bricks on the ground, that's* ***something I've never done before.****"*

Some also felt empowered to employ and share their own professional skills in this context, as a way of contributing to the development of the project:

> *"The planning of the whole project allowed me to make good use of what I have learned, whether it's social work or...project design, or my own translation abilities. I think this was actually a* ***great opportunity to use the abilities of the team members, and let the team members see their own abilities and contributions in the process.****"*

In addition to the CAs, both the survey data and interviews show that Community Facilitators became more confident in both their ability to facilitate community workshops and get involved in and/or lead local initiatives by the end of the project.

> *"Planting Imagination has definitely* ***helped my confidence and approach towards community organizing****...It was also a great example of organizing with a lot of capacity, so I never felt overwhelmed."*

They also felt that their ideas and opinions contributed to the overall development of the work. They provided the following examples of skills they picked up over the course of the project:

It's notable that the majority of the facilitators felt their leadership capacity and skills improved through the process. Some noted that this has increased their interest in leading on other community projects after Planting Imagination is finished. In fact, 80% of Facilitators provided one or more examples of new community and placemaking initiatives they have joined as a result of their involvement in Planting Imagination. These include:

- A community-based photography project about the Chinese Exclusion Act
- A VR Clinical Shadowing project for University of Toronto's Masters of Health Informatics program
- Involvement in the Chinatown Community Land Trust (incorporated in Feb 2023) and specifically the confidence to develop multilingual facilitational and consensus based decision making process
- Mentoring for RISE Toronto, an initiative under Canada Service Corps, that helps young people co-create community projects
- Involvement in local projects such as Long Time No See
- Involvement and leadership/initiation of new community-based initiates at Hong Luck Kung Fu Club, a not-for-profit organization located in Chinatown that has been offering Kung Fu, martial arts, Lion Dance Training and Lion Dance services to the Toronto area for over 62 years
- Hosting additional food security events at Cecil Community Centre
- Joining Cecil Community Centre's Board of Management

This exemplifies how this project has built the capacity of community members who are now working on new initiatives that are already contributing to wider community resilience in the long term.

Increased confidence and feelings of empowerment amongst participants

CAs explained that participating in this project has increased their confidence.

> *"this technology made me think that **I can do this thing with someone who's never touched design before.**"*
>
> *"**my confidence has definitely increased** through participating in this activity."*
>
> *"**if I were to design Scarborough - well, in this Chinese community - I know how to start**, what I should do specifically, and who I need for help, to assist, and turn to, then I know the direction."*

They also felt that the process of obtaining new skills through the project has made them feel more empowered, increasing their confidence and agency to bring about change in their local areas.

> *"The project served as an education and social platform, **empowering community members and generating new energy and new ideas.**"*
>
> *"Nice to see a project's process and **take some of these skills and learn how to implement [them] in personal outreach projects.**"*
>
> *"Before this workshop, if I...see a park in my neighbourhood, that is kind of not really being well taken care of, my first reaction will be just like 'oh, I should talk to my city councilor.' But **right now, I would think 'oh, I should talk to my neighbour, like I see what we could do together**....we can also find some local resources...not totally...[relying] on the city."*

Equipping participants with tools to reimagine community space

A number of CAs spoke about gaining a particular set of skills and tools through the project that have encouraged and enabled them to more readily reimagine the community spaces in their own neighbourhoods.

> *"[The project]* ***made me envision how we can improve not only the Cecil garden, but also the entire Chinatown.****"*

> *"I also saw the enthusiasm of our community members...like they also want to participate in this. But, whether it's old people, young people,* ***they actually treat their living environment, their lives, this community - they really like it, and want it to be clean and pretty****. It's a place where they can enjoy life, then work, so they actually really want to join."*

> *"I think this project can provide you with...****a space that lets you allow yourself to imagine****. I think this is a very important thing."*

Cecil Centre's Strategic Manager noted that the project had a wider impact on participants' consciousness around community ownership and the reclamation of community space.

