



PROGRESS REPORT 2021/2022



TeachingCity
Oshawa

COLLABORATING TO ADDRESS URBAN ISSUES



OUR COLLABORATION

MEET THE PARTNERS:



THE CITY OF OSHAWA
Municipal Government



DURHAM COLLEGE
Educational Institution



ONTARIO TECH UNIVERSITY
Educational Institution



TRENT UNIVERSITY DURHAM GTA
Educational Institution



**UNIVERSITY OF TORONTO- APPLIED
SCIENCE AND ENGINEERING**
Educational Institution



STEERING COMMITTEE

From left: Danielle Saney - Ontario Tech University, Hailey Wright - City Of Oshawa, Jen Plishewsky - City Of Oshawa, Julie MacIsaac - City Of Oshawa, Kristen Papadakos - Trent University Durham GTA, Kevin Maina - Trent University Durham GTA, Brent Sleep - University Of Toronto, Amanda Brown - Durham College, Felipe Rubio - Ontario Tech University. Missing from photo: Kevin Baker - Durham College, Scott Aquanno - Ontario Tech University, Lindsay Coolidge - Ontario Tech University,





CELEBRATING 5 YEARS

On June 3, 2022, the City of Oshawa and its education partners gathered at the TeachingCity Hub downtown to celebrate the five-year anniversary of the TeachingCity partnership and officially extend the collaboration.

Since the partnership began over five years ago, 1,711 students and 135 post-secondary faculty have worked with City staff on unique TeachingCity projects that cover topics including: diversity, equity and inclusion; storm water management ponds; virtual reality (VR) training and advanced navigation technology for firefighters; active transportation for an age-friendly community; engaging youth; supporting local culture and business; digital wayfinding; optimizing City operations routes; and corporate energy management planning.

The partnership has included 55 applied research projects and 52 courses, as well as 192 experiential learning opportunities where students have become part of team Oshawa through placements or practicums.

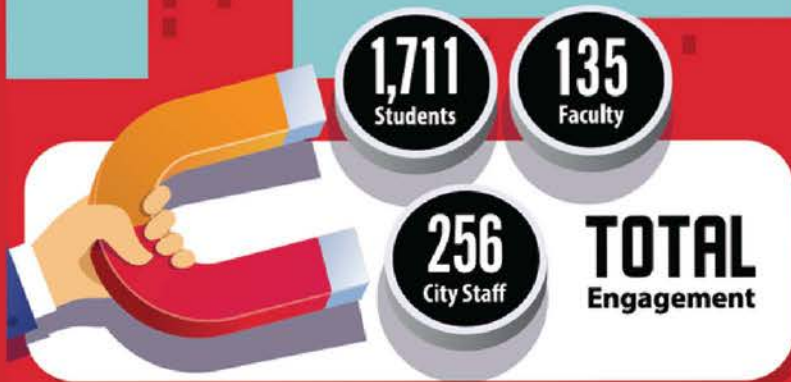


INCREDIBLE

STATS

ACHIEVED THROUGH COLLABORATION

CELEBRATING
5
YEARS



Student
Placements/
Practicums

192

— Projects —

55	245	73	136
Projects	Students	Faculty	City Staff

— City Idea Lab Courses —

52	1,274	62	120
Courses	Students	Faculty	City Staff



2021/2022 PROJECTS



CURRICULUM PROJECT



RESEARCH PROJECT

Look for these symbols throughout the project descriptions.

- Age-Friendly Competency Game
- Augmented Reality of Public Art
- Cultural Spotlight
- Economic Recovery and Data Intelligence
- Employment Supply in Post-COVID Recovery
- Engaging with the City's Vulnerable and Marginalized Populations
- Engaging Youth Through Digital Literacy
- Fire Navigation Systems: Localization and Mapping for Structural Firefighters
- Fire Safety Photography
- Improving Engagement and Supports for Senior Clients and Customers with Cognitive Impairments
- Intergenerational Programming Supports for Isolated Seniors
- Internship Program for Racialized and Indigenous Youth
- Mitigating Illegal Dumping
- Recreation Revenue & Fitness Memberships
- Route Optimization - Snow Plows, Waste Collection, Street Sweeping
- Site Planning and Development - Re-Imagining Vacant City Properties
- Stories About Local Government
- Traffic Monitoring - Simcoe and Conlin Sensors
- VR Simulations for Fire Services Training
- Youth Friendly Community Application

2021/2022 ENGAGEMENT

14

Projects

11

City Idea Lab
Courses

41

Student Placement &
Practicum
Opportunities

320

Students

33

Faculty

57

City Staff



AGE-FRIENDLY COMPETENCY GAME

Ontario Tech University students led by Adam Dubrowski have developed an interactive training tool to support the implementation of the City's Age-Friendly Strategy. The City of Oshawa is a member of the Global Network for Age-Friendly Cities and Communities and one of the core guiding principles of [The Oshawa Age-Friendly Strategy](#) is the application of an Older Adult Lens - to all policies, practices, funding, programs, services and facilities.

The Seniors' Cultural Competency Program (SCCP) was co-developed over the past few years by the research team at Ontario

Tech University, in collaboration with staff at the City of Oshawa and the Oshawa Seniors Community Centres 55+ (OSCC55+), in order to provide a comprehensive learning opportunity for employees of the City and OSCC55+. The SCCP is an innovative tool that offers educational content built into a serious game coupled with competency-based assessments delivered through a custom Gamified Educational Network (GEN) learning management system.

The SCCP offers a framework for staff to learn and demonstrate age-friendly cultural competencies. The program will enhance an age-friendly lens among staff members, enabling them to provide services and programs that meet Oshawa's older adults' needs.

See a screenshot of the SCCP below.

6 - Application of an Older Adult's Lens

Sections
Information
Introduction
Scenarios
Module Survey
Final Survey

Scenarios / Scenario 1: Assani at the Planning Department

Video

It was a busy day at the city's information desk.

To toggle off/on the closed caption (CC) option:

- Firefox: press the CC button on the bottom right of the video player.
- Chrome and Edge: press the three dots on the bottom right of the video player and click on 'Captions'.

