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Executive Summary

Launched in October 2020, the 511 Contra Costa (511CC) E-Bike Rebate Pilot Program has issued 503 rebates to county residents. Funded with local sales tax earmarked for Commute Alternatives, the program’s goals were to incentivize people who use cars for their everyday trips to do three things:

1. Purchase an e-bike
2. E-bike instead of driving for local trips
3. Act as unofficial “E-bike Ambassadors” in the community

The concept was created to promote a transportation experience unlike traditional biking that would appeal to a much larger segment of the population, namely drivers of all ages and fitness levels.

A primary goal of 511CC’s pilot program was to build public awareness about e-bikes and their potential for everyday use as a clean, convenient, and inexpensive mode of personal transportation. With a total incentive budget of $100,000, rebates were issued in two amounts: $150 for a “standard” rebate and $300 for a “low income” rebate. Half of total funding ($50,000) was earmarked for residents who could provide verification of household income of 400% or less of the Federal Poverty Level. In comparison to other Bay Area e-bike rebate programs which provided $800–$1,000 rebates, 511CC’s lower rebate amount enabled the program to include more participants per dollar spent.

The hypothesis behind this pilot program was that issuing cash rebates for an inherently fun and rewarding product would create an unofficial marketing team of 500 “e-bike ambassadors” who would likely be eager to provide free advertising and reach more people in their communities than 511CC could reach alone. Personal testimony between friends, neighbors, and coworkers, with hands-on demonstrations, is apt to be more influential than institutional advertising. By awarding rebates to more people in smaller dollar amounts, the program’s influence is likely to lead to continued mode adoption, beyond the limits of the pilot program.

1 peninsulacleanenergy.com/ebikes/
2 sonomacleanpower.org/programs/bike-electric
85% Follow Up Survey Response Rate

Applicants agreed to complete a two-month follow up survey, which was (and continues to be) administered on a rolling basis according to rebate approval date. The response rate\(^3\) has been consistently at or above 84%. 511CC’s follow up survey takes 4-5 minutes, and the very high response indicates a high level of participant engagement and passion about the subject matter (e-biking). Initial concerns, shared by practitioners throughout the region about potential fraud and abuse of public funds can be assuaged by the fact that a great deal of legitimate user data was provided through follow up surveys and close customer support.

Another factor contributing to the high response rate could be due to customer loyalty and satisfaction developed through this and other 511CC trip reduction programs. All communication with rebate recipients is/was conducted through personal email or telephone (rather than through customer relationship management software), including the request to complete the follow up survey. Outstanding customer service and personalized emails for other 511CC programs such as the Summer Bike Challenge, Winter Walk Challenge, and Pass2Class; as well as relevant and useful community outreach through social media and a high-quality monthly newsletter contributes to customer satisfaction and “brand” loyalty as well, possibly influencing the high survey response rate.

Rebate Program Background & Eligibility

Bikeshare programs in Contra Costa are currently only available in Richmond, and no bikeshare programs were available when the rebate program started in 2020. Due to the spread-out suburban nature of the county, local transit service does not meet the everyday needs of many, making vehicle transport the most common and convenient mode in the county.

All Class 1, 2, and 3 e-bikes qualified for rebates, as did new e-bike conversion kits. E-bikes had to be purchased new (from any retailer), have pedals, and cost $5,000 or less. A sales receipt that showed the purchase date, make/model, price, and sales tax paid was required. Applicants also provided verification of county residence, age (18+), and a photo of the e-bike’s serial number to prove possession. Program materials were available in English and Spanish.

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\(^3\) The average response rate for online surveys is 10-30%, and a response rate of 50% or higher is generally considered an excellent result.
Key Findings

Demographics

136 Low-Income and 369 Standard rebates were issued October 1, 2020-December 2, 2021. (Note: Statistical information described later in this report is based on user data collected through October 21, 2021.)

69% of rebates went to middle aged people, ages 40-69. New outreach channels could be developed to help reach a younger audience.

62% of participants identified as male, 38% as female.

Of the participants who indicated their race, 52% identified as White; 31% as Asian; 5% as Hispanic or Latinx; 4% as more than one race; 3% as Black or African American; 1% as Native Hawaiian or other Pacific Islander; and 3% as other. The percentages of White and Asian participants are proportionally higher than the County as a whole, while the remaining race categories are proportionally lower than the county’s general population. New outreach channels could be developed to help reach a more diverse audience.

92% of participants have attended at least some college, and 70% have a Bachelors, Masters, or Ph.D. Participants’ higher-than-average levels of education indicates that the program appealed to a segment of the population that generally has access to more resources, which typically supports driving. While the program was not initially designed to address mobility barriers for low-income individuals, the larger $300 Low-income rebate was offered so that the incentive would appeal to a larger audience.

Most participants were either employed full time (46%) or retired (27%)

55% of participants who chose to indicate their total household income earn more than $100,000 per year. The County’s 2019 median income is $107,135.

Cost of E-bikes

The highest percentage of rebates, 36%, went to people who spent between $1,000-$2,000 on their e-bike. The average amount spent by all applicants was $1,414 and the median was $1,253.

The average e-bike cost for people who received a Standard rebate was $1,519, and the average e-bike cost for a Low-income applicant was $1,014.

27% of e-bike rebates (including all applicants, both Standard and Low-income) were issued to people who purchased low-cost models ($500 or less) such as the Jetson Bolt Pro (sold at Costco) and the Hyper E Ride (sold at Walmart). Usage data indicates that frequency of trips is nearly identical between all bike cost groups, indicating

\(^4\) datausa.io/profile/geo/contra-costa-county-ca#demographics
that cost minimums are not necessary to influence trip reduction outcomes. Less expensive e-bikes appear to be sufficient for trips ten miles or less, which is the average length of most automobile trips.