> *"people I think are a lot more aware of... collective ownership, right? Community ownership....in terms of people really feeling like, okay, like* ***we've done this here, but that doesn't mean we can't do this in this little parkette. That doesn't mean that we can't reclaim this space.*** *So, you know, we certainly see those discussions going on."*

This is in contrast to the survey data, which showed a small decrease in CAs' ability to imagine how their neighbourhood could be improved by the end of the project. This discrepancy might be a result of becoming more aware of what they didn't know about the design of community spaces as the project progressed, leading them to report that they felt less able to imagine neighbourhood improvement after the sessions.

Overall, the project brought together CAs and Community Facilitators with diverse skillsets, significantly upskilled and empowered community members and helped them to more readily collectively reimagine local community spaces. This both built capacity within the community and has already shown to be contributing to building wider community resilience beyond the project itself.

Figure 26. CAs in the garden with growing and thriving plants

4. The inclusive approach to the design and delivery of the project enabled Chinatown residents who would normally be excluded from local design processes to participate in the collective visioning and design of a community space.

The inclusive approach to design taken throughout this project has inspired confidence in community members who would not normally get involved with wider civic processes to become more involved in public, design-related consultations. The way in which the team predicted this would play out is illustrated in the coloured section of the logic model below. Evidence of how this worked in practice is presented and explored further in this section.

This project tested a level and depth of engagement that is never employed in urban design contexts. Providing over 50 hours of direct engagement over 20 sessions, the project provided ample space for inclusive learning and skill-building, and in turn, genuine input.

According to the CAs and Facilitators, a major success of the project was its inclusive approach to design and community building, which even inspired some to get more involved in other civic processes.

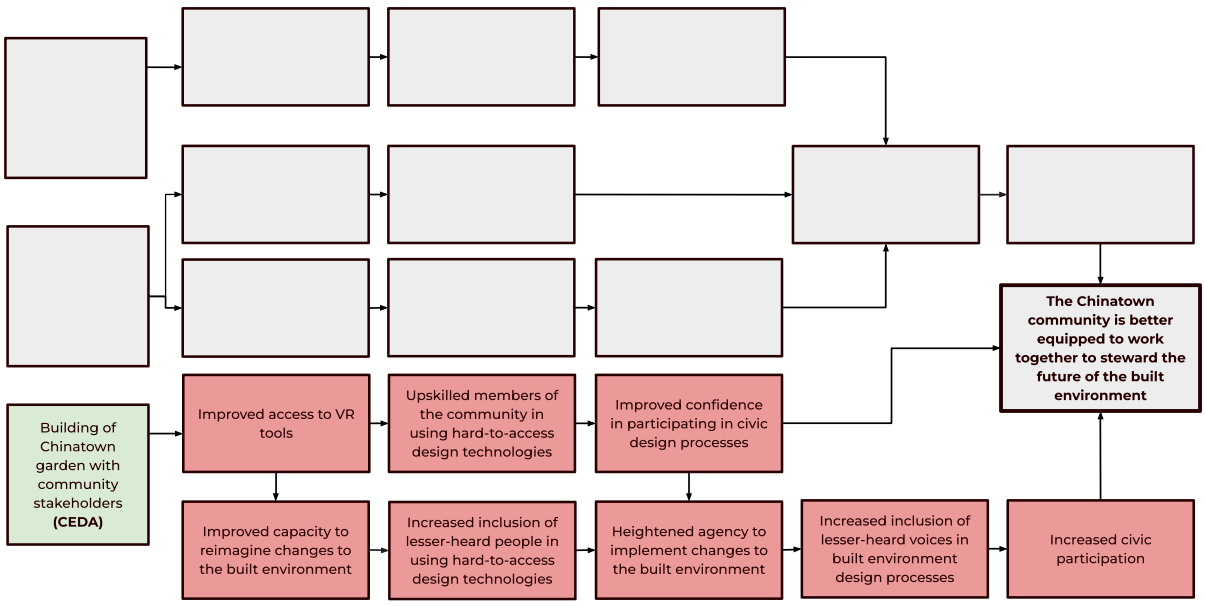


Figure 27. Theory of Change highlighting pathway to increased inclusion of lesser-heard voices in civic processes.

Inclusive facilitation and learning

There was a sense amongst some CAs that the design sessions were facilitated in an inclusive way that encouraged them to ask questions and learn about the design process in a safe space. Some participants also noticed their ideas being integrated into the next iteration of the garden design, which made them feel like valued members of the team.

