

A National Stated Preference Survey on Electric Bicycle Purchase Incentives

TNJ INSTITUTE WEBINAR: E-BIKES IN NEW JERSEY

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How to design effective e-bike purchase incentives?

Purchase Incentive: lowers the price of an e-bike to spur additional purchases and increase e-bike ownership

Key Design Questions:

- Incentive delivery mechanism
- Incentive amounts
- Differentiation across income levels and e-bike types

Nationwide Stated Preference Survey

Surveyed 2,241 potential e-bike consumers across 20 US cities

Discrete choice model → estimate effect of purchase incentives on additional e-bike purchases

Three incentive types:

- Point-of-purchase discount
- Mail-in rebate
- Tax credit

Incentive amounts ranging from \$0 - \$1200

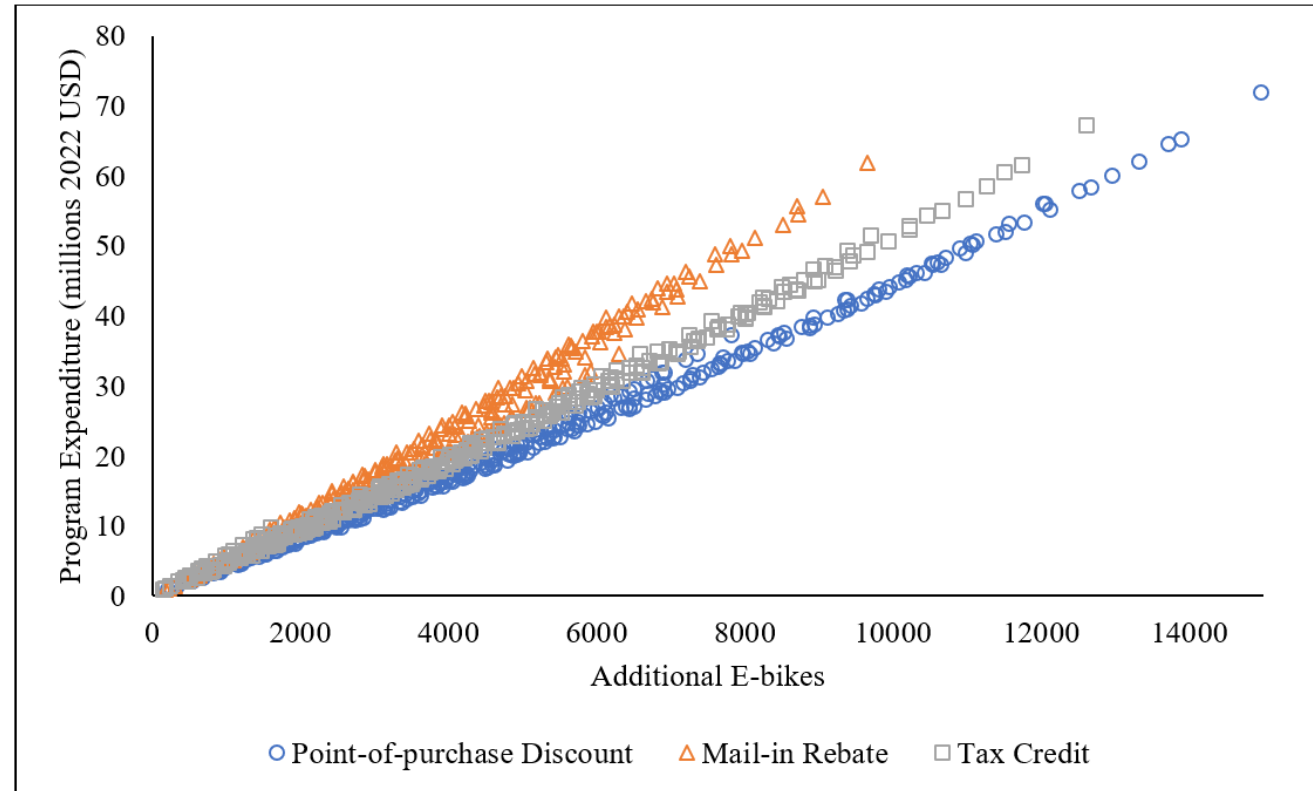
Income levels:

- 0-100% FPL, 100-200% FPL, 200-300% FPL, 300-400% FPL, > 400% FPL

E-bike types:

- standard e-bike, cargo e-bike

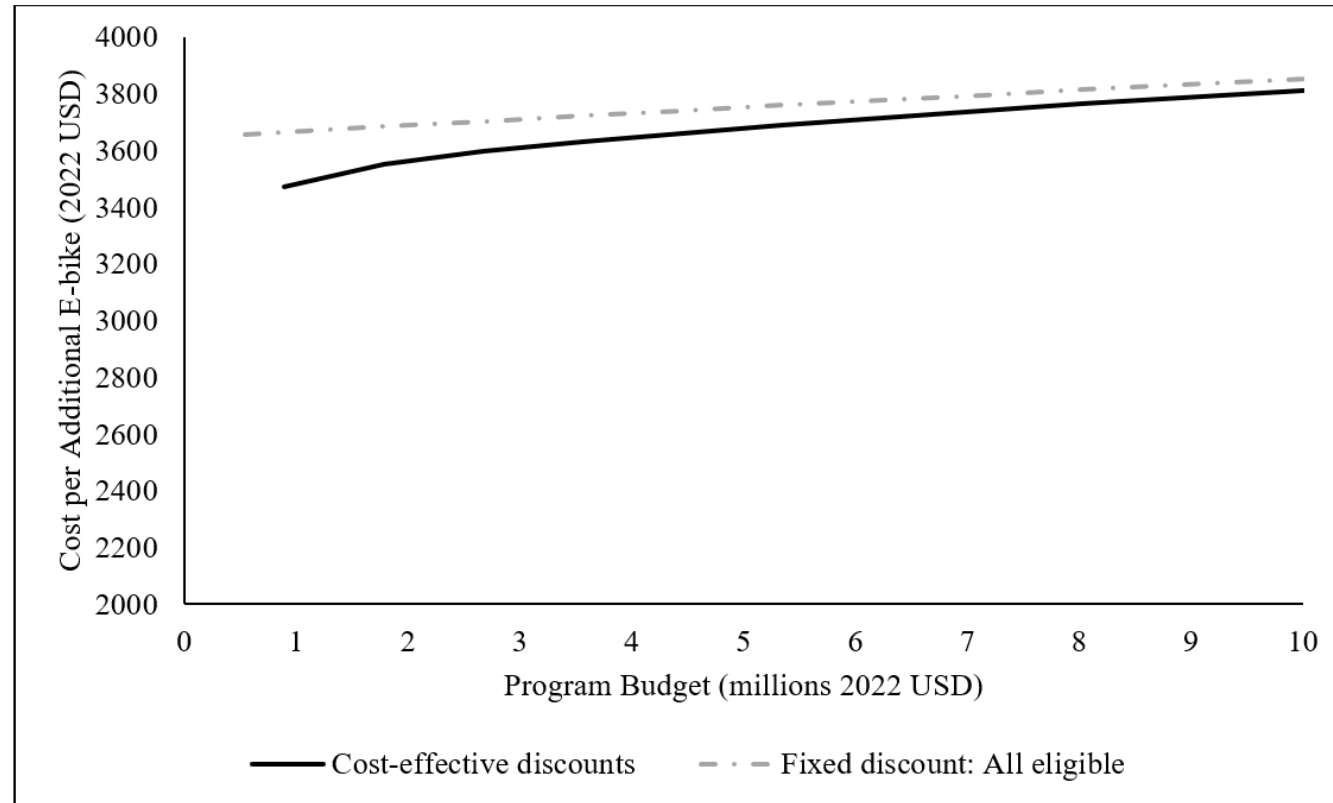
Key Takeaway #1: Point-of-purchase discounts are more effective than mail-in rebates and tax credits



Simulated e-bike program scenarios by incentive type

Note: For a hypothetical market size of 2m consumers.