### Potential for E-Bikes to Replace Vehicle Trips

In Contra Costa County, the default mode is driving. 95% of all rebate recipients, including both standard and low-income categories, report owning or having access to vehicles, which demonstrates that in Contra Costa County, transportation by vehicle is the most practical option. It appears that people living in Contra Costa may consider vehicle access a necessity, rather than a luxury.

Despite the negative emissions and congestion factors, a personal, borrowed, or hired vehicle is almost always the most convenient and oftentimes only mode of feasible transportation in much of Contra Costa County. According to Bay Area Census, in Contra Costa County (pre-covid), less than 2% of the adult population uses a public bus to get to work, less than 1% bicycle, and nearly 84% commute by vehicle. Similarly, when asked about their usual mode of transport for daily trips, 80% of e-bike rebate survey respondents reported using a vehicle most often. Survey data also shows that e-bikes are rarely replacing public transit trips but are frequently replacing vehicle trips.

Contra Costa’s low bus transit usage could be due to the infrequent and indirect routes that serve its spread-out suburban cities. For some people bus transit is perceived as impractical due to service factors: routes take too long, service is infrequent, and (due to the built environment) destinations are spread so far apart that many places simply cannot be reached by transit. Other people are simply unwilling to use public transit for personal reasons and lifestyle choices.

When local transit service does not meet the everyday needs of most residents, traditional mode-switch incentives, such as free or discounted transit ride passes, may not lead to lasting mode adoption.

Traditional bicycling, used by only less than 1% of the adult population for transportation, offers personal transport with more flexibility than transit, but it does not appeal to most people for numerous reasons including the physical effort, sweat/hygiene, time costs, and distance limitations. The addition of an electric motor to a bicycle, however, is a gamechanger. An e-bike

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5bayareacensus.ca.gov/counties/ContraCostaCounty.htm

6bayareacensus.ca.gov/counties/ContraCostaCounty.htm
offers people many of the benefits of driving (speed, ease, independent and direct access to desired destinations) without the burdens of cycling, making it a truly realistic mode-switch option for those who cannot or will not use transit. E-bike incentives such as rebates, particularly in areas like Contra Costa where bus transit is underutilized and public bikeshare is not available, could significantly influence mode change.

“With gas prices going up, and Bart being expensive, budget was a large consideration on buying an e-bike... If you’re serious about getting cars off the road especially for commutes this rebate should be one per adult member of each household. Because when my husband didn’t have an e-bike and I did, he still took the car to work, while I took my e-bike. We only bought the second e-bike, which now allows us to not use the truck on Weekdays at all, because of the stimulus check.”

Ride Frequency & Trip Length

According to survey data, most participants across all age categories and income levels report using their e-bike 2-4 times per week, and 83% indicated they have used their e-bike for a trip they would have previously taken by car.

Follow up surveys asked about overall e-bike usage as well as specific usage on riders’ “most recent e-bike trip.” Data shows the average round trip length for purposeful, destination bound e-bike trips (i.e. to reach specific locations such as work, school, appointments, BART, restaurants, etc.; and excluding data about “exercise only” trips) is 8 miles.

When asked how they would have reached their most recent e-bike destination if their e-bike had not been available, 75% said they would have driven or ridden in a vehicle instead.

According to US Department of Energy 7, 75% of all vehicle trips are less than 10 miles, and our e-bike rebate survey data shows that most e-bike trips follow a similar trend. Participants report that 78% of their e-bike rides “that replace

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7 energy.gov/eere/vehicles/articles/fotw-1042-august-13-2018-2017-nearly-60-all-vehicle-trips-were-less-six-miles
“car trips” are 10 miles or less, with the average distance being 8 miles.

“I’m hopeful the e-bike will allow me to fulfill my goal of commuting to BART by bicycle and not car.”

E-bikes are being used for far more than just recreation and exercise. According to research by Portland State University, more than 65% of North American e-bike owners report that they bought the e-bike mostly to replace car trips. By contrast, according to StreetsBlog USA, more than half of Americans who own traditional bikes ride them exclusively for recreation.

511CC’s survey data proves that people are using their e-bikes to reach a variety of local destinations and to accomplish necessary tasks including shopping trips, running errands, getting to appointments, going to restaurants, visiting friends; as well as getting to work, volunteer jobs, school, classes, and BART.

Even if the initial purpose of e-biking for some people is solely for exercise or pleasure, the potential to reduce long-term VMT should not be discounted; a person in the habit of biking will be more likely to eventually try bike commuting than someone who does not regularly use a bike at all.

While the Bay Area Air Management District (BAAQMD) has historically been focused on reducing traditional commute hour vehicle trips, the pandemic-induced remote and flexible work trends should force practitioners to consider midday and non-work commute trips as prime targets for VMT and GHG reduction goals. Any incentive that gets people to regularly use an alternative clean mode is worth supporting and funding.

“Two of us share the ebike, and we have ended up using it more than we thought we would. We’re even contemplating a non-cargo ebike because when one person commutes with the bike, the other person has to take the car for chores and shopping.”

“Owning and riding an e-bike is fun, and it’s a great motivator for enjoying the outdoors and getting exercise in a fun way without involving the car. Also, the fact that Contra Costa gives a rebate to people who purchase an e-bike makes me proud of living in this progressive-minded county.”

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9 usa.streetsblog.org/2015/03/04/survey-100-million-americans-bike-each-year-but-few-make-it-a-habit/
E-Biking by Non-Bikers

71% of rebate recipients were not avid cyclists prior to owning an e-bike, reporting that they previously rode traditional, non-electric bikes only two or fewer times per month. 52% of participants rarely or never rode bikes prior to getting an e-bike. This data is significant because it shows that e-biking should not be categorized with traditional bicycling as a mode-shift option.