> *"I really wanted to use this tool and improve some of my own skills, but...I can't remember it well at this age, so the teacher taught it several times, and I was embarrassed to ask again, I think. So my other experience is that you staff are very patient, right?* ***It reflects a kind of equality, right? Inclusiveness: they'd never say you are stupid, how can you still not know it after teaching you several times?****"*

> *"With the project, you feel like you have an influence on the design.* ***It's nice to see elements similar to ideas you've brought up integrated into a subsequent workshop.****"*

From one facilitator's perspective, the project proved to her that conducting an inclusive design process using collective design-making is doable on a large scale.

> *"I learned that it is possible for us to introduce, like both the tech element, and also just like conventional sort of design processes that would happen in the background without community input, into the community sphere, and actually it would survive....I feel much more confident in pushing back against people who are like 'No, that's too complicated to involve* ***everyone in the neighbourhood.' Really, everyone in the neighbourhood can do that level of sophisticated design thinking.****"*

Increased inclusion in the design process

The inclusive nature of the facilitation likely contributed to CAs feeling included in design processes for the first time, and feeling a sense of ownership over the process and space as a result. By the end of the project, 76% of CAs said they felt included in the decisions made about the design of public spaces in Chinatown, up from 72% at the start.

> *"****It is refreshing to have this kind of engagement where I'm not the obstruction. I'm part of the facilitation of the development.*** *This is the ideal process for creating spaces."*

> *"[To]* ***feel a sense of co-ownership*** *and feel comfortable in the space - that means something to you since you worked on it."*

> *"I just feel very happy, because [the designers are] not just there doing some useless things based on their own thoughts. In fact, they thought that they should listen to everyone's ideas...****this made me feel more confident, like for this city or planning for the future.****"*

CAs also had the opportunity to witness the inclusion of those who are usually excluded from these processes. Some raised that this was in direct contrast to their previous experiences of community consultation.

> *"This project is so different from the community proposal meetings. So much contribution from the public in regards to what needs to be done and in terms of* ***creating spaces that accommodate everybody, not just a single group of people.*** *I've been so happy I've been able to contribute in some way to help my community. We're being engaged at a peer-to-peer level and it is so nice we can include older people, and people who don't speak English who want to*

contribute their ideas."

*"**[This project] allows...everyone living in this city to have a space to express our rights and demands**.... it is a really big breakthrough, and if we have more opportunities to carry out such activities and participate in the design of urban spaces, I think **it is actually an awakening of civic consciousness.**"*

Cecil's Strategic Manager explained that some people may not have even been aware of how exclusionary mainstream city design processes are until they participated in this project, which showcased another way of carrying out this type of work.

*"we designed this to be multilingual. We designed this to be anti-oppressive.... And I think that **people now recognize that because this was an inclusive process, the other processes may be exclusive.**"*

Other CAs and Facilitators hoped that the legacy of this project might be a model for community inclusion in decision-making processes.

*"**I hope this will be promoted as a model...across the city, or even across the province** - for community members who [are] actually impacted by the decision being made [are] actually part of the process."*

*"it's transforming [the garden] into **a newly reopened space to the public based on the joint collaboration and discussion of our team members.** So I think this is actually a legacy, something that's left behind."*

*"I've talked a lot about Planting Imagination in my mentor role at RISE to illustrate **genuine community engagement and agency.**"*

The insights above are extremely pertinent to the wider context of urban design and the design of the built environment, where voices of community members are often excluded as a result of a perceived lack of expertise. This work shows that it is possible to include lesser-heard voices in design processes alongside experts, and that there is learning to be taken from this type of engagement approach when attempting to rethink design processes at scale. It also speaks to the potential of using this type of approach to encourage wider civic participation.

CAs inspired to participate in other civic processes

After engaging in the design phase of the project, some CAs explained that they gained both knowledge about, and confidence in, engaging with various aspects of the design process.

*"[We have a] better understanding of the organizational process of community building / engagement so **we can possibly develop our own projects.**"*

*"Never had the opportunity to design or develop urban spaces. **I have been able to draw a parallel between this project and my experience in community organizing** and working with community feedback."*

However, one CA felt they still needed more knowledge to start up their own project.