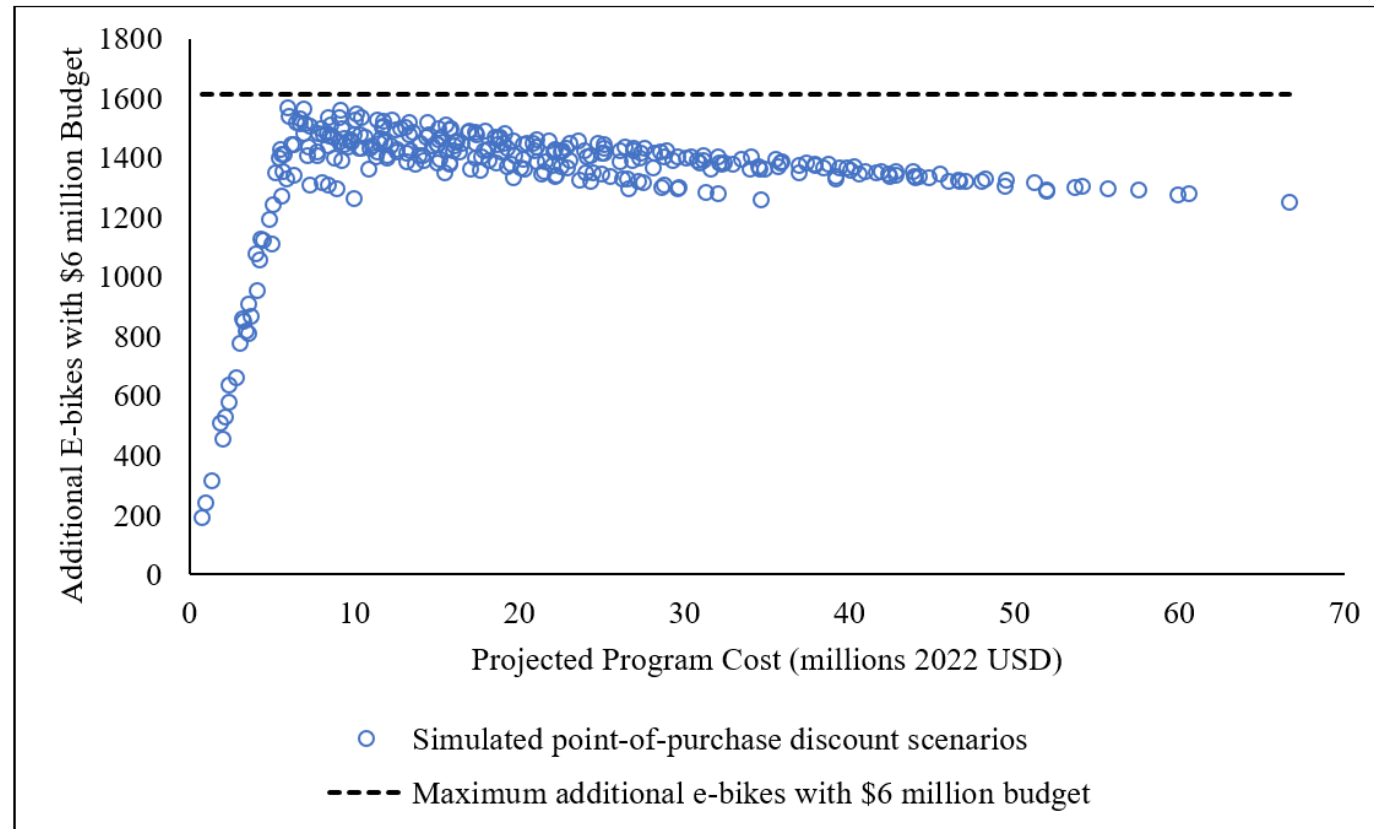
Key Takeaway #2: A flat incentive across income levels and e-bike types is highly cost-effective



Cost per additional e-bike by point-of-purchase discount regime