85% of these “never” or “rarely” bikers are now riding e-bikes 1-7 days a week!

“Would Not be riding at all without this bike.”

E-bikes are an altogether new transportation option for many, an emerging trend that should be strongly promoted as an excellent, relatively low cost and non-polluting new alternative to driving that appeals to people who would not consider riding a traditional bike or using bus transit.

“I never liked biking due to leg fatigue, now I find any excuse to take my bike.”

55% of program participants had test ridden an e-bike before buying one, while 45% bought one without ever having tried one. This may indicate that the 511CC rebate program influenced at least 45% of purchase decisions by lowering the perceived risk factor of “buyer’s remorse” that potentially comes with investing large capital in something untested. Of those 45% who had never ridden an e-bike before buying one, 85% currently report e-biking 1-7 days per week.

“I’ve been really happy with my purchase; it has been more than worth it and hassle-free!”

“Best thing I’ve bought in ages. Quality of life improvement across the board.”

E-Biking for Climate Change

To meet SB 32’s goal of reducing greenhouse gas emissions by 40% below 1990 levels by 2030, consumers need more “easy” transportation choices as well as more incentives to make changes.
Personal mobility and automobile ownership have long defined American culture. Asking suburban motorists to shift individual car trips to rides on public transit, or even to carpool with non-family members, is asking for major, inconvenient lifestyle changes that do not provide any (perceived) direct, immediate personal benefit. This is particularly true in places such as Contra Costa County where transit service does not meet the needs of most, where the spread out built environment makes carpooling a challenge, and where promoting a convenient and beneficial clean mode alternative has historically been difficult and mostly ineffective.

The introduction of the e-bike changes the mode shift “ask” because it provides additional personal benefits, beyond climate change reduction and air quality improvements which studies have shown are not factors that inspire most people to drive less.

“The introduction of the e-bike changes the mode shift “ask” because it provides additional personal benefits, beyond climate change reduction and air quality improvements which studies have shown are not factors that inspire most people to drive less. “Life changing innovation. And thank you for making it more affordable for me during a difficult year. It’s had a positive impact on me physically as well as mentally during Covid.”

The California Air Resources Board recognizes the benefits of an e-bike rebate program and is currently working on developing a statewide program. E-Bike incentives could also help the Bay Area meet climate change and air quality goals. The societal benefits to public health and mental wellbeing are not being explored in this report, but providing increased access to e-bikes through rebate programs will contribute to Plan Bay Area 2050's goals of making the Bay Area “affordable, connected, diverse, healthy, and vibrant for all.”

10 planbayarea.org/about/plan-bay-area-2050-vision
Survey data shows all age groups valued the benefits of e-biking similarly. Between low-income and standard applicants, however, there was a noticeable difference in the people who indicated “New sense of independence” which demonstrates that access to personal mobility is lacking without an e-bike option. E-bike ownership also appears to offer a new opportunity for low-income applicants to enjoy healthful recreation and exercise.

“Thank you. I would need to call my daughter before this program.” -Disabled Participant

“As a low-income person, I most likely wouldn't have made the purchase w/o the rebate.”

Survey data shows that vandalism, theft, and bike parking concerns; as well as fear of traffic collisions and lack of adequate bike lanes are major barriers to more frequent e-biking. From a TDM perspective, there are several actions that can help alleviate these barriers.

Barriers to Overcome

Participants indicated they would like to ride to retail centers, grocery stores, downtown areas, BART, medical offices, and worksites, but are very uncomfortable locking their e-bikes in standard bike racks. Providing standard bike locks as an added incentive is unlikely to spur higher confidence in and usage of standard bike racks. Funding should instead be prioritized for the purchase and installation of e-lockers where space permits, as survey respondents expressed a much higher level of confidence in storing e-bikes in them.
At locations where space is limited, modern “high security” bike racks with integrated locking mechanisms, such as the Bikeep\textsuperscript{11} stands piloted at certain BART stations, should be installed.

Continued complete street improvements and prioritization of separated and protected bikeways will contribute to e-bike (and traditional bike) adoption and more frequent usage. In the meantime, providing bicycle safety education about street riding and how to navigate traffic while sharing space with vehicles could also help encourage more e-bike trips.

Educating people about the benefits of renters’ and homeowners’ insurance, which typically covers replacement of stolen e-bikes, could also potentially ease fears. From an equity perspective, however, insurance protection may not be available to everyone.

“The rebate made the E-bike price seem reasonable. Let’s get some bike lockers at Home Depot so I can ride to work a couple of days a week.”

“Would love to ride to the store etc., if I could be sure my bike would be there when I returned.”

“We need more bike lanes and bike parking!”

\textsuperscript{11} bikeep.com/smart-commercial-bike-rack/
Cost Effectiveness Default Assumptions

Using the Bay Area Air Quality Management District’s Transportation Fund for Clean Air Program Manager fund cost effectiveness methodology, the e-bike rebate program resulted in a reduction of 580,000 vehicle miles traveled, 145,000 vehicle trips avoided, and 187.077 Tons of CO2 avoided.

If the Transportation Fund for Clean Air had been used to fund 511CC’s innovative E-Bike Rebate Pilot Program, the cost effectiveness for one year would have been $264,055/Ton of pollutants reduced.

Survey data on the following pages was collected October 2020-October 2021.
Survey Data

Aside from your new e-bike, do you own or have regular access to a motor vehicle?

- YES, 95%
- NO, 5%

What mode of transport do you use for the majority of your daily trips?

