# Saanich Community E-Bike Incentive Pilot Program

# Final Report

**Prepared by the Saanich Sustainability Division**
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# Executive Summary

The Saanich Community E-bike Incentive Pilot Program was a first of its kind among BC municipalities, offering residents incentives for new e-bikes purchases, with larger incentives for lower income households. Transportation is the largest source of greenhouse gas (GHG) emissions and one of the top three expenses for average households in Saanich. The pilot aimed to reduce GHG emissions, integrate equity, maximize co-benefits, and provide valuable research findings on the impact of e-bike incentives for decision makers. It was developed in partnership with the Greater Victoria Community Social Planning Council and the University of British Columbia's (UBC) Research on Active Transportation (REACT) Lab in order to embed equity and best practices in program design and ensure rigorous, third-party evaluation of program impact.

The pilot was very popular with participants, distributing over 380 incentives with at least 100 incentives in each of three income-based incentive tiers. It generated a great deal of interest from media and from other government climate practitioners across North America.

Key findings from the UBC study final report are summarized below. The full study is available at https://reactlab.civil.ubc.ca/saanich-ebike-incentives/.

- E-bikes were used frequently – e-bike incentive study participants rode their e-bikes on average 3 to 4 days and 30 to 70 km per week.
- E-bike incentives reduced vehicle use and GHG emissions, exceeding the predicted GHG and avoided "vehicle kilometers travelled' (VKT) savings:
    - Incentive recipients reduced their auto use by 48 km per week on average across the 12-month study.
    - Incentive recipients reduced their GHG emissions from travel by 38% on average across the 12-month survey.
    - GHG reductions were larger for those receiving larger rebates.
- E-bikes were more effective at reducing driving than conventional bikes, resulting in new climate-friendly behaviours.
- The program attracted a large portion of "marginal purchasers" – people who would not have purchased an e-bike were it not for the incentive program (23% to 76%, increasing with rebate level), meaning the program effectively resulted in new climate-friendly behaviour rather than simply rewarding climate friendly behaviour that was already going to occur.
- Centering income equity in design improved effectiveness:
    - Larger incentives for income qualified households were associated with greater auto travel reduction due to higher pre-purchase auto use by lower income participants.
    - Larger incentives for income qualified households resulted in a higher rate of "marginal purchasers".
- The program delivered cost-competitive GHG savings - the calculated GHG abatement cost was $190/tCO2e (tonne of carbon dioxide equivalent), without considering marginality.
- High satisfaction rates were achieved.
- The program delivered multiple co-benefits including:

- Increased physical activity levels for transportation - at least 150 minutes of moderate or vigorous physical activity per week are recommended for adults, and average participants in all study groups achieved this physical activity level from travel in all three waves and experienced a net increase in physical activity during travel one year after bicycle purchase.
- Each rebate induced an average of $813 in new consumer spending for local bike stores that wouldn't otherwise have occurred. This translates to $1.31 in induced spending per $1 in rebates.
- Not explored in the study but anticipated other benefits likely include:
    - Reduced travel costs for households - due to substituting e-bikes for car trips, which have much lower per kilometer costs.
    - Reduced local air pollution.
    - Promotion – high media coverage and the impact of e-bike purchasers on their networks to encourage greater e-bike adoption in the community.

The Saanich model was used as a basis for the popular Provincial BC Electric Bike Rebate Program, that launched in June 2023. This Provincial program has provided residents across BC an opportunity to apply for an e-bike rebate, demonstrating the value of collaboration and climate leadership. This is particularly valuable for communities that would not have the staff capacity or resources available to administer such a rebate program independently.

Given the program results, income-qualified e-bike incentives are recommended for future climate action in the transportation sector. The delivery of these incentives at the Provincial level would support efficiencies of scale for program administration costs, while allowing smaller municipalities (who would have insufficient resources to administer such a program) to benefit from e-bike incentives.

# 1.0 Context

This report provides final results and associated recommendations for the Saanich Community E-bike Incentive Pilot Program that ran from October 2021 through November 2022. It is intended to assist those interested in e-bike incentive program design and related topics to understand the development and results of the pilot.

## 1.1 Climate Plan Direction

In 2019, District of Saanich Council declared a Climate Emergency and followed this with approval of the Climate Plan: 100% Renewable and Resilient Saanich in January 2020. The Climate Plan outlines the actions needed to:

- Cut greenhouse gas (GHG) emissions in half by 2030 & net zero by 2050;
- Transition to 100% renewable energy by 2050; and
- Prepare for a changing climate.

Transportation is the largest source of our community-wide greenhouse gas (GHG) emissions, responsible for 57% of our total emissions in 2018. Most of these emissions are from the use of personal vehicles, light trucks and SUVs, which could be reduced considerably by a mode shift to public transit and active transportation. This mode shift provides more co-benefits to the community than simply shifting from fossil fuel vehicles to electric vehicles.

In order to achieve adequate GHG emissions savings in the transportation sector, the Climate Plan included a modelled pathway, which shows we must achieve all of the following objectives by 2030:

- 22% of trips by active transportation
- 14% of trips by public transit
- Transition 36% of personal vehicles to electric vehicles
- 100% of transit buses electrified

To achieve these objectives, the Climate Plan identified 22 Mobility actions, including accelerating the implementation of the Active Transportation Plan and requiring EV charging-ready new construction. One of these actions is *Climate Plan Action M1.2: Pilot an electric bicycle incentive program*.

## 1.2 Benefits of e-bikes

E-bikes are a relatively new technology that holds potential to reduce GHG emissions in the transportation sector and reduce barriers to active transportation by residents. Preliminary studies have found e-bikes are used for longer trips than conventional bicycles, with an average distance per trip of 6.1km (Aono & Bigazzi, 2019). That distance is longer than both the average bike trip distance (3.3km) and the average car trip length (5.3km) in Saanich as found in the CRD’s Origin-Destination survey (Malatest, 2017) and shown in Table 1 below.

### Table 1:Average trip length by mode in Saanich

| Mode | Average Trip Length |
|---|---|
| Car | 5.3 km |
| Transit | 4.8 km |
| Bike | 3.3 km |
| Walking | 1.0 km |

*Source: 2017 CRD Trip Diary for Saanich*

This trip distance boost compared to non-electric bikes means e-bikes may be able to replace more car trips than cycling alone and help the active transportation infrastructure we build to be used for longer trips.

Additionally, due to their electric motor that assists with pedaling, electric bicycles overcome many barriers to non-electric cycling, including:

- ease of covering hilly terrain;
- ease of transporting young children;
- ease of transporting heavy goods such as groceries;
- less physical fitness required – making cycling available to more people of diverse ages and abilities; and
- less need for exercise clothes – increasing convenience of cycling for different types of trips.

E-bikes overcome many barriers to electric vehicle adoption, including:

- lower purchase costs;
- lower operating costs;
- lower barriers to charging (any electrical outlet can be used, rather than the specialized charging typically used for electric vehicles); and
- improved opportunities for of regular moderate exercise, with resulting physical and mental health benefits.

E-bikes deliver more environmental and community benefits than electric vehicles do, including:

- improved road safety (e-bikes have slower speeds and less mass than electric vehicles);
- less pollution from tire particulates;
- less wear and tear on roads;
- less materials needed for manufacturing;
- more physical activity for residents;
- less electricity needed to transport people per kilometer travelled; and
- reduced footprint required for parking and road space.

A meta-analysis of 24 published studies on e-bike usage (Bigazzi A. a., 2020) found that e-bike users substitute many different kinds of trips with e-bikes, including walking, non-electric cycling, public transit, and driving personal vehicles. This analysis shows that e-bikes are not only used for recreation or to make existing cycling trips easier, but can also displace driving and the associated GHG emissions from internal combustion engines.

The CRD's 2020 Housing and Transportation Cost Estimate Study shows that the average Saanich household has 1.7 vehicles, an annual household cost for transportation of $12,294, and an average annual household housing cost of $16,152. Reducing transportation costs frees up space in a budget for housing and other needs. Using an e-bike to replace vehicle trips reduces money spent on fuel and wear and tear on a vehicle. If an e-bike allows a household to shed a vehicle (e.g. moving from a two car family to a car plus e-bike family), then even bigger cost savings can be achieved.

## 1.3 Pilot program development process

Given this context and direction, staff undertook significant research and engagement with key stakeholders and partners to develop an e-bike incentive program and deliver on Climate Plan Action M1.2. This included the completion of a detailed feasibility study in March 2021, which was used to inform the program design and to assist with funding proposals. The feasibility study can be accessed online.

### 1.3.1 Partnerships

The District established partnerships early in the program development with the Community Social Planning Council (CSPC) of Greater Victoria and with researchers at UBC Research on Active Transportation (REACT) Lab.

Community Social Planning Council of Greater Victoria

The CSPC partnered with Saanich to advance climate justice in the region, supporting the incorporation of equity into the program pilot design. This has been supported by funding from the Vancouver Foundation for the CSPC Transportation, Access, Climate, and Economic Security (TACES) Program. Saanich staff benefitted from CSPC input on equity in program design throughout the design process, including their facilitation of workshops with local providers of income-qualified programs on best practices and alignment opportunities, convening a lived experience advisory committee, and working with the Inter Cultural Association (ICA) of Greater Victoria, the City of Victoria, the Capital Regional District (CRD), and Capital Bike on an event with the ICA's adult English Language Learners to learn about road safety, try e-bikes on newly completed AAA bike infrastructure, and learn how it fit into climate action in the region.

UBC Research on Active Transportation Lab

Since understanding the effects of incentive programs is vital to determining whether they continue and expand in the future, Saanich was interested in partnership with academic researchers. Saanich partnered with researchers at the UBC REACT Lab React Lab; a group dedicated to finding ways to make transportation systems more effective, sustainable, equitable, and healthy and who were interested in accessing data from a local e-bike incentive program. A research project on the pilot incentive program was established with funding from NSERC and support letters and funding from Saanich, the Capital Regional District (CRD), the CSPC, non-profit One Earth with the Vancouver Foundation..

### 1.3.2 Engagement

Considerable public engagement had already been completed prior to the program design stage in relation to e-bikes generally and potential interest in an e-bike incentive program. This included a survey of over 700 respondents conducted for the CRD, which identified barriers to e-bike adoption in the community (Watt Consulting Group, 2018) in addition to extensive public engagement conducted for the Saanich Climate Plan and the Saanich E-mobility Strategy, which outlined community support for an E-bike Incentive Pilot Program.

Further engagement was then undertaken during program design, which focused on low income residents, local e-bike industry and other levels of government. A comprehensive overview of this engagement is included in the Community E-Bike Incentive Pilot Program Feasibility Study. In summary, the engagement with low income residents showed cautious interest in an e-bike incentive program and engagement with the local e-bike industry showed support and offered useful feedback that informed the eligibility criteria for the program. The CRD and the BC Ministry of Transportation and Infrastructure and the BC Ministry of Energy, Mines, and Low-Carbon Innovation were interested to learn more about the results of the program but not in collaborating on program delivery or delivering a similar program themselves at that time.

# 2.0 Program design

The program design was informed by the detailed feasibility study (including considerable research) and engagement noted in Section 1 above. Given this was the first program of its kind in BC with limited examples of similar programs elsewhere it was expected that there would be some level of flexibility in program delivery in order to address any immediate challenges or lessons learned.

The goals of the pilot were to:

1. Provide a simple to use incentive program with high participant satisfaction ratings
2. Provide a program that is accessed by households across the income spectrum in Saanich
3. Reduce greenhouse gas emissions in personal transportation
4. Increase physical activity levels of participants during transportation activities
5. Reduce household transportation costs
6. Collect high quality data from participants to enable rigorous evaluation of program impact, including:
    a. Trip substitution
    b. Vehicle shedding
    c. Household transportation cost impacts
7. Support the local clean economy and employment
8. Increase community awareness of the value of e-bikes to accelerate wider community adoption.

## 2.1 Incentive amounts and income thresholds

The E-bike Pilot provided three different incentive levels based on household income:

- Tier 1 - $350
- Tier 2 - $800
- Tier 3 - $1,600

The feasibility study outlines the reasons for these amounts, which are based on econometrics modelling (Bigazzi and Berjisian 2021 Transportation Research Annual Meeting Presentation) and include a major emphasis on reducing free-ridership, or, in other words, inducing new people who would not otherwise have purchased an e-bike, to participate in the program. By reducing free ridership, the program increases its climate action effectiveness by changing behaviours and reducing GHG emissions rather than simply rewarding those who would have already done the action without the incentive money.

The program also provided tiered discounts for an E-Bike Safety Skills Course provided by local non-profit Capital Bike. Table 2 provides details of the incentives and course discounts.

The feasibility study explored a number of options for income thresholds. The final thresholds align (besides rounding differences) with the income criteria for the CleanBC Income Qualified Program, and with the Saanich Oil to Heat Pump Financing Program. The lowest threshold is

1.6% of the Low Income Cut Off (LICO) for communities of our size (region) and the middle threshold is 2.1% of LICO, which approximates a median income in our region.

The income thresholds and incentive levels were not changed throughout the pilot. The discounts for e-bike safety skills courses offered to participants were increased after the launch of the program since initial uptake was low.

**Table 2: Incentive tier income qualification thresholds**

| # of people in household (includes children) | Household income (before tax) – includes income of main income earning adults in the family* over the age of 18. | | |
|---|---|---|---|
| 1 person | Up to $42,600 | Up to $55,900 | Over $55,900 |
| 2 persons | Up to $53,000 | Up to $69,600 | Over $69,600 |
| 3 persons | Up to $65,200 | Up to $85,600 | Over $85,600 |
| 4 persons | Up to $79,100 | Up to $103,900 | Over $103,900 |
| 5 persons | Up to $89,800 | Up to $117,800 | Over $117,800 |
| 6 persons | Up to $101, 200 | Up to $132,900 | Over $132,900 |
| 7 or more persons | Up to $112,800 | Up to $148,00 | Over $148,00 |
| E-bike incentive level | $1,600 incentive | $800 incentive | $350 incentive |
| Discount for E-bike Skills Safety Course | $55 | $40 | $20 |
| Proof of income required? | Yes | Yes | No |

**Family members include a married or common law couple and children in the home. It does not include unrelated roommates, landlord and tenant, etc. Refer to "census family" definition by Statistics Canada for more details. Single people can report single income. In cases with multiple adult family members at the household with incomes, show the income only for the top two earners.*

Income documentation requirements are outlined in the application form, which can be found in Appendix A.

### 2.3.3 Pilot program incentive funding

In addition to the funding that was secured by partners for the research and equity components of the pilot program as noted above, additional funding support was provided by the Federation of Canadian Municipalities (FCM) Green Municipal Fund (GMF) which is supported by the Government of Canada, the Saanich Climate Action Reserve Fund (CARF) and the Saancih Council contingency fund.

## 2.2 Number of participants

The e-bike incentive pilot required a minimum of three hundred participants to ensure a statistically valid result from the associated UBC study. It was identified that a sizeable number of income-qualified participants would be beneficial to include in the pilot in order to gain greater insight into the impact that e-bikes have for lower income individuals. However, this was the first program of its kind in British Columbia and, as such, there was a level of uncertainty regarding the uptake by income-qualified participants. Engagement with industry and key stakeholders, including the Community Social Planning Council (CSPC), indicated potential difficulty filling the income-qualified incentives, particularly those in Tier 3. This was mainly due to barriers to access and assumed lower availability of secure bike parking (e.g. in apartments). Therefore,

the pilot was originally designed with lower targeted numbers in the income-qualified tiers due to both the anticipated slower uptake in these tiers and also budget constraints when no grant application had been confirmed (see Table 3).