Questions

Previous 2 of 5 Next

1 - From this scenario, which of the following factors were barriers to service about printed information.

- a. Small font.
- b. A long form.
- c. All of the above.

Developed by:

Supported by:



AUGMENTED REALITY OF PUBLIC ART

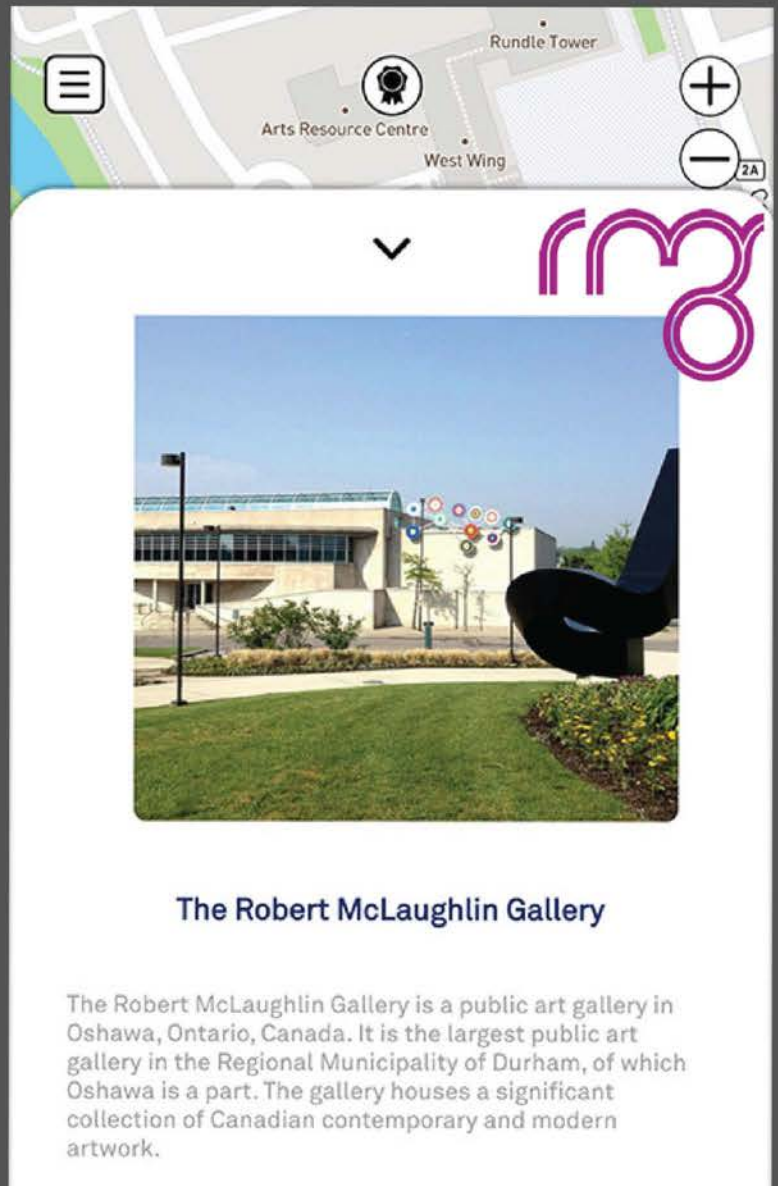


Over 60 students from the Interactive Media Design and Contemporary Web Design programs at Durham College are working with the City of Oshawa and The Robert McLaughlin Gallery (RMG) to design, create and implement a mobile app to showcase Public Art. The app will include an interactive augmented reality experience.

The Interactive Map uses GPS coordinates to store each public art location. Visitors on-site will scan the QR code, allowing the app to open the appropriate artwork within the map. Audio with transcript is in place for accessibility.

The Group Portrait, 1957 by Douglas Coupland, which is featured on the front of the RMG building, was selected to create rich content for an augmented reality experience, hoping to increase the engagement and interaction of visitors.

Stay tuned for the launch of the app on the [RMG website](#).



The Robert McLaughlin Gallery

The Robert McLaughlin Gallery is a public art gallery in Oshawa, Ontario, Canada. It is the largest public art gallery in the Regional Municipality of Durham, of which Oshawa is a part. The gallery houses a significant collection of Canadian contemporary and modern artwork.