- Car, truck, van, motorcycle (including rides): 80%
- E-Bike: 14%
- Walk: 3%
- Traditional (non-electric bike): 1%
- Electric Scooter: 0%
- BART: 2%
- Bus: 0%

How frequently do you ride your e-bike in place of...

- Any car or motorcycle (drive, ride, Uber/Lyft, taxi, etc.): 51
- Any bus: 11
- BART: 5

Standard vs. Low Income Comparison

BOTH categories answered 95% YES to vehicle access
Assuming pleasant weather and healthy air quality, about how often do you typically ride your e-bike?

- **Daily**: 10%
- **Once a week**: 23%
- **2-3 times per month**: 9%
- **Once a month**: 2%
- **2-4 times per week**: 55%
- **Less than once per month**: 1%
- **Daily**: 10%

Since buying your e-bike, have you ever used it for a trip that you previously would have taken by car?

- **YES, 83%**
- **NO, 17%**
Assuming pleasant weather and healthy air quality, about how often do you typically ride your e-bike?

**Standard vs. Low Income Comparison**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Standard</th>
<th>Low Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>2-4 times per week</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>Once a week</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Once a month</td>
<td>5%</td>
<td>15%</td>
</tr>
<tr>
<td>Less than once per month</td>
<td>5%</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Age Category Comparison**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Daily</th>
<th>2-4 times per week</th>
<th>Once a week</th>
<th>2-3 times per month</th>
<th>Once a month</th>
<th>Less than once per month</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>20%</td>
<td>40%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>31-40</td>
<td>20%</td>
<td>40%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
<td>0%</td>
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<td>41-50</td>
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<td>5%</td>
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<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>61-70</td>
<td>20%</td>
<td>40%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>71+</td>
<td>20%</td>
<td>40%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
<td>0%</td>
</tr>
</tbody>
</table>
About how many miles (round trip) is your average e-bike ride?

- 0-2 miles: 8% LOW INCOME, 10% STANDARD
- 2-3 miles: 14% LOW INCOME, 17% STANDARD
- 3-5 miles: 17% LOW INCOME, 21% STANDARD
- 5-8 miles: 13% LOW INCOME, 12% STANDARD
- 8-10 miles: 14% LOW INCOME, 13% STANDARD
- 10-15 miles: 11% LOW INCOME, 10% STANDARD
- 15+ miles: 6% LOW INCOME, 15% STANDARD
- I don’t know: 3% LOW INCOME, 5% STANDARD

About how many miles (round trip) is your average e-bike ride when replacing a car trip?

- 0-2 miles: 8% LOW INCOME, 10% STANDARD
- 2-3 miles: 14% LOW INCOME, 17% STANDARD
- 3-5 miles: 17% LOW INCOME, 21% STANDARD
- 5-8 miles: 13% LOW INCOME, 12% STANDARD
- 8-10 miles: 14% LOW INCOME, 13% STANDARD
- 10-15 miles: 11% LOW INCOME, 10% STANDARD
- 15+ miles: 6% LOW INCOME, 15% STANDARD
- I don’t know: 3% LOW INCOME, 5% STANDARD

About how many miles (round trip) is your average e-bike ride?

- 0-2 miles: 8% 10%
- 2-3 miles: 14% 17%
- 3-5 miles: 21% 26%
- 5-8 miles: 13% 12%
- 8-10 miles: 14% 13%
- 10-15 miles: 11% 10%
- 15+ miles: 6% 15%
- I don’t know: 3% 5%
Comparison of Low-Cost E-bikes

Assuming pleasant weather and healthy air quality, about how often do you typically ride your e-bike?

- Less than once per month: 1% Low cost, 4% Bikes costing $501-$5,000
- Once a month: 2% Low cost, 3% Bikes costing $501-$5,000
- 2-3 times per month: 9% Low cost, 11% Bikes costing $501-$5,000
- Once a week: 16% Low cost, 23% Bikes costing $501-$5,000
- 2-4 times per week: 54% Low cost, 56% Bikes costing $501-$5,000
- Daily: 10% Low cost, 10% Bikes costing $501-$5,000

About how many miles (round trip) is your average e-bike ride?

- 0-2 miles: 11% Low cost, 10% Bikes costing $501-$5,000
- 2-3 miles: 18% Low cost, 18% Bikes costing $501-$5,000
- 3-5 miles: 29% Low cost, 21% Bikes costing $501-$5,000
- 5-8 miles: 21% Low cost, 18% Bikes costing $501-$5,000
- 8-10 miles: 18% Low cost, 16% Bikes costing $501-$5,000
- 10-15 miles: 18% Low cost, 16% Bikes costing $501-$5,000
- 15+ miles: 22% Low cost, 9% Bikes costing $501-$5,000
- I don’t know: 4% Low cost, 2% Bikes costing $501-$5,000

Low cost bikes <$500
Bikes costing $501-$5,000
### Please indicate which destinations you have EVER ridden to on your e-bike. (Select all that apply)

<table>
<thead>
<tr>
<th>Destination</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Outings</td>
<td>197</td>
</tr>
<tr>
<td>Pleasure / Exercise</td>
<td>296</td>
</tr>
<tr>
<td>Shopping/errands</td>
<td>201</td>
</tr>
<tr>
<td>Appointments</td>
<td>66</td>
</tr>
<tr>
<td>Work / Volunteer jobs</td>
<td>70</td>
</tr>
<tr>
<td>BART / Transit center</td>
<td>30</td>
</tr>
<tr>
<td>School / Classes</td>
<td>30</td>
</tr>
</tbody>
</table>

### What was the primary purpose of your LAST, most recent e-bike ride?

- Pleasure Ride / exercise: 58%
- Purposeful Destination: 42%

**EXCLUDING "Pleasure Rides/Exercise" answers, responses below are from people whose last e-bike ride was to a specific destination such as work, shopping, BART, school, appointment, etc.:**

- Had your e-bike been unavailable for this most recent trip, how would you have made this trip?
  - Electric Scooter: 1%
  - Bus: 1%
  - BART: 1%
  - Traditional bicycle: 3%
  - Walk: 10%
  - I wouldn’t have made this trip: 9%
  - Car, truck, van, motorcycle (including rides): 75%
What was the primary purpose of your **LAST** e-bike ride?