**Table 3: E-Bike Pilot Program Targeted Incentives**

| Incentive Type | Incentive amount | Target # Incentives Distributed | Incentives Budget | % of Funds |
|---|---|---|---|---|
| **Tier 1:** Above median | $350 | 180 | $63,000 | 32% |
| **Tier 2:** Income-qualified (median to ~LICO+2.1%) | $800 | 80 | $64,000 | 32% |
| **Tier 3:** Income qualified (~LICO+1.6% and below) | $1,600 | 40 | $64,000 | 32% |
| **contingency** | | | $9,000 | 5% |
| | **Totals** | **300** | **$200,000** | 100% |

It should be noted that these were target numbers and a level of flexibility was desired to allow for some changes in their distribution as lessons were learned during the early stages of the pilot but being cognizant of the need for a minimum number of participants (300).

Additional funding became available during delivery of the program allowing for more incentives to be provided. Based on lessons learned regarding high demand for income qualified incentive tiers during the program launch and a desire to have more income qualified participants included in the UBC study, this additional funding was used to supplement the $800 and $1,600 incentive tiers through 2 additional program pilot intakes.

## 2.3 Eligibility criteria

Summary eligibility criteria are outlined below, and full eligibility criteria are available in the terms and conditions document in Appendix B.

Applicant criteria

- Must reside in Saanich at least 50% of the year
- Only one application per Saanich household (address)

E-bike criteria

- Purchase of new e-bikes (not used) costing $1,800+
- Minimum 1 year warranty
- Meets BC Motor Vehicle Act “Motor Assisted Cycle” definition
- For personal, not commercial use

## 2.4 Point of sale incentive

Local e-bike vendors in the CRD were invited to opt in to providing a point-of-sale incentive. To access the point of sale incentive, a participant would need to be pre-approved by Saanich, and inform Saanich which vendor they had decided to purchase their e-bike from. The District would then inform that particular vendor that the particular resident had been pre-approved for a particular amount to be taken off at the till, and that Saanich would reimburse the vendor after receiving the Point of Sale Incentive Form and a detailed receipt.

## 2.5 Addressing equity during design

The following equity measures were included in the design.

**Structural**

- Commitment to equity included in pilot design, in line with the Saanich Climate Plan equity commitments; and
- Saanich staff completed the Equity Foundations Course training from the Urban Sustainability Directors Network (USDN) and employed a number of existing equity lenses in the development of the program including the Multnomah County and the Saskatoon lenses.

**Procedural (inclusion)**

- Engaged early in the process with equity-denied people and the community organizations who work with them, including:
    - Surveyed Saanich L.I.F.E program members;
    - Partnered with the Community Social Planning Council (CSPC) in their TACES program, which included a lived experience advisory committee and a Targeted Universality working group consisting of local organizations providing income-qualified programs; and
    - Worked with the Intercultural Association and their English Language Learner students.

**Distributional (access)**

- Larger incentives for lower income households (LICO, median, above median) held in separate “buckets” than the non-income qualified incentives;
- Fixed incentive amount rather than percentage of e-bike price;
- Accessibility for low-computer access residents;
- Multiple options for providing proof of income, including the Endorsement Form;
- Pre-approval process for rebates;
- Point of sale incentive option (incentive provided at till by participating vendors); and
- Speciality adaptive bikes allowed in program.

## 2.6 First Come First Served Approach

During program design, staff engaged the Province, CRD and other local governments, recognizing the potential for others to learn from the pilot and potentially launch their own program, which could include Saanich residents. Therefore, alignment with other climate rebate program processes, particularly those at the provincial level, was an important design aspect to ensure the program could potentially be replicated at a larger scale.

There are many well established climate-focused rebate programs administered by other cities, provinces and the federal government which employ a standard first-come first-served approach, even when there is extremely high demand. Some examples are the BetterHomes BC rebates, the CleanBC Go Electric rebates, the Scrap-It program, the federal Greener Homes Grant etc. This has also been the approach taken by Saanich for other programs and rebates and was applied in the design for the e-bike pilot.

# 3.0 Program delivery

There was a desire by staff to implement the pilot program by early fall 2021 in order to take advantage of behaviour changes established during COVID-19 (i.e. an uptake in more walking and cycling) and to deliver the program when the weather would support new bike users. While a grant application had been submitted to the FCM Green Municipal Fund (GMF) in early 2021, staff were uncertain whether the grant would be successful based upon the unique nature of the program and decision timelines were lengthy. As such, Council committed funding as part of the 2021 budget in order for the pilot program to be designed and launched in the desired timeframe.

Around the time of program launch, staff learned that the FCM GMF grant application had been successful and recommended to Council that the grant funds be used to deliver additional income qualified incentives. This allowed the program to respond to the unexpected high levels of demand in the lower income tiers and to enable more participants in the UBC survey from income-qualified participants, providing extra data.

As such, the pilot program was ultimately delivered through three separate intakes between October 2021 and November 2022 as summarized in Table 4.

**Table 4: Incentive intake dates**

| Intake | Incentive tiers | Launch/Open Date | Close Date |
|---|---|---|---|
| 1 | $1600 | October 12, 2021 | October 15, 2021 |
| | $800 | | October 20, 2021 |
| | $350 | | February 23, 2022 |
| 2 | $1600 only | April 13, 2022 | April 29, 2022 |
| 3 | $800 only | June 2, 2022 | November 22, 2022 |

## 3.1 First incentive intake

The first incentive intake opened on October 12, 2021. All three incentive tiers were open at the same time.

The following key public communications activities were undertaken to launch the pilot program:

- Program webpage (www.saanich.ca/ebike)
- Media release
- Social media posts
- An event for Greater Victoria Intercultural Association (ICA) adult English Language Learner classes hosted by the ICA in partnership with the City of Victoria, Capital Regional District, and the CSPC, with assistance from Capital Bike who provided rental e-bikes and e-bike instruction and guided rides for ICA students and staff

Sustainability staff made themselves available by phone and at the front counter, supported by planning department and municipal hall reception staff who were briefed on the program launch.

Printed copies of the pre-approval and the rebate forms were available at the planning department counter and could be downloaded from the program webpage.

The program webpage information included:

- pre-approval and rebate application forms
- program terms and conditions
- eligibility criteria
- incentive amounts
- discount for e-bike safety skills course information
- process to apply
- local e-bike vendor list
- income qualification table
- frequently asked questions
- contact information for Sustainability staff

Participants were given the following two options to apply for the incentive:

**Incentive after purchase**

1. Purchase a qualifying e-bike from the e-bike vendor of your choice (can be local, online, or elsewhere) and submit your application and receipt for an incentive. Pre-approval is available but not required. Terms and conditions apply.

***OR***

**Point of Sale Incentive through Vendor**

1. Request pre-approval from Saanich. *(Pre-approval was required for a point-of-sale incentive.)*
2. Receive confirmation from Saanich that you are pre-approved.
3. Bring your confirmation to a participating e-bike vendor in the Capital Region (not online) to access a point of sale incentive on your e-bike. (Terms and conditions apply.)

The pre-approval and rebate form asked for proof of residence in Saanich, proof of household income for the income-qualified tiers and some general demographic questions. The rebate form required proof of purchase of a qualifying e-bike in the form of a receipt.

The pilot had been designed to maximize accessibility to income qualified individuals, which included offering a broad range of ways to apply. Applications were accepted by mail, phone, in person at Saanich municipal hall and online through our secure file transfer service. The secure file transfer service (MOVEIT) required a resident to ask staff to send them an individual email invitation to use MOVEIT. It was not an automated system or one that residents could use out of Saanich employee work hours.

### 3.1.1 Launch experience & uptake

The launch saw considerable media coverage including the Times Colonist, CBC Radio and Global News among other outlets. While the pilot was expected to be popular, the media coverage led to extremely high numbers of applications for the income qualified tiers within the first few days. Staff were not only fielding many calls and e-mails from interested residents, but

also from media and several municipalities in BC and beyond requesting more detailed information about the program.

In addition, a very high number of requests for the MOVEIT file transfer service were also received. Many residents had technical issues using the MOVEIT system, and it added an extra time delay to receiving and processing applications.

In response to the high volumes, and as a protective measure for applicants, the program website and other channels were updated to include strong recommendations to get pre-approved, rather than purchase an e-bike and then submit a rebate request, as the incentives were being allocated very quickly. The website was also updated to notify the public regarding the status of incentive availability and that staff were taking longer than anticipated to process applications at that time due to the high volumes received within a short timeframe.

While there were difficulties expected in reaching the targeted participants for the income-qualified incentive tiers, these difficulties were not realized during the pilot launch. The program design targeted only 40 participants in the $1,600 incentive tier, but 77 applications (mainly pre-approvals) had been received by the time this incentive tier was closed on October 15, 2021. The $800 incentive was then closed on October 20, 2021 with 43 applications received. While the targeted 80 participants in the $800 incentive tier were not fully allocated by that time, this tier was closed to ensure sufficient funds would be available to accommodate the additional participants in the $1,600 rebate tier.

It is important to note that these applications had not all been processed by the date the incentive tiers were closed and it was expected that a small number of the applications would not be eligible. In addition, most of the applications were pre-approvals, which would allow 30 days for the applicant to purchase an eligible e-bike following notification that their pre-approval application had been approved. As such, staff were aware that it would take several weeks or months before all incentives were distributed and final numbers were known.

After being date and time stamped, applications were reviewed for eligibility, including:

- Completed form
- Address in Saanich
- Not a duplicate address to those previously approved
- Proof of residence
- In the case of the income-qualified tier, proof of household income
- In the case of a rebate form, proof of purchase of a qualifying e-bike within the program timelines.

If any information was missing, applicants were contacted to ask for the correct information, with follow up contacts by email and phone.

If a pre-approval was complete and eligible, and there were spaces available in the income tier, applicants received an email informing them that they were pre-approved and had 30 days to purchase an e-bike and to submit proof of purchase in order to qualify for the incentive.

If a rebate application was complete and eligible, applicants received an email informing them that they were approved for an incentive and that it would be mailed to their home within 2-3 weeks.

This review stage in the first intake took a number of weeks for staff to complete, given the high volume of applications received. Staff closed the incentive tiers, as shown in Table 5, based on how many applications had been received and how many spaces were available in each incentive tier. Once the incentive tiers were closed, residents were invited to join an e-newsletter list to learn about any program updates and future incentives.

## 3.2 Second and third incentive intake

Once the FCM GMF grant funding was confirmed in early October, staff prepared a report for Council that provide an overview of early findings from the pilot launch and made a recommendation to spend the grant funding on additional income qualified incentives.

Council approved the additional incentives at the November 22, 2022 meeting as outlined in Table 5. In the second and third intake, funds were used solely for the two lower income tiers in order to reach at least 100 recipients in each incentive tier. This was done to improve equity in distribution of funds and to improve the number of lower income participants in the UBC study.

**Table 5: Revised incentive targets by incentive tiers**

| Incentive Type | Incentive amount | Original Target# Incentives | Original Budget | Proposed # Incentives | Updated Budget | % of Funds |
|---|---|---|---|---|---|---|
| **Tier 1:** Above median | $350 | 180 | $63,000 | 180 | $63,000 | 20% |
| **Tier 2:** Income-qualified (LICO*1.6 to LICO *2.1) | $800 | 80 | $64,000 | 100 | $80,000 | 25% |
| **Tier 3:** Income qualified (LICO*1.6 and below) | $1,600 | 40 | $64,000 | 100 | $160,000 | 50% |
| **Contingency** | | | $9,000 | | $15,000 | 5% |
| **Totals** | | **300** | **$200,000** | | **$318,000** | **100%** |

Based on lessons learned from the pilot launch, the following changes were made for distribution of the additional incentives through the second and third intake:

- The pre-approval step was made mandatory - both for point-of-sale incentives and rebates to residents to ensure no purchases were made without applicants first being reviewed for eligibility and ensuring there was still an incentive available for them.
- Registration was centralized through Saanich Recreation's RecOnline Active Net system - this provided an electronic system to implement the first-come first-served approach. While this reduced the range of ways to apply, it offered an existing, well-established Saanich system to automate registration in a high demand program that reduced administrative burden and provided greater immediate transparency.

- An automated waitlist was established - through the RecOnline system, which enabled staff to reach out to the next person on the waitlist should any successful applicants not meet eligibility criteria or drop out through the process. Waitlisted applicants were able to call Saanich recreation to determine where they were on the waitlist, which improved customer service and provided alignment with other Saanich programs.
- Only one incentive tier was open at one time – starting with the largest incentive ($1,600). This reduced the number of applicants applying at one time in order to reduce the administrative burden and provide faster response and processing times for each application. By opening the largest incentive tier first ($1,600) this also enabled eligible income qualified participants the opportunity to apply for the $800 incentive if they were unsuccessful in accessing a $1,600 rebate.

The RecOnline Active Net system is used for many popular programs that fill up quickly and take a waitlist. It provides an automated, transparent, low-barrier system with instant feedback to applicants about the first-come, first-served process and their status in the program or on the waitlist. Support for using the RecOnline system is available in-person at our rec centres and on the phone by recreation staff and is available for a wider range of hours than our Municipal Hall is open. On enrolment day, recreation staff were available a half hour earlier than usual to help with any in-person requests for enrolment assistance.

Communications were launched approximately two weeks prior to the RecOnline enrolment opening to allow residents to learn about the program, create a RecOnline account if they didn't already have one, and make arrangements to be available at the time the enrolment opened.

## 3.3 UBC Study Promotion to Participants

Participants who received an incentive were invited to participate in the UBC study. Participants were provided information about the study and were invited to participate by following a link or QR code or calling a phone line that offered translation services in multiple languages. The study was promoted through the following channels:

- Pilot program webpage
- Pre-approval email
- Confirmation of rebate email
- Letter accompanying rebate cheque
- Reminder email

Participation in the study was voluntary, and no personal information was shared between the District and UBC researchers.

## 3.4 E-Bike safety skills courses

Participants who received an incentive were invited to redeem their discount for upcoming E-bike Safety Skills Courses. These E-bike Safety Skills Courses were provided by Capital Bike, a local non-profit that provides cycling education for "utility" cycling (cycling skills for transportation rather than for sport). The half-day courses involved an in-classroom session to learn cycling theory and safe practices, then on-bike skills in a protected area including stopping and starting, shoulder checking, signalling, and turning, and then a guided group ride on a variety of cycling infrastructure. The courses were regularly $65 per participant. At pilot launch, the program

offered $10, $18, and $25 discounts for the different incentive tier recipients. Participation in the courses was very low, so the discounts were increased to $20, $40, and $55 respectively, and offered retroactively to all participants during the second and third intake.

# 4.0 Pilot Program Results

## 4.1 Incentives distributed

A total of 389 incentives were distributed over a period of 13 months with at least 100 incentives distributed in each incentive tier (Table 6). Given the attrition among applicants and the inclusion of a small contingency, the programs accepted slightly more applicants than targeted spaces in order to ensure that targets were met. The majority of funds went to the largest incentive tier, which aligns with the commitment to helping overcome financial barriers to climate-friendly transportation adoption and to the distributional aspect of climate equity.

**Table 6: Incentives issued**

| | 1st intake | 2nd intake | 3rd intake | Total incentive recipients | Total $ | % funds |
|---|---|---|---|---|---|---|
| **$1600 Tier** | 61 | 40 | | 101 | $161,600 | 52% |
| **$800 Tier*** | 28 | | 77 | 105 | $ 84,000 | 27% |
| **$350 Tier** | 183 | | | 183 | $ 64,050 | 21% |
| **Totals** | 272 | 40 | 76 | 389 | $308,850 | |

## 4.2 Pre-application & Point of Sale choices

During the first intake, applicants had the choice of whether to purchase an e-bike and submit a receipt for a rebate or to seek pre-approval for the program. Pre-approval provided the applicant with confirmation that their income and residence documentation was acceptable and that funds were available for an incentive of a particular amount, which was reserved for them for 30 days while they shopped. Table 7 outlines that majority of income-qualified applicants sought pre-approval (92-93%) compared with 59% in the non-income qualified group.

