

From Rebates to Results: Understanding the Benefits and Trends of E-Bike Incentives

Oregon Active Transportation Summit 2026

John MacArthur, Nick Meltzer, Polina Polikakhina



AGENDA

1. Introduction
2. The state of e-bike rebate programs in North America
3. British Columbia E-Bike Rebate Program: personal and societal impacts
4. Outcomes of Benton County Low Income E-Bike Rebate Program

Introductions



John MacArthur (Portland State University)



Polina Polikakhina (Kittelson & Associates)



Nick Meltzer (Kittelson & Associates)



Session Sponsored by:



Presentation Objective

Summarize the state of e-bike rebate programs across North America and evaluate the impacts of income-based incentives on travel behavior, emissions, and equity





What do you think are the benefits of stimulating e-bike adoption?

What are the challenges?



From Rebates to Results: Understanding the Benefits and Trends of E-Bike Incentives

April 22, 2026

John MacArthur
Portland State University



How Do We Get More People Riding and Riding More Often?

Get More People on E-bikes

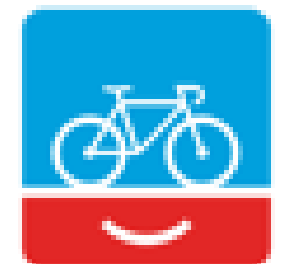
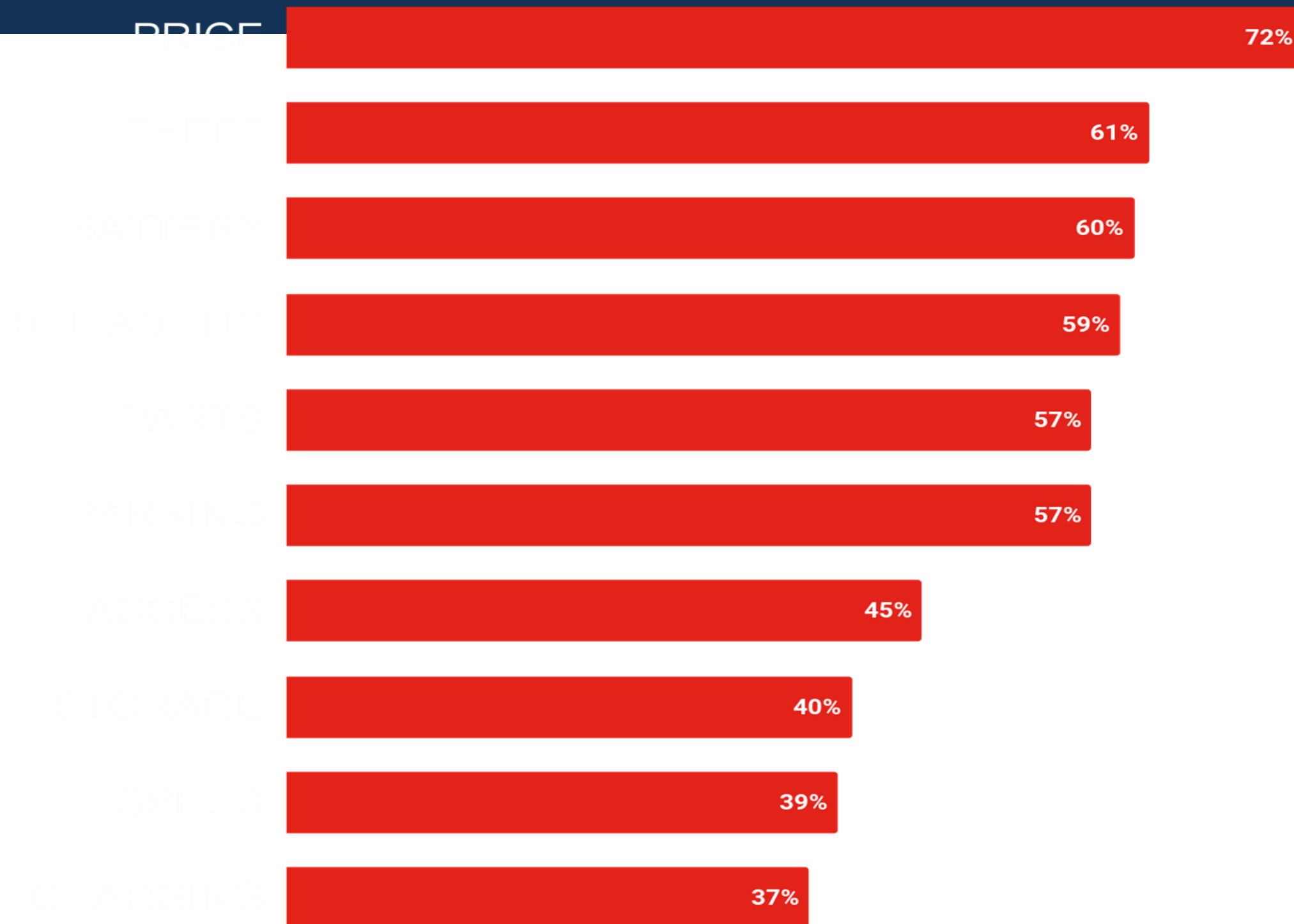
- More types of e-bikes at different price points
- Lending Libraries
- Incentivizing Purchases



Oregon E-bike Classification

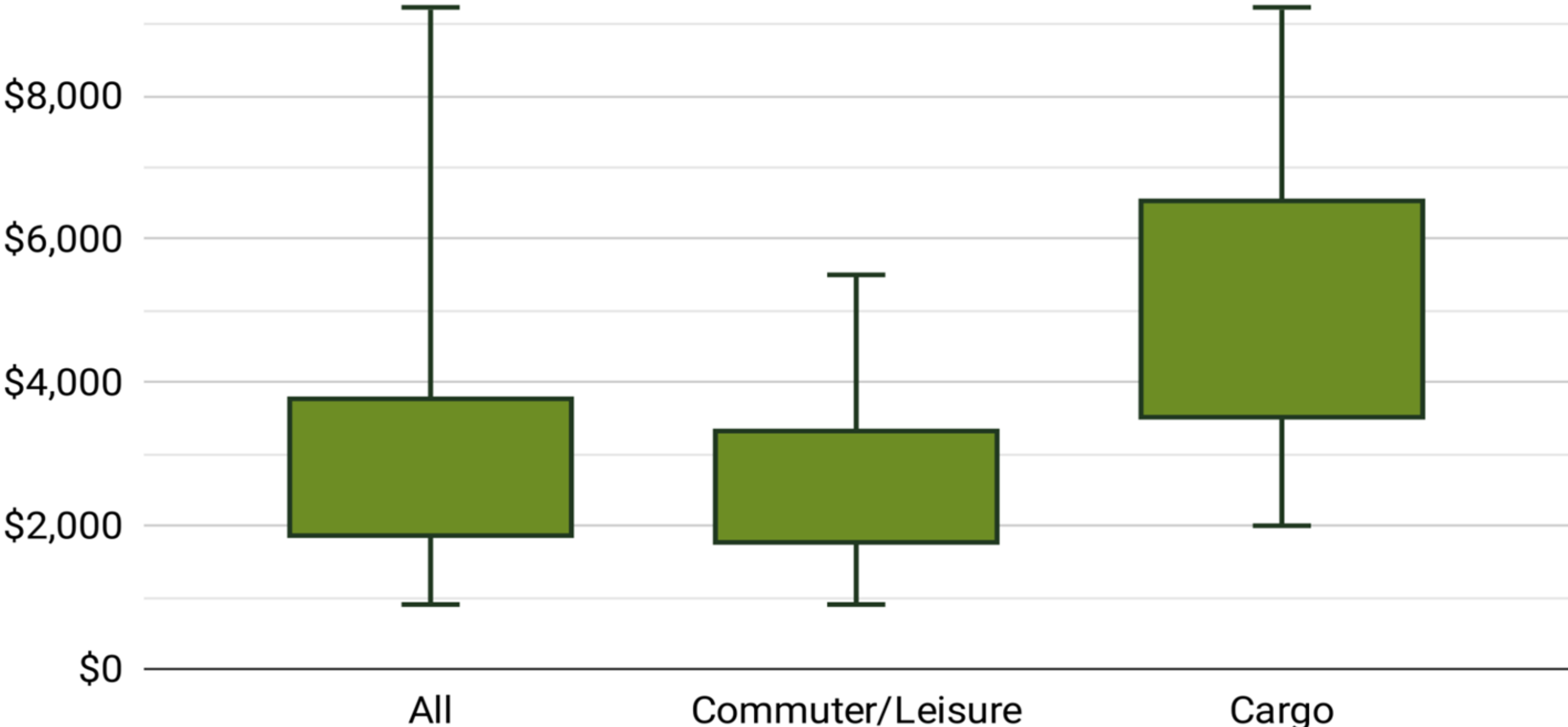
Vehicle Type	Assist Type	Maximum Motor-assisted Speed (MPH)	Minimum Age (years)	Driver's License	Insurance/Registration	Helmet
BICYCLE 	Pedal	N/A	N/A	No	No	<16
CLASS 1 E-BIKE 	Pedal	20	14	No	No	<16
CLASS 2 E-BIKE 	Pedal/ Throttle	20	16	No	No	No
CLASS 3 E-BIKE 	Pedal	28 w/ speedometer	16	No	No	No

Why have people not purchased an e-bike?



peopleforbikes

U.S. E-bike Retail Prices



Why E-Bike Purchase Incentives?

