



CITY COUNCILMEMBER
RIGEL ROBINSON
 DISTRICT 7

CONSENT CALENDAR
 November 15, 2022

To: Honorable Mayor and Members of the City Council

From: Councilmember Rigel Robinson (Author), Vice Mayor Kate Harrison (Author), Councilmember Terry Taplin (Author), and Councilmember Sophie Hahn (Co-Sponsor)

Subject: Referral: Establishing an Electric Bike Rebate Program and Expanding Low-Income E-Bike Ownership through the Climate Equity Action Fund

RECOMMENDATION

Refer to the City Manager to establish a two-tiered point-of-sale rebate program to reduce the up-front cost of electric bicycles and necessary safety and security accessories for Berkeley residents, including:

- Rebate Level 1: a point-of-sale rebate to be made available to all City of Berkeley residents
- Rebate Level 2: a point-of-sale rebate that covers a higher percentage of the cost than Rebate Level 1, to be made available to low-income City of Berkeley residents.

Refer \$500,000 to the FY 2023 AAO #1 process as follows:

- \$400,000 for the point of sale rebate program
- \$100,000 in supplementary funding towards the Climate Equity Action Fund (CEAF) to further facilitate e-bike ownership among low-income Berkeley residents.

BACKGROUND

In April 2022, the U.N.'s Intergovernmental Panel on Climate Change (IPCC) released its Working Group III report stating: "[w]ithout immediate and deep emissions reductions across all sectors, limiting global warming to 1.5°C is beyond reach."¹ Globally, emissions will need to nearly halve by 2030, and Berkeley's fair share of 2030 emissions reductions are significantly higher.

Specifically, the report suggests that cities have a critical role to play, especially with regard to facilitating the "electrification of transport in combination with low-emission energy sources." As of Berkeley's most recent 2019 sector-based GHG inventory, emissions from the transportation accounted for a significant 326,568 metric tons of carbon dioxide equivalent, nearly all of which arises from the use of fossil-fuel burning vehicles.

¹ <https://www.ipcc.ch/report/ar6/wg3/resources/press/press-release>

Although the City has set an ambitious goal of 15,000 total registered electric vehicles (EV) by 2025, electric vehicles comprised just 6.3% of all new vehicle registrations in 2020. Even accounting for Governor Newsom's executive order requiring that all new vehicle sales be zero emissions by 2035, it will be decades before the City could eliminate personal vehicle emissions through vehicle electrification alone.²

Therefore, in addition to vehicle electrification, the City must also look at additional measures to replace vehicle trips, such as e-bike incentives. The pandemic triggered an unexpected boom in e-bike popularity in the U.S., with a more than 240% increase in sales in FY 2020-2021.³ In Europe, Forbes estimates that e-bike sales will nearly increase fivefold over this decade, reaching or exceeding two times the total number of annual car registrations.⁴

The majority of Berkeley's topographical landscape is ideal for bicycling, and e-bikes play a promising role in improving the bikeability of the city's most challenging hillside terrain. E-bikes also come in various adaptive configurations to provide accessibility and mobility to individuals with disabilities.

E-bike trips have also shown to replace car trips. In one study, the subset of respondents who did not regularly bicycle as an adult now ride weekly or daily after having purchased an e-bike.⁵ For existing or new bicyclists, the study found that e-bikes helped riders overcome hills, thus prolonging distances ridden and increasing frequency of trips. It also found that the top two reasons for converting to e-bikes were to replace car trips and reduce the physical effort associated with biking. Further studies show that 11 to 46 percent of car trips were replaced by e-bike trips, and that 35 to 50 percent of e-bike trips would have been taken by car had the e-bike been unavailable.⁶

In addition, recent and local real-world monitoring and research by Walk Bike Berkeley indicates that:

- E-bikes get anywhere from 1000 to almost 4000 miles per gallon equivalent;
- E-bikes cost less than a penny a mile to charge;
- E-bikes can go 40 to 140 times as far as a 30-mpg gas car per pound of climate emissions with California's electric energy mix;

² <https://www.gov.ca.gov/2020/09/23/governor-newsom-announces-california-will-phase-out-gasoline-powered-cars-dramatically-reduce-demand-for-fossil-fuel-in-californias-fight-against-climate-change/>

³ <https://www.npd.com/news/blog/2021/the-cycling-market-pedals-ahead-in-2021/>

⁴ <https://www.forbes.com/sites/carltonreid/2020/12/02/e-bike-sales-to-grow-from-37-million-to-17-million-per-year-by-2030-forecast-industry-experts/>

⁵ https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=1163&context=trec_reports

⁶

https://escholarship.org/content/qt3mm040km/qt3mm040km_noSplash_e0fa17490f118088cd8424ce93c83794.pdf?t=pg2c3f

- E-bikes are about 10 to 30 times more efficient than electric cars at fighting climate change;
- E-bikes get 30 to 100 times more miles per pound of battery than an electric car.⁷

Taken as a whole, the evidence suggests that the City has a substantial opportunity to act on its climate goals through the promotion of e-bikes, and that the City can begin to do so with a small investment compared to other investments in transportation.