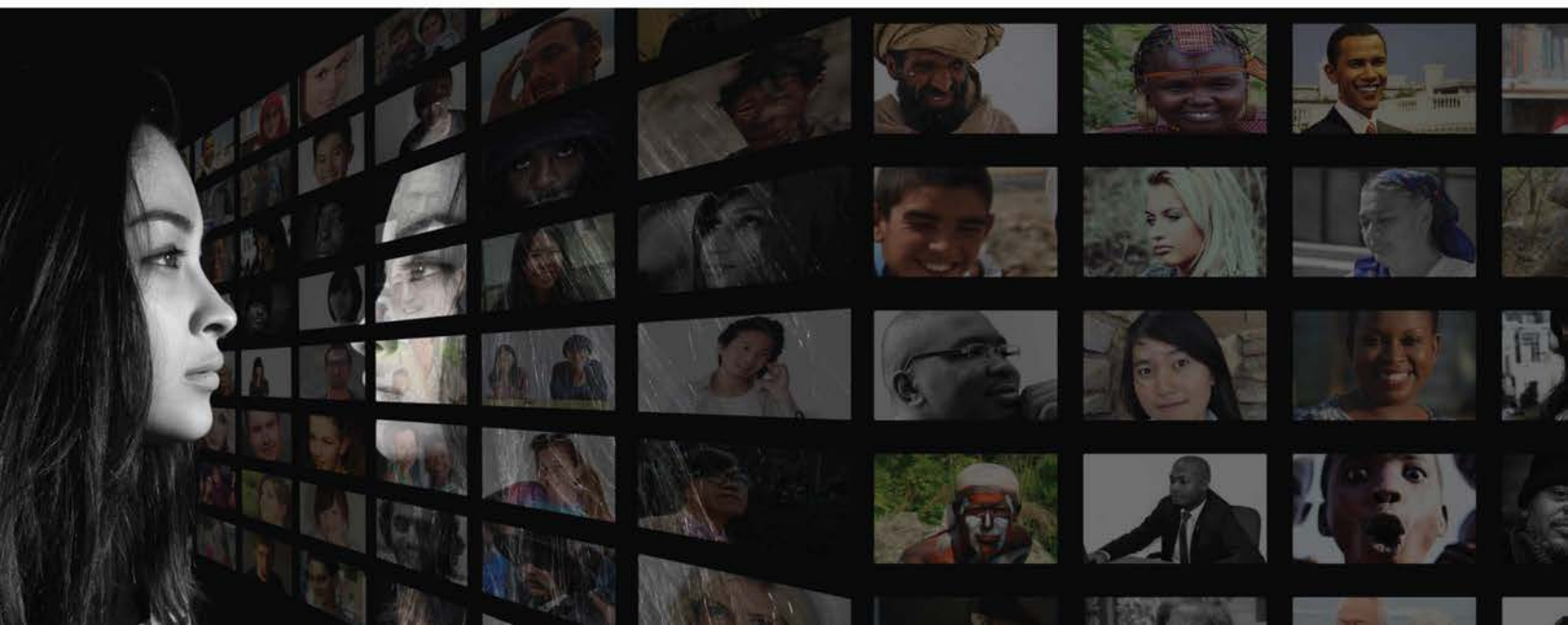
CIVIC ENGAGEMENT STRATEGIES: MARGINALIZED & VULNERABLE POPULATIONS

Criminology Graduate students from Dr. Tyler Frederick's Advanced Methods in Qualitative Research course from Ontario Tech University worked throughout the semester to investigate strategies and best practices that municipalities can use for engaging all residents in issues of planning and decision-making. With a focus on making direct efforts in the inclusion of marginalized and the most vulnerable, students interviewed key vulnerable sector stakeholders along with in-depth secondary research and came up with key themes and recommendations.

Student recommendations included participatory budgeting, meeting with people at their location and creating arts and cultural festivals as community building initiatives.

Key themes explored:

- **Accessibility**
 - **Capacity building**
 - **Comfortability**
 - **Community building**
 - **Critical consciousness**
 - **Education**
 - **Organizational access**
 - **Representation**
 - **Trust**
 - **Youth engagement**
-





CULTURAL SPOTLIGHT

Durham College Journalism students from Teresa Goff and Joanne MacDonald's course were given the opportunity of spotlighting the city's amazing cultural venues, organizations and experiences. Each student selected a topic, conducted research and interviewed cultural stakeholders, creating a published story in Durham College's student-led news publication, The Chronicle.



[Oshawa Little Theatre: Paying kindness forward](#)

[Meet two people growing culture in Oshawa](#)

[HERSpace provides brave place for women in Durham, around world](#)

[The Biltmore is back in Oshawa](#)

[Oshawa-Whitby music festival keeps zooming along](#)

[Helping build community among women of colour in Durham](#)

[Oshawa's upgrades include downtown and the home of the Oshawa Generals](#)

[Kops is a one-stop shop for vinyl music lovers in Oshawa](#)





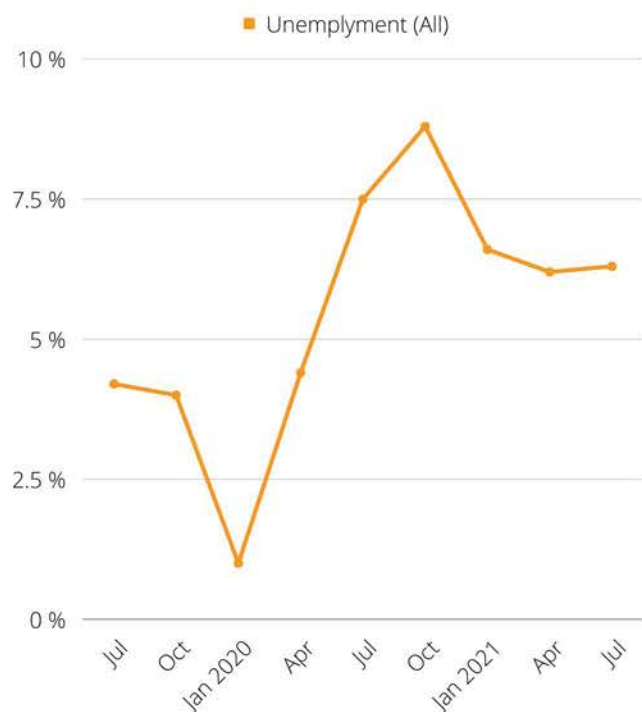
ECONOMIC RECOVERY & DATA INTELLIGENCE

Ontario Tech University Computer Science students, led by Dr. Ken Pu, launched a study to analyze the economic impact of COVID-19 in the City of Oshawa. This work was done in response to a Call for Interest for TeachingCity projects related to Economic Impact of COVID-19, in collaboration with the Mayor's Economic Recovery Taskforce.

The Database Research Group used open data sets to examine various economic indicators and find appropriate metrics to track recovery. The specific focus was on employment, wage rate and growth, retail sales, and new home and construction data.

The City can use this data to make evidence informed decisions and

inform the development of policies or community programs that are directed towards economic recovery.



This plot shows the change of unemployment from pre-COVID, during COVID and post-COVID lockdown for all sectors of our local economy.