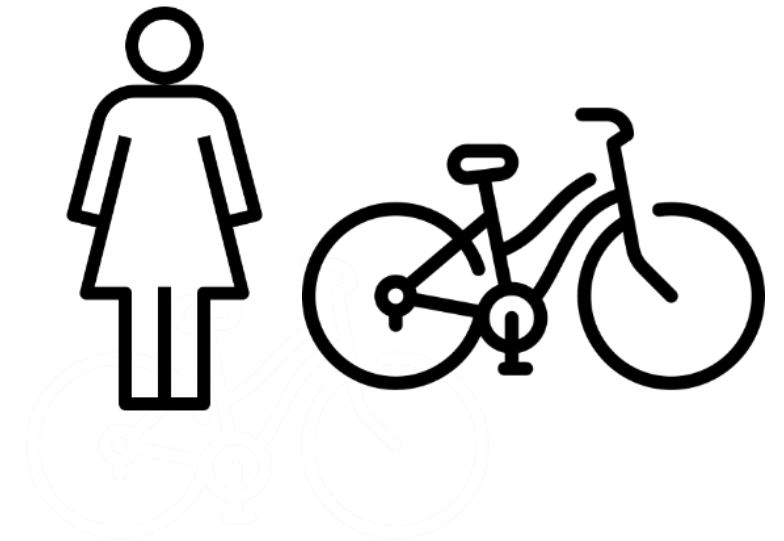


E-bikes are a viable low-carbon substitute to many auto trips.

With pedal assistance, e-bikes are more accessible for a wider range of demographics and use cases.

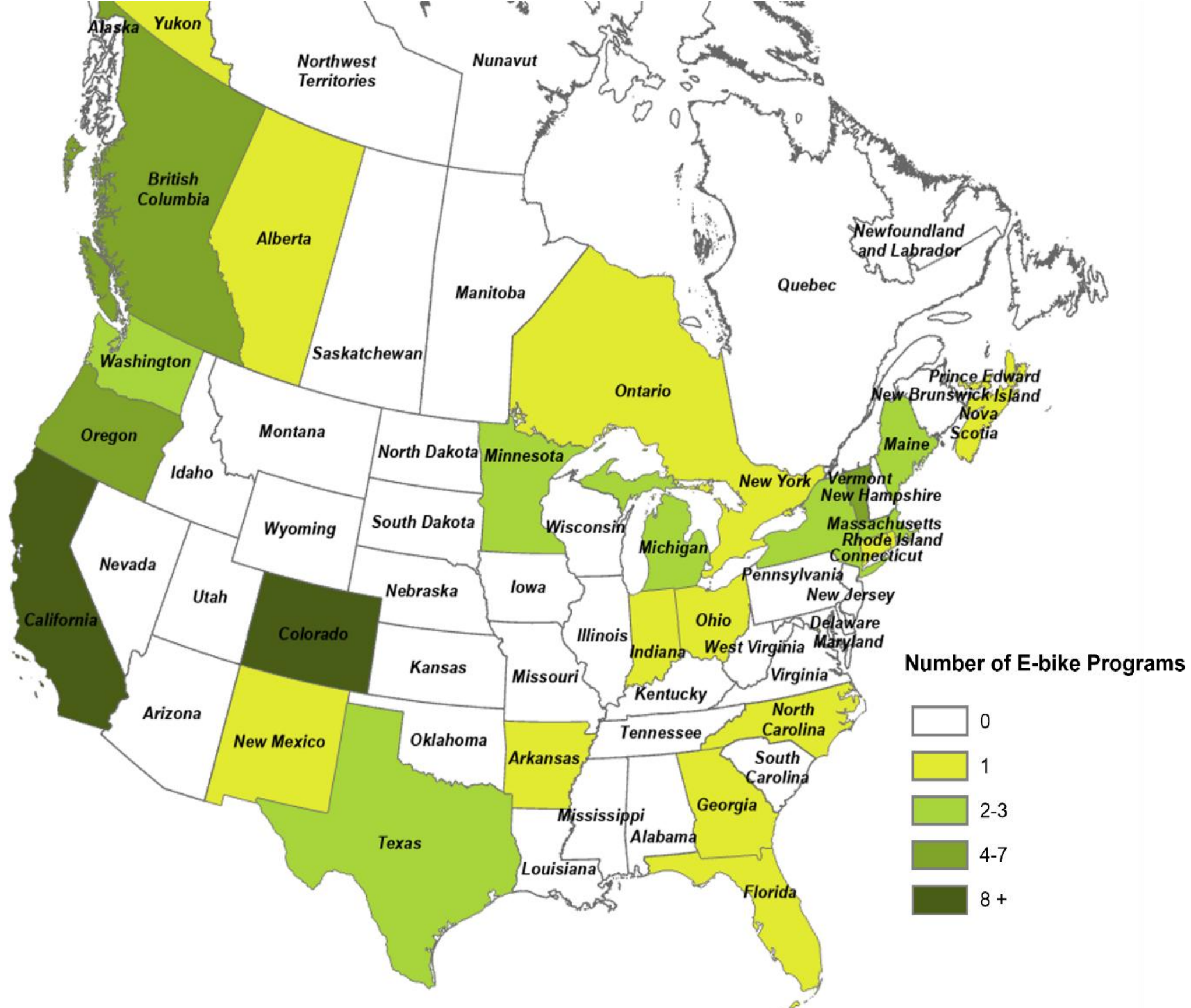


Desire to promote the purchase of e-bikes in order to meet emissions, vehicle miles traveled (VMT), and/or mode share objectives.



Purchase incentive programs have emerged as a popular technique to induce new purchases.

E-bike Incentives Programs in North America



More than 115 active, planned, or proposed incentive programs in North America

E-bike Incentive Tracker: <https://trec.pdx.edu/e-bike-research>

E-bike Incentives Programs in Oregon

- **Ashland:** Transportation Incentives - Electric Bike
- **Bend:** E-Bike Rebate Program - Commute Options (paused)
- **Eugene:** Eugene Water & Electric Board's E-Bike Rebate Program
- **Portland Metro:** StreetTrust's Ride2Own
- **Portland:** Portland Rides - PCEF E-Bike Rebate Program
- **Benton County:** E-Bike Rebate Program (ended)

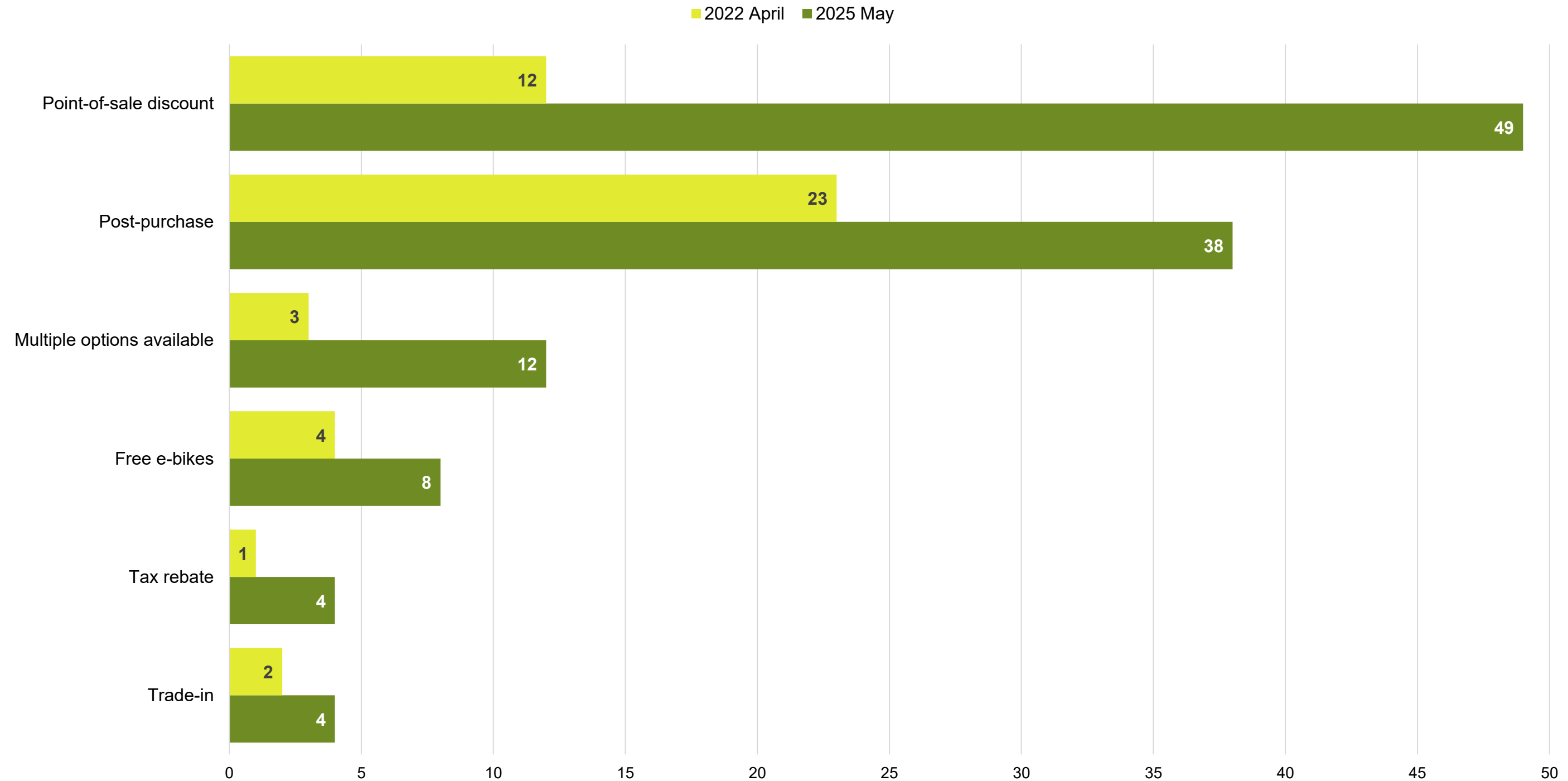


E-bike Incentives Program Elements

Design Element	Description
Incentive Amount and Type	Careful design of the incentive amounts to be as cost-effective as possible while encouraging purchases
Focused Communities	Work with community groups and bike shops in focused communities
Method for Dispersal of Rebates	Creating a system for fair allocation of incentives. Point-of-purchase rebate method and/or sales tax waivers
Income Eligibility	Determine income-levels and method for income verification. Simplified application process. Minimize burden to participants
E-Bike Eligibility	Which classes and types are eligible for the program, Class 2 and 3? Mountain bikes? Cargo bikes? Adaptive bikes? Conversion Kits? Used/Refurbished? Battery certification?
Purchase Availability	Physical stores vs. direct to consumers avenues