**Table 7: Pre-application route for the first intake**

| | 1st intake # pre-applied | 1st intake % pre applied |
|---|---|---|
| **$1600 Tier** | 56 | 92% |
| **$800 Tier*** | 26 | 93% |
| **$350 Tier** | 108 | 59% |

Additionally, participants had the choice of whether to purchase the e-bike and submit proof of purchase then wait for an incentive, or to access an e-bike at a participating point of sale vendor and have the incentive taken off the purchase price at the till, with the vendor being reimbursed by Saanich. Table 8 demonstrates that income qualified applicants accessed the point-of-sale process much more frequently than applicants in the non-income qualified tier.

**Table 8: Point of sale incentives**

| | Total incentive recipients | # POS | % POS |
|---|---|---|---|
| **$1600 Tier** | 101 | 29 | 29% |
| **$800 Tier*** | 105 | 30 | 29% |
| **$350 Tier** | 183 | 7 | 4% |

The final intake provided additional $800 incentives. Several applicants inquired about whether additional $1,600 incentives would be made available in future, but no commitment was made by staff. Table 9 demonstrates that 60% of applicants in the final intake that received the $800 incentive would have qualified for the $1,600 incentive if it were available at the time they applied (this information was not collected in the first intake).

**Table 9: $800 recipients who would have qualified for $1600 incentive by income (final intake only)**

| $800 recipients' income qualifications | Number | Percentage |
|---|---|---|
| Would qualify for $1600 | 46 | 60% |
| Would not qualify for $1600 | 27 | 35% |
| Uncertain (endorsement form does not include income level) | 4 | 5% |

## 4.3 Waitlist and attrition experience

The first intake did not take a waitlist, while the second and third intakes took a waitlist through the RecOnline system.

### 4.3.1 Second intake waitlist and attrition

The second intake, which provided an additional forty of the $1,600 incentives opened on 13 April 2022. As with many high demand Saanich programs, registration was full within the first minute, at which point the system began taking a waitlist.

Staff completed a first review of RecOnline program registrants for eligibility based on the addresses provided. Seven applicants had duplicate home addresses either within that same intake or from previous incentive recipients from the first intake (October 2021), and one applicant was not from Saanich. These applicants were notified that they were not eligible. Those remaining were invited to submit their pre-application form, proof of address, and proof of income. Two applicants were over the income threshold and were removed. Removing these non-eligible applicants allowed 11 waitlisted participants to access the incentive. For this intake, those who signed up for the RecOnline program within the first two days of enrolment opening were able to access the incentive.

Staff waited until all $1,600 incentives were distributed until the third intake was opened. This meant all pre-applications were reviewed for eligibility (including those being added in from the waitlist), e-bikes were purchased and reviewed for eligibility (including any extension requests), incentive cheques were distributed, and the waitlist was closed so that those on the waitlist were aware that there were no remaining $1,600 incentives but that the $800 incentive intake would open soon. This process took approximately two months to complete.

### 4.3.2 Third intake waitlist and attrition

The third intake, which provided an additional seventy-seven of the $800 incentives opened on 7 June 2022. Registration was not filled until 28 June 2022, or 21 days later, and then the system began taking a waitlist. The waitlist remained open until 22 November 2022, as those in the program were reviewed for eligibility and those who did not qualify and/or did not complete a purchase by their respective deadlines were removed from the program, and the next person from the waitlist was invited to submit their pre-approval documents.

A total of 74 people who enrolled in the third intake were ineligible for various reasons. These included:

- not having an address in Saanich;
- another applicant or e-bike rebate recipient already having the same address;
- not meeting the income qualified threshold or eligibility requirements;
- having purchased the e-bike before the intake enrollment date;
- withdrawing from the program without purchasing an e-bike (many noted that they were interested but the incentive wasn't sufficient to make the e-bike affordable for them);
- not submitting pre-approval documents by their deadline (reasonable extensions were provided where requested);
- choosing to buy an ineligible used e-bike instead;
- having registered for the program but not responding to multiple phone or email messages from Saanich staff in order to move to the pre-approval stage.

This substantial attrition rate allowed many waitlisted individuals to access the $800 incentive. Staff began calling waitlisted individuals to pre-screen them before sending them the pre-application package. More than 25 waitlisted individuals were screened out through this process, for reasons outlined above or simply failing to return calls or emails from Saanich staff. Ultimately, those who applied or enrolled in the RecOnline program or waitlist between June 7 and September 11 were able to access incentives.

Table 10 shows the attrition rates between applicants being pre-approved and then not providing proof of purchase for an e-bike by their deadline, and therefore not receiving an incentive. As shown below, there were remarkable differences between the tiers. The April $1600 intake and the June $800 intake were advertised in essentially identical ways.

**Table 10: Attrition between pre-approval and submitting proof of purchase**

| | Total incentive recipients | # pre-approved but did not proceed | % pre-approved but did not proceed |
|---|---|---|---|
| **$1600 Tier** | 101 | 4 | 4% |
| **$800 Tier** | 105 | 84* | 80% |
| **$350 Tier** | 183 | 70 | 38% |
| **Totals** | **388** | | |

** This total does not include the over twenty-five individuals who applied through Active Net but were screened out by phone call before being invited to submit pre-approval documents (for reasons such as not living in Saanich, not meeting the income requirements, having already purchased an e-bike, etc.). With those individuals included the attrition rate would be over 100%.*

## 4.4 Participating vendors

A total of nineteen local vendors opted into becoming point of sale incentive vendors. Participation was open to any e-bike vendors in the Capital Region who also provided in-region e-bike maintenance services, sold qualifying e-bikes, and agreed to the reimbursement process from Saanich. As part of industry engagement, Saanich approached as many e-bike vendors in the region that were found through an online search. Some vendors opted in before launch, and slightly over half the vendors joined shortly after the program launch, likely due to the positive media stories and customer inquiries. No vendors opted out of the point of sale system during the program. Saanich received positive feedback from participating vendors, including the impact of the program on sales, the speed at which Saanich reimbursed the vendors (usually within a month of receiving the receipt/invoice), and interest in participating in future programs should they become available.

## 4.5 E-Bikes purchases

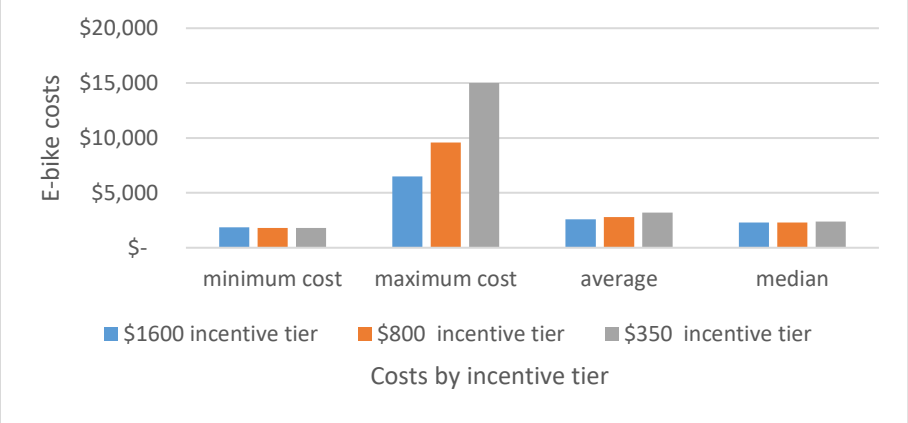
The average cost for an e-bike in the program overall was $2,940. Table 11 and Figure 1 show that there was a large variability in maximum costs in the program by tier with the maximum and average e-bike cost being lowest for the $1,600 tier ($6,500 and $2,581) and highest for the $350 tier ($14,995 and $3,197). The minimum costs were quite similar, which is likely due to the minimum cost requirement of the program ($1,800).

E-bike purchase costs

**Table 11: E-bike purchase costs**

| | $ 1,600 incentive recipients | $ 800 incentive recipients | $ 350 incentive recipients | Overall |
|---|---|---|---|---|
| minimum cost | $ 1,849 | $ 1,800 | $ 1,815 | $ 1,800 |
| maximum cost | $ 6,500 | $ 9,599 | $ 14,995 | $14,995 |
| average | $ 2,581 | $ 2,783 | $ 3,197 | $ 2,940 |
| median | $ 2,299 | $ 2,299 | $ 2,399 | $ 2,395 |

**Figure 1: E-bike purchase costs by incentive tier**



While the BC Motor Vehicle Act's regulations provide a definition of an e-bike, they do not provide any definitions for cargo e-bikes. The Province's Specialty Use Vehicles Incentive (SUVI) program includes a definition of cargo e-bikes for their incentives. The focus in the SUVI program is hauling cargo for business fleets. Therefore, their definition excludes some e-bikes that were incentivized in the Saanich pilot that can accommodate cargo, such as on e-trikes, and additional passengers to the rider, such as the RadRunnerPlus. The Saanich pilot used a broader provisional definition of cargo e-bikes than the SUVI program, namely an e-bike or e-trike that includes as an integrated portion of their design the ability to transport either a person in addition to the rider and/or a sizable platform or box to transport items.

As shown in Table 12, 42 (11%) e-bikes in the program were identified by Saanich as cargo e-bikes. It should be noted that the highest cost cargo e-bike in the program was for a custom adaptive e-bike that allows the rider to safely transport a passenger in a wheelchair. That cost was an outlier compared to the other cargo e-bikes in the program. The median costs for the cargo e-bikes is very similar to the costs for non-cargo e-bikes in the program.

### Table 12: Cargo e-bikes purchased

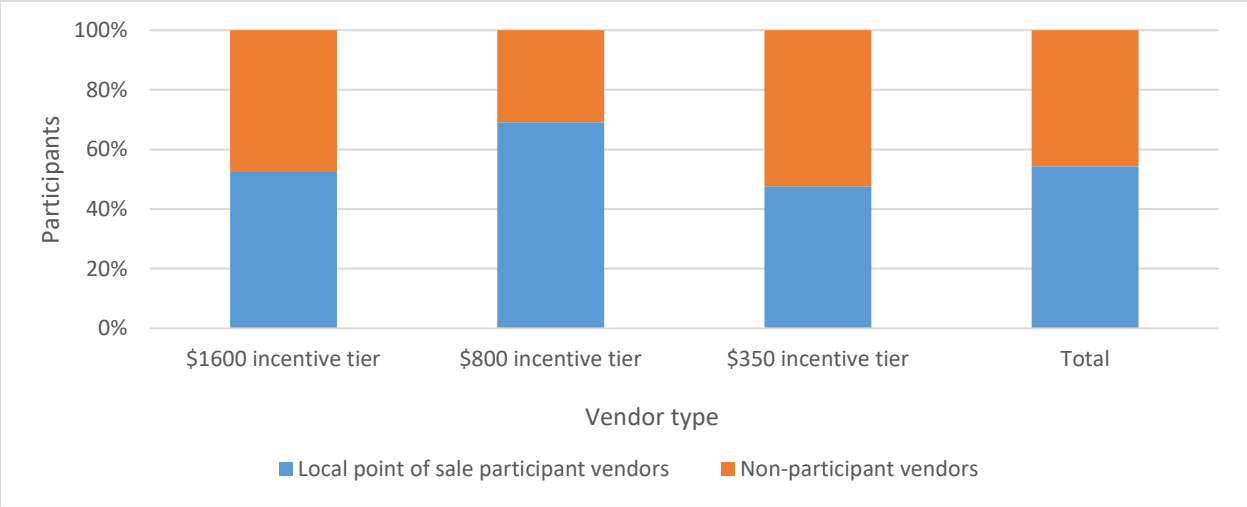
| **Incentive level** | **$ 1,600** | **$ 800** | **$ 350** | **Overall** |
|---|---|---|---|---|
| # of cargo e-bikes purchased | 15 | 10 | 17 | 42 |
| Minimum cost | $ 2,299 | $ 1,999 | $ 2,237 | $ 1,999 |
| Maximum cost | $ 6,500 | $ 9,599 | $ 14,995 | $ 14,995 |
| Average | $ 2,881 | $ 3,096 | $ 4,075 | $ 3,415 |
| Median | $ 2,399 | $ 2,399 | $ 2,399 | $ 2,399 |

As shown in Table 13 and Figure 2, participants on average slightly favoured purchasing e-bikes from the local point of sale participant vendors (54%). Non-participant vendors could be vendors within the CRD, particularly big box stores, who did not choose to become point-of-sale vendors, or vendors from outside of the CRD, particularly online vendors.

### Table 13: Purchases from participating vendor list

| **E-bike Purchases by Vendor** | **$ 1,600 tier participants** | | **$800 tier participants** | | **$ 350 tier participants** | | **Combined** | |
|---|---|---|---|---|---|---|---|---|
| | **#** | **%** | **#** | **%** | **#** | **%** | # | % |
| Point of sale participant vendors | 53 | 52% | 66 | 63% | 87 | 48% | 206 | 53% |
| Non-participant vendors (local or non-local) | 48 | 48% | 39 | 37% | 96 | 52% | 183 | 47% |
| **Total** | **101** | **100%** | **105** | **100%** | **183** | **100%** | **389** | **100%** |

**Figure 2: Purchases from Participating vendor list**




## 4.6 E-bike safety skills courses

### 4.6.1 Participation

A considerable discount was provided for e-bike safety skills courses delivered by local non-profit Capital Bike, which cost $65 before discounts and Saanich also covered the course admin fees. While these half-day courses were heavily promoted, offered at considerable discount and provided on a regular basis on weekends throughout the year, participation rates were very low (5% overall) in all of the incentive tiers, as shown in Table 14.

**Table 14: E-bike safety skills course discounts**

| Incentive tier | Course Discount | Discounted Course Cost | Total # redeemed | % of participants |
|---|---|---|---|---|
| $1600 incentive tier | $ 55 | $ 10 | 5 | 5% |
| $800 tier | $ 40 | $ 25 | 7 | 7% |
| $350 tier | $ 20 | $ 45 | 6 | 3% |
| **Total** | | | **18** | **5%** |

### 4.6.2 Feedback

Evaluation forms were provided to the Safety Skills course participants, and eight participants responded (a 44% response rate). Feedback was overwhelmingly positive, with 75% of respondents saying they are planning on riding more now than they were before the course. It is not clear at this point why the courses had low participation rates. It could be that most participants felt they already had the necessary skills, but for those who did not, the courses were helpful.

## 4.7 Demographics

### 4.7.1 Location

Participants' home addresses were mapped and demonstrated good distribution across all areas of Saanich, with most participants within the Urban Containment Boundary, following population density in Saanich generally (see Figures 3, 4 and 5). Other patterns such as proximity to multi-use trails or frequent transit routes or denser neighbourhoods or villages were not readily apparent.