- School / Classes
- BART / Transit center
- Work / Volunteer jobs
- Appointments
- Shopping/errands
- Pleasure / Exercise
- Social Outings

Please indicate which destinations you have **EVER** ridden to on your e-bike. (Select all that apply)

- School / Classes
- BART / Transit center
- Work / Volunteer jobs
- Appointments
- Shopping/errands
- Pleasure / Exercise
- Social Outings
Before owning an e-bike, how would you get to the destinations you currently ride to on your e-bike?

- I don't know: 1%
- BART: 5%
- I would not go to the same places: 9%
- Ride a traditional (non-electric) bike: 9%
- Walk: 15%
- Automobile (Driving, getting a ride, or TNC): 60%

Before owning an e-bike, about how often did you ride a traditional, NON-electric bike?

- Daily: 4%
- 2-4 times per week: 11%
- Once a week: 14%
- A couple of times per month: 10%
- Once a month: 9%
- Rarely: 41%
- Never: 11%

Of the 71% of participants who previously biked twice a month or less often, since owning an e-bike they now ride...

- Daily: 7%
- 2-4 times per week: 43%
- Once a week: 35%
- A couple of times per month: 10%
- Once a month: 3%
- Rarely: 2%
Have any of the following people asked you about your e-bike? (Check all that apply)

351 survey respondents report that they’ve told at least 950 other people about their e-bike.

What was your experience with e-bikes before buying one? (Check all that apply)

Current Riding Frequency of those who "never rode an e-bike before buying one"

- Never rode an e-bike before buying one: 162
- Tried a friend’s/neighbor’s e-bike: 98
- Rented an e-bike while on vacation: 45
- Visited a bike shop for a test ride: 45
- Used e-bikeshare (Lime, Bay Wheels, etc.): 23
- Other (YouTube videos, Facebook group chat): 8

Current Riding Frequency:
- Less than one per month: 1%
- Once per month: 3%
- 2 or 3 times per month: 11%
- 2-4 times per week: 49%
- Once a week: 24%
- Daily: 12%
How does riding your e-bike make you feel? (Select up to 3)

- Happy: 325
- Energized: 212
- Empowered: 139
- Independent: 132
- Nervous: 14
- Tired: 3
- Uncomfortable: 2
- None of these: 6

What are the top benefits of owning an e-bike? (Select up to 3)

- Improve my safety while biking: 9
- New sense of independence: 59
- Can go faster than on a non-electric bike: 54
- Avoid parking hassles: 27
- Pollution-free transportation: 135
- Good alternative to driving a car: 133
- Less effort than a traditional bike: 228
- Can go longer distances than on a non-electric bike: 235
- Exercise and recreation: 244

- Improved Transportation Factors: 78%
- Exercise and recreation: 22%
What are the top benefits of owning an e-bike? (Select up to 3)

- Improve my safety while biking
- New sense of independence
- Can go faster than on a non-electric bike
- Avoid parking hassles
- Pollution-free transportation
- Good alternative to driving a car
- Less effort than a traditional bike
- Can go longer distances than on a non-electric bike
- Exercise and recreation

**Standard vs. Low Income Comparison**

**Exercise and recreation**

**Ages:**
- **18-30**
- **31-40**
- **41-50**
- **51-60**
- **61-70**
- **71+**
What barriers prevent you from using your e-bike for more of your daily trips? (Select up to 3)

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vandalism or theft</td>
<td>207</td>
</tr>
<tr>
<td>Weather</td>
<td>115</td>
</tr>
<tr>
<td>Bike parking concerns</td>
<td>99</td>
</tr>
<tr>
<td>Fear of traffic collisions</td>
<td>180</td>
</tr>
<tr>
<td>Insufficient bike lanes</td>
<td>112</td>
</tr>
<tr>
<td>Carrying cargo or passengers</td>
<td>97</td>
</tr>
<tr>
<td>Risk of injury</td>
<td>60</td>
</tr>
<tr>
<td>Battery life or charging...</td>
<td>56</td>
</tr>
<tr>
<td>Other</td>
<td>19</td>
</tr>
</tbody>
</table>

Is there a specific location that you would like to bike to, but don’t, because of inadequate bike parking?

<table>
<thead>
<tr>
<th>Location</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td>Work</td>
<td>10</td>
</tr>
<tr>
<td>School</td>
<td>2</td>
</tr>
<tr>
<td>Park</td>
<td>12</td>
</tr>
<tr>
<td>Downtown/Restaurants</td>
<td>25</td>
</tr>
<tr>
<td>Retail</td>
<td>42</td>
</tr>
<tr>
<td>BART</td>
<td>24</td>
</tr>
<tr>
<td>Grocery</td>
<td>38</td>
</tr>
<tr>
<td>Medical</td>
<td>18</td>
</tr>
</tbody>
</table>

In general, how comfortable would you feel about parking your e-bike in your community?