*"Taking part in this project has been amazing, but I wouldn't know how to start a project of my own and influence public space. **I would like more knowledge transfer on community organizing and design, so outreach and mobilizing can be done ourselves.**"*

Participating in this work has inspired some participants to improve their neighbourhoods,

engage with more formal civic processes and bring the skills and knowledge they have learned to other urban initiatives.

> *"**Participation in this project has got me thinking about how to make better use of my local community spaces.** There is an abandoned swimming pool in front of my apartment building and it's an unfortunate, unused space that I don't know what the city plans for it. It could potentially be transformed into a nice community garden. The project has got me thinking how I can communicate ideas like this to the city."*
>
> *"it's not just about the material aspects, it's not just about our facilities - **our facilities there should have a purpose**. If you put a bench there, you actually hope that someone can rest there, and provide...an opportunity to feel comfortable. I think this...as you extend it further, it actually shows how this place cares for humanity."*

Although the survey data showed no change in terms of people feeling like they could get involved in local discussions or meetings about developments in Chinatown (81% already felt able to do so at the start of the work), Cecil's Strategic Manager noticed that members at the Centre who were involved in this project have begun getting involved in other local civic initiatives that they had never engaged with before. She attributes this to their positive experience with Planting Imagination.

> *"we had a municipal election, and a lot of the people that were involved with the gardening, like with Planting Imagination, you know, **for the first time came to like an All Candidates Meeting**, and they hadn't done that before."*

The various examples of project participants beginning to feel included, engaged and inspired enough to get involved in wider community change and local political work is a significant achievement for the project, particularly because it sought to empower the local community to get more involved in the face of impending displacement by large-scale development projects. This also speaks to one of the ways in which the project has taken first steps toward its ultimate goal of equipping the Chinatown community to better be able to steward the future of the built environment.

Figure 28. Chinatown Activator creating the clay pavers for the garden.

5. The research project doubled as a small-scale social intervention in a pandemic context.

As a piece of socially engaged design research, the project ended up serving as a small-scale social intervention for part of the Chinatown community during the pandemic. It did so through reducing participants' social isolation and providing additional spending money for those who needed it at a particularly precarious time.

Participants in the project were valued as community researchers and paid a living wage for their research work. By providing economic incentive, we ensured the inclusion of lower income community members in the work, including women in traditional caretaking roles.

One CA compared the project to a public service:

> *"**This actually provided...a kind of service**, a kind of foundation through public education and community integration."*

Figure 29. Rendering of an early garden co-designed on the VR browser-based web platform.

The project also had the unintended outcome of improving the facilities of a beloved, publicly accessible Chinatown community space.

44% of the New Frontiers in Research Fund budget (direct costs) was reinvested into the Chinatown community:

- $11,178 was spent on paying 60 Chinatown Activators $20 per hour to participate in the project over a full year
- $5,018 was spent on paying 7 Community Facilitators $20 per hour to deliver sessions over a full year
- $25,694 was spent on new equipment, tools and materials to redesign the garden, much of which Cecil Community Centre will be able to keep and reuse for both the maintenance of the garden and their other work
- $2,015 was spent on physical technology costs, including VR headsets that were mailed to CAs, an internet upgrade for Cecil Centre, and more
- $23,025 was spent on virtual VR costs including 3d assets, modeling software, technology ecosystem designers to build the design your own garden platform which is still free and accessible to the CAs and used during legacy planning and future programming
- $11,960 was spent on Cecil Community Centre staff time, project administration, venue hire and outreach costs to support the delivery of the project
- $5,890 was spent on refreshments, all of which were provided by local Asian-Canadian owned restaurants in Chinatown, including Anh Dao; Mother's Dumplings, Saigon Lotus, and Sublime Catering
- $5,000 was provided to CAs as a budget for any future programming

The unit cost of this project (per participant) was roughly $1,300, which, for a year-long social intervention with public health benefits, is relatively low. This shows that it is possible for both socially engaged design research, or even the engagement phase of an urban design project, could double as a social intervention that improves social and health outcomes in a given neighbourhood.