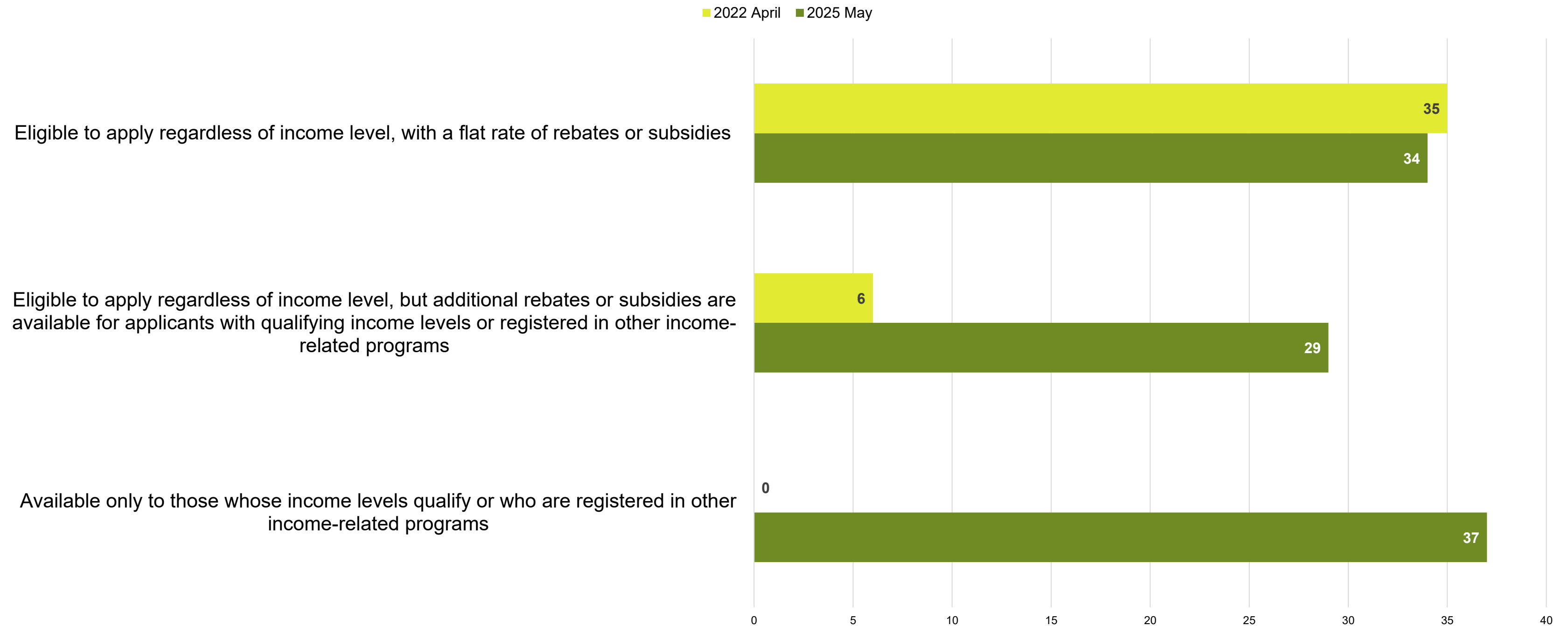
E-bike Program Mechanism

How does the rebate/subsidy/incentive get to the recipient?



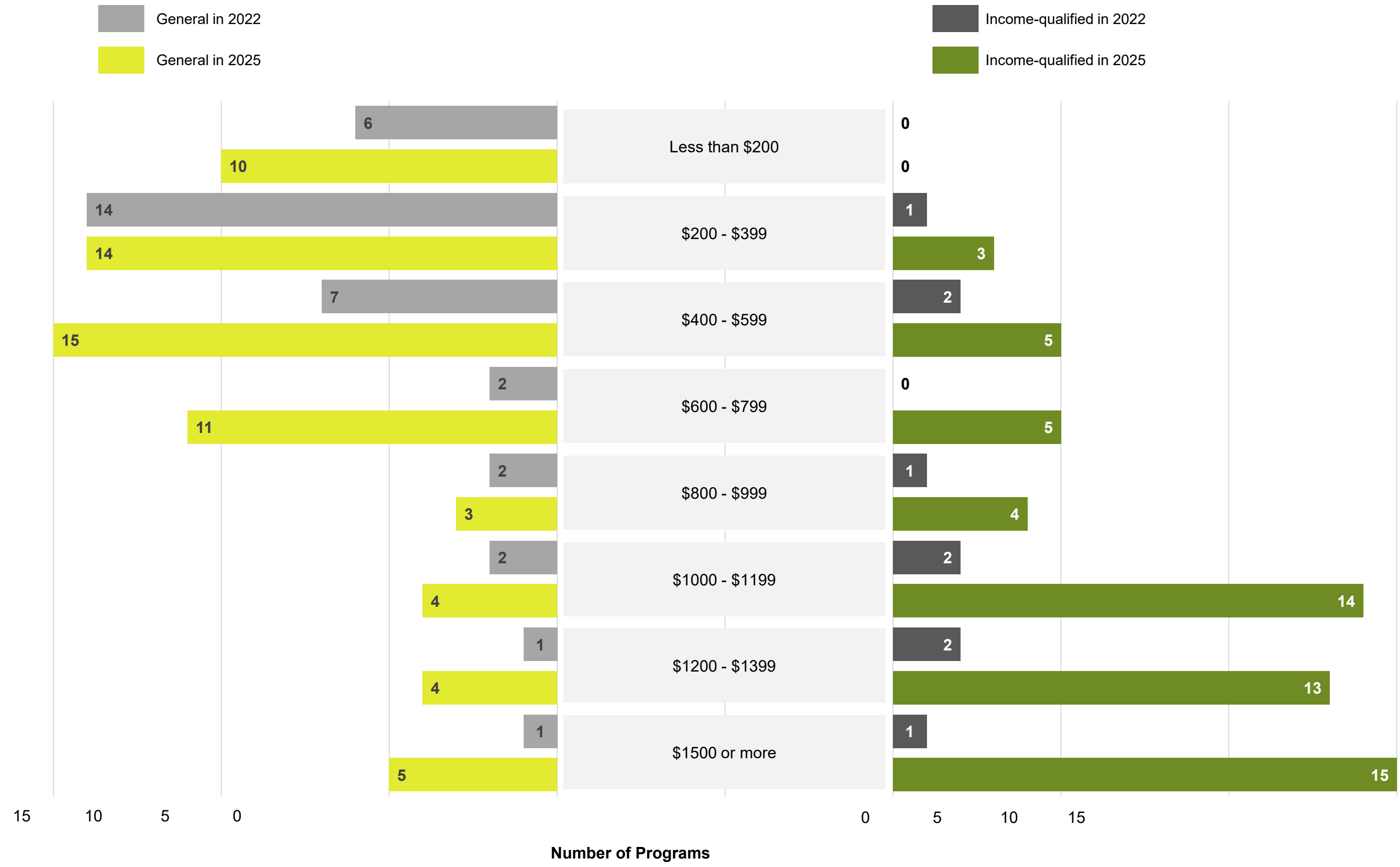
Program Income Eligibility

Who is eligible to apply for the program, and do the rebates, subsidies, or incentives vary based on income level?