<table>
<thead>
<tr>
<th>Comfort Level</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsure</td>
<td></td>
</tr>
<tr>
<td>Very uncomfortable</td>
<td></td>
</tr>
<tr>
<td>Somewhat uncomfortable</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>Somewhat comfortable</td>
<td></td>
</tr>
<tr>
<td>Very comfortable</td>
<td></td>
</tr>
</tbody>
</table>
What barriers prevent you from using your e-bike for more of your daily trips? (Select up to 3)

- Battery life or charging concerns
- Risk of injury
- Carrying cargo or passengers
- Insufficient bike lanes
- Fear of traffic collisions
- Bike parking concerns
- Weather
- Vandalism or theft

**Standard vs. Low Income Comparison**

**Ages:**
- 18-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71+

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Page | 26
December 2021

511CC E-Bike Rebate Pilot Program One Year REPORT
Would you be interested in taking a free Urban Cycling class to learn how to ride more safely on city streets / in traffic?

Note: 511 Contra Costa offered online bike safety classes in October 2021 and contacted all e-bike rebate recipients that indicated interest.

Responses below taken verbatim:

OPEN ENDED QUESTION: Is there anything else you'd like us to know about your e-bike experience?

Responses below taken verbatim:

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best purchase I’ve ever made! Enables me to be more of an outdoor enthusiast and confidently explore more great places!</td>
<td>287</td>
</tr>
<tr>
<td>Best purchase of the year</td>
<td>40</td>
</tr>
<tr>
<td>Best thing I’ve bought in ages. Quality of life improvement across the board.</td>
<td>11</td>
</tr>
<tr>
<td>Bike thefts are my biggest concern. Do not trust bike locks are sufficient deterrent for high value bike. Specifically got an e-bike that folds up So I can take it inside with me.</td>
<td>2</td>
</tr>
<tr>
<td>Can't recommend them highly enough!!</td>
<td>2</td>
</tr>
<tr>
<td>convenient way to get around</td>
<td>2</td>
</tr>
</tbody>
</table>

At home, where do you park your e-bike?

<table>
<thead>
<tr>
<th>Location</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>In my personal garage or storage area</td>
<td>287</td>
</tr>
<tr>
<td>Inside my apartment, condo, townhome, or house (including on a personal balcony)</td>
<td>40</td>
</tr>
<tr>
<td>In my backyard</td>
<td>11</td>
</tr>
<tr>
<td>In a storage area shared with other residents</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: 511 Contra Costa offered online bike safety classes in October 2021 and contacted all e-bike rebate recipients that indicated interest.
E bikes make hilly rides much more accessible for us older riders.

e-Bike are the best

e-bikes are fun to ride!

E-Bikes happening do breed more e-bike converts!!

EBikes are great for me in the suburbs

Fun

Great exercise and can go further and longer

Great experience

Great for full time RV people

Great motivator for exercise and social contact as I have just retired.

Great so far. Happy with my purchase. Curious to know the long-term cost of e-bike ownership.

Haven't gotten a bike rack for the car yet so limited where I can ride.

Having an e-Bike gets me out in the fresh air and enables me to get a good workout.

Having some charging points would be nice, not necessary, but sometimes...

hit by a car today, bike in shop unrideable, driver at fault, no serious injuries

I also enjoy my e-bike on longer distances, because biking uphill is so much easier with my e-bike than my traditional bike.

I am enjoying it and the rebate was an incentive.

I believe there really needs to be more protected bike lanes everywhere, in addition to secure bike parking.

I bike more than I did with my traditional bike... It is easier to use on hills so I bike more.

I enjoy riding it.

I enjoy taking my bike practically everywhere but wish it was easy to lock and it be safe for the duration I leave it. I feel uncomfortable locking my bike in a shopping center due to high rate of vandalism. However, I do bike to a farmer’s market or a gathering and lock it within sight. I usually prefer biking on a trail with minimal road use due to the heavy local traffic.

I found the bike I bought is not well suited to my very hilly setting. Specifically, the cable brakes feel barely able to keep my speed in check when going down and the motor struggles to provide adequate boost going back up. So I've just purchased a different bike with hydraulic brakes and a more powerful motor. I'm hopeful the newer bike will allow me to fulfill my goal of commuting to BART by bicycle and not car without feeling unsafe going downhill.

I got a cargo e-bike to transport my daughter, and she loves riding on it! A lot of people comment on how it’s a cool bike, kids and adults alike, and parents ask questions about it but still seem a little hesitant. It would make a big difference in improving bike/ped safety if more families could take an e-bike to school dropoff/pickup, instead of driving the short distance from home.

I have not been able to ride as much because my route this year is further away.

I love it

I love it - thank you!

I love it and my husband is the greatest for buying it for me. Wish I had it sooner.

I love it and would use it more for errands if not worried about theft while it’s out of my sight.
I love it! Opens up so many fun options to my family of 4 (two toddlers). We get asked about it all the time.

I love it!!!

I love it!. It has changed the game for me and I really enjoy cycling

I love my e bike and always recommend to others

I love my e-bike and will be riding it more during the summer months

I love my e-Bike, I now take it on local vacation trips with me to get around without the need of a car!

I love my e-bike. It's been a game changer for transportation and recreational riding!

I love my new ebike

I love riding my bike and highly recommend it to my friends and family

I love riding my e-bike and I promote purchasing one to my friends and family.

I love riding on short local trips. I haven’t gone on bart yet because the bike is heavy snd I don’t trust being able to use escalators always.

I love using my e-bike and purchasing one!

I need to replace my tires and they’re a little more difficult to do on an electric bike than a regular non-electric one.

I never liked biking due to leg fatigue, now I find any excuse to take my bike.

I think CA needs to make E-bike riders wear a helmet

I try to ride my e-bike every other day for exercise and for some medical appointments. I don’t always use peddle assist, so my total mileage as indicated on my bike is not accurate. The total mileage on my e-bike is over 500 miles since acquisition.