**Figure 3: Map of $1600 incentive participants' home addresses**

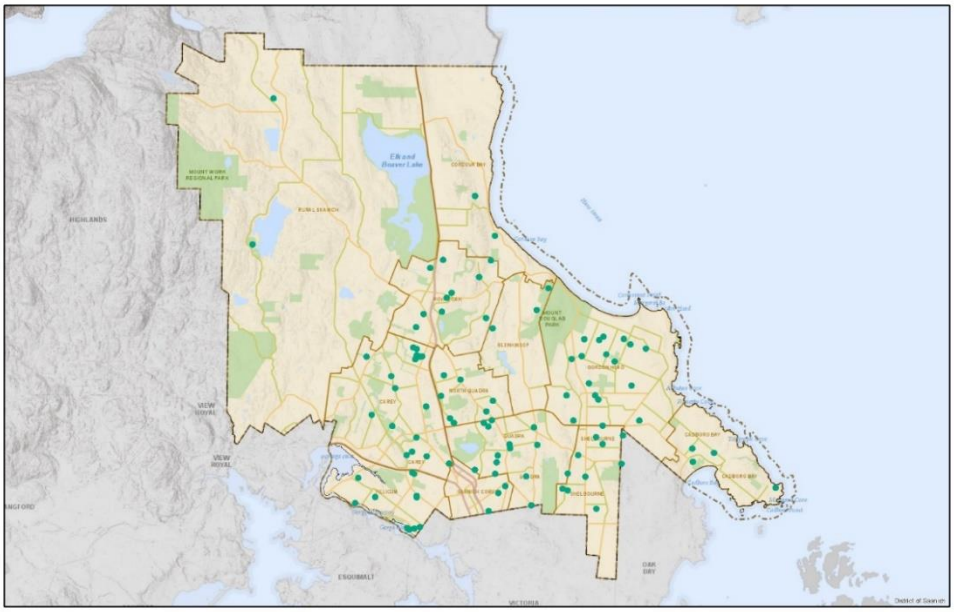


**Figure 4: Map of $800 incentive participants' home addresses**

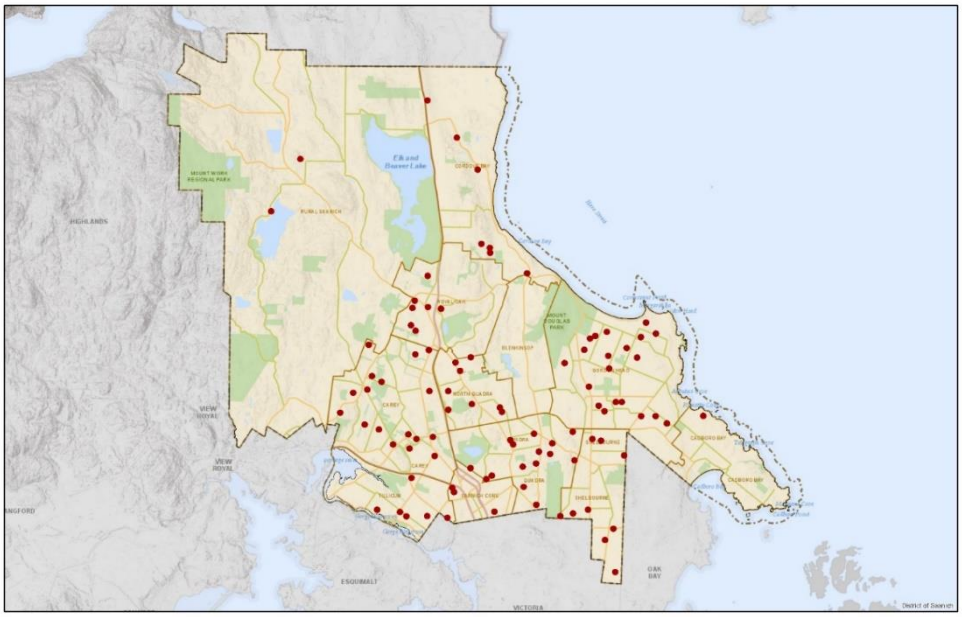
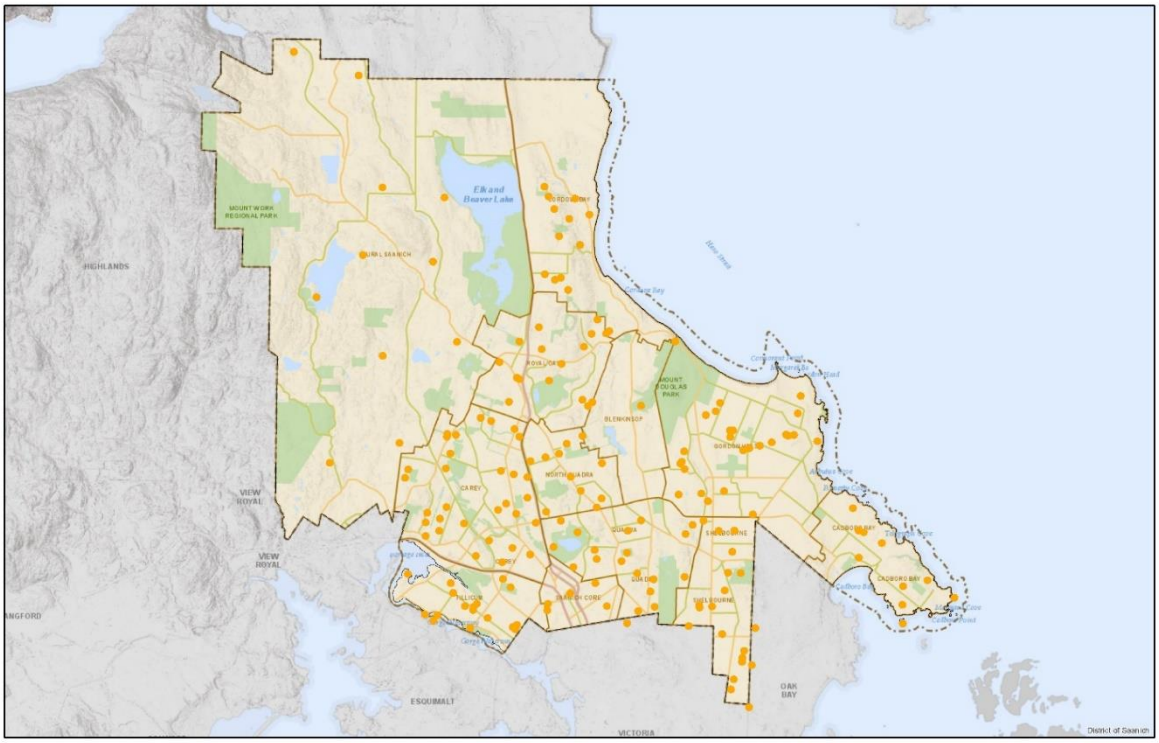


**Figure 5: Map of $350 incentive participants' home addresses**



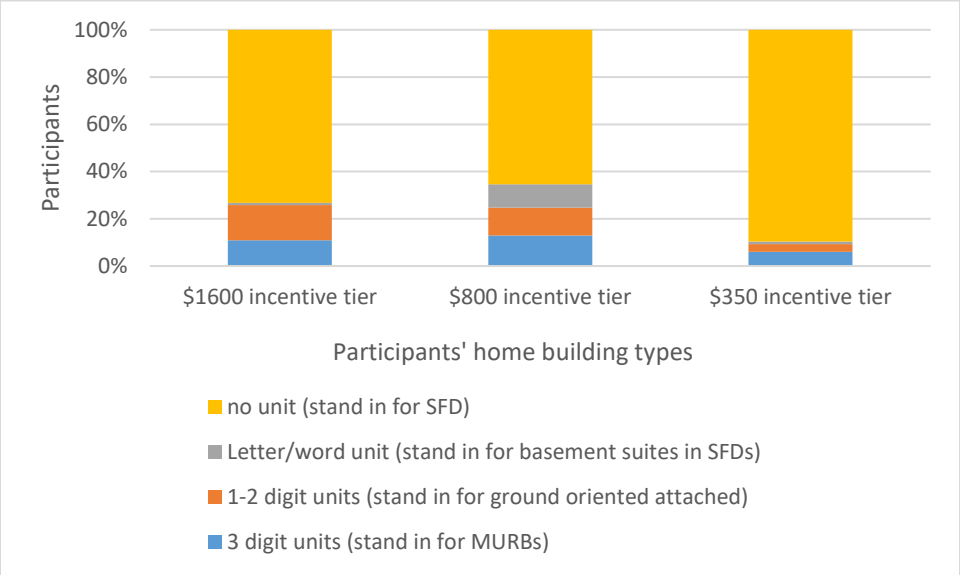

## 4.7.2 Building type

Building type may impact residents' ability to safely store and charge an e-bike. While a specific question about building type wasn't asked, Table 15 and Figure 6 below show how the presence and type of unit number in an address may indicate building type of participants.

**Table 15: Building types of participants' homes**

| Unit Type in Address | $350 incentive participants | | $800 incentive participants | | $1,600 incentive participants | |
|---|---|---|---|---|---|---|
| 3-digit units (stand in for multi-unit buildings) | 11 | 6% | 13 | 12% | 11 | 11% |
| 1-2 digit units (stand in for ground oriented attached) | 6 | 3% | 13 | 12% | 15 | 15% |
| Letter/word unit (stand in for basement suites in SFDs) | 2 | 1% | 11 | 10% | 1 | 1% |
| No unit (stand in for SFD) | 164 | 90% | 68 | 65% | 74 | 73% |
| **Total** | **183** | **100%** | **105** | **100%** | **101** | **100%** |

**Figure 6: Building types of participants' homes**



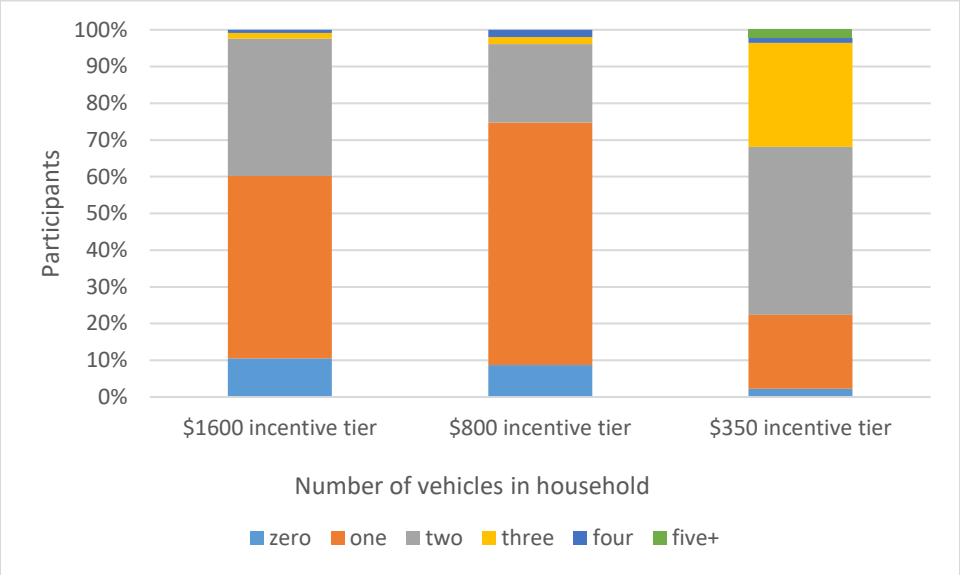

## 4.7.3 Vehicle ownership

On the application forms, participants were asked "how many working motor vehicles (cars, trucks, motorcycles) are currently available to the members of your household, including yourself." Table 16 and Figure 7 show that while there were a smaller number of vehicles generally in the income qualified tiers, vehicle ownership was still generally high with a minimum of 89% of households ($1,600 tier) having at least one car. This demonstrated that there was an opportunity to see potential vehicle shedding as a result of the program.

**Table 16: Number of vehicles in household by incentive tier**

| # Vehicles in household | $350 incentive participants | | $800 incentive participants | | $1,600 incentive participants | |
|---|---|---|---|---|---|---|
| Zero | 5 | 2% | 9 | 9% | 13 | 11% |
| One | 45 | 20% | 68 | 66% | 61 | 50% |
| Two | 102 | 46% | 22 | 21% | 46 | 37% |
| Three | 63 | 28% | 2 | 2% | 2 | 2% |
| Four | 3 | 1% | 2 | 2% | 1 | 1% |
| Five+ | 5 | 2% | 0 | 0% | 0 | 0% |
| **Total respondents** | **223** | **100%** | **103** | **100%** | **123** | **100%** |

**Figure 7: Number of vehicles in household by incentive tier**



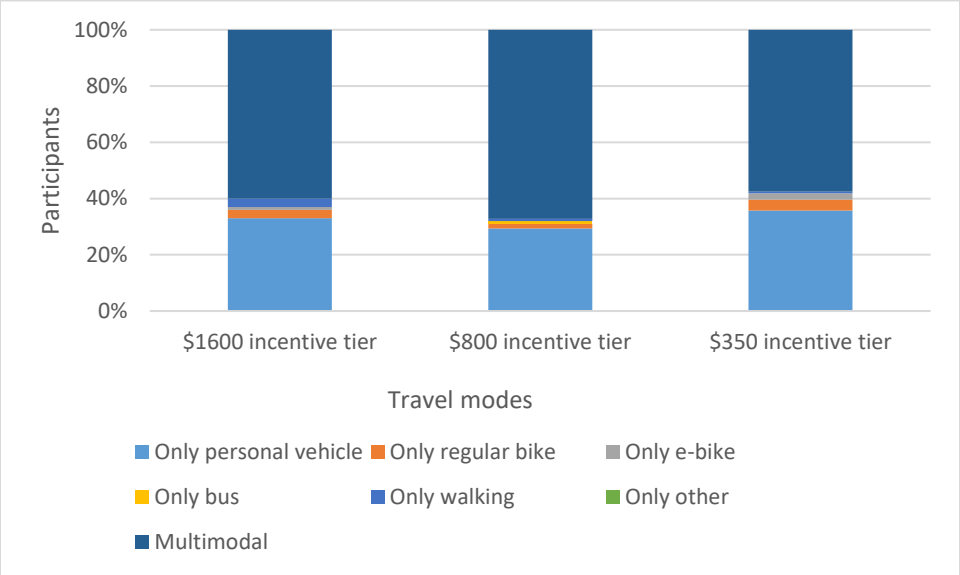

## 4.7.4 Travel modes

At the time of application to the program, participants were asked "which of the following do you usually use to travel at least one day per week for any purpose?" As shown in Table 17 and Figure 8, a majority of respondents were multi-modal in each of the incentive tiers.