OPEN DATA
DASHBOARD

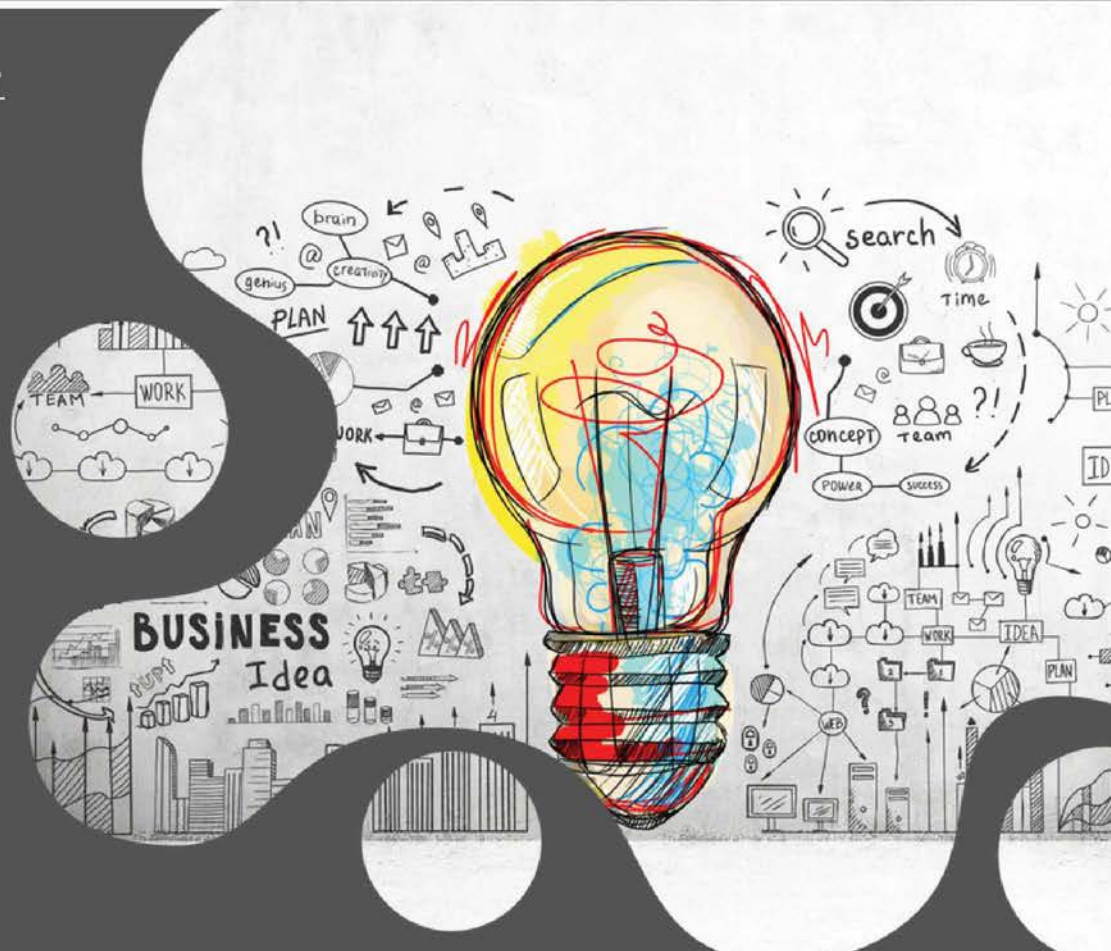
EMPLOYMENT SUPPLY IN POST-COVID RECOVERY

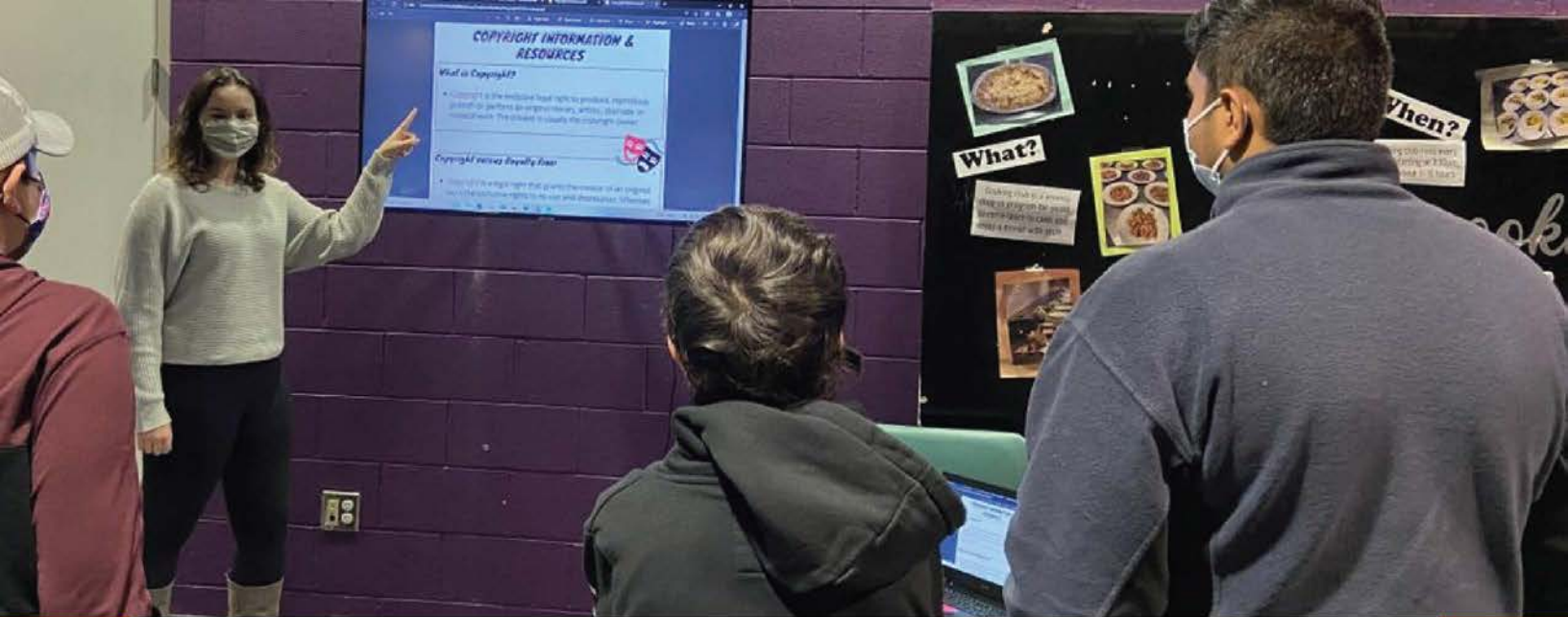
Durham College students from Paul Davidson's Labour Economics course worked alongside the City's Economic Development team to provide ideas to help address employment supply in a post-COVID-19 recovery environment. Students researched trending employment support initiatives and provided staff with a jurisdictional scan of other municipalities.

