

Summer 2025 Sustainability Scholars Program Internship Opportunity

The UBC Sustainability Hub is pleased to offer current UBC graduate students the opportunity to work on sustainability internship projects. Successful candidates work under the guidance of a mentor from the partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region. The pay rate for the summer 2025 program is \$31.25/hour or \$7,812.50 for a 250-hour project.

- 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 11:59 pm on Sunday January 26, 2025.

Project title: Exploring Modularization for Sustainable Transit Facilities: Design, Prefabrication, and End-of-Life Management Strategies

Project Background & Overview:

As cities grow and public transit systems expand, there is an increasing need for adaptable, resource-efficient infrastructure. Modularization offers a sustainable approach to designing and constructing transit facilities by utilizing prefabricated components that are adaptable, durable, and easier to maintain. This approach aligns with TransLink's sustainability and climate action goals, reducing environmental impacts while enhancing operational efficiency.

Traditional construction methods can generate significant waste, require longer project timelines, and lack flexibility for future changes. Modularization addresses these challenges by emphasizing prefabrication, which allows components to be manufactured off-site in controlled environments. This minimizes material waste, reduces carbon emissions from transportation and on-site activity, and improves construction timelines. Additionally, modular systems can be reconfigured, expanded, or repurposed to meet evolving transit needs, supporting resource efficiency and cost-effectiveness.

Another critical aspect is End-of-Life Management, where materials such as Cross-Laminated Timber (CLT) or other recyclable, low-impact materials are prioritized. These materials can be disassembled and reused, aligning with circular economy principles and minimizing construction waste.

This project takes place within the context of TransLink's initiatives, including SkyTrain stations, bus stops, West Coast Express stations, and the ongoing design of BRT stations. Modularization can provide scalable solutions for these facilities, ensuring they meet immediate operational demands while remaining adaptable for future needs. By exploring modular designs, prefabrication strategies, and sustainable material use, this project contributes to reducing the environmental footprint of transit infrastructure while supporting TransLink's vision for a resilient, sustainable transportation system.

Project description

This project aims to explore modularization as a sustainable and adaptable approach to designing and constructing transit facilities, focusing on prefabrication, resource efficiency, and End-of-Life Management. Modular design offers opportunities to improve construction efficiency, reduce environmental impact, and enhance the adaptability of TransLink's facilities to meet future needs.

The purpose of this project is to identify how modular design principles can be integrated into TransLink's current facilities and ongoing projects to support sustainability goals and operational efficiency. The outcomes will include actionable insights and strategies that provide a scalable and practical framework for implementing modular design, aligning with both immediate project requirements and long-term regional sustainability efforts.

Project scope

The Scholar will undertake the following activities to develop sustainable modularization strategies for TransLink's transit facilities:

- 1. Research and Analysis of Best Practices:** Conduct a comprehensive exploration of modular design in transit and public infrastructure by identifying three to five exemplary global practices. This research will be carried out through a combination of literature reviews and/or expert interviews, as appropriate. The focus will be on uncovering successful strategies for modular design, including prefabrication, material efficiency, and End-of-Life Management. Insights gained from this process will provide a robust foundation for designing modular solutions that align with sustainability principles and address practical challenges, material selection, and lifecycle management.
- 2. Scan of TransLink Policies, Guidelines, and Applications:** Conduct a detailed scan of TransLink's existing policies, design guidelines, and current applications related to modular design. This activity will focus on TransLink's facilities, including SkyTrain stations, bus stops, West Coast Express stations, and the ongoing design of BRT stations, to document and understand current practices and frameworks. This scope emphasizes gathering and organizing relevant information to build a foundational understanding of TransLink's current approaches in relation to modular and sustainable design principles.
- 3. Recommendations for Modular Design Applications**

Based on the findings from previous activities, develop actionable recommendations to enhance existing TransLink facilities and identify opportunities for integrating modular design into ongoing and future projects. These recommendations will include:

 - Design Improvements:** Propose strategies to incorporate modular prefabrication, recyclable materials, and circular economy practices into current facilities, including SkyTrain stations, bus stops, and West Coast Express stations. The Scholar will work closely with TransLink to identify the top three focus areas for a deeper analysis, ensuring alignment with project priorities and available resources.

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- **Opportunities for Future Projects:** Highlight modular design elements that can be effectively implemented in the design and construction of ongoing and future projects, such as BRT stations, focusing on scalability, efficiency, and sustainability.
- **Time permitting - Phased Approach:** Outline a phased approach for implementation, ensuring alignment with TransLink's operational needs and sustainability goals.

Deliverables

By the end of the project the Scholar will deliver a comprehensive final report summarizing the findings and outcomes of the project, covering the following key chapter. The final report is also for the online public-facing [Scholars Project Library](#).

- **Best Practices Summary:** A chapter summarizing global best practices in modular transit facility design, derived from literature reviews and/or expert interviews. This chapter will include key insights into modular design applications, including prefabrication techniques, material efficiency, and End-of-Life Management strategies. It will provide a clear and concise overview of the five selected best practices, serving as a foundational resource to inform subsequent analyses and recommendations within the project.
- **TransLink's Practices Summary:** A chapter providing a detailed scan and assessment of TransLink's existing policies, design guidelines, and applications related to modular design. This chapter will document the current state of practices within TransLink's SkyTrain stations, bus stops, West Coast Express stations, and the ongoing design of BRT stations. It will outline infrastructure requirements, highlight opportunities for alignment with sustainability principles, and serve as a foundation for identifying areas where modular design can be effectively integrated.
- **Recommendations:** A chapter presenting actionable recommendations for integrating modular design principles into TransLink's existing facilities and ongoing or future projects. This chapter will include:
 - **Design Recommendations:** Practical strategies for incorporating modular prefabrication, recyclable materials, and circular economy practices into current infrastructure.
 - **Opportunities for Future Projects:** Identification of modular design applications that can enhance scalability, efficiency, and sustainability in ongoing and upcoming projects, such as BRT Stations.
 - **Time permitting - Phased Implementation Plan:** A structured approach to guide the adoption of modular design, outlining short-term and long-term steps to align with TransLink's operational and sustainability goals.

Time Commitment

- This project will take 250 hours to complete

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

Required/preferred Skills and Background

- Excellent research and writing skills
- Demonstrated interest in sustainability
- Experience conducting stakeholder engagement events, including facilitation skills, is an asset
- Familiarity with research methodologies and survey techniques
- Familiarity conducting focus group research
- Strong analytical skills
- Ability to work independently
- Deadline oriented
- Project management and organizational skills
- Strong technical and drafting skills
- Familiarity with benchmarking methods and tools
- Comfortable interacting with strangers to conduct public/in person surveys
- Familiarity preparing feasibility studies
- Experience with financial modelling and analysis, an asset
- Design and layout skills
- Experience in modular design, an asset.
- Familiarity with construction materials and sustainability principles in construction, an asset.
- Experience with lifecycle analysis.
- Proficiency with design and analysis tools such as CAD, SketchUp, Revit, or similar platforms for modular design, as well as lifecycle assessment tools or software, would enhance the candidate's ability to deliver actionable recommendations.

Additional project requirements

1. **Office Visits and Site Assessments:** The project will include an in-person kickoff meeting and three review sessions at TransLink's office. Site assessments may also be required at facilities such as the SkyTrain stations or bus-related facilities locations to gather data on existing lighting setups and conditions. All travel for these activities is recommended to be done via public transit. Mileage for any project-related travel beyond the usual office commute may be covered but should be discussed and approved in advance.

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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 21, 2025. [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>