**Table 17: Reported travel modes at application by incentive tiers**

| | **$1,600 incentive participants** | | **$800 incentive participants** | | **$350 incentive participants** | |
|---|---|---|---|---|---|---|
| Only personal vehicle | 33 | 33% | 37 | 35% | 64 | 36% |
| Only regular bike | 3 | 3% | 1 | 1% | 7 | 4% |
| Only e-bike | 1 | 1% | 0 | 0% | 4 | 2% |
| Only bus | 0 | 0% | 1 | 1% | 0 | 0% |
| Only walking | 3 | 3% | 1 | 1% | 1 | 1% |
| Only other | 0 | 0% | 0 | 0% | 0 | 0% |
| Multimodal | 60 | 60% | 65 | 62% | 103 | 58% |

**Figure 8: Reported travel modes at application by incentive tiers**



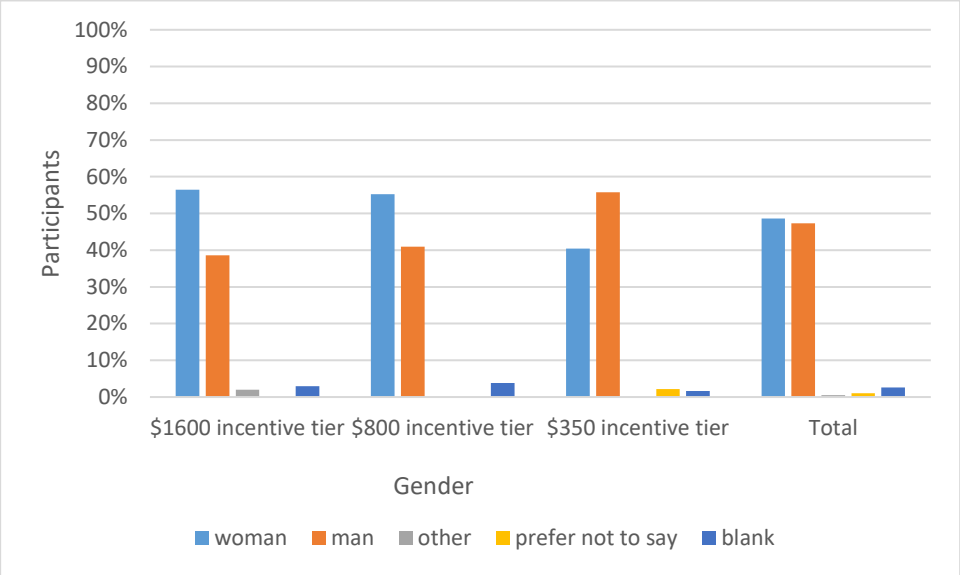

## 4.7.5 Gender

At the time of application to the program, participants were asked for their gender and invited to select all that applied. Table 18 and Figure 9 summarize gender participation by incentive tier.

**Table 18: Gender of participants by incentive tier**

| | Participants by Incentive Tier | | | |
|---|---|---|---|---|
| **Gender** | **$1,600** | **$800** | **$350** | **Total** |
| Woman | 57 | 58 | 74 | 189 |
| Man | 39 | 43 | 102 | 184 |
| Other gender | 2 | 0 | 0 | 2 |
| Prefer not to say | 0 | 0 | 4 | 4 |
| Blank | 3 | 4 | 3 | 10 |
| **Total incentive recipients** | **101** | **105** | **183** | **389** |

**Figure 9: Gender of participants by incentive tier**



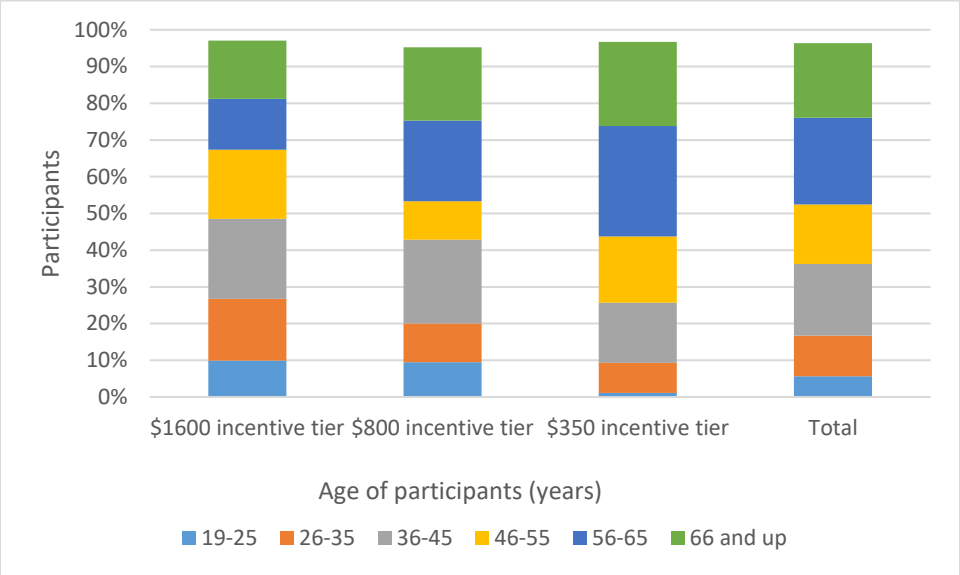

## 4.7.6 Age

At the time of application to the program, participants were asked to report their age. Table 19 and Figure 10 demonstrate that while both income-qualified tiers skewed younger than the non-income qualified tier there was generally good participation from all age ranges within the program.

**Table 19: Ages of participants by incentive tier**

| **Age** | **$1,600 incentive participants** | | **$800 incentive participants** | | **$350 incentive participants** | | Total |
|---|---|---|---|---|---|---|---|
| 19-25 | 10 | 10% | 10 | 10% | 2 | 1% | 22 |
| 26-35 | 17 | 17% | 11 | 10% | 15 | 8% | 43 |
| 36-45 | 22 | 22% | 24 | 23% | 30 | 16% | 76 |
| 46-55 | 19 | 19% | 11 | 10% | 33 | 18% | 63 |
| 56-65 | 14 | 14% | 23 | 22% | 55 | 30% | 92 |
| 66 and up | 16 | 16% | 21 | 20% | 42 | 23% | 79 |
| Blank | 3 | 3% | 5 | 5% | 6 | 3% | 14 |
| **Total incentive recipients** | **101** | | **105** | | **183** | | **389** |

**Figure 10: Ages of participants by incentive tier**




## 4.6.7 Identities

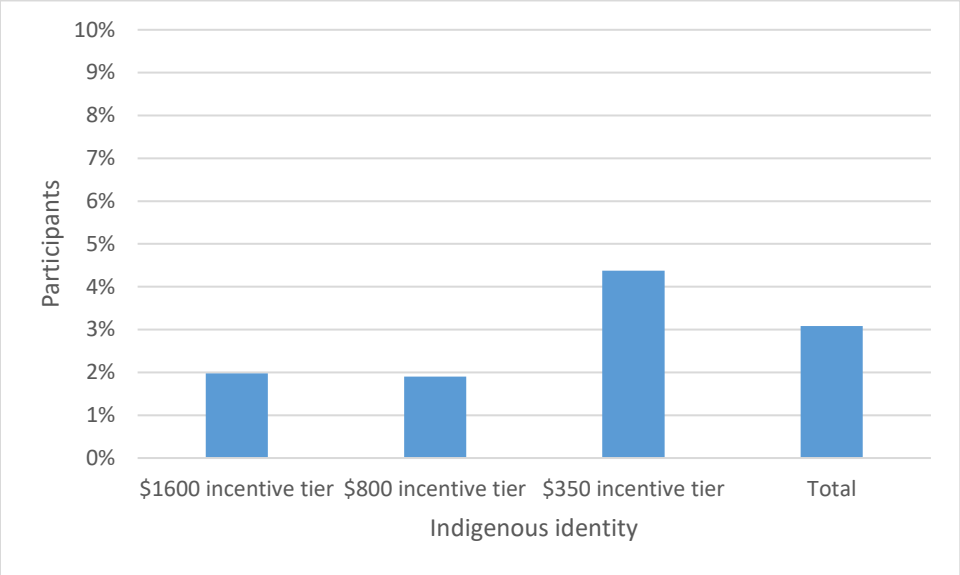
Participants were asked at the time of application to share which of the following equity-denied groups they identified with (multiple options could be selected). As shown in Table 20 and Figures 11-13 there were more people with equity-denied identities in the income-qualified tiers than in the non-income qualified tier.

**Table 20: Equity-denied identities by incentive tier**

| Identities | Participants by Incentive Tier | | | |
|---|---|---|---|---|
| | $1600 | $800 | $350 | Total |
| Visible minority | 15 | 25 | 10 | 50 |
| Person with disability | 18 | 11 | 3 | 32 |
| Indigenous | 2 | 2 | 8 | 12 |
| Immigrant or newcomer | 14 | 3 | 5 | 22 |
| LGBTQ2S+ | 9 | 5 | 9 | 23 |
| None of the above | 25 | 44 | 85 | 154 |
| I choose not to answer | 8 | 8 | 17 | 33 |
| Blank | 10 | 7 | 46 | 63 |

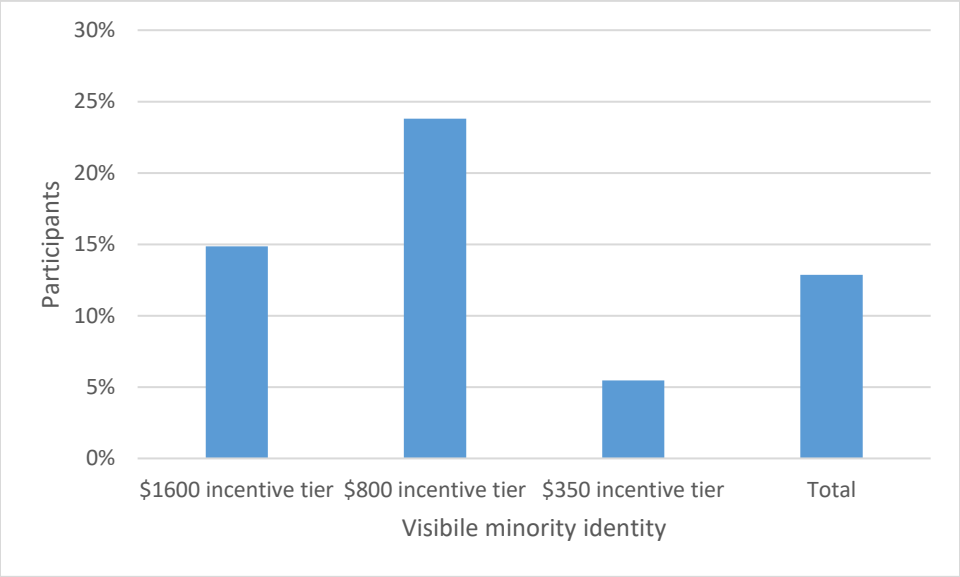
The 2021 Census of population shows that in Saanich, 3% of residents are Indigenous. As shown in Figure 11, 3% of participants in the program reported being Indigenous, but there are a very small number of participants in this category (see Table 20) making it difficult to draw inferences from for the program design generally.

### Figure 11: Percentage of participants identifying as being Indigenous



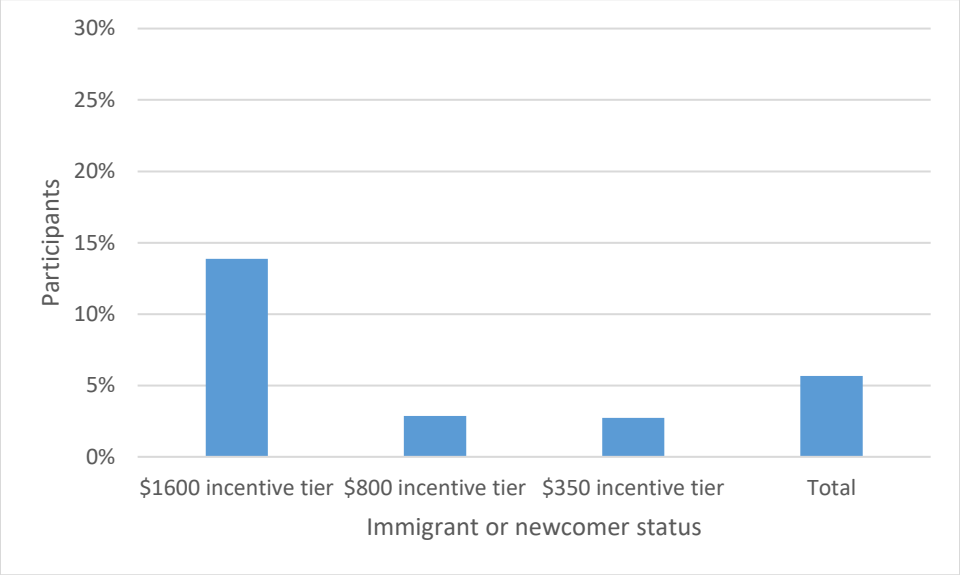

The 2021 Census of population shows that in Saanich, 24% of residents are a visible minority. As shown in Figure 12, while the income-qualified tiers did reach a higher percentage of visible minority participants than the non-income qualified tier, the pilot had fewer visible minority participants than the overall Saanich population.

### Figure 12: Percentage of participants identifying as visible minority by incentive tier



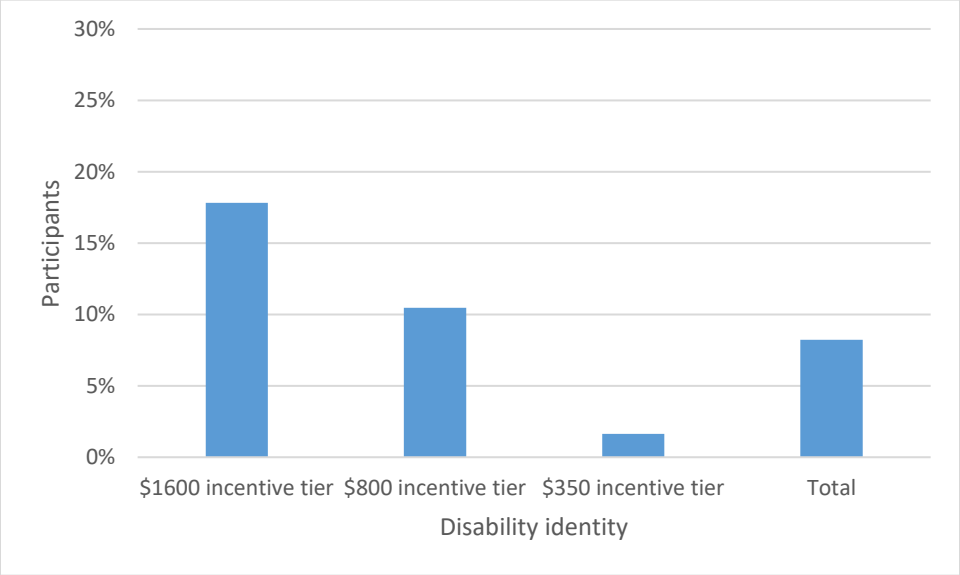

The 2021 Census of population shows that in Saanich, 22% of residents are an immigrant or newcomer (including those who immigrated to Canada decades earlier, not only recent immigrants). As shown in Figure 13, while the income-qualified tiers did reach a higher percentage of immigrant or newcomer participants than the non-income qualified tier, the pilot had fewer immigrant or newcomer participants than the overall Saanich population.

### Figure 13: Percentage of Participants identifying as an immigrant or newcomer by incentive tier




The 2017 Canadian Survey on Disability[1] shows that 22% of Canadians have a disability. As shown in Figure 14, while the income-qualified tiers did include a higher percentage of people with a disability than the non-income qualified tier, the pilot had fewer participants with disabilities than the overall Canadian populations.

### Figure 14: Percentage of participants identifying as a person with disability by incentive tier




[1] Measuring Disability in Canada infographic. Statistics Canada. Released December 2022. Measuring disability in Canada (statcan.gc.ca)

## 4.8 Program costs and staff resources

Table 21 provides an overview of non-staff costs that were incurred during the program, excluding Saanich's contribution to the UBC study costs.

**Table 21: Final Pilot Program Costs**

| Item | Cost (pre-tax) |
|---|---|
| Launch event<br>(Included e-bike rentals, cycling instructor time, administration fees for host group, photography fees, and honoraria for photo subjects) | $2,520* |
| Promotional and incidental costs | $100 |
| E-bike Safety Skills Courses | $1,330 |
| Incentives | $309,650 |
| **Total** | **$313,600** |

** In addition, the City of Victoria and CRD contributed $1,000 and $2,000 respectively to the launch event, as the event promoted cycling and road safety rather than only the e-bike program.*

The e-bike pilot was developed and delivered in-house by Saanich staff. Program administration required up to three Sustainability staff during the highest application volume periods in addition to support from planning administration for counter submissions and questions, legal and finance staff in development, communications staff during launch, and finance and recreation centre staff for processing incentives cheques and handling online registrations through the Recreation online system.