Incentive Cash Amount (USD)

Maximum rebates, subsidies, and incentives for each beneficiary

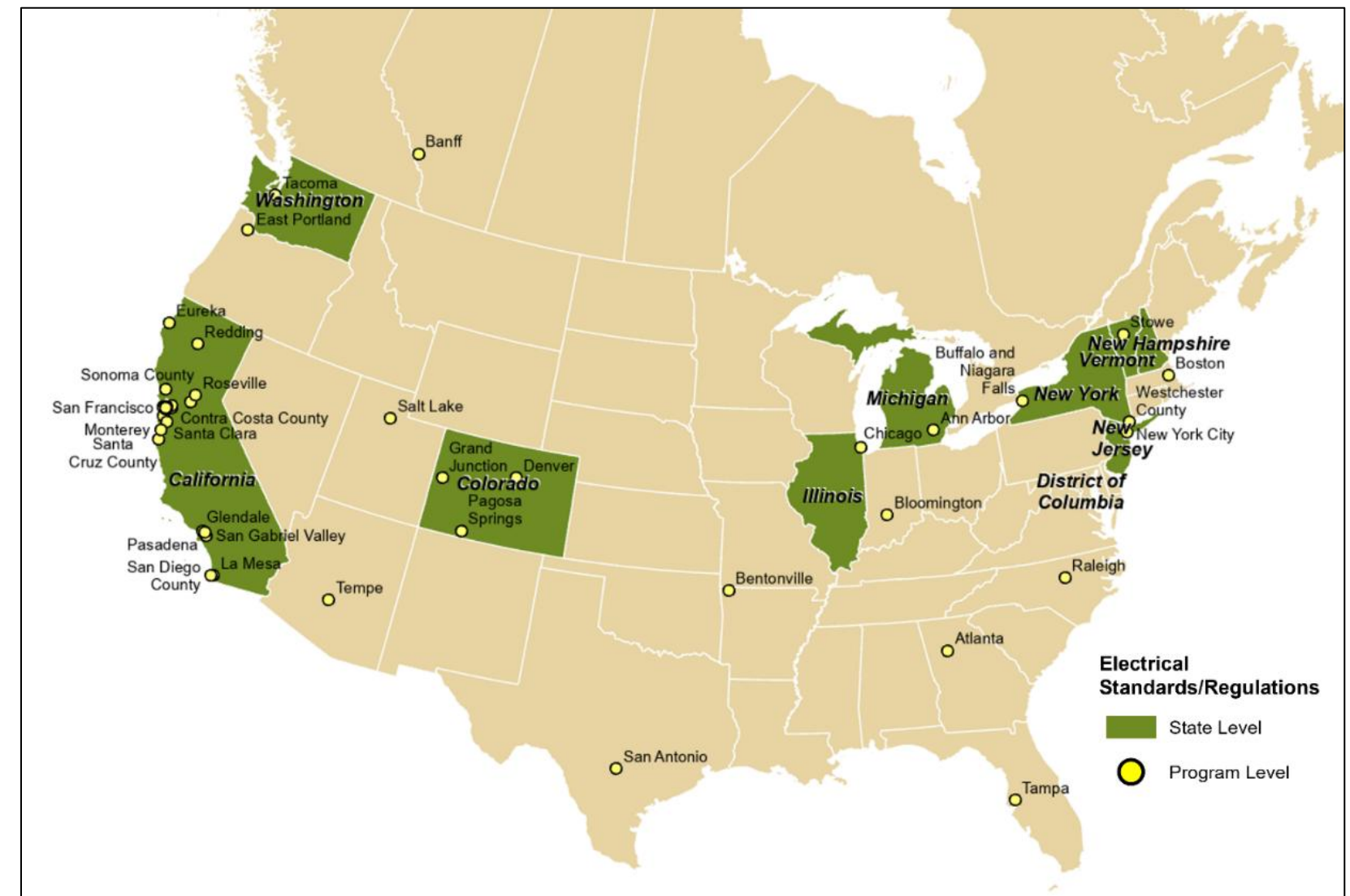


Emerging Issues Related to E-bike Incentive Programs

- Safety Issues: battery safety and battery charging
- Increase in the market price of e-bikes
- Safety training



Oregon E-Bike Safety Course & Training
<https://www.commuteoptions.org/ebikes/>



Map of E-bike Electrical Standards/Regulations

Contact Information

John MacArthur
 Portland State University
macarthur@pdx.edu



<https://trec.pdx.edu/e-bike-research>

NEW E-Bike Purchase Incentive Tracker! (available March 1, 2026)

Country	State	City or Community Name	Program Name	Administrator	Admin. Type	Status	Start Year	Paused/End Year	Program Type
US	Arkans...	Bentonville	City of Bentonville E-Bike Rebate Program	City Of Bentonville	Multiple Entities (public-private partners...	Active	2024		Point-to-sale rebate (graded subsi
US	Californ...	California	California E-Bike Incentive Project	California Air Resources Board (CA	State/province Government Nonprofit	Active	2022		Point-to-sale rebate (with flat rate)
US	Californ...	Contra Costa County	511 Contra Costa E-Bike Rebate Program	511 Contra Costa	Local (city/county/district) Government	Active	2020		Post-purchase (graded subsidy or
US	Californ...	Eureka	RCEA (Redwood Coast Energy Authority) E-Bike Vouc	California Community Choice Energ	Local (city/county/district) Government	Active	2023		Point-to-sale rebate (with flat rate)
US	Californ...	Glendale	Electric Bicycle Rebate	Glendale Water & Power	Local (city/county/district) Government	Active	2023		Point-to-sale rebate (graded subsi
US	Californ...	Healdsburg	Electric Bike Rebate	Utility Department of City of Healds	Local (city/county/district) Government	Active			Point-to-sale rebate (graded subsi
US	Californ...	La Mesa	La Mesa E-Bike Incentive Program	City Department: Public Works; Div	Local (city/county/district) Government	Pilot	2025	2025	Point-to-sale rebate (graded subsi

British Columbia (BC) E-Bike Rebate Program: Personal and Societal Impacts



research on active transportation

react



NSERC
CRSNG

SSHRC
CRSH
Canada

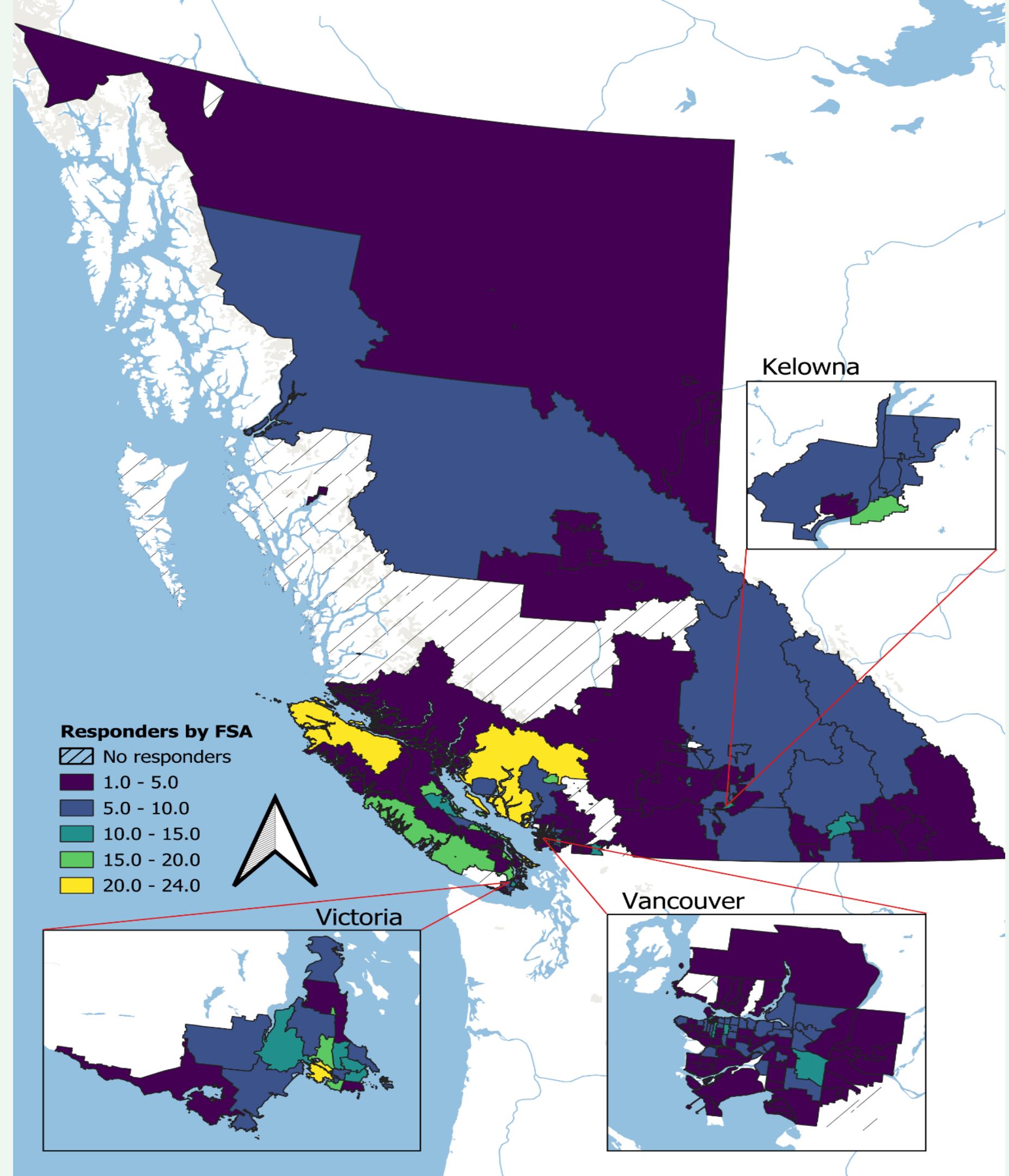
MOBILIZING
JUSTICE

Program Overview

Goal: boost active transportation, make travel more affordable and reduce GHG

Timeline	Summer 2023 - Summer 2024
Funding	BC Ministry of Transportation and Transit
Rebate levels	CA \$350, \$1,000, \$1,400 *
Qualifications	Available to lower-income individuals
Rebates distributed	4,943
Program budget	CA \$6,525,000

* CA \$1 = US \$0.7, or a 30% reduction



Study Overview

Lead Authors

UBC (Alex Bigazzi), SFU (Meghan Winters)

Funding

Independent

Timeline

Completed in fall 2025

Study design

3 survey waves:

Wave 1 (at purchase)