I wish I was more comfortable leaving it locked in Walnut Creek but am afraid of theft

I wish the city streets were better for bikes. Also, the cost of maintaining e-bikes is high

I work in San Francisco and have to travel throughout the city and it has helped me to avoid having to drive into SF and face awful traffic. I used to ride a traditional bike but was so much more limited on where I could go in the city with all of the hills.

I work very late 1am and also afraid of being hit by a drunk

I would commute to BART daily if there were a bike bridge over HWY 4

I'm happy with my e-bike.

I've been really happy with my purchase; it has been more than worth it and hassle-free!

I'm so glad I got this bike

I'm just very worried about bike thefts and vandalism in this county and in the bay area as a whole. I feel unsafe because of my disability and wont be able to defend myself and my property. When I ride my bike, I do not stop to rest or go into stores because I'm afraid I may be robbed or become a victim of a bike jacking(similar to car jacking). It's very sad this country has changed so drastically and I live in fear of my life and property and cant seem to enjoy the wonderful Iron Horse Trail and the CC Canal on my e-bike.

In general, I enjoy riding my e-bike. I try to plan my trips to avoid traffic and use protected bike paths and bike lanes as much as possible.

Intuitive

It has been awesome greatest purchase of my life.

It has been one of the best purchases I've made in years. I absolutely love my ebike.
It has been really enjoyable to get out on the E-Bike. I have 2 young sons that also enjoy riding the E-Bike as well.

It has been super helpful for enabling longer trips with heavier cargo! It definitely gives me more freedom - thank you!

It has changed my attitude about where I can bike. Hills are now a non-issue

It is fun, but the trail paths are on one side of the freeway and need an underpass for bikes near monument.

It is great!

It would be great if the bike trail network was expanded.

It's been great!

it's great!

It’s been fun :) 

It’s been fun : )

Looking forward to riding more now that my elbow is finally better

Love it

LOVE IT

Love it Am EXTREMLEY worried about it getting stolen. Have purchased every lock I can. Keep reading on nextdoor about bikes stolen everyday. Want to keep in my view when locked up. Although downtown has places to put bikes, many off the beaten path. Also, to thick to lock ebike onto. EBIKES are thicker and need more space to lock up

Love it- thanks for providing the rebate program to help with the costs!

Love my e-bike, I put my dog in my basket

Love my e-bike. It is a full suspension mountain bike so most of my riding is in open space. Please keep that area open to all e-bikes!!

Love my ebike

Love riding, would love more trails. Also would love to ride to the store etc, if I could be sure my bike would be there when I returned. Maybe something inside the stores???

Love the e-bike. Makes biking more enjoyable.

Love the thing also bought my wife one and talked our friends into get them too

Loved the experience and power. Had to get a bigger seat though lol I’m a big guy

Loved the summer bike challenge

need a bike lane on SR4 between willow pass/solano - require to ride on freeway, need an easier way to cycle up the big hill on willow pass road between bay point/concord, need a bike underpass from antioch to brentwood where heidorn ranch goes under the highway 4 bypass near streets of brentwood

Need more bike lanes even separate lanes for pedestrians and bikers on all major trails. Like in sf fort mason/Chrissy fields

No but it’s very nice!

Overall experience is great

Owning and riding an e-bike is fun, and it's a great motivator for enjoying the outdoors and getting exercise in a fun way without involving the car. Also, the fact that Contra Costa gives a rebate to people who purchase an e-bike makes me proud of living in this progressive-minded county.
| Since I owned the bike I was on vacation for two weeks. | |
| So much fun | |
| Some of the places I would like to bike to are not safe for any type of bicycle. The roads are not bike friendly. | |
| Thank you | |
| Thank you for rebate, glad I got e bike | |
| Thank you so much for the rebate. I used it to enhance accessories! | |
| Thank you! | |
| Thanks for rebates. | |
| Thanks for the incentive! | |
| thanks for the program | |
| The Pedaler in El Sobrante didn't tell me about the rebate. How about flyers that bike shops could give to customers? | |
| the person reading this should drink water and know that they are loved, not just because of their dedication to public service, but because of their inherent value as a human being. | |
| The rebate made the E-bike price seem reasonable. Let's get some bike lockers at Home Depot so I can ride to work a couple of days a week. | |
| There has been much roadwork on Pinole Valley Road, I will be happy when it's done | |
| This particular has wider tires, heavier and seems safer! | |
| Two of us share the ebike, and we have ended up using it more than we thought we would. We're even contemplating a non-cargo ebike because when one person commutes with the bike, the other person has to take the car for chores and shopping. | |
| Vertical poles on Brentwood bike paths are too close together and cause me high anxiety when navigating between them, I have hit one and came away with minor injuries. | |
| Very glad to have it. Only use car 2 or 3 x per week, when I have groceries, large items, etc | |
| We are presently RVing and use the bike for recreation or to park at national parks | |
| We love our e-bikes, and if the area were more bike-friendly my wife would bike to work in nearby Richmond. | |
| We need more bike lanes - and less cars. If it was safer I would never drive. | |
| We need more bike lanes and bike parking! | |
| With gas prices going up, and Bart being expensive, budget was a large consideration on buying an e-bike. I thought that me and my husband could both get a rebate but was really discouraged that the rebate is limited to one per household. If you’re serious about getting cars off the road especially for commutes this rebate should be one per adult member of each household. Because when my husband didn’t have any bike and I did, he still took the car to work, while I took my e-bike. We only bought the second e-bike, which now allows us to not use the truck on Weekdays at all, because of the stimulus check. | |
| Would Not be riding at all without this bike | |
| Would it be possible to create a bike lane connecting Sycamore Ave to Franklin Canyon Rd in Hercules? | |
| Would love more bike paths to connect Lafayette and Iron Horse Trail. Can imagine more people would use biking as a main form of transportation if there were more bike paths. | |
| you should allow more than one rebate per family. | |
Rebates Approved per Contra Costa Jurisdiction