Given the unique nature of this pilot program across North America, the associated research and equity analysis and high interest from external parties, considerable time was required to design, administer, monitor and report on the program and share knowledge and lessons learned with interested audiences. This equated to approximately 80 hours of staff time on average a month over an 18 month period. Considerable efficiencies would be expected for any similar future program administration, both in terms of hours required per applicant as well as the type of staff required for different tasks.

## 4.9 Qualitative feedback from public and participants

Considerable feedback from non-program participants was received and responded to. Much of the feedback was positive with some negative comments related to the appropriateness or efficacy of incentivizing e-bikes as a technology or the fairness of the incentive levels provided, including the consideration that there were not enough incentives to meet demand. This correspondence often asked questions related to the program design that had been addressed or explored within the feasibility study and this information was provided in responses.

Additionally, there were a number of specific suggestions for improving the program in the future from both participants and non-participants, including that Saanich:

- Provide more incentives for more people and be sure to promote it widely;
- Provide bigger incentives to help low income people and people with disabilities more;
- Use a lottery system instead of first come, first served approach;
- Allow multiple people in a household to access e-bike incentives;
- Measure individual income rather than economic family income in the household;

- Use net income rather than total income thresholds to better support small businesspeople and professional artists;
- Allow private disability rather than only provincial disability as proof of income;
- Provide larger incentives for equipment required for transporting young children by e-bike;
- Provide larger incentives for adaptive e-bikes for people with physical disabilities;
- Provide incentives for parking, locks, and maintenance; and
- Provide learn to cycle courses for adults who are newcomers to Canada so they can more easily benefit from e-bike programs.

Alongside the UBC study, participants were invited to submit feedback to the program at any time and many positive comments were received. Select quotes are provided below:

> *"We are happy owners of a new ebike to transport our daughters to and from school and more. Thank you so much for offering this rebate incentive. It has helped us move in the direction we were wanting to go by getting rid of our second car and purchasing an ebike. It will be life changing for us."*
>
> *"I am a newcomer to Canada.[…] I would like to participate in the program as I have been slowly saving to purchase a car that will enable me to apply for jobs that are two buses away or more than 30 minutes to cycle. However, I also like not being part of the problem, polluting and congesting the roads, so am reluctant to buy. Not to mention the costs of running a car. Yet, it also means that I am still in a job I don't much enjoy. Having a greater range to travel by bicycle I believe would be my happy medium."*
>
> *"It's great for older people with the motor to get up hills. My wife and I have been 20 years since we rode a bike – the e-bike makes it possible for older folks to get some exercise."*
>
> *"Thank you. This will be great for me and my kids. Will cut down the use of my car by so much! "*

## 4.10 Interest from other parties

High levels of interest in the program were expressed by municipalities in BC and beyond. Staff were contacted by over a dozen local governments directly and numerous researchers during the program launch. Given this high interest, the Community Energy Association (CEA) hosted a webinar on the program on November 24, 2022, with presenters from Saanich, UBC and the Community Social Planning Council (CSPC). The webinar was attended by over 100 people representing multiple organizations and municipalities across BC and beyond. Staff also made presentations on the program to the national Climate Caucus network and in two sessions of the Livable Cities Forum in Victoria in 2022. The District has also shared information about the program with staff from multiple Provincial Ministries.

## 4.11 Feedback from vendors

Point of sale participant vendors were invited by email to complete a short survey on their experience with the pilot program, both after the first intake and after the final intake. Due to low responses, vendors were also called, and were asked about issues such as frequency of

returns and their return policies and supply chain issues. Feedback was overwhelmingly positive, and included (most of the below are from notes from phone conversations):

- *Please do it again!*
- *The program was "awesome. It was "incredible for business," especially during the slow season in Oct/Nov/Dec. It boosted excitement and traffic into the store during the slow season. Summer would be overwhelming for a launch.*
- *"yes we would like to participate again! The payment process is easy and we have no with it. Over all I think the program is great!"*

# 5.0 UBC REACT Lab Study Results

Researchers at the University of British Columbia (UBC) Research on Active Transportation (REACT) Lab undertook a study on the Saanich E-Bike Incentive Program. The Final Report, "Travel Behaviour and Greenhouse Gas Impacts of the Saanich E-bike Incentive Program", is available at https://reactlab.civil.ubc.ca/saanich-ebike-incentives.

The objectives of the study were to determine:

1) the true GHG mitigation impacts of e-bike adoption across different segments of the population; and
2) the cost-effectiveness of e-bike purchase incentives as a GHG mitigation strategy.

## 5.1 Methodology

The study included three participant sub-groups to enable 2 important contrasts to be analysed: incentivized versus non-incentivized purchasers, and electric versus conventional bicycle purchasers. As such, the study includes an opt-in sample of Saanich E-bike Incentive Pilot Program participants and then a control group who were not part of the program but recently purchased either electric or conventional bicycles.

The study methods were developed by careful consideration of the existing literature and trade-offs among precision, reliability, response rate, participant burden, sample bias, and other factors. The GHG impact estimates are based on self-reported travel behaviour of study participants through completion of surveys.

A total of three survey waves will be completed: Wave 1 is around the bicycle purchase date, Wave 2 is three months following purchase, and Wave 3 is 12 months following purchase. Each wave records data on the following:

1) the purchased bicycle;
2) typical weekly travel activity in the preceding month;
3) the last three trips taken using the purchased bicycle; and
4) household composition and socio-demographics including vehicle ownership.

Wave 2 indicates the short-term travel behaviour impacts, and Wave 3 indicates the long-term impacts. The three-wave panel survey design provides more reliable data than a cross-sectional or before/after survey, but at the cost of sample attrition due to higher participant burden.

## 5.2 Recruitment

The incentive recipient sample was recruited directly by Saanich staff as part of the e-bike incentive pilot program. The comparison, non-incentivized sample was recruited by UBC staff through online and bike shop advertisements, including both conventional and electric bicycle purchasers. Recruitment fliers and cards were distributed to bicycle shops in the CRD in October, 2021 and online ads were posted on Facebook and Instagram.

To increase survey accessibility, recruitment materials included options for telephone-based study participation, including telephone interpretation in other languages; this option was exercised by one participant (in English). Inclusion criteria for both samples were:

- Residents of the Capital Regional District (greater Victoria, BC),
- Considering or having recently purchased or acquired a new bicycle (or electric converter), and
- At least 16 years of age (in accordance with the MVA).

People were encouraged to participate through the offer to opt-in to draws for five gift cards of $25 each in Wave 1, 5 gift cards of $40 each in Wave 2, and 5 gift cards of $50 each in Wave 3.

## 5.3 Key findings

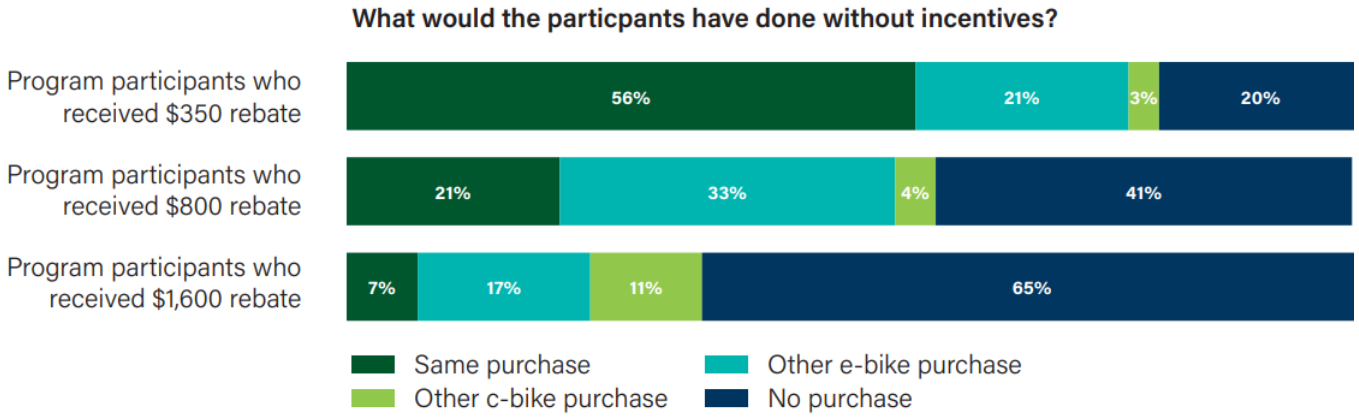
Key findings are summarized below, and the full results can be found at https://reactlab.civil.ubc.ca/saanich-ebike-incentives/.

- E-bikes were used frequently: All e-bike users in the study on average rode their e-bikes 3 to 4 days a week and 30 to 70 km per week (see section 3.4 in the Final Report for details).
- E-bike incentives reduced vehicle use and GHG emissions:
    - Incentive recipients reduced their auto use by 48 km per week between the first and final survey due to using e-bikes instead for trips and broader shifts in weekly travel habits (e.g. changes in numbers and distances of trips or using other modes reflecting lower vehicle dependence overall). Roughly half the GHG savings were from direct substitution of the e-bike for vehicle trips and the other half were from broader shifts in weekly travel habits.
    - Incentive recipients reduced their GHG emissions from travel by 43% between purchase (Wave 1) and the 3 month survey (Wave 2). After the one year survey (Wave 3), this savings was 38%, showing good long-term retention of the GHG mitigation effect.
    - The average GHG reduction from personal travel for Saanich e-bike incentive recipients was approximately 16 kg CO2e/week. The GHG reductions were larger for those receiving the larger rebates. Specifically, without considering marginality, the GHG reductions in kg CO2e/week were: 7.5 kg CO2e/week for the $350 rebate, 17.3 kg CO2e/week for the $800 rebate, and 28.3kg CO2e/week for the $1600 rebate. Additional information is available in section 3.8 of the Final Report.
- E-bikes were more effective at reducing driving than conventional bikes:
    - The largest share of e-bike trips were for the commuting to work or school while the largest share of conventional bike trips was for exercise or leisure (see Figure 22 in the Final Report).
    - Automobile was the travel mode most frequently replaced by e-bike trips, while conventional bicycle trips would more often have been made by a different conventional bicycle.
    - Conventional bicycle trips were more likely to replace walking and transit trips than e-bike trips were, thus having less impact on transportation GHG emissions.
- Incentives prompted new climate-friendly behaviours:

- At or near e-bike purchase, the incentive recipients in the study drove more than the control group and were more similar to the population at large than the control group in terms of their GHG emissions from travel. This meant that the incentives reached an audience that hadn't already adopted climate-friendly transportation habits (see section 4.1 in the Final Report for more information).
- The program attracted a large portion of new e-bike purchasers (23% to 76%, increasing with rebate level – see Figure 15 below). These were people who would not have purchased an e-bike were it not for the incentive program, also known as "marginal purchasers". In other words, marginal purchasers are the opposite of program "free-riders" who would have purchased an e-bike whether or not there was an incentive. Reducing free-ridership and increasing marginal participants makes an incentive program more effective since it prompts new climate-friendly behaviour rather than simply rewarding climate friendly behaviour that was already going to occur. The survey asked about likelihood on a scale of 0-100% rather than a yes or no question. For more details, see section 3.2.2 of the Final Report

- Centering income equity in design improved effectiveness:
  - Larger incentives for income qualified households were associated with greater auto travel reduction due to higher pre-purchase auto use by lower income participants, and therefore higher GHG reductions than for the higher income participants (see sections 3.4 and 3.8.1 in the Final Report for more details).
  - Larger incentives for income qualified households resulted in a higher rate of "marginal purchasers", or reduced free-ridership rates (see UBC report section 3.2.2 and Figure 15 below, reproduced from Figure 17 in the UBC report), and therefore a better cost per ton for GHG emissions reduction than for non-income qualified participants (see section 3.8.1 of the Final Report for details,).

**Figure 15: Marginal purchasers by incentive tier**




- High satisfaction rates were achieved.
  - Survey respondents reported more enjoyment/ fun and safety than they expected, and that lasted over the 12 months following purchase (see section 3.3.1 in the Final Report for details.

    - Participation by households with children was achieved. The percentage of households with children in the surveyed incentive recipients (31%) is similar to the percent of households with children in Saanich (32%) based on the survey responses and 2021 census respectively (see section 3.1.2 of the Final Report). Therefore, despite not including a higher rebate for cargo/family bikes, the Saanich pilot had a proportional representation of households with children.
- Vehicle ownership remained steady while GHGs shrank: The average household vehicle ownership rates of all study participants stayed relatively the same throughout the 12 months of study. Average number of motor vehicles in the households among survey participants who took all 3 surveys is 1.55 in Wave 1, 1.51 in Wave 2, and 1.52 in Wave 3.
- Program delivered multiple co-benefits including:
    - Increased physical activity levels for transportation. At least 150 minutes of moderate or vigorous physical activity per week are recommended for adults, and average participants in all study groups achieved this physical activity level from travel in all three waves, and experienced a net increase in physical activity during travel one year after bicycle purchase, despite some substitution of walking and cycling with e-bike trips (see section 3.7 of the Final Report for details)
    - Each rebate induced an average of $813 in new consumer spending for local bike stores that wouldn't otherwise have occurred (see section 3.8.2 of the Final Report for details). This translates to $1.31 in induced spending per $1 in rebates. Not explored in the study but anticipated other benefits likely include:
    - Reduced travel costs for households (due to substituting e-bikes for car trips, which have much lower per kilometer costs)
    - Reduced local air pollution
    - Impact of e-bike purchasers on their networks to encourage greater e-bike adoption in the community.
- Program delivered cost-competitive GHG savings: The calculated GHG abatement costs are $190 per tonne (without considering marginality), which is cost-competitive with other types of transportation subsidies. As outlined in Table 22 of this report, when including marginality, the larger incentives are more cost-effective than the smaller incentives, but the overall cost per ton is higher
- Program exceeded predicted GHG and avoided "vehicle kilometers travelled" (VKT) savings: The program has achieved significant GHG and VKT reductions, as shown in Table 22 below. These savings are better than the savings anticipated in the feasibility study.
    - Note that the Table 22 presents rounded numbers but the calculations were done with additional decimals. The totals column is weighted by number of rebates in each tier in the program. The GHG reductions include vehicle and bicycle lifecycle emissions (see section 3.6.1 of the Final Report for details). It assumes (based on CRD Origin Destination survey data), that vehicle occupancy is 1.35, whereas e-bike occupancy is 1, and therefore the person kilometers travelled and the vehicle kilometres travelled are adjusted by that factor. It further assumes that an e-bike lifespan is 5 years, based on average battery lifespans. This lifespan is conservative because the program may

establish new behaviour patterns, with participants not simply returning to pre-e-bike travel behaviour in vehicles once the e-bike battery is at end of its useful life. It also may encourage participants' networks to adopt e-bikes.