Sample Size

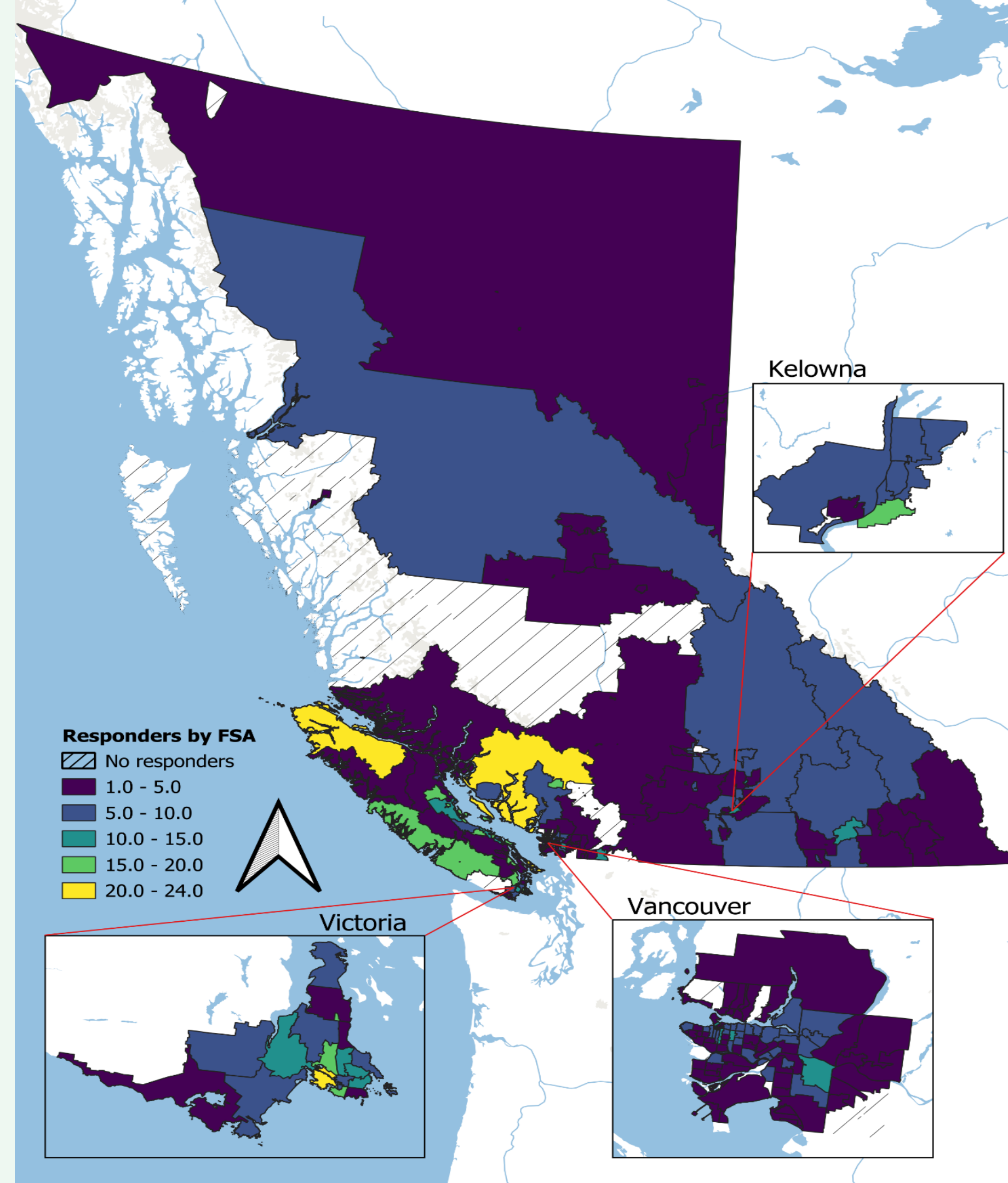
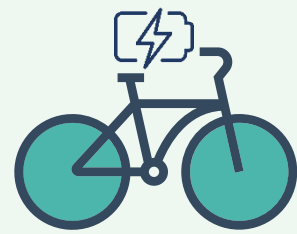
1,004

Wave 2 (+3 month)

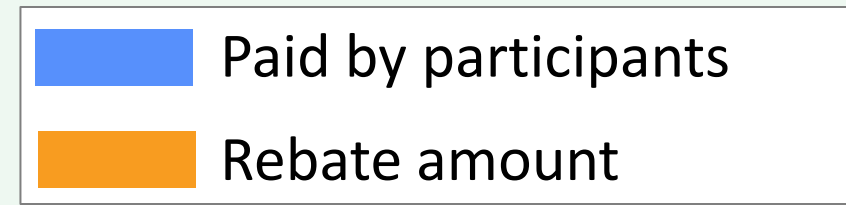
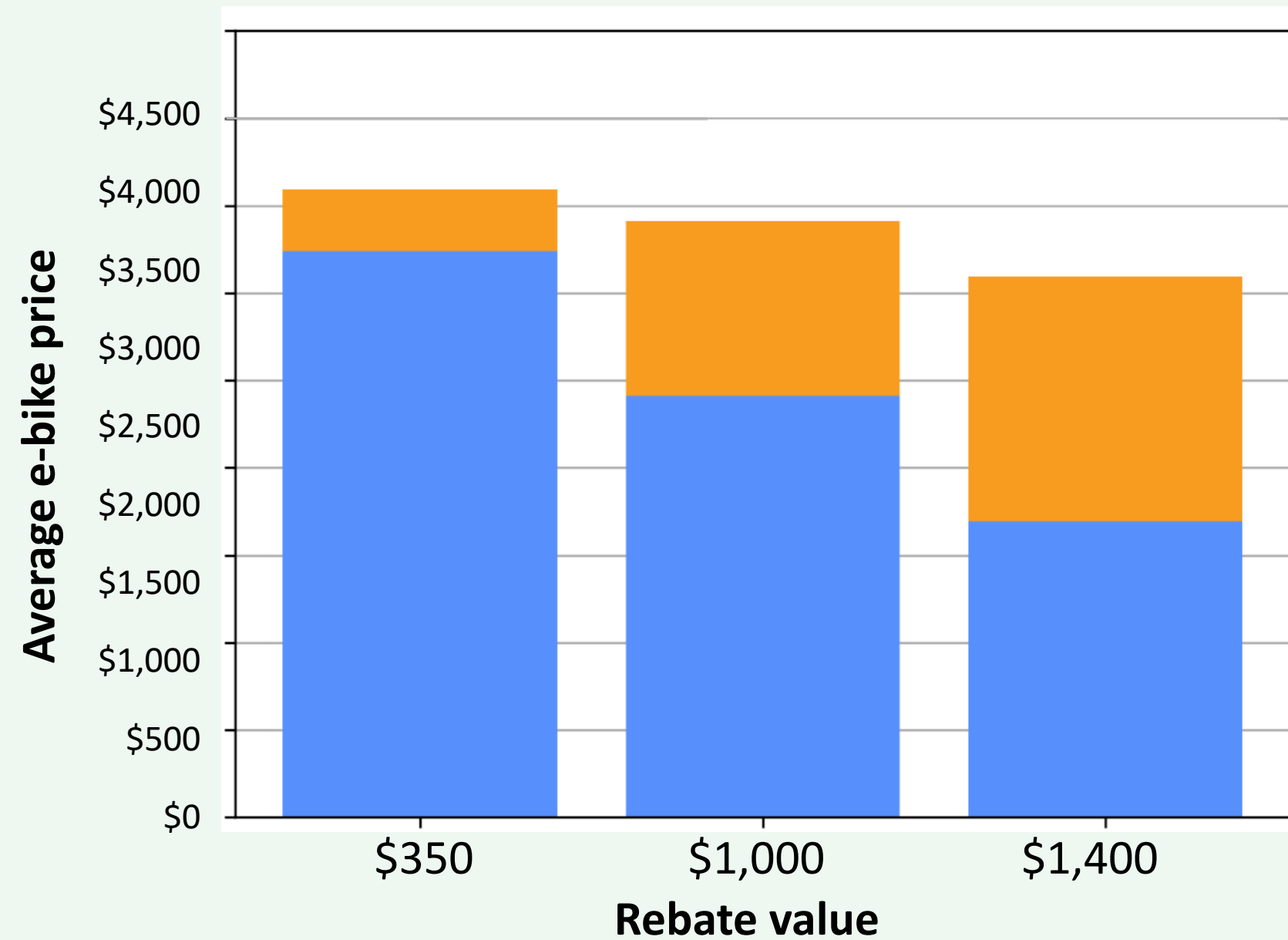
601

Wave 3 (+12 month)

