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: Understanding the Sustainability and Equity Benefits of Vancouver's Public E-Bike Share System

Project Background & Overview:
To date, Vancouver's public bike share system ("Mobi") has supported over 4 million trips by over 150,000 people in the City of Vancouver. Mobi launched in 2016 and added e-bikes in 2022 based on direction from the City's Transportation 2040 and Climate Emergency Action Plan (CEAP). Adding e-bikes to the public bike share system is part of the CEAP Big Move 2 (How We Get Around) to reduce carbon emissions and shift to 2/3 of trips being made by sustainable modes. Based on local and international research findings, e-bikes were added to the system to accelerate these efforts and to reduce barriers to bike share for people with disabilities, seniors, women and other groups.

Project description
The purpose of this project is to better understand the current and future demand for e-bikes and charging stations for different user groups and neighbourhoods. This information will be used in 2023 to inform discussions with the City's e-bike share provider on growing or shrinking stations, moving stations and adding stations, as well as the overall impact to network carbon emissions.

This initial analysis of e-bike general users and community pass users will also likely feed directly into a more complex analysis by a local researcher as part of a national, multi-year equity-focused research project.

Project scope
Using prepared data sets from over 4 million trips, supplemented by previous analysis of user surveys, the scholar will work with the public bike share team to analyze bike share ridership data to shape the future of bike share. The scholar will identify important rider and system behaviours by designing functions, formulas, or algorithms to analyze existing clean public and confidential data sets. The main data set the scholar will work with is bike share trip (ride) data that includes data points on: origin and destination, time, rider and membership, (e-)bike type, odometer, environmental temperature, elevation, etc. Building on that information, they will begin to consider how the system could be adjusted to encourage mode shift and further improve equity. They create tables, maps or other knowledge sharing products that they and the team can use to convey their findings.

Key Activities

Conduct a GIS and data analysis to build model and:

- Identify where e-bikes are being ridden or not ridden
- Identify which e-stations are charging or not charging bikes
- Identify which stations are popular with standard pass members? Community Pass members
- Identify changes to rider and system behaviour following the introduction of e-bikes
- Compare the average distance ridden on e-bikes compared to the standard bikes?
- Estimate how many tons of CO2 emissions have been prevented by the introduction of e-bikes
- Recommend station adjustments to improve the reach of the already well-used equity programs
- Recommend changes to the bike share system (station locations, sizes, etc.) that could improve access for standard pass members or Community Pass members?

Based on data analysis, summarize your research findings in a report with recommendations for improvements for the public e-bike share program

Deliverables

- Ridership model including all analysed data (GIS)
- Ridership maps reflecting equity impacts and CO2 emissions reductions
- A final report containing a summary of the work completed
- A 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.
- The Scholar should expect to work on-site at the City Hall campus a minimum of 1 day per week (flexible relative to schedule)

Required/preferred Skills and Background

☒ Interest/Basic understanding of Shared Mobility or Bike Share

☒ Advanced Excel Skills (Required)

☒ Experience with ArcGIS, KeplerGL, Photoshop or similar software is an asset

☒ Statistical analysis

☒ Excellent public speaking and presentation skills

☒ Strong analytical skills

☒ Ability to work independently

☒ Project management and organizational skills

☒ Programming skills

☒ Comfortable working with data sets

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