This is a valuable social return on investment, and provides an argument for the benefits of investing in a dedicated, deep engagement phase when carrying out large-scale urban design projects.

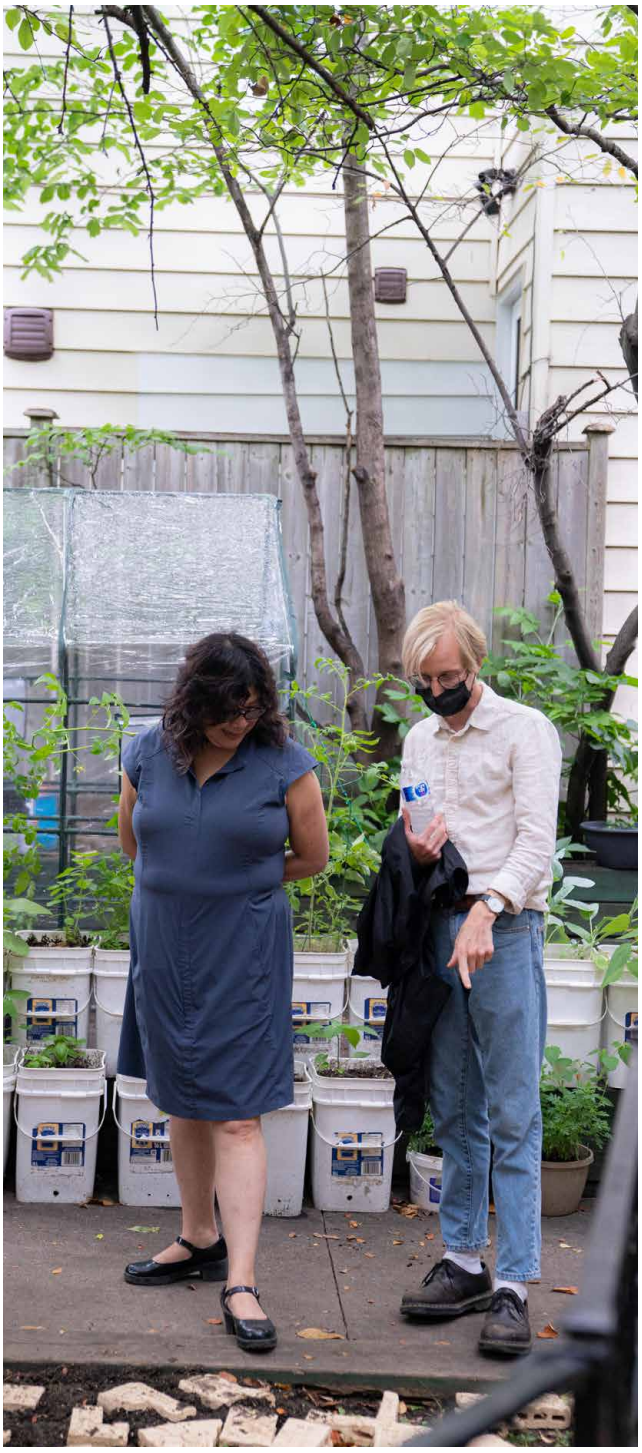
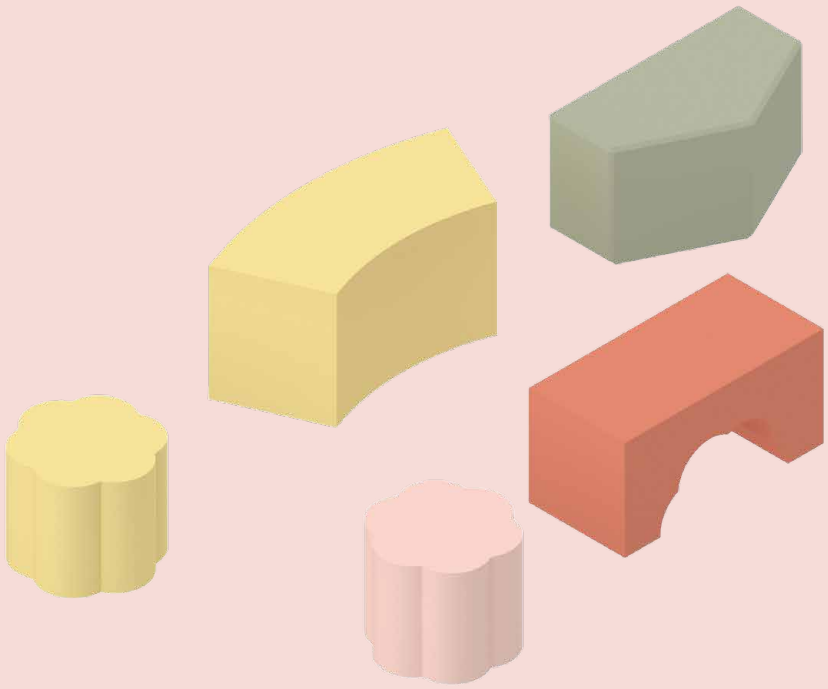