449



Findings: E-Bike Purchases



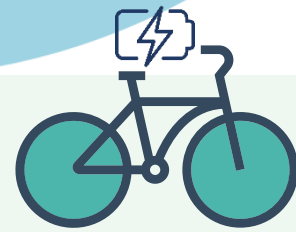
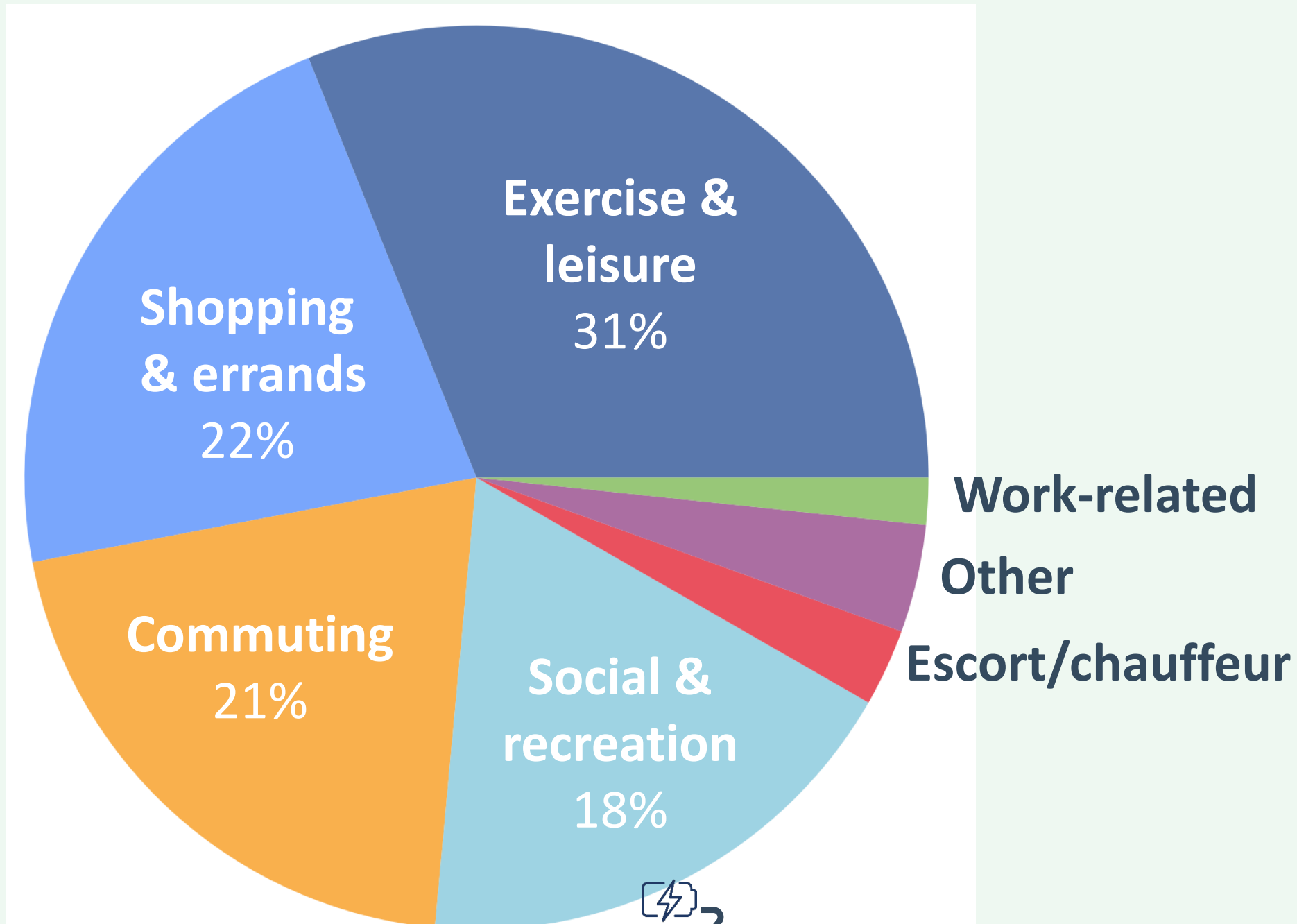
- Higher-value rebates (received by lower-income participants) were used to offset a larger portion of e-bike purchase
- Rebate effectiveness (purchases induced by the program):

58%

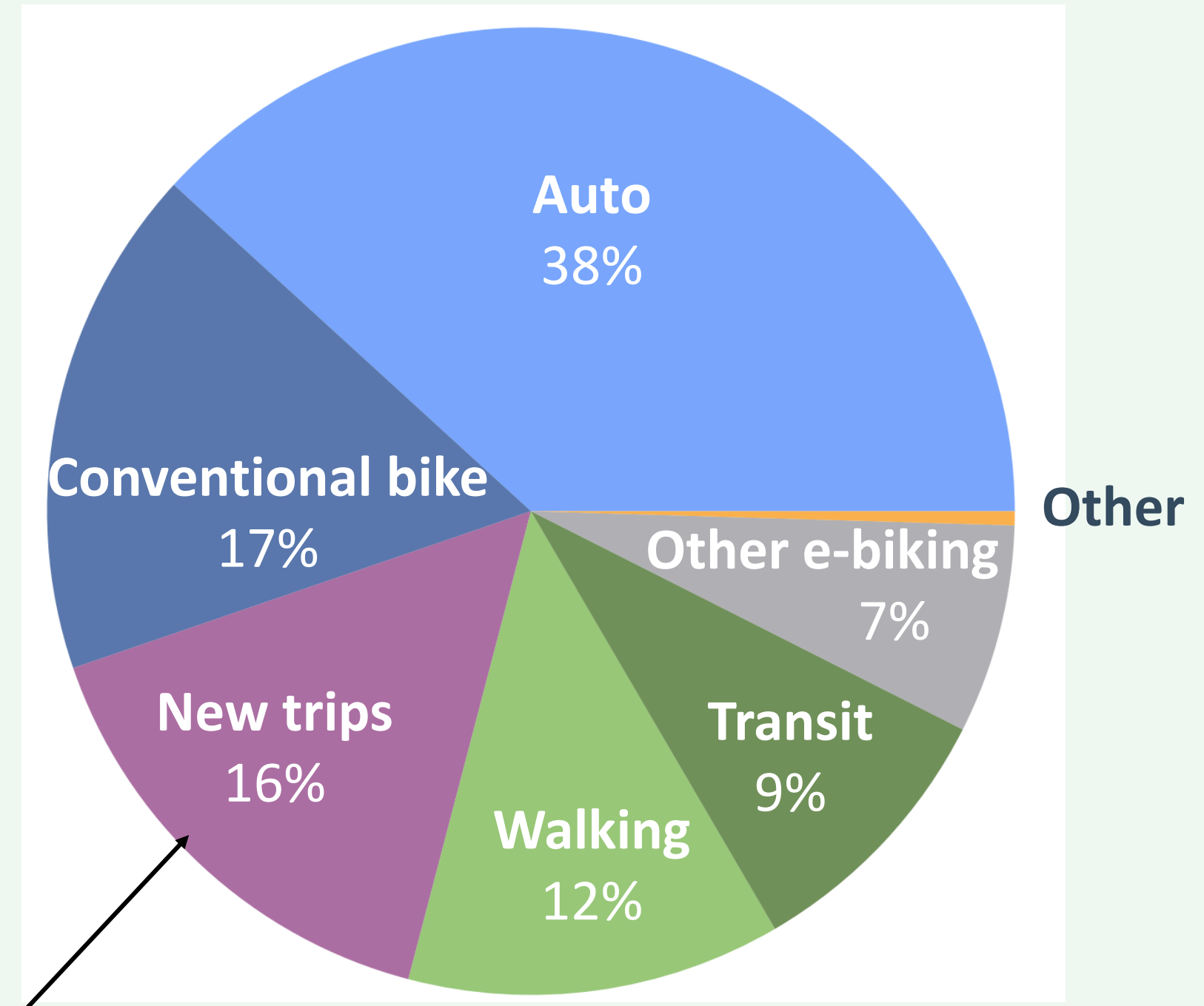


E-Bike Use

Trip purpose



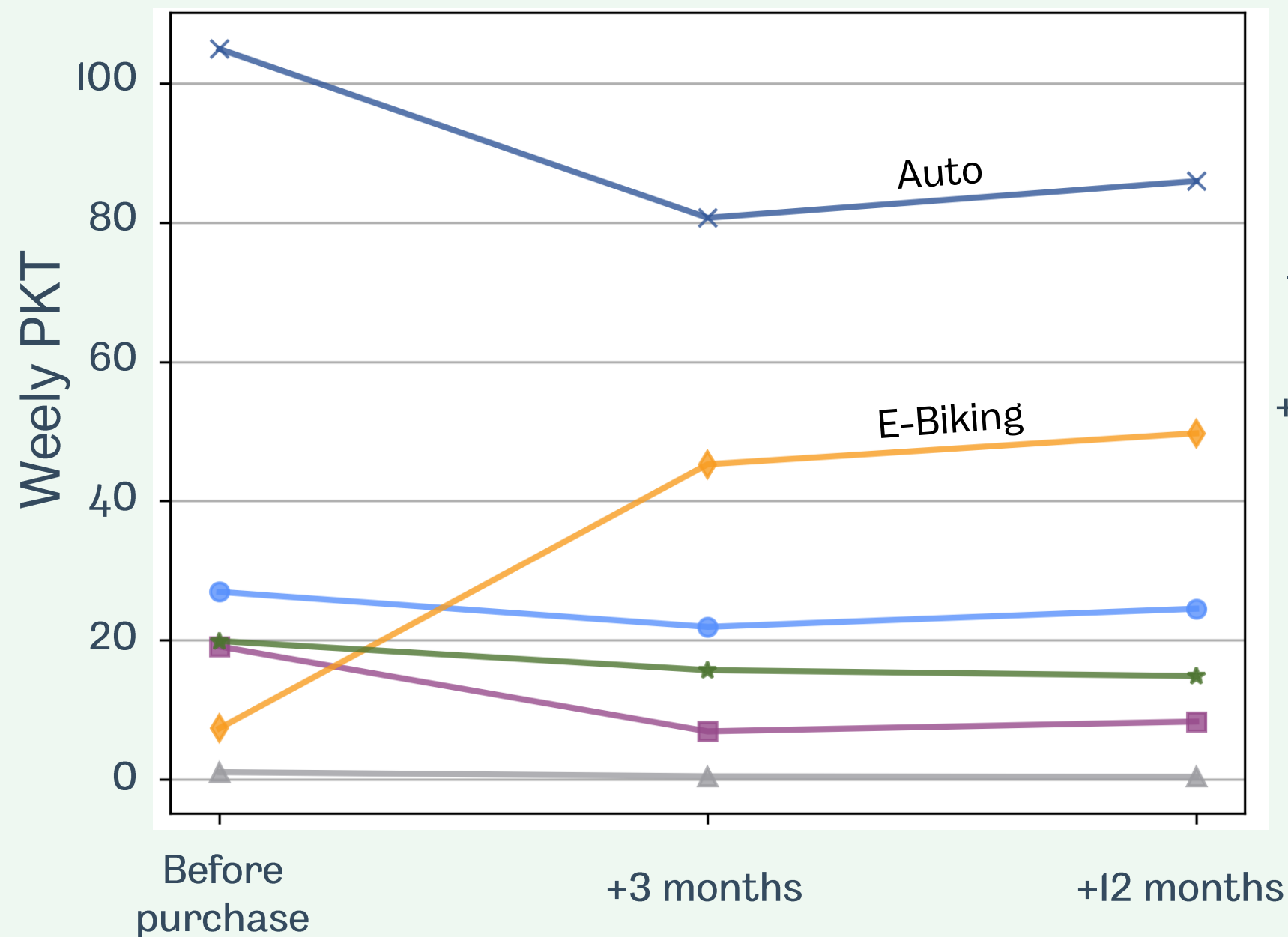
Mode substitution
(what mode would you have used if you didn't purchase the e-bike?)