Student solutions included:

- Get Back to Work Initiative - Workshops available to aid workforce transitioning back to work post-COVID
- Remote Work Aid - A program to support development of required skill set to confidently enter the remote workforce
- Advertising local employment opportunities through billboards, transit and facilities
- Implementing a social procurement program
- An initiative connecting organizations and businesses with recent graduates
- Addressing the labour shortage in the food services and tourism industry

SEE ALL STUDENT SOLUTIONS





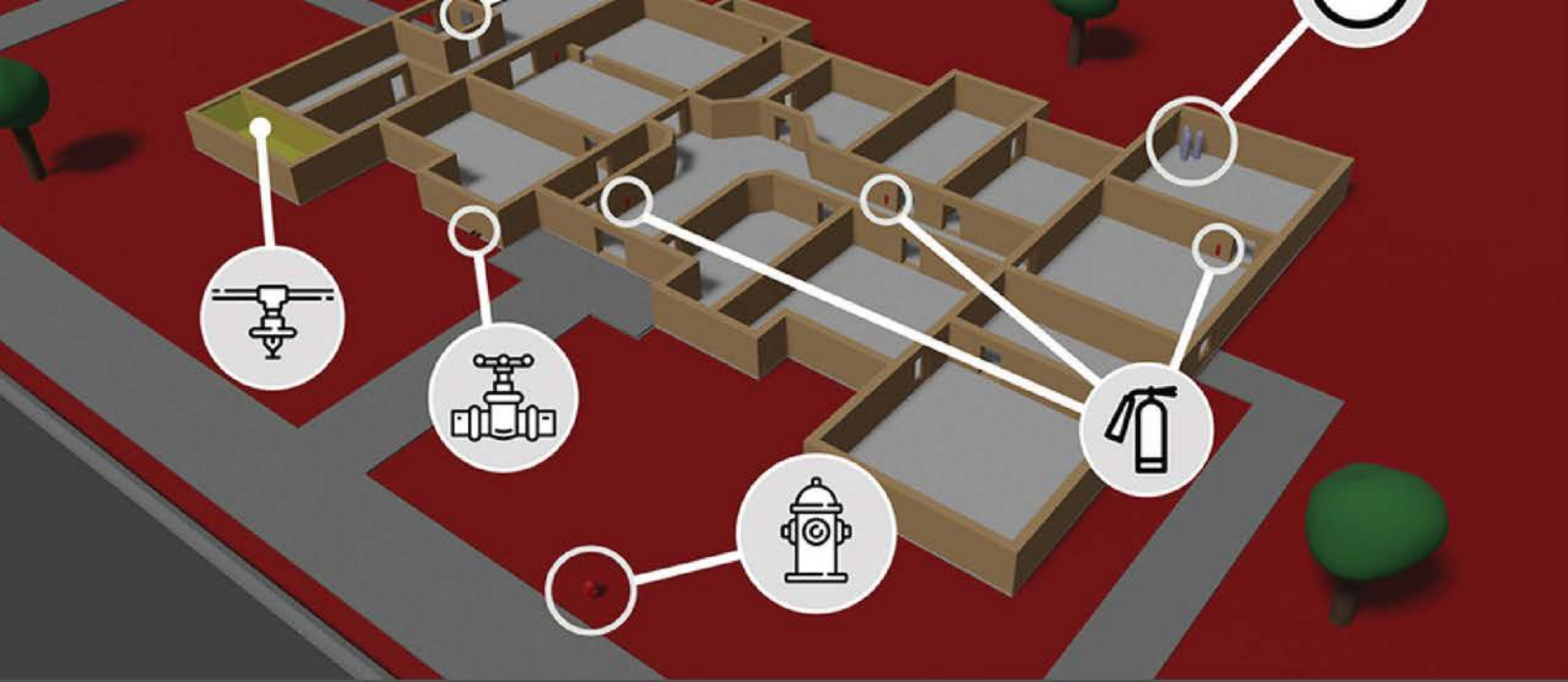
ENGAGING YOUTH THROUGH DIGITAL LITERACY



Trent University Durham GTA student, Sierra Sumner from the Child and Youth Studies program, led by Dr. Alba Agostino and Dr. Christine Goodwin-Faria designed and facilitated filmmaking workshops to provide an opportunity for youth to engage in digital literacy.

The workshops provided an empowering platform for youth's voices where high school students received community hours for participation at the South Oshawa Community Centre. The workshops helped them to develop computer safety and digital literacy skills as they created short films. Inspired at the opportunity, students had full creative freedom to nurture their passion for film creation. Students learned skills, such as scriptwriting, storyboarding and understanding copyright policies.

“The biggest takeaway is the importance of providing young people with a meaningful space to express their voice. I hope this project will bring awareness to the powerful messages that young people have to share and the importance of teaching them how to express their voices in safe and creative ways”
- Sierra Sumner



FIRE NAVIGATION SYSTEMS: LOCALIZATION AND MAPPING FOR STRUCTURAL FIREFIGHTERS

Over the past year, the Fire Navigation Systems project has seen major progress as it continues down the path to commercialization. The year started strong with the addition of a new team member bringing with them new ideas on how to assist fire services both before and during an emergency call. With this new direction in mind, the research team incorporated themselves under the name Hibou Systems.

Further cementing their commitment to this project and achieving a key milestone towards their goal of commercialization.

The team then spent the following months designing a new tool dubbed the "FireNav MPX1" to aid fire services before an incident occurs. Utilizing advanced camera technology and state of the art software, firefighters will now be able to generate three-dimensional models of buildings in real time during routine inspections. This technology allows them to have a complete map of the building before an emergency occurs, ensuring they have all the critical information about a location and its internals without ever needing to have been there before. Thanks to Hibou Systems' hard work and the help of their partners, as you read this the first FireNav MPX1 is being assembled.





FIRE SAFETY PHOTOGRAPHY

Student Brooke Warner from Durham College's Photography program worked with Oshawa Fire Services to create new photos for the PSW Fire Safety Curriculum. Ensuring Fire Safety for residents is a city priority and it's important that curriculum is fresh and reflective of current environments and fire hazards.