**Table 22: GHG and VKT savings from program by incentive tier**

| | | **$350 rebate** | **$800 rebate** | **$1600 rebate** | **Total** |
|---|---|---|---|---|---|
| | **Number of incentives** | **183** | **105** | **101** | **389** |
| **Without marginality adjustment** | | | | | |
| Per incentive | GHG reduction (kg CO2e/week/incentive) | 7 | 17 | 28 | **16** |
| | Auto PKT reduction (PKT/week/incentive) | 23 | 53 | 87 | **48** |
| | Annual GHG reduction (kg CO2e/year/incentive) | 387 | 898 | 1,472 | **807** |
| Overall Program | Annual GHG reduction (tonnes) | 71 | 94 | 149 | **314** |
| | Annual VKT reduction | 164,451 | 215,690 | 339,746 | **719,887** |
| | Lifetime GHG reduction (tonnes) | 354 | 471 | 743 | **1,569** |
| | Lifetime VKT reduction | 822,253 | 1,078,451 | 1,698,730 | **3,599,434** |
| | Cost per ton program lifetime | $ 180 | $ 179 | $ 217 | **$ 190** |
| **With marginality adjustment** | | | | | |
| Per incentive | GHG reduction (kg CO2e/week/incentive) | 1 | 6 | 21 | **8** |
| | Auto PKT reduction(PKT/week/incentive) | 4 | 17 | 64 | **23** |
| | Annual GHG reduction (kg CO2e/year/incentive) | 66 | 294 | 1090 | **393** |
| Overall Program | Annual GHG reduction (tonnes) | 12 | 31 | 110 | **153** |
| | Annual VKT reduction | 28,407 | 70,454 | 250,462 | **349,323** |
| | Lifetime GHG reduction (tonnes) | 60 | 154 | 550 | **765** |
| | Lifetime VKT reduction | 142,035 | 352,271 | 1,252,310 | **1,746,616** |
| | Cost per ton program lifetime | $1,060 | $545 | $294 | **$722** |

## 5.4 Recommendations

The researchers recommend future e-bike incentive programs prioritize larger and income-qualified purchase rebates in order to deliver equity benefits and cost-effective GHG emission reduction. Future programs could also work with researchers to test other variables. The research team is currently working with the Province of BC to study the results of the BC E-bike Rebate program that was offered in 2023. Results of the study on the BC-wide program are pending at the time of writing this report.

# 6.0 Focus Group Results

The District of Saanich worked with the Greater Victoria Community Social Planning Council (CSPC) to gather qualitative feedback from participants in the Saanich Community E-bike Incentive Pilot Program. This was done through a series of focus groups to better understand participants' experiences with the pilot to inform future programs.

The focus groups were conducted by CSPC staff as part of the Transportation ACES (Access, Climate, and Economic Security) initiative. This brought together individuals and organizations with expertise in climate, transportation, and equity to develop ideas on how to ensure that climate action in transportation addresses both equity and a just transition. The TACES initiative was funded by the Vancouver Foundation.

## 6.1 Focus Group Design

Three focus group sessions were conducted with participants in the income qualified tiers of the Saanich e-bike pilot. Invitations to the focus groups were distributed to 120 income-qualified participants (those participants that had applied to the program within the previous 12 months). Focus groups were held on evenings and weekends. A $25 honorarium for participating in the focus group was offered. Honoraria were administered by the CSPC and sent by e-transfer. Eight participants attended the focus groups, as outlined below:

- May 13, 2023 (Focus group A): 3 participants
- May 15, 2023 (Focus group B): 2 participants
- May 17, 2023 (Focus group C): 3 participants

This represented a 7% response rate, which exceeded our 5% goal. The focus groups included people of different ages, genders, and ethnicities but skewed younger and female overall. A broad range of prompt questions were developed that covered topics regarding their experience with the application process and other climate incentive programs, their experience with their e-bikes, transportation affordability and accessibility generally, and other comments about barriers to cycling in the region. The focus groups were facilitated by a representative from the CSPC with Saanich staff also in attendance to hear the answers and to ask follow up questions to better understand the participants' experiences

## 6.2 Focus Group Questions

The focus group question prompts included a broad range of topics, including:

1. How they heard about the program
2. What their application process was like and how it could be improved
3. Whether they have applied for other climate incentive programs before
4. What they perceived as barriers to cycling before getting an e-bike
5. How having an e-bike has impacted their
    a. physical activity levels overall (not just in transportation)
    b. overall transportation costs for their household (e.g. gas tank refill, e-bike repairs and maintenance)
    c. plans for vehicle ownership
    d. access to opportunities (e.g. employment, recreation, or errands)

6. Whether those with young children used their e-bike for transporting children
7. What the experience of storing and charging their e-bike has been, and for those in multi-family buildings, whether they experienced barriers to e-bike storage and charging
8. For those who identify as BIPOC, whether they noticed specific barriers to e-bike use and incentive program access for BIPOC people and suggestions about how to overcome them.
9. Whether they were interested in a cargo e-bike and whether an additional cargo e-bike incentive would make a difference to their purchase decisions
10. What aspects of cycling in the region were challenging and what were most enjoyable

## 6.3 Focus Group Findings

Responses to the questions were grouped by topic area and are summarized below.

**Incentive process**

- Focus group participants' experience with the program were quite positive in terms of the benefit it brought to their lives.
- The application process received very positive feedback, although some noted that it was stressful to not know if there would be enough incentives for them.
- Most focus group participants had not accessed other climate incentive programs before.

**Transportation affordability**

- All who responded to this question said that their e-bike delivered financial savings when they rode it rather than paying for a vehicle trip or foregoing a monthly bus pass.
- Participants reported using their e-bike to substitute car trips and also bus trips and cycling trips.
- No one reported feeling financially burdened as a result of purchasing an e-bike through the program.

**Cycling and parking experiences**

- Focus group participants' experiences with their e-bikes were quite positive. • Many reported using their e-bikes for many types of trips, such as commuting to work or school, buying groceries, or recreation.
- There was some difference in opinion about protected bike lane design.
- One participant had a bike stolen but it was recovered and they are riding it again.
- Those who lived in single family homes had an easier time storing their e-bikes at home than those who lived in multi-family homes.
- Many liked the idea of staffed bike valets like in downtown Victoria and Hillside Mall.
- No participants had used the available discounted e-bike safety skills courses, some noting they had experienced a fall from their e-bike (note they continued to ride their e-bike after).
- Some participants expressed interest in facilitated group rides.

**Overall feedback**

- Generally, participants believed it was a good offer from Saanich and would likely ride even more with better separated cycling infrastructure and safer bike parking at destinations throughout the community.

# 7.0 Discussion

## 7.1 Equity measures

Equity measures included in the program were successful at reducing barriers to the e-bike program and to e-bikes, as outlined in Table 23.

**Table 23: Equity measures and impacts**

| Equity Measure | Impact |
|---|---|
| **Structural** | |
| Commitment to equity included in pilot design vision and targets. | Impacted partnerships, budget, and design from the start, rather than as an add-on at the end. |
| Saanich staff completed training on climate equity and employed equity lenses in the development of the program. | Resulted in changes to the program design, including the development of the event with the Intercultural Association English Language Learner students. |
| **Procedural (inclusion)** | |
| Collaboration between the District and the CSPC. | • Provided valuable subject matter expertise<br>• Connected District with other practitioners and formed a lived experience advisory committee<br>• Partnership assisted both the District and the CSPC's funding proposals, including the Vancouver Foundation for the TACES program; and the UBC REACT Lab's funding request to NSERC. |
| Engaging early in the process with equity-denied people and the community organizations who work with them. | Assisted in program design that resulted in a program that offered a valuable climate solution for lower income households and overcame barriers to participation. |
| Collaborated with and compensated the Greater Victoria Intercultural Association. | Obtained photos of local racially diverse people enjoying e-bikes, which helped with promotion of the pilot. |
| **Distributional (access)** | |
| Larger incentives for lower income households (LICO, median, above median) were held in separate "buckets" than the non-income qualified incentives. | Targets in each income tier were met rather than budgets being disproportionally accessed by select income tiers. |
| Fixed dollar amount incentives rather than percentage of e-bike cost incentives. | Incentive dollars weren't skewed to the most expensive e-bikes, which we saw were predominantly purchased by the non-income qualified participants. |
| Accessibility for low-computer access submission via online portal, mail, and in-person at rec centres, and phone or in-person support throughout the process. | Good participation rates from people across income tiers, ages, newcomer to Canada, and disability status. |

| Equity Measure | Impact |
|---|---|
| Multiple options for providing proof of income including the Endorsement Form. | Residents were not turned away for not having their taxes up to date, and some flexibility was available for those whose financial situations changed during the year and were not yet reflected in their Notices of Assessment from the previous tax year. |
| Pre-approval process. | In the first intake, when offered the choice of pre-approval or submitting a receipt, the two income-qualified tier participants overwhelmingly (over 90%) chose the pre-approval route compared to 59% of the non-income qualified applicants. This indicates that having certainty about incentive access is important for lower income participants. |
| Point of sale incentive option (incentive provided at till by participating vendors). | Reduced the upfront cost and potential interest payments. Accessing the incentive at the till was more common in the income qualified tiers (29%) than in the non-income qualified tier (4%), showing this measure was important for reducing income barriers to e-bike adoption. |
| Vendor choice (local point of sale participant vendors or other vendors). | There was no discernable income-based pattern for choosing point-of-sale participant vendors vs. other vendors. However, having the option to order bikes from outside of the CRD enabled those who required adapted bicycles for disability reasons to source appropriate bicycles. Only one adaptive bicycle was purchased in the program and it was sourced from outside the CRD. |
| Quick turnaround time for cheques. | The program had a very quick turnaround time for delivering incentive cheques – most often cheques were mailed well within a month from receiving the proof of purchase. This meant that participants who put their purchase on credit did not incur high interest costs for the incentivized portion of their e-bike. |

As was seen in the demographic findings, addressing barriers faced by low income households also ended up improving participation rates from a wider range of ages, and from women, visible minorities, people with disabilities, and newcomers to Canada. The pilot did reach the same proportion of Indigenous people as in the Saanich population generally, but the sample size was very small so it is difficult to draw conclusions from the data. However, the program still did not reach a representative percentage of participants by disability, immigration, or visible minority, status. Future programs must work to improve distribution of incentives to these groups.

Based on the study findings, it is recommended that e-bike incentive programs embed equity considerations and continue to collect demographic data to enable ongoing evaluation of the impact of such a program across different equity-denied groups.

## 7.2 Incentive amounts

The UBC study found that the income-qualified incentives were more effective and cost-effective when considering marginality compared to the smaller non-income qualified incentives. The $1600 incentives were the quickest to be allocated during program intakes. The $800 rebate had the highest attrition rate of all the incentive tiers and therefore higher program administration costs than the other income-qualified tier. In an interim report to Council prior to the final UBC study results being available, Saanich staff recommended future programs modify the incentive amounts based on this administrative experience. These new incentive levels were used by the Province for the BC E-bike Rebate Program, and the results of the UBC study on the Provincial program are not yet available at the time of writing this report.

## 7.3 Feedback received

The District received feedback from residents asking for changes in the income verification procedures and incentives for related purchases. Table 24 below outlines the feedback and comments for future program design.

**Table 24: Resident feedback and discussion**

| Feedback | Discussion |
|---|---|
| Income testing | |
| Allow multiple people in a household to access e-bike incentives | Eliminating the one incentive per household restriction would remove a barrier to participation in the program. However, given high demand for incentives, and the ability to share e-bikes among household members, it would be more beneficial at the community scale for more households to be able to access the program than to allow more than one e-bike per household. Additionally, the one e-bike per household restriction provides a disincentive for misuse of the incentives. |
| Measure individual income rather than economic family income in the household | Requiring family rather than individual income increased paperwork requirements for applicants and excluded people, especially including adults living with their parents for economic and/or cultural reasons. It would be worthwhile to connect with income-tested program practitioners to discuss emerging practices, such as the CleanBC Go Electric income qualified program that launched after the E-bike pilot. |
| Use net income rather than total income thresholds to better support small businesspeople and professional artists. | Interested residents who operate small businesses could qualify instead for the Special Use Vehicle Incentive (SUVI) program if they plan to purchase a cargo e-bike for business use. That option might be a better fit than the Saanich pilot for interested residents. However, it would be worthwhile to connect with income-tested program practitioners to discuss emerging practices. |
| Allow private disability rather than only provincial disability as proof of income | Private disability payments are quite distinct from provincial disability as proof of income, as private disability payments may be relatively short term. |
| Additional Incentives | |

| | |
|---|---|
| Provide more incentives for more people | The initial incentive budget was based on the number of participants needed for the UBC study, rather than meeting demand in the community. It will be costly to provide enough incentives to meet demand for this technology. Future program budgets can be based on the results of the UBC study regarding cost per ton of GHG emission reductions of this program compared to other potential climate programs, along with co-benefit comparisons, in order to properly allocate climate spending. While awaiting UBC study results, a small program that provides incentives to low income households can be considered, due to the demonstrated benefits of the program for climate and affordability. |
| Provide larger incentives for equipment required for transporting young children by e-bike | There is very little local data about how e-bike incentives and e-bike adoption impacts transportation behaviour of parents and caregivers who transport young children, and whether there is a need for incentives beyond those provided in the pilot. Future programs could explore options for data collection on this topic. |
| Provide larger incentives for adaptive e-bikes for people with physical disabilities | There is very little local data about how e-bike incentives and e-bike adoption impacts transportation behaviour of people with disabilities, and whether there is a need for incentives beyond those provided in the pilot. Future programs could explore options for data collection on this topic. |
| Provide incentives for parking, locks, and maintenance | The incentives provided in the pilot proved adequate for overcoming barriers to adoption of e-bikes, including for low-income residents. The UBC study results indicate that most participants are retaining their e-bikes and using them on a regular basis. These findings do not indicate a need for incentives for parking, locks, or maintenance. However, safe e-bike parking is identified as a barrier to e-bike adoption in the CRD survey. Secure parking should be included in infrastructure improvements and plans outside the scope of this incentive program. |
| Additional services | |
| Provide learn to cycle courses for adults who are newcomers to Canada so they can more easily benefit from e-bike programs. | This recommendation can be explored outside the scope of this incentive program. |

## 7.4 GHG reduction potential of e-bikes

As described in the UBC study of the pilot, e-bikes:

- Were used more frequently than conventional bikes to substitute for vehicle trips, and
- Reduced VKTs and GHGs from personal transportation among participants by 43% between purchase (Wave 1) and the 3 month survey (Wave 2) and by 38% by the 12 month survey (Wave 3), showing good long-term retention of the GHG mitigation effect.

## 7.5 Approaches for handling high demand

As with many other climate and social programs in Saanich, BC and beyond, the pilot experienced more demand than spaces available. The delivery of a second and third intake enabled staff to amend the program to better accommodate for the high demand through automation options for registration.

Two deliver systems were explored to address this; a lottery system and findings from the RecOnline system. While lottery systems are not generally used by Saanich for access to programs or by other local government, provincial or federal climate incentive programs, this approach was suggested and discussed at Council as part of the November 2021 report following the high demand experienced in the initial program launch.

One reason to consider a lottery system rather than a first-come, first-served system is to overcome potential bias and barriers in the first-come, first-served application process. In order to be fair, a lottery system would need to protect people's personal information, prevent multiple entries by the same person, and provide transparency to entrants that their entry was included in the draw and what the result of the draw was. While simple in concept, it proved to be difficult to implement as an in-house administered program with our current systems within the available timeline and budget for the program. However, a lottery system could be considered in future programs if an incentive was again provided at the Provincial level by a program administrator with that capability. For the Saanich pilot, the RecOnline system was very well suited to handle the volume of incentive applications and to provide in-person and phone support as well as an online application option.

# 8.0 Recommendations and Next Steps

Based on the results of the pilot, it is recommended that e-bike incentive programs:

- Be offered in the future;
- Be designed to handle high demand;
- Centre equity in their design through providing income-qualified incentives that overcome cost barriers for low and mid income households; and
- Be offered at a Provincial level to benefit from centralization of administration costs for the program and to provide e-bike incentives to residents in communities that would otherwise have insufficient resources to administer the program locally.

Further, we recommend that future programs:

- Include robust evaluation of impacts;
- Consider how to increase participation by individuals facing systemic barriers; and
- Consider a lottery rather than first come first served approach.