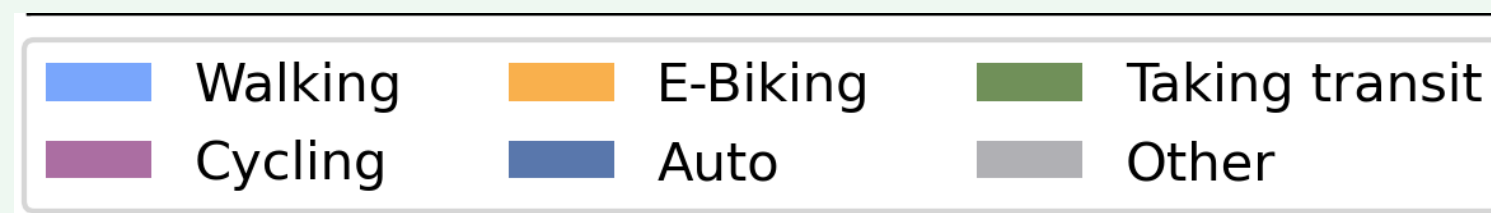
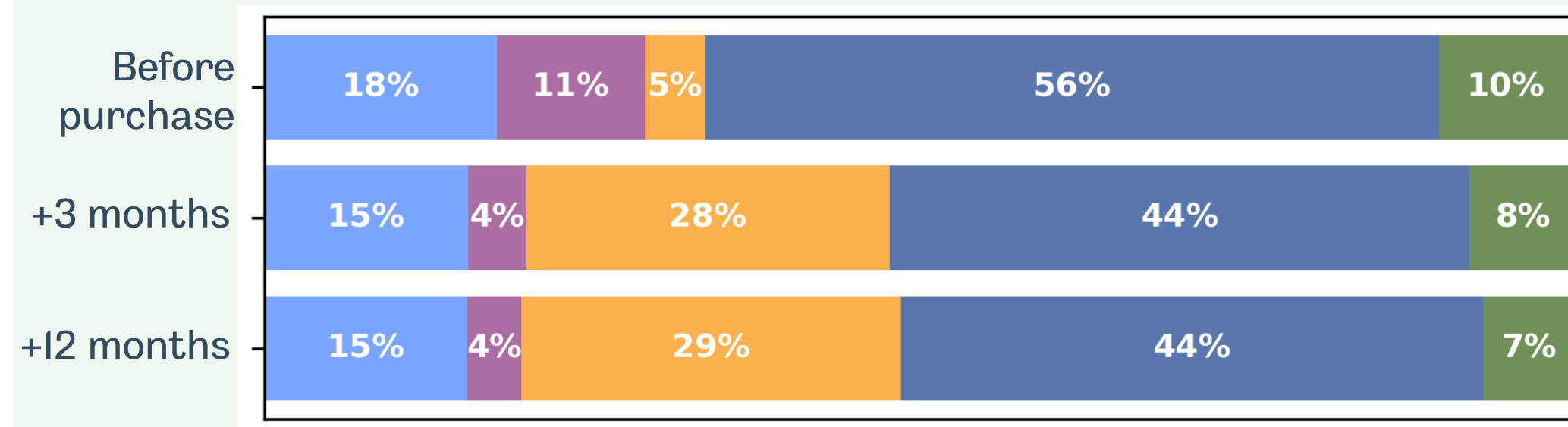
Improved mobility

Weekly Travel Habits: Person-Kilometer Traveled (PKT)

Weekly PKT



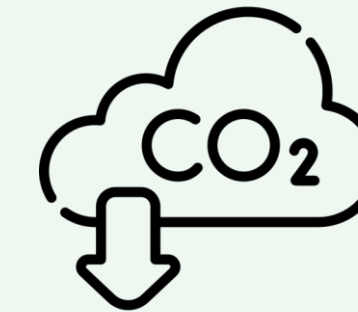
Weekly PKT Share



Total Program Impacts (4,943 rebates)

Spending and Cost Breakdown

Environmental Benefits (attributable to the program)

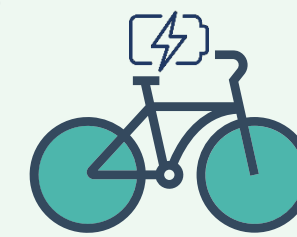
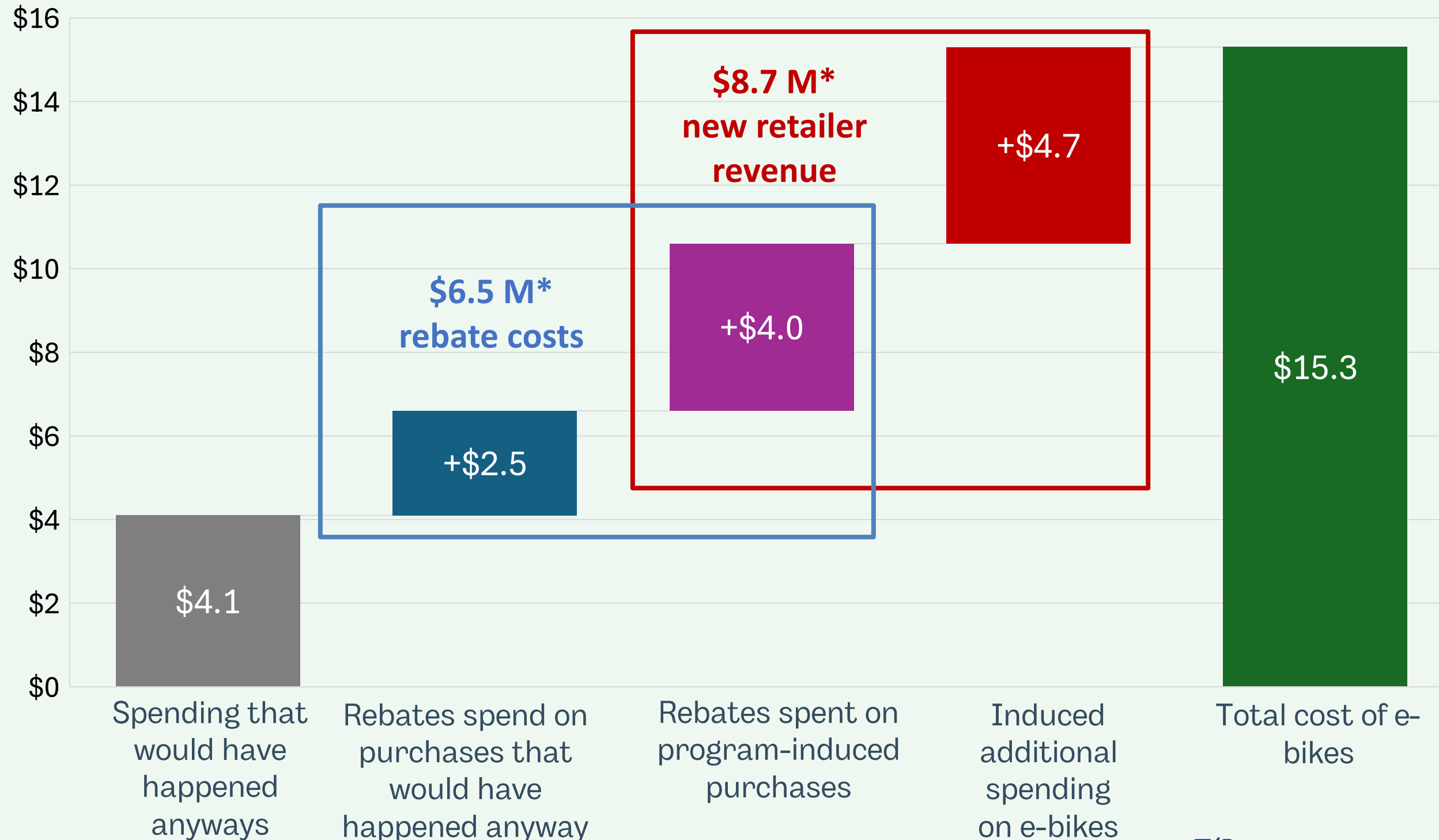