Brooke, under the guidance of instructor Brian Stephens, created real-life scenarios to demonstrate and capture fire safety in the home. Brooke also took advantage of an opportunity to get some group shots for her project at the OSC55+ Northview Branch to help communicate fire safety to the senior target audience.

"I have been able to showcase important aspects of fire safety, which is pertinent knowledge that I believe everyone should have access to. I am grateful for this opportunity to work with the Oshawa Fire Department to raise awareness on fire safety."

- Brooke Warner





IMPROVING ENGAGEMENT AND SUPPORTS FOR SENIOR CLIENTS AND CUSTOMERS WITH COGNITIVE IMPAIRMENTS

An Ontario Tech University research team led by Dr. Winnie Sun has been working with staff at the OSCC55+ to conduct a mixed-method research study to evaluate the effectiveness of OSCC55+'s virtual programs during COVID-19. The aim of the study is to explore whether virtual programming successfully addressed the needs for social connection and interaction for older adults with dementia and their caregivers during the pandemic.

For the qualitative component, interviews of older adults with dementia and informal caregivers were conducted. For the quantitative component, program and administrative staff from the OSCC55+ were surveyed to evaluate their perspective on the effectiveness of virtual programming. From the preliminary data analysis, it was identified that the virtual program had a significant impact on increasing the social connections among older adults with dementia and their caregivers. The necessary pivot to online virtual programming provided an essential stop-gap in program delivery.

The research team also attempted to examine the effectiveness of the virtual customer service provided by

the City of Oshawa to older adults with dementia during the pandemic.

The facilitators and barriers to these programs were identified and recommendations are proposed to facilitate the future implementation of virtual programming, as well as education to equip staff with the knowledge and skills to support people living with dementia.

"This project has provided my graduate students with the opportunity to increase their understanding about the important role that OSCC55+ plays in supporting the mental health and well-being of older adults, as well as promoting the social connectedness for people living with dementia and their caregivers through their virtual and social/recreational programming."

- Dr. Winnie Sun





INTERGENERATIONAL OPPORTUNITIES FOR ISOLATED SENIORS

Students from Durham College's Mental Health Challenges course in the Personal Support Worker (PSW) Program worked throughout the semester under the leadership of Kimberlee Neault to develop solutions to support a more holistic approach to mental health initiatives for isolated older adults and seniors in the Oshawa community.

This full year class focused on intergenerational opportunities for older adults without access to digital technology. The class divided into eight groups to pitch potential solutions to City of Oshawa and OSCC55+ staff. The ideas included: Crafting Together, That's So Trivial, Winter Tea Party, Beautifying the City, Scribble Memories, Planting Program, Down Memory Lane, and Volunteer Program.



DC'S PSW
STUDENTS HELP
OLDER ADULTS
WITH MENTAL
HEALTH

Staff from the City and OSCC55+ selected the Volunteer Program for implementation, and the PSW students were incorporated into the OSCC55+ Volunteer Program, given training and orientation. This provided the OSCC55+ with a pool of qualified candidates while providing an experiential learning opportunity for students in the field.

Due to COVID-19 restrictions, some students became digital volunteers, developing digital pieces to be used by the OSCC55+. Some topics included: Basic Yoga, All About Canada, Video Reminders, Trivia Games, Astrology, Let's Visit Algonquin Park Video Tour, and Daily Affirmations.

Ultimately, both the students and older adults benefited from these intergenerational opportunities resulting in improved mental health for all involved.



INTERNSHIP PROGRAM FOR RACIALIZED AND INDIGENOUS YOUTH



Four students from Ontario Tech University Faculty of Business and IT worked under supervision of City staff to conduct both secondary and primary research in the development of a potential internship program at the City for racialized and Indigenous youth.

A program such as this would provide opportunities for youth from these communities to shadow a variety of functions within the organization and give them hands-on opportunities to learn how local government works. The goal of this internship program would be to enhance civic literacy of youth and to encourage a diverse group of youth to potentially explore a career in local government.

The project team gathered secondary research in regards to existing internship program models, understanding both racialized and Indigenous youth needs and reviewing city demographic data. This insight provided a starting point prior to the primary research phase.

Primary research involved community engagement with local Indigenous and racialized youth and formal interviews to seek out personal experiences in regards to barriers to employment and any recommendations the youth thought would be of benefit to the City in its creation of an internship program. The team then provided overall recommendations to the City should they move forward with the development of an internship program.



WATCH PROJECT VIDEO



MITIGATING ILLEGAL DUMPING

Durham College students from Dimitri Stathopoulos' Community & Environment course worked throughout the semester on the issue of illegal dumping in Oshawa. Looking at the factors that contribute to illegal dumping and the financial, social and environmental burdens associated, students presented the following to staff:

- Targeted education campaigns to residents depending on area and waste related issues
- The need for data collection that captures the type of illegal dumping, the location of illegal dumping, quantity and the cost to the City to respond to illegal dumping issues which can be used as a deterrent
- Commodification of waste to help reduce, reuse, and repair to promote circular economy of household items
- Goods exchange events to allow the community to share unwanted large items
- Repair Cafes and Reuse Centres as creative spaces where residents can repair/reuse others' household waste items
- Streamline community clean-up efforts and make them more accessible
- Advocate for tenants of multi-residential dwellings to provide equitable access to large item waste removal



RECREATION REVENUE AND FITNESS MEMBERSHIP



cityofoshawa

LAY BACK AND RELAX WITH THE EASE & SIMPLICITY OF OSHAWA'S NEW MEMBERSHIP PLANS

Durham College students from Kelly Webdale's Recreation Administration, Finance, & Revenue Generation course were given the challenge of reviewing the City's recreation fitness membership structure. Students worked with Recreation & Culture Services staff to provide suggestions on how to implement changes to levels of membership, cost structure, marketing and ensuring memberships were financially and socially accessible across the city.