Figure 30. Chinatown Activator with the clay pavers for the garden.

Conclusions

Overall, the project brought about a number of the short and medium-term outcomes it set out to achieve. This was particularly clear in relation to individual and collective skill-building, personal confidence, feelings of empowerment and agency, and community resilience.

It is too soon to determine whether the project will achieve its desired longer term outcomes, like increased stewardship of the wider built environment (outside the garden itself), improved collective responses toward future challenges and to what extent participants will continue getting involved in wider civic processes.



What worked

The work certainly strengthened community networks and the personal and collective resilience of those involved, during the particularly precarious time of pandemic recovery. It had a significant personal impact on the participants of the project, including CAs, facilitators and representatives from partner organizations, who were all able to provide examples of the ways in which the project influenced their thinking, skills, or networks. It also tangibly impacted the growth and development of its primary partner organization, Cecil Community Centre.

The project succeeded in both creating and democratizing new shared VR and AR technologies by enabling access to them for a diverse group of Chinatown residents, many of whom are digitally excluded in their day-to-day lives, and the rest of whom do not have personal access to these types of complex technologies in any other context. Although the technical workshops lacked the level of depth that would enable participants to fully grasp how they might make use of them in wider design contexts, participants largely became more confident in their ability to make use of the technologies on a small scale.

The work also provided an opportunity for participants to pick up new hard and soft skills, as well as familiarize themselves with the tools that could help them reimagine changes to the built environment. CAs, Community Facilitators and even the wider research team were all able to provide examples of various new skills they managed to pick up throughout the duration of the project. Facilitators' involvement in the project has resulted in them seeking out new Chinatown initiatives to join, where they can employ the skills they learned with Planting Imagination. Some CAs have also been inspired to get involved in local decision-making.

The inclusive approach to the design and delivery of the project enabled Chinatown residents, who would normally be excluded from local design processes, to participate in the collective visioning and design of a community space. Both CAs and Facilitators were able to provide examples of the intrinsic value of this opportunity. From feeling welcome in a design space for the first time, to being able to prove how co-design processes with residents can really work in practice, this piece of research is evidence of the kinds of futures that can be made possible through practices of inclusive co-production.

Finally, the research project doubled as a small-scale social intervention in a pandemic context, providing socially isolated community members with a space and purpose for connection and unity. Nearly half the project budget was reinvested into the community, exemplifying how engagement processes in urban design projects can provide a significant social return on investment.

Although the research project has come to an end, Planting Imagination carries on as one of Cecil's community programs, led by 20 CAs who have self-selected to continue the work alongside support from Cecil's staff team. These CAs have already hosted two events as part garden programming at the centre, and are currently applying for a Sparking Change Toronto Microgrant to fund upcoming summer programming in the space.

The ongoing interest and commitment on the part of the CAs to take the work forward and steward the future of the garden is a major success of the project. It evidences the ways in which deep engagement, upskilling and legacy planning with community members can build the confidence and agency necessary for marginalized communities to reclaim the future of the spaces and places in their neighbourhoods.