-17% travel-related emissions

-1,000 tonne/year

Cost: CA \$1,300/ tonne*

- Cost is similar to EV rebates
- Cheaper than bus electrification



* CA \$1 = US \$0.7, or a 30% reduction

Personal Benefits to E-Bike Users

- On a typical week, people e-biked ~50 km/week



- ~ 70% trips are utilitarian

- ~ 16% trips is new access to destinations



- Cost of e-bike purchase: ↓ average reduction by 41%

- Cost of daily transportation: ↓ average decrease of 12%

- Physical activity during travel: ↑ average increase of 13%



- Also true for conventional cyclists

“Owning an e-bike has had a huge impact on my daily quality of life“

“E-bike changed my life. I bike everyday, down 100lbs since getting the e-bike. I can walk again without stick, honestly changed my whole life... “

Positive experience testimonies



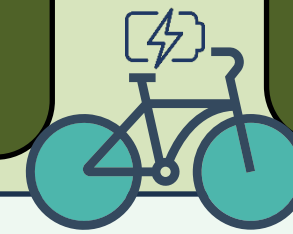
Provided mobility freedom



Brought people joy!
Fun was a key factor for continuing to bike



Improved mental and physical health



Key Findings and Influencing Factors

- Larger rebates are more equitable & smaller rebates are more cost-effective
 - Conflicting priorities for program design
- Low-income households did more e-biking & high-income households reduced more auto
 - Targeting middle-income households is most effective
- Commuters and people living in suburban areas experience higher benefits

Categories of people who gained most new travel mobility through e-biking

Non-white

Seniors

Women+

Low
Income

People
w/disabilities

Environmental benefits should not be the primary focus of future programs, especially as vehicles are becoming more efficient



Main Barriers to E-Bike Users

Riding
Facilities

Specifically for seniors and low-income individuals

Theft

Specifically for low-income individuals, people of color, and those living in urban areas

Parking
Facilities

Specifically for low-confidence cyclists

! E-bike rebates cannot be the only solution for boosting cycling - broader investments are essential to improve rider experience, safety, and confidence





Empower Benton County



In collaboration with Jerry Sorte (Business Oregon) and Kathryn Duvall (Oregon Legislature Environmental Caucus)



Known Challenges

Initial Purchase Cost

Cost must be offset at point of sale, rebates will not incentivize low income buyers

Helmet, Lock and Lights

First time bicycle owners need proper equipment to use their new bike!

Burdensome Applications

People with low incomes are already burdened for time and can experience shame when filling out extensive paperwork to justify their financial position

Corvallis Bike Infrastructure

Build a coalition of people seeking safer streets

Goals

- Get bikes to people who could benefit from reduced transportation costs
- Support local bike shops (economic development)
- Build support for more bicycle infrastructure
- Simplify the application process and streamline the program

\$60,000
grant

\$1200
incentive

“Pre-qualify”



**Empower Benton County
Electric Bike Instant Rebate
Application Form**



www.yescorvallis.org/ebikes

1. Applicant Information

Name:	
Address:	
Phone:	Email:

2. Are you age 18 or over?

Yes No

3. Is your residence served by Pacific Power? (Please provide a copy of your most recent Pacific Power bill) If power is paid by a landlord, please contact staff.

Yes No

4. Do you live in Benton County, Oregon?

Yes No

5. Income eligibility. Please answer either a or b below.

a. Are you a current participant in one of the following programs: SNAP/TANF (Oregon Trail Card), WIC, Section 8, or Oregon Health Plan? If "yes", please provide a copy of your Oregon Trail Card, Section 8 voucher, or other documentation with this application.

Yes No

b. Based on the chart below, does your family make equal to or less than 80% of the median family income for the Corvallis metropolitan Statistical Area? (2020 gross income or income from June 2020-May 2021)

Family Size	1	2	3	4	5	6	7	8
80% (Low Income)	47,600	54,400	61,200	68,000	73,450	78,900	84,350	89,800

Number of people in your family:

Family gross income during 2020 -or-

Family gross income from June 2020-May 2021

(Staff may request proof of income during the application review process)

Applicant Agrees to the Following:

By submitting this application, applicant agrees that all information that has been provided is accurate to the best of their knowledge. Applicant understands that due to limited funding and local e-bike supply, a lottery system may be used and not all qualified applicants will receive the instant rebate award. Applicants must receive an award letter from the Corvallis Benton County Economic Development Office in order to use the instant rebate. If applicant is approved for an instant rebate, and purchases an electric bicycle, applicant agrees to:

1. Maintain ownership of the electric bicycle for the first year after purchase.
2. Maintain current contact information (ideally email) with the Corvallis Benton County Economic Development Office (EDO) for the first year after purchase.
3. Respond to periodic requests for information from the EDO that ask for information on use of the electric bicycle and comments on the program. (The EDO will not share your name, however, the EDO will use this information to evaluate this program)
4. Adhere to all requirements of the instant rebate award.

In addition, applicant acknowledges that riding an electric bicycle entails risk, and applicant has been advised to wear and use safety equipment including a helmet and reflective vest and to follow all applicable state requirements.

Applicant shall indemnify, protect, defend, and hold City, its officers, agents, volunteers, and employees harmless against any actions, claim for injury or damage and all loss, liability, cost or expense, including court costs and attorneys fees, arising out of, or resulting directly or indirectly from, the performance of this program, except, to the extent not prohibited by ORS 30.140, for that resulting from the sole negligence of the City. Nothing in this agreement should be interpreted as imposing any liability on the City beyond the limits of the Oregon Tort Claims Act.

Applicant Signature: _____ **Date:** _____

Please submit a completed application packet to the Corvallis Benton County Economic Development Office at ebikes@corvallisoregon.gov or by mail or in person to Corvallis Benton County Economic Development Office, Corvallis City Hall, 501 SW Madison Ave, Corvallis, OR 97333. If submitted by hand, please place application materials in an envelope and label: "Empower Benton County Application."

If you have questions, please contact the Corvallis Benton County Economic Development Office at ebikes@corvallisoregon.gov or call or text (541) 248-0795.

SUBMIT THIS APPLICATION BY JULY 12, 2021 at 11:00 PM

Program Set Up



- Split subsidies into two phases
- Bike shops wouldn't front the purchase, staff had to meet buyers in person for purchase
- Definition of low income can be a sticking point
- Support from governmental partners (OSU, Corvallis Area MPO, Cascades West Transportation Options, DevNW)
- Build on wins

The flyer features a background image of an outdoor cafe with wooden tables and benches. At the top left are the logos for 'REGIONAL SOLUTIONS' (a circular seal) and 'CWEDD ECONOMIC DEVELOPMENT CASCADDES WEST DISTRICT' (a colorful geometric logo). The main title is 'Re-imagining Public Space for Resilient Communities' in bold black text, with the subtitle 'First Webinar: Street Cafes: Innovative Ideas in Practice' below it. A central text box contains the following text: 'The Regional Solutions Team and Cascades West Economic Development District (CWEDD) invite you to participate in *Re-imagining Public Space for Resilient Communities* webinar series. Our two organizations are looking to increase communication and collaboration with local governments, state agencies, and stakeholders in an effort to advance economic opportunities for our local retailers during the Covid-19 pandemic. This will be the first in a series of webinars over the coming months.' At the bottom, there are two blue-bordered boxes. The left one is titled 'Details' and contains 'Thursday, June 25' and '1-2 PM'. The right one is titled 'Agenda' and contains 'Concept Overview', 'Regional Case Studies', and 'Question and Answer'.

REGIONAL SOLUTIONS

CWEDD ECONOMIC DEVELOPMENT CASCADDES WEST DISTRICT

Re-imagining Public Space for Resilient Communities

First Webinar: Street Cafes: Innovative Ideas in Practice

The Regional Solutions Team and Cascades West Economic Development District (CWEDD) invite you to participate in *Re-imagining Public Space for Resilient Communities* webinar series. Our two organizations are looking to increase communication and collaboration with local governments, state agencies, and stakeholders in an effort to advance economic opportunities for our local retailers during the Covid-19 pandemic. This will be the first in a series of webinars over the coming months.

Details

Thursday, June 25
1-2 PM

Agenda

Concept Overview
Regional Case Studies
Question and Answer

One to Three Months (n=30)

E-bikes can't change the weather

“Cover more ground, go shopping and do chores since I have no access to public transportation or a car.”

Recreational use can inspire transportation use

“My gas usage has decreased by about 25%.”

E-bikes improve access for low car households or locations with infrequent transit

“I've saved about \$50 per month in gas since I got my bike.”

Results are immediate

“I would not have been able to afford one without it... thank you thank you thank you.”

Three to Six Months (n=20)

Use becomes more habitual

Trip length and frequency increases

Compounding health benefits

Infrastructure is a barrier to more use

“I do almost all my shopping and errands by bike now. I only drive to the farther places.”

“I have put 1100 miles on my bike in 3.5 months!”

Typical e-bike trips are commonly 5–12 miles, often lasting 30–90 minutes.

“Definitely better mood and more energy!”

Key barriers include:

- *unsafe driver behavior,*
- *poor bike lane maintenance,*
- *lack of connected routes,*
- *limited bike racks, and theft concerns*

Seven to Twelve Months

Households reduce car use

Safe storage is a barrier to extended use

E-bikes don't replace all trips, and that's okay

Low income e-bike subsidies provide access to bikes people otherwise wouldn't have

"I would use it almost daily if I weren't concerned about theft."

"I've put over 800 miles on my e-bike so far!"

Errands and groceries remain the most frequent e-bike trip purpose, followed closely by work trips and recreation.

"Great program. You changed my life."

Takeaways

Institutionalize the Program

Don't lose sight of program goals

Build an internal and external coalition for safe streets

E-bikes reduce the barriers to more significant mode shift

It's never just about bikes





The Kittelson team provides transportation research, policy, planning, design, and operations services to government sectors and private organizations nationwide. We partner with clients who are as driven as we are by the transformative impact of transportation on communities.

Questions?