Students came up with the following core solutions:

- Use of more trending social media platforms with more interactive posts to better engage with residents
- Creating user-friendly membership levels
- Awareness campaigns

FITNESS MEMBERSHIPS & ADD-ONS CUSTOMIZABLE FOR YOUR PERSONAL JOURNEY

A PERSONAL PLAN TO FIT YOUR NEEDS

CHECK OUT OSHAWA'S NEW MEMBERSHIP STRUCTURE

[HTTPS://WWW.OSHAWA.CA/THINGS-TO-DO/MEMBERSHIPS-AND-ADMISSIONS.ASP](https://www.oshawa.ca/things-to-do/memberships-and-admissions.asp)



ROUTE OPTIMIZATION

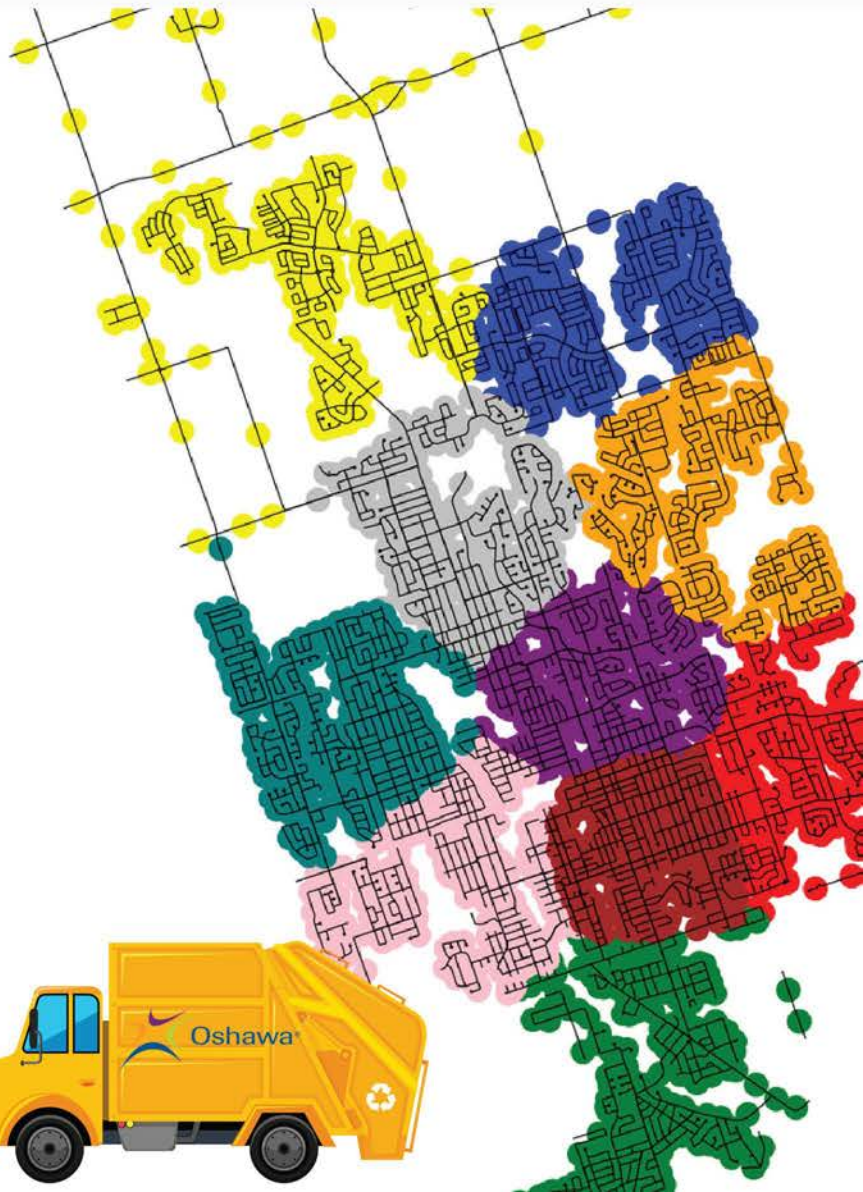
A team from Ontario Tech University and the [AVEC Research Lab](#), led by Dr. Jaho Seo, have been working with City staff on a multi-year project to optimize City operations routes. Essential services such as snowplowing, street sweeping and waste collection rely on detailed routing information to assist with efficient and timely operations, and must consider community safety as well as impact to the environment. The City is committed to maintaining a high standard of service and with the help of Ontario Tech University will be able to discover areas for improvement and help determine optimal service routes.