Key challenges

1. Team capacity

This was an ambitious project delivered to a short timeline, which took a large research, consultant and facilitation team to set up, deliver and maintain. Although the research team worked quickly and efficiently, there was not enough lead-in time for the project overall. For instance, recruitment took longer than expected and more R&D time was needed for the development of the VR co-designplatforms for the garden space. A six-month lead-in time with the research team starting at the beginning of this phase would work best.

Additionally, in order to move from co-design to a more engaged level of co-production in the fabrication phase of the work, the research team would have needed more time and capacity to be able to further involve CAs and enable them to take on more of a leadership role. This could be the focus of another piece of research entirely.

2. Project handover

Because the project ended shortly after the fabrication phase, all parties involved, including the research team, the Cecil and CAs all felt an abruptness to the end of the work. This resulted in a faster than desirable handover process between the research team and the community. This is a particularly difficult challenge for the Cecil team, who has seen its membership grow significantly as a result of the project, but hasn't had enough time to think through or organize programming that will replace the breadth of the activities of this project on site.

Future projects would need to dedicate more time to designing an 'exit strategy' in collaboration with the community partner, and working together to plan next steps through a 'co-implementation' phase to ensure the true sustainability of the work beyond the end of the funded research piece.

3. Broader impact

Because the project only worked with a small number of residents and community members, we only made a significant direct impact on about 150 people in the neighbourhood. Depending on how many people access the newly designed garden over the next few years, the project may end up indirectly impacting a few thousand local people over time.

Although from a conventional design project perspective these are large numbers for a multi-touch point engagement piece, the project might have reached more people if it had the time and capacity to engage the networks of more local community organizations.

Figure 31. Chinatown Activator taking pictures of the clay pavers.

Questions for future inquiry

This research has unearthed the following questions for future investigation:

- To what extent can shared VR experiences impact participant wellbeing over time?
- Would it be more effective to use a consensus-based decision-making model throughout the project?
- What is the most effective distribution plan for the tools and infrastructure that this project has developed? How might we make sure it is open source, accessible and used?
- Where in the co-design process is it most effective to bring in technical and design expertise? How might that change the outcome of the work?
- How can the expertise of an architect be used to support community-led decision making, instead of being used to as a barrier to access?
- What is the most effective way to advocate for architects, designers and urban planners to use this kind of model when redesigning places and spaces?
- To what extent would this process be scalable to a larger public project with a higher number of members of the public to engage, and what kind of time and resources would be required to make it work?
- What are the appropriate places for this type of intervention? Where would this kind of process not work?
- To what extent does participation in designing community spaces make community members feel greater ownership over those spaces, and to what extent does this involvement in the design of the built environment impact individual health outcomes?

Figure 32. Chinatown Activator and Cecil Community Centre's Strategic Manager with their freshly grown plants.

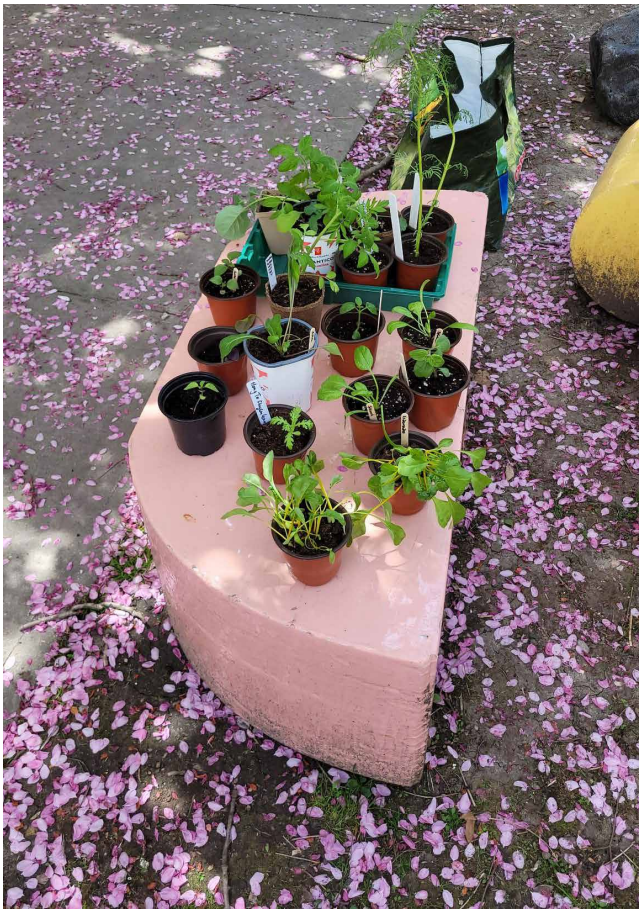


Figure 33. Plants being prepared for planting.