A point-of-sale rebate is preferable to a sales tax rebate or an after-the-fact rebate for two reasons. First, point-of-sale incentives are up-front, unlike a sales tax rebate (often not considered at decision points) or a post-purchase rebate (which doesn't change the initial price and is a particular burden to lower-income buyers). As a result, a point of sale rebate is more likely to induce behavior change. A tiered program, with both a universal rebate and an equity rebate, in addition to separate but complementary equity programs, is desirable because the City has an interest in mode shift for all residents, not least of which because GHGs, VMT, and car ownership generally are correlated with income.⁸ That is, the more a program can induce behavior change among higher income households, the higher impact it can have on sheer numbers.

The tiered point-of-sale rebate also provides additional support for low-income purchasers. On top of working in tandem with the forthcoming Climate Equity Action Fund programs, a tiered rebate can layer on top of state or regional e-bike rebate programs, detailed below, to provide a deeper subsidy for low-income residents and potentially allow them to cover the entire cost of their e-bike purchase.

The California Air Resources Board (CARB) has begun to outline a \$10 million e-bike incentive program that is open to California residents, set to launch in early 2023. Applicants at 225% and 400% of the federal poverty level are eligible. Participants making under 400% FPL can get a \$750 stipend for regular e-bikes and \$1500 for cargo or adaptive e-bikes.⁹

With a goal of 5 million electric vehicles by 2050 in the Bay Area, the Metropolitan Transportation Commission (MTC) has \$65 million in funding for local electrification initiatives, with a particular focus on equity. Similarly, East Bay Community Energy (EBCE) is also developing their own \$2 million incentive program for 2023, as well as an e-bike lending library pilot program.¹⁰ While this program is still under development, the City of Oakland has released their plans for a similar pilot program that would fund 500 e-bikes specifically for low-income neighborhoods, operating as a rental library system.

⁷ Walk Bike Berkeley, "E-Bike 1000 MPG Project," <https://sites.google.com/view/ebikestudy>.

⁸ <https://transweb.sjsu.edu/sites/default/files/1426-household-income-and-vehicle-fuel-economy-in-california.pdf>

⁹ https://www.calbike.org/bike_purchase_incentives/

¹⁰ <https://mtc.ca.gov/planning/transportation/transportation-electrification>

To launch this program, the City of Oakland is using a \$1 million state grant and plans to launch the initiative as early as this winter.¹¹

As part of the \$600,000 Climate Equity Action Fund (CEAF) established by Council in 2021, the program included an Electric Mobility Access Pilot aimed at enhancing mobility for low-income community members in ways that reflect community priorities and support transportation modal shifts consistent with the Electric Mobility Roadmap. Specifically, the Access Pilot seeks to ensure equity in access to electric mobility, improve alternatives to driving, and achieve zero carbon emissions.

Proposed projects include those that increase access to bicycles, electric bicycles, electric scooters, or other forms of micromobility to support low-income residents in Berkeley. Staff recently issued and completed a request for proposal process. Staff plan to contract with Waterside Workshops, a community based organization dedicated to engaging youth and the community through hands-on learning in bicycle mechanics and to gain confidence, develop work skills, and access the tools and resources needed to lead healthy, sustainable lives.

This item proposes to increase electric bicycle-based incentives totaling \$100,000 for low-income communities either through existing CEAF programs or new programs. This item is intended to allow equity subsidies to be stacked on top of universal point of sale rebates to maximize affordability and accessibility as well as to allow community input on program design that might better serve their needs.

In the development of the point-of-sale program, staff should consider:

- Opportunities for economic development by partnering with local bicycle shops in the City of Berkeley
- Allowing certain safety- or security-related e-bike accessories (e.g. bike locks, helmets, and lights) to be eligible for the rebate
- Data collection opportunities to inform future programs
- Setting rebate levels with the relevant state and regional programs in mind

FINANCIAL IMPLICATIONS

\$500,000 from the General Fund.

ENVIRONMENTAL SUSTAINABILITY

Furtheres the goals of the City's Climate Action Plan by incentivizing mode shift away from private vehicles and reducing transportation-related carbon emissions.

CONTACT PERSON

Councilmember Rigel Robinson, (510) 981-7170

Vice Mayor Kate Harrison, (510) 981-7140

¹¹ <https://oaklandside.org/2022/08/08/electric-bike-library-planned-for-oakland/>

Councilmember Terry Taplin, (510) 981-7120