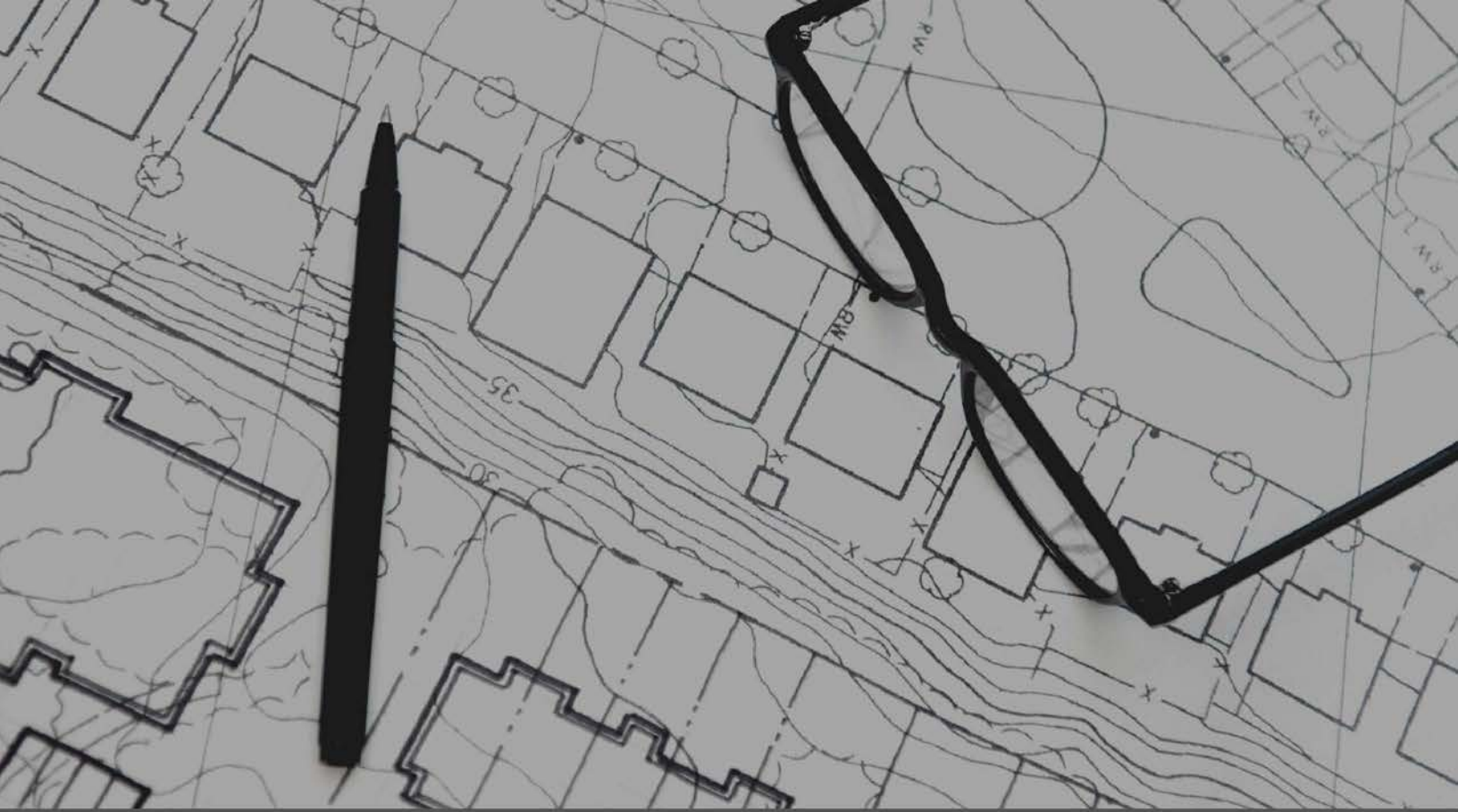
Identification of optimal routes is not a simple task, since various operational parameters and constraints need to be simultaneously considered for optimization. During the first year of the project, the team collaborated with City staff to propose routing optimization strategies for waste collection by applying a series of routing, geographic information systems (GIS) and optimization algorithms.

Data generated from simulating waste collection for all routes by considering key operations factors (travel distance, fuel consumption, and travel/collection time) has yielded some compelling insights, with the research team presenting a more optimal arrangement of existing collection areas for City consideration. In addition, the research team has proposed a unique strategy that can automatically define new optimal collection areas from scratch and minimize the distribution of dwelling units in the collection areas.



[WATCH VIDEO](#)





SITE PLANNING AND DEVELOPMENT - RE-IMAGINING VACANT CITY PROPERTIES

Durham College Science & Engineering students from Ali Taleb's Site Planning & Analysis course put theory into practice this year.

Planning Services staff at the City of Oshawa provided students with five vacant city sites to propose redevelopment. Given zoning by-laws, development guidelines including accessibility standards, environmental and sustainability factors, parking restrictions and incorporating active transportation, students got creative and developed full site proposed plans for these locations.

Planning staff were inspired by the potential of what these city sites could be in the near future.



50 McMillan Drive

45 Ritson Road N.

17-23 Athol Street W.

71 Bruce Street

1279 Simcoe Street N.



STORIES ABOUT LOCAL GOVERNMENT

Durham College Journalism students from Teresa Goff and Brian Legree's courses helped the City highlight stories about municipal government. Interviews were conducted with various Department, Branch heads and Council members. Students gained insights into some of the trending topics inside City Hall.

Check out their published articles in [The Chronicle](#).





VIRTUAL REALITY SIMULATIONS FOR FIRE SERVICES TRAINING



Durham College, Ontario Tech University, and Oshawa Fire Services are collaborating to develop a virtual reality simulation of an uncontrolled, structural collapse scenario to enhance training for firefighters.

This collaboration has resulted in additional research funding through Natural Sciences and Engineering Research Council (NSERC), College and Community Social Innovation Fund (CCSIF) and a Mitacs Accelerate grant.

The research team is completing the first phase of the project by conducting subject matter expert interviews with firefighters to determine the nature of a structural collapse scenario and the types of environmental, physical, and psychological stressors that may be experienced.

The next phase in the research is to commence the development of the virtual reality simulation by utilizing

the Mixed Reality Capture Studio at Durham College. Over the past year, students working on the project were able to observe firefighter trench training and enhance their skills and knowledge on wearable technology used in occupational settings.

Through this technology, it is anticipated that firefighters will be better equipped from training in an immersive environment as they will learn to manage the real-life stressors and find ways to optimize performance and well-being, enabling them to optimally perform their jobs. Ultimately, this means saved lives, reduced number of injuries, and less incidences of Post-Traumatic Stress Injuries.





YOUTH FRIENDLY COMMUNITY APPLICATION

Trent University Durham GTA students from Child & Youth Studies helped the City's Recreation & Culture Services Branch with their second application to Play Works for the Youth Friendly Community designation.

The Youth Friendly Community designation is granted every three years to communities across Ontario that recognize the unique needs of youth ages 13 to 19, and ensure they have continuous access to leadership and engagement opportunities, ranging from arts to recreation to civic participation. Communities are required to meet at least seven of ten youth-friendly criteria.

In groups, students conducted research and data gathering on how various community partners in our city demonstrated youth-friendly criteria through programs, services and initiatives.



These criteria included: ensuring that a youth-friendly community allocates funding towards youth play, ensures youth feel valued and respected, celebrates and recognizes youth, and encourages positive youth development.



**YOUTH THEMSELVES
CONTRIBUTE TO OSHAWA
YOUTH FRIENDLY
APPLICATION**



HAVE IDEAS?



If this information is required in an accessible format, please contact Service Oshawa at 905-436-3311 or service@oshawa.ca.



teachingcityoshawa.ca

[#OshTeachingCity](https://twitter.com/OshTeachingCity)

905.436.3311

teachingcity@oshawa.ca