Recommendations

The learning from this research has produced recommendations for both future projects in this space, as well as wider recommendations for the design and public sectors.

For future projects

1. Research team and facilitator support during sessions could be reduced to allow for community leaders to naturally emerge and become more involved in delivery over the course of the project. This would require building in 1:1s with potentially interested participants, as well as providing opportunities and pathways for increased leadership from CAs as the project develops.
2. More in-depth coverage of the 'back end' of different types of AR and VR technologies should be included in any further work on the democratization of new technologies, to ensure participants finish their engagement with full confidence in their ability to both use these technologies and have an understanding of how they might employ them in their own contexts.
3. Additional conflict mediation should be included in facilitator training to prepare them to address any conflicts during sessions, including how to effectively deal with disrespectful behaviour, sexism, ageism, etc.
4. In future projects, the research team should prepare to be more immediately responsive to the feedback collected over the course of the project to ensure the work is iterative based on lessons learned throughout.
5. Legacy planning should be included as a final phase of any future co-production project, allowing time for exit strategy planning and a detailed handover to the lead community partner.
6. Any further research in this area should push to build political power within its context. This might include identifying city councilor allies who can platform the work, or a progressive social housing developer who might be interested in testing the model, in order to achieve wider buy-in, influence and overall impact.

For the design and public sectors

1. Because public trust in institutions is so low, participants may conflate those responsible for running public consultations (the government) with those building new structures (developers) and those delivering community design projects (researchers and community organizations). As a result, it is extremely important for any type of community co-production project to have clear comms, to ensure participants are fully aware of who is both delivering and supporting the work, so they can trust the work enough to get fully involved.
2. Researchers should be clear about which elements of a given project will be open for co-design, total community control, or shared decision-making. A balance should be struck between the need to draw on necessary technical expertise while grounding decision-making related to the wider vision within the community.
3. Designers should factor in considerations around cultural education (e.g. land acknowledgement, political tensions within given communities, differing definitions of gentrification and beauty, etc.) whenever they try to involve community members in co-production processes. They must also be aware of the political implications of translation choices and the differing political beliefs of various language communities.
4. Research teams should be led by 'insider-outsiders' where possible. Including researchers with lived experience of the issue at hand who can bring their existing networks, as well as an intimate understanding of the community's needs, will improve both the delivery and wider outcomes of the work.

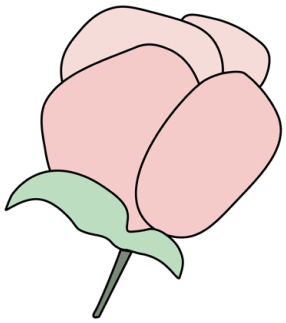
5. Projects of this nature should strive to provide the skills and confidence necessary for participants to both get involved in existing civic processes, as well as the agency to build their own initiatives and processes that could influence existing civic structures, where there is interest.

Next steps for knowledge mobilization and dissemination

1. The project's methodologies and toolkits will be expanded and adapted to empower other marginalized communities via Planting Imagination's publicly accessible VR website, supported by cross-community facilitators.
2. The project team plans to create a toolkit to guide designers through best practice around working with communities.
3. The custom-built, shared multi-user virtual reality techniques and technologies will be disseminated to both design and health professionals.
4. The project team plans to seek funding to conduct a parallel study to the upcoming City of Toronto lead Chinatown Planning Study, which will provide an immediate opportunity to replicate and scale this work in another context.

Figure 34. Chinatown Activators finding creative ways to play with modular furniture.

Figure 35. A rendering of an early garden design on the VR browser.



CONTACT

www.plantingimagination.com
www.cecilcentre.ca

Prof. Linda Zhang:
linda.zhang@uwaterloo.ca

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