

Report to Council



Date: November 20, 2023
To: Council
From: City Manager
Subject: Annual Update – City of Kelowna and University of British Columbia Okanagan Research Collaboration
Department: City / UBCO Research Collaboration Joint Steering Committee

Recommendation:

THAT Council receives for information the report from the City / UBCO Research Collaboration Joint Steering Committee, providing a progress update regarding various collaborative research initiatives.

Purpose:

To receive an annual progress update from the City / UBCO Research Collaboration Joint Steering Committee regarding various collaborative research initiatives.

Background:

The University of BC Okanagan (UBCO) and the City of Kelowna have a rich history of working together on joint initiatives. It has been recognized by the Administration at both UBC and the City of Kelowna that in addition to the existing collaborations between our two institutions, there are greater opportunities to utilize applied research to enhance our community, protect our environment, advance stated priorities, and develop solutions to the challenges of our time.

Following the development of a *Framework for Enhanced Collaboration* in early 2021, a Steering Committee comprised of personnel from both UBC Okanagan and the City was established has been meeting regularly to identify, evaluate and fund research initiatives which are aligned with UBC Okanagan research goals and City priorities.

This year's annual report provides an update regarding research initiatives underway, and introduces the concept of a Centre for Excellence – seen as the logical next step in the partnership between the City of Kelowna and UBCO.

Previous Council Resolution

Resolution	Date
THAT Council receives for information the report from the City / UBCO Research Collaboration Joint Steering Committee, providing a progress update regarding various collaborative research initiatives.	2022

Discussion:

The *Framework for Enhanced Collaboration* sets out basic collaboration principles, strategic theme areas and a proposed governance model.

The 4 Strategic theme areas are:

- **Waste reduction / management** - focus on the Glenmore Landfill as a 'test site' for innovative approaches
- **Sustainable urban living** - design, infrastructure and policy initiatives aimed at creating inclusive, high-density urban neighbourhoods
- **Climate resilience** - strategies and initiatives aimed at ensuring regional safety and prosperity in a changing climate
- **Homelessness** - actionable solutions to chronic and episodic homelessness in the Central Okanagan

In 2022, the Steering Committee established a joint Partnership Fund to mobilize research efforts between the two institutions. Through an annual call for applications, researchers are invited to submit proposals for projects which are aligned with priorities identified by the City, and consistent with the strategic theme areas. Proposals are evaluated by the Steering Committee using published criteria, and successful proposals can be awarded up to \$30,000 a year, for a one or two year term. This initial investment is used to leverage funding through grants and partnerships, for a potential leveraging of the City's funds ranging from **3:1 to 13:1** for the current projects.

There are currently five approved research projects underway.

1. **Enhanced Mobility Corridor – Okanagan Rail Trail.** This project focuses on improving the connectivity of the UBC Okanagan Campus, Kelowna International Airport and the downtown area using the Okanagan Rail Trail and existing and emerging alternative travel modes. The Enhanced Mobility Corridor project has pending funding which will equal a leveraged funding of 3:1. This project aligns with Council's priorities of **transportation** (explore alternative modes of transportation between UBCO/YLW and downtown) and **climate & environment**.
2. **EV Charging – Bus Electrification.** This project focuses on analyzing the technological, financial, and environmental feasibility for developing rapid battery charging for transit and fleet vehicles in Kelowna. The EV Charging project has leveraged funding of 4:1. This project aligns with **Council's advocacy priority** for the development of the new **Transit Operations Centre** and a fully electric bus fleet, as well as Council's priority of **transportation and climate & environment**.

3. **Sustainable Aquatic Centre Operations.** This project includes the formulation of optimal operational strategies which consider how level of disinfectant use, air and water circulation and water temperature influence the quality of the aquatic centre environment and user experience. The Sustainable Aquatic Centre Operations project has leveraged funding of 12:1. This project aligns with Council's priority of *climate & environment*, and will also feed into the design for the redevelopment of Parkinson Recreation Centre.
4. **Feasibility Study of Solar Energy.** This project includes the evaluation of the feasibility for solar energy in the region by analyzing socio-techno-economic barriers and regulatory barriers, using software and real-time operational data. The Feasibility of Solar Energy project has leveraged funding of 13:1. This project aligns with Council's priority of *climate & environment* and can potentially feed into the design for new and retrofitting of City buildings.
5. **Biochar Blended Clay Bricks: an Innovative Solution for Landfill Waste.** This project includes the evaluation of the potential for, and development of standard techniques to, convert construction landfill waste into "biochar bricks", a value-added product that also promotes atmospheric carbon capture and sequestration. This project has leveraged funding of 4:1. The project aligns with Council's priority of *climate & environment*.

Centre for Excellence:

In 2024, UBCO and the City are seeking to broaden the engagement, research, and innovative project opportunities as partners in community building through the development of a Centre for Excellence. The Centre for Excellence will be a three-year pilot that is aimed at advancing research, innovation, and education in the field of community sustainability. This co-located centre will leverage the expertise and resources of both partners to address the challenges and opportunities in community building. The pilot will include up to two dedicated resources – one each from both the City and UBCO - to project manage and support the current research collaboration partnerships, as well as to build, convene, and foster new research collaboration partnerships. This centre will operate as a cross-disciplinary and cross-sectoral platform that will foster collaboration and knowledge exchange among researchers, practitioners, policymakers, students, and community partners. The Centre is envisioned to be an open environment, to engage with partners across this City, on possible applied research initiatives, as the model matures and evolves.

Conclusion:

The *City and UBCO Research Partnership* has been successful in stimulating interest from the research community and generating projects which fulfill both academic and civic objectives. Through relationship building and an intentional approach, both institutions have gained unique insights into how they can leverage resources and further mutual priorities.

The Centre for Excellence is an evolutionary step in the relationship between the City and UBCO. The three-year pilot will foster the relationship, while broadening the research opportunities and innovation to address the challenges and opportunities of sustainable development.

Internal Circulation:

Partnerships & Investments
Communications
Information Services
Airport

Environment
Landfill

Considerations applicable to this report:

Existing Policy:

Imagine Kelowna:

Principle 1: Collaborative

A community where people of all backgrounds work together to meet collective challenges.

Principle 2: Smarter

Support innovation that helps drive inclusive prosperity.

Financial/Budgetary Considerations:

Commencing with the 2022 budget, each party began investing \$100,000/yr each, which is then leveraged 3 to 13 times, towards the partnership projects. Funding is allocated to projects evaluated and approved by the Steering Committee pursuant to the Partnership Fund program terms. Project proposals are expected to demonstrate significant leverage of funds through other sources such as the Natural Sciences and Engineering Research Council of Canada (NSERC) and Mitacs.¹ Leverage can be 2:1 or significantly higher depending on the type of project and funding criteria.

In order to advance the proposed Centre for Excellence and enhance leveraging opportunities, a budget submission will appear in the 2024 Budget for Council's consideration.

Considerations not applicable to this report:

Legal/Statutory Authority
Legal/Statutory Procedural Requirements
External Agency/Public Comments
Communications Comments

Submitted by: D. Gilchrist, City Manager

Approved for inclusion:

DG

cc:
UBCO Office of the Vice-Principal, Research and Innovation
Executive Office Manager
Information Services Director
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¹ Mitacs connects the private sector and post-secondary institutions to drive research and development which solves organizational challenges and develops Canada's innovation capacity.

