

Summer 2023 Sustainability Scholars Program Internship Opportunity

The UBC Sustainability Initiative (USI) is pleased to offer current UBC graduate students the opportunity to work on funded sustainability internship projects. Successful candidates work under the mentorship of a partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region.

- Visit the [Sustainability Scholars Program website](#) to learn [how the program works](#) and to [apply](#).
- Be sure to review the application guide on the Apply page to confirm your eligibility before applying.

Applications close at midnight on Sunday January 29, 2023.

Project title: Development of a Green Rainwater Infrastructure (GRI) toolkit for rainwater management near underground rapid transit stations in Vancouver

Project Background & Overview:

With the transition to becoming a water-sensitive city and address rainwater management issues, Vancouver is facing a call for changes in its approach to rainwater management strategies. Vancouver City Council has declared a climate emergency as rising sea levels and more extreme rain events are to be expected. Vancouver residents are experiencing climate change which contributes to ecosystem vulnerability, increasing the risk of localized flooding and combined sewer overflow events due to excess rainfall.

To reimagine how we live with rainwater, the City's [Rain City Strategy](#) introduces a framework of guidelines for rainwater management in Vancouver, which integrates infrastructure planning, land-use planning, and urban design approaches into the management of the urban water cycle. It presents a vision to consider rainwater as a valued resource for both urban and ecological environment.

Rapid transit-related infrastructure makes up one of the most costly civic investments and is used by many citizens and visitors. Underground transit infrastructure in particular poses specific challenges due to its interface with utilities, public right of way and high ground water table. Ensuring appropriate rainwater strategies for rapid transit nodes is crucial to the successful delivery of Vancouver's Rain City Strategy.

Project description

The purpose of this project is to develop an integrated urban design toolkit for potential rapid transit node retrofits and future subway extensions in Vancouver. It aims to provide a systematic rainwater management strategy by using Green Rainwater Infrastructure (GRI) to inspire the place-making near rapid transit stations in Vancouver to counter localized flooding events.

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This project, which supports the vision of the Rain City Strategy, consists of three parts to optimize the rainwater management process for those existing and proposed Broadway Subway Project (BSP) stations.

1. Part 1, the scholar will explore the challenges of implementing GRI at transit sites due to the constraints of station structure, system infrastructure (vents, mechanical), pedestrian and passenger movement and circulation.
2. Part 2, the scholar will identify a set of GRI typologies (toolkit) - to increase tree cover, vegetation, and permeable paving surfaces to provide a vibrant and resilient streetscape and public realm in the station plaza and public right of way - that reflect Vancouver's context through case studies.
3. Part 3, the scholar will work on one or two proposed BSP station sites (e.g., Broadway City Hall/ Mount Pleasant) to deliver a conceptual design proposal that applies the GRI toolkit, providing a prototype of future GRI and landscape design that could be applied to rapid transit station plazas and adjacent streetscapes. The plaza and streetscape design would happen through redevelopment of the station sites.

Project scope

- Overview of the current City rainwater management programs, targets, and strategies. Identify the range of GRI examples implemented throughout the city to help inform the potential GRI options for rapid transit station areas.
- Provide a series of actionable GRI typologies through best practices research (3-6 case studies from cities that are more advanced in public transit and GRI interface, such as NYC, Seattle, Portland, Singapore, Netherlands etc.) that are suitable for rapid transit station areas.
- Consolidate GRI topologies (5-10 strategies) into a diagrammatic urban design toolkit to inspire rainwater management for BSP and future rapid transit stations in Vancouver.
- Develop a conceptual design proposal for the selected BSP station sites with the streetscape in the right of way that applies the GRI toolkit to form a prototype. The prototype should reduce stormwater volume entering the pipe system and mitigate water quality issues caused by combined sewer overflow events near the rapid transit station infrastructure or transit-integrated development.

Deliverables

- An illustrative final report containing a summary of the work completed
- An illustrative final report for the online public-facing [Scholars Project Library](#).

Time Commitment

- This project will take 250 hours to complete
- This project must be completed between May 1 to August 15, 2023
- The Scholar is to complete hours between 9 am and 5 pm, Monday to Friday, approximately 17 to 20 hours per week.

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Required/preferred Skills and Background

- Excellent research and writing skills
- Demonstrated interest in sustainability
- Familiarity with research methodologies and survey techniques
- Statistical analysis
- Excellent public speaking and presentation skills
- Strong analytical skills
- Ability to work independently
- Deadline oriented
- Project management and organizational skills
- Demonstrated experience in Landscape design/Urban design and related design software e.g., Rhino 3D, Adobe Creative Suite
- Comfortable interacting with strangers to conduct public/in person surveys
- Design and layout skills

Applications close **midnight Sunday January 29, 2023**

Apply here: [Click here to apply](#)

Contact Karen Taylor at sustainability.scholars@ubc.ca if you have questions

Useful Resources

We are holding a special **resume preparation workshop for prospective Scholars** on January 23, 2023. [Click here for details and to register.](#)

Below are some links to useful resources to help you with your resume and cover letter (there are many more online). Some of these resources also provide information on preparing for your interview.

<https://students.ubc.ca/career/career-resources/resumes-cover-letters-curricula-vitae>

<https://www.grad.ubc.ca/current-students/graduate-pathways-success>

<https://www.grad.ubc.ca/cover-letter-cv-resume-templates-ubc-career-services>