- Walnut Creek: 68 rebates
- San Ramon: 42 rebates
- San Pablo: 11 rebates
- Rodeo: 3 rebates
- Richmond: 37 rebates
- Pleasant Hill: 21 rebates
- Pittsburg: 17 rebates
- Pinole: 8 rebates
- Pacheco: 3 rebates
- Orinda: 6 rebates
- Oakley: 15 rebates
- Moraga: 2 rebates
- Martinez: 24 rebates
- Lafayette: 10 rebates
- Kensington: 2 rebates
- Hercules: 15 rebates
- El Sobrante: 8 rebates
- El Cerrito: 26 rebates
- Discovery Bay: 6 rebates
- Danville: 27 rebates
- Concord: 31 rebates
- Clayton: 8 rebates
- Brentwood: 47 rebates
- Bethel Island: 1 rebate
- Bay Point: 4 rebates
- Antioch: 23 rebates
- Alamo: 9 rebates

474 Rebates Issued (10/2020-10/2021):
- 465 E-bikes
- 9 Conversion kits
- 349 Standard
- 125 Low Income

Number of Rebates
### Total Applicants through 10/2021

- **Approved**: 474
- **Denied**: 81

### Reasons for Application Denials:
- Duplicate household (27)
- Bike cost more than $5K (20)
- Incomplete sales receipt is submitted [showing: no taxes paid, no date, and/or no make/model] (14)
- Bought prior to program start dates (16)
- Invalid proof of residency (3)
- Ineligible e-device (1)

### Standard $150 Rebate vs. Low Income $300 Rebate

<table>
<thead>
<tr>
<th>Region</th>
<th>$150</th>
<th>$300</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSPAC $150</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>TRANSPAC $300</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>TRANSPLAN $150</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>TRANSPLAN $300</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>SWAT $150</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>SWAT $300</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>WCCTAC $150</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>WCCTAC $300</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

**TRANSPAC**: Clayton, Concord, Martinez, Pleasant Hill, Walnut Creek, and unincorporated

**TRANSPLAN**: Antioch, Brentwood, Oakley, Pittsburg, and unincorporated

**SWAT**: Danville, Lafayette, Orinda, Moraga, San Ramon, and unincorporated

**WCCTAC**: El Cerrito, Hercules, Pinole, Richmond, San Pablo, and unincorporated
### Cost of E-Bikes

<table>
<thead>
<tr>
<th>Cost Range</th>
<th>Standard</th>
<th>Low Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>$250-$499</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>$500-$999</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>$1,000-$1,999</td>
<td>173</td>
<td></td>
</tr>
<tr>
<td>$2,000-$2,999</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>$3,000-$3,999</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>$4,000-$5,000</td>
<td>21</td>
<td></td>
</tr>
</tbody>
</table>

Average: $1,414
Median: $1,253

### Standard vs. Low Income Comparison

<table>
<thead>
<tr>
<th>Cost Range</th>
<th>Standard</th>
<th>Low Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4,000-$5,000</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>$3,000-$3,999</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>$2,000-$2,999</td>
<td>7%</td>
<td>15%</td>
</tr>
<tr>
<td>$1,000-$1,999</td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>$500-$999</td>
<td>13%</td>
<td>20%</td>
</tr>
<tr>
<td>$250-$499</td>
<td>23%</td>
<td>39%</td>
</tr>
</tbody>
</table>

### Demographic Questions Asked of All Applicants

**How would you describe your gender? *Optional**

- Man/Male, 136
- Woman / Female, 82
- I prefer not to say, 11
### Age of Applicants

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>22</td>
</tr>
<tr>
<td>30-39</td>
<td>68</td>
</tr>
<tr>
<td>40-49</td>
<td>108</td>
</tr>
<tr>
<td>50-59</td>
<td>112</td>
</tr>
<tr>
<td>60-69</td>
<td>108</td>
</tr>
<tr>
<td>70-79</td>
<td>52</td>
</tr>
<tr>
<td>80-89</td>
<td>4</td>
</tr>
</tbody>
</table>

### How would you describe yourself? (Select all that apply)
*Optional*

- Other: 10
- Native Hawaiian or other Pacific Islander: 4
- Black or African American: 10
- More than one: 12
- Hispanic or Latinx: 16
- I prefer not to say: 33
- Asian: 93
- White: 157

### What is the highest degree or level of education you have completed? *Optional*

- I prefer not to say: 19
- Less than HS diploma: 1
- High School Diploma or GED: 21
- Trade School: 5
- Some College: 42
- Associates Degree: 27
- Bachelors Degree: 125
- Masters: 78
- Ph.D. or higher: 16
What is your current employment status? (Select all that apply)
*Optional

- Employed full time: 146
- Retired: 87
- Employed part time: 27
- Self employed: 23
- Unemployed: 20
- Prefer not to say: 19
- Student: 5
- Homemaker: 7
- Unable to work: 2
- Disabled: 1

What is your total household income? *Optional

- I prefer not to say: 115
- More than $200,000: 25
- $150,000-$200,000: 47
- $100,001-$150,000: 41
- $75,001 to $100,000: 21
- $50,001 to $75,000: 23
- $35,001 to $50,000: 15
- $20,001 to $35,000: 16
- Less than $20,000: 17
How many adults live in your household (including yourself)?

- 2 adults: 73%
- 3 adults: 12%
- 4 adults: 5%
- 5+ adults: 3%

How many children live in your household?

- 0 children: 63%
- 1 child: 19%
- 2 children: 15%
- 3 children: 3%