# Appendix A: Pre-application form

## COMMUNITY E-BIKE INCENTIVE PROGRAM
## Pre-Approval Form

Saanich residents can be pre-approved for an e-bike incentive. Pre-approval allows you to reserve an incentive while you shop, and also to have the incentive applied at the time of sale from participating vendors. To access the incentive you must meet all program terms and conditions – see saanich.ca/ebike for details. E-bike must be purchased after receiving pre-approval from Saanich, not before.

| **Applicant info:** | | |
|---|---|---|
| NAME (as it should appear on your rebate cheque) | EMAIL | PHONE |
| NAME (if different from above, that we should use to correspond with you) | | |
| HOME MAILING ADDRESS (Must be in Saanich) | LINE1<br>LINE2<br>CITY<br>POSTAL CODE | |
| Are you a year-round Saanich resident? (Live at least 50% of the time at the above address) | ☐ Yes ☐ No | |

Review the table below to see which incentive level you could qualify for:

| # of people in household (includes children) | Household income (before tax) - include income of main income earning adults in family* over the age of 18. | | |
|---|---|---|---|
| 1 person | ~~Up to $42,600~~ | Up to $55,900 | ~~Above $55,900~~ |
| 2 persons | ~~Up to $53,000~~ | Up to $69,600 | ~~Above $69,600~~ |
| 3 persons | ~~Up to $65,200~~ | Up to $85,600 | ~~Above $85,600~~ |
| 4 persons | ~~Up~~ FULLY | Up to $103,900 | ~~Ab~~ FULLY |
| 5 persons | ~~Up~~ SUBSCRIBED | Up to $117,800 | ~~Ab~~ SUBSCRIBED |
| 6 persons | ~~Up to $101,200~~ | Up to $132,900 | ~~Above $132,900~~ |
| 7 persons | ~~Up to $112,800~~ | Up to $148,000 | ~~Above $148,000~~ |
| **E-bike incentive level:** | ~~$1,600 incentive~~ | **$800 incentive** | ~~$350 incentive~~ |

**Family members include a married or common law couple and children in the home. It does not include unrelated roommates, landlord and tenant, etc. Refer to Dictionary, Census of Population, 2016 - Census family definition by Statistics Canada for more details https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/fam004-eng.cfm. Single people living alone can report single income. In cases with multiple adult family members at the household with incomes, show the income only for the top 2 earners.*

sustainability@saanich.ca | saanich.ca

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# COMMUNITY E-BIKE INCENTIVE PROGRAM
## Pre-Approval Form

**Which incentive are you applying for?**

☐ $350 - **FULLY SUBSCRIBED** ☐ $800 (proof of income required) ☐ $1600 - **FULLY SUBSCRIBED**

If applying for income-qualified incentive: How many family members live in the home? _____

How many income earners in the family? (includes retirement and income assistance income) _____

**How would you like to access the incentive?**

☐ A rebate issued to me after I purchase the e-bike and submit my application form and e-bike receipt (the bike must be purchased on or after I recieve a pre-approval confirmation from Saanich).

☐ A point of sale incentive applied by the e-bike vendor (only available from participating vendors in the Capital Region). I understand that if I choose this option, Saanich will directly inform my choice of vendor about my pre-approval amount.

- ☐ I would like to purchase from this vendor: _____
- ☐ I will inform Saanich which vendor I choose at a later date.

**Participate in the E-Bike Study**

Understanding the effects of incentive programs like this one is vital to determining whether they continue and expand in the future. Dr. Alex Bigazzi of the University of British Columbia is conducting an independent study on the effects of bicycle purchases on travel behaviour over time. Participation in the study is optional, and will not affect whether you receive a rebate through this program. No personal information will be shared between UBC and Saanich.

To learn more and consider participating, click here www.tinyurl.com/UBCbikesurvey or contact the study team at react.lab@ubc.ca or 604-822-4426.

Translation into other languages is available over the phone.

**PROOF OF RESIDENCE - Please submit a copy of one of the below, showing your name and address in Saanich:** *(Other options may also be possible – contact sustainability@saanich.ca)*

- BC Driver's Licence
- BC Identification Card
- BC Services Card
- Credit card or debit card or statement
- Utility bill
- Owner's Certificate of Insurance and Vehicle Licence issued by ICBC
- District of Saanich Property Tax Notice
- Statement of Employment Insurance Benefits
- Income Tax Assessment Notice

**PROOF OF INCOME -** *(ONLY REQUIRED FOR $800 and $1600 INCENTIVE)*
Please submit a copy of one of the below, or call us to discuss other options:

- Endorsement Letter from a relevant organization (see link)
- Proof of Saanich L.I.F.E. program membership (LIFE sticker on your Rec Card), or
- Notices of assessment for two main income earners in the family, or
- Verification of income assistance or provincial public disability assistance (e.g. your cheque stub or Confirmation of Assistance)

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# COMMUNITY E-BIKE INCENTIVE PROGRAM
## Pre-Approval Form

**ABOUT YOU:** (We would like to evaluate how well this program is being accessed by different parts of our community and the impact it may have on reducing climate pollution.)

My gender (select all that apply):

- ☐ Woman
- ☐ Man
- ☐ My gender is: _____
- ☐ Prefer not to say

Age:

- ☐ 19-25
- ☐ 26-35
- ☐ 36-45
- ☐ 46-55
- ☐ 56-65
- ☐ 66 and up

(Optional) If you identify as a member of one or more of the following, please select all that apply.

- ☐ Visible minority
- ☐ Person with Disability
- ☐ Indigenous
- ☐ Immigrant or Newcomer
- ☐ LGBTQ2S+
- ☐ None of the above
- ☐ I choose not to answer

Which of the following do you usually use to travel at least one day per week for any purpose? (Choose all that apply.)

- ☐ Personal vehicle (car/truck)
- ☐ Regular bike
- ☐ E-bike
- ☐ Bus
- ☐ Walking
- ☐ Other

How many working motor vehicles (cars, trucks, motorcycles) are currently available to the members of your household, including yourself? _____

How many licensed drivers are there in your household? _____

I confirm that I am applying for an incentive for an e-bike that (check the boxes to confirm):

- ☐ will be used by me/my household for personal transportation
- ☐ meets the BC Motor Vehicle Act definition of a "Motor Assisted Cycle"
- ☐ comes with at least 1 year warranty on parts
- ☐ is new (used/resold e-bikes are not eligible)
- ☐ hasn't already received a Saanich incentive at point of sale from a participating vendor
- ☐ will be purchased on or after my pre-approval confirmation from the District of Saanich
- ☐ The e-bike price after any discounts/sales/promotions have been applied and before accessories, shipping, taxes, or other additional costs have been added must be $1,800 or above

sustainability@saanich.ca | saanich.ca

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# COMMUNITY E-BIKE INCENTIVE PROGRAM
## Pre-Approval Form

- [ ] I agree to the terms and conditions of this program and confirm that any accompanying receipts, invoices and documents are complete and accurate.
- [ ] I understand that the District of Saanich is not liable for the performance or suitability of the products and services described in this application.
- [ ] I understand I may be contacted to confirm application details and also for program evaluation purposes for up to 12 months following applying to the program.

**DECLARATION**

I declare that the information on this application is correct and complete, and consent to the District of Saanich contacting me to administer and evaluate the program. I have read and understood the terms and conditions available at saanich.ca/ebike.

| APPLICANT SIGNATURE: | | DATE: | |
|---|---|---|---|

**Submit pre-approval form and supporting documents, if relevant**

**By mail:**
Sustainability Division, Planning Department,
District of Saanich, 770 Vernon Ave, Victoria, BC, V8X 2W7

**In Office:**
Drop off your form at the Saanich Municipal Hall 3rd Floor Planning counter during business hours (8:30am - 4:30pm Monday to Friday excluding statutory holidays).

**Secure online portal:**
While we don't accept emailed applications, you can email sustainability@saanich.ca for instructions to a secure online portal to submit your application and supporting documents.

The District of Saanich will review your application and contact you within 10 business days.

***For office use only***

| Reviewed by: | | Rebate eligible for: | |
|---|---|---|---|
| Date: | | | |



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# Appendix B: Terms and conditions

## SAANICH COMMUNITY E-BIKE INCENTIVE PILOT PROGRAM
## Terms and Conditions

### General incentive eligibility requirements

1. Applicants must meet all eligibility criteria to qualify for an incentive.
2. Applicant must be a year-round Saanich resident at the time of application (lives at least 50% of the time at a Saanich residential address).
3. One incentive is available per household (civic address).
4. Applicant must be a person of the age of majority, not a business or organization.
5. E-bike must be for personal transportation, not for business use.

### Income-qualified incentive eligibility requirements

6. To access the income-qualified incentive, applicants must:
   - Declare the number of people in their census family who live in the household
   - In the case of a single adult earner household, provide acceptable proof of income for that earner
   - In the case of multiple earners in the family, provide acceptable proof of income for the top two adult income earners in the census family

   If income information is not presented, or the income presented is over the threshold, then the applicant is not eligible for the income-qualified incentive.

### E-bike requirements

7. The e-bike must:
   a) meet the definition of "motor assisted cycle" in the BC Motor Vehicle Act.
   b) meet the following criteria set out in the Motor Assisted Cycle (MAC) Regulation,:
      - electric motor with power output rating not exceeding 500 watts,
      - not capable of propelling the cycle faster than 32 km/hr. on level ground
      - wheels 350mm or more in diameter,
      - no more than 3 wheels in contact with the ground, and
      - motor shut-off mechanism separate from the accelerator controller, that allows the driver to turn the motor on and off from a normal seated position while operating the MAC or prevents the motor from turning on or engaging before the motor assisted cycle attains a speed of 3km/hr
      - motor must disengage if the operator stops pedaling, an accelerator controller is released, or the brake is applied.
   c) be new, no used e-bike sales.
   d) include a minimum 1 year warranty on parts.
   e) be purchased on or after the date the District of Saanich confirms the applicant's pre-approval status for the program and before the deadline (30 days after pre-approval).
8. The e-bike price after any discounts/sales/promotions have been applied and before accessories, shipping, taxes, or other additional costs have been added must be $1800 or above.

### Privacy

9. By submitting an application, the applicant consents to the collection of personal information which is authorized under the Local Government Act, Community Charter and section 26(c) of the Freedom of Information and Protection of Privacy Act. The information will be used for administering and evaluating the rebate.

Effective Date: Updated March 2022 | saanich.ca/ebike

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# SAANICH COMMUNITY E-BIKE INCENTIVE PILOT PROGRAM
## Terms and Conditions

10. Applicants are not required, but strongly encouraged, to participate in a UBC study which involves a total of 3 short surveys over a 12 month period following e-bike purchase to better understand the effect of e-bike incentives and ownership on transportation choices and greenhouse gas emissions.

### Vendor Point of Sale

To be reimbursed for point of sale incentives for the Saanich E-bike Incentive Program, vendors must meet the following criteria:

11. Must provide local (within Capital Region) storefront or mobile repairs and maintenance services for the e-bike sold.
12. Must sell e-bikes that:
    - are new, and
    - have a minimum 1 year warranty on all parts, and
    - comply with the BC Motor Vehicle Act Motor Assisted Cycle Regulation criteria
13. Must provide detailed receipt for incentive applications showing at minimum:
    - Company name
    - Make and model of e-bike
    - Date sold
    - Price paid
    - Saanich point of sale discount provided
14. Must have a valid business licence within the Capital Region.
15. Must agree to receive and review email updates from the District of Saanich on important incentive program updates such as number or rebates remaining, changes in rebate amounts or terms and conditions.
16. Must be available to take calls from the District of Saanich to confirm any missing information receipts submitted for the incentive.
17. The District of Saanich reserves the right to remove a vendor from the vendor list for any reason at its sole discretion.

### Other Conditions

18. To access the point of sale incentive through a vendor, the participant must be pre-approved by the District of Saanich.
19. E-bike must be purchased within eligible dates (after pre-approval confirmation and before deadline).
20. Incentive can only be claimed once per e-bike.
21. Incentive cannot exceed price paid for e-bike.
22. District of Saanich claims the greenhouse gas emission reductions from this program.
23. District of Saanich maintains the right to change the incentive program at any time.
24. District of Saanich has sole discretion to approve or reject applications for any reason.
25. District of Saanich is not a designer, manufacturer, or vendor of e-bikes and associated equipment, and makes no representations or warranties whatsoever as to the fitness of, the necessity for, the quality of, or the safety of the e-bike chosen by the applicant.

Effective Date: Updated March 2022 | saanich.ca/ebike

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# Appendix C: Endorsement form (final version)

COMMUNITY E-BIKE INCENTIVE PILOT PROGRAM
**Endorsement Form**

This Endorsement Form is one way to verify income for the Saanich Community E-bike Incentive Pilot Program. Other income verification options are listed at saaanich.ca/ebike.

Who can complete this form for an applicant?

- Must be familiar with the applicant's financial situation.
- Must work for a relevant organization in a professional capacity such as social work or family services professional, health care professional, First Nation government, Native Friendship Centre, housing provider, religious organization leader, school principle or counsellor, or other organization with income-tested programs. (Contact sustainability@saanich.ca for questions.)
- Must agree to a short follow up call from Saanich Sustainability staff.

The Community E-bike Incentive Pilot Program provides incentives towards the purchase of an electric assist bicycle (e-bike) for personal use. The program is available to Saanich residents of all income levels. The amount of the incentive depends on the applicant's income level, as described in the table below.

| # of people in household (includes children) | Household income (before tax) - include income of main income earning adults in family over the age of 18. | |
|---|---|---|
| 1 person | Up to $42,600 | Up to $55,900 |
| 2 persons | Up to $53,000 | Up to $69,600 |
| 3 persons | Up to $65,200 | Up to $85,600 |
| 4 persons | Up to $79,100 | Up to $103,900 |
| 5 persons | Up to $89,800 | Up to $117,800 |
| 6 persons | Up to $101,200 | Up to $132,900 |
| 7 persons | Up to $112,800 | Up to $148,000 |
| **E-bike incentive level:** | **$1,600 incentive** | **$800 incentive** |

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# COMMUNITY E-BIKE INCENTIVE PILOT PROGRAM
# Endorsement Form

## Endorsement Information

| E-bike incentive applicant | |
|---|---|
| NAME | HOME MAILING ADDRESS<br>LINE1<br>LINE2<br>CITY<br>POSTAL CODE |
| **Endorser** | |
| NAME OF ENDORSER: | TITLE: |
| ORGANIZATION: | |
| PHONE: | EMAIL: |
| I (the endorser) have read and understand the income criteria of the Saanich Community E-bike Incentive Pilot Program above. I agree that the applicant for this e-bike incentive meets the income criteria for the following incentive level - check one:<br>$800 incentive<br>$1600 incentive | |
| ENDORSER SIGNATURE: | DATE: |

sustainability@saanich.ca | saanich.ca

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# COMMUNITY E-BIKE INCENTIVE PILOT PROGRAM
## Endorsement Form

| Submit endorsement letter: | |
|---|---|
| **By mail:**<br>Sustainability Division, Planning Department,<br>District of Saanich, 770 Vernon Ave, Victoria, BC, V8X 2W7 | **Secure online portal:**<br>While we don't accept emailed applications, you can email sustainability@saanich.ca for instructions to a secure online portal to submit this form. |
| **In person:**<br>Drop off form at the Saanich Municipal Hall 3rd Floor Planning counter during business hours (8:30am - 4:30pm Monday to Friday excluding statutory holidays). | |

***For office use only***

| | |
|---|---|
| Reviewed by: | Incentive eligible for: |
| Date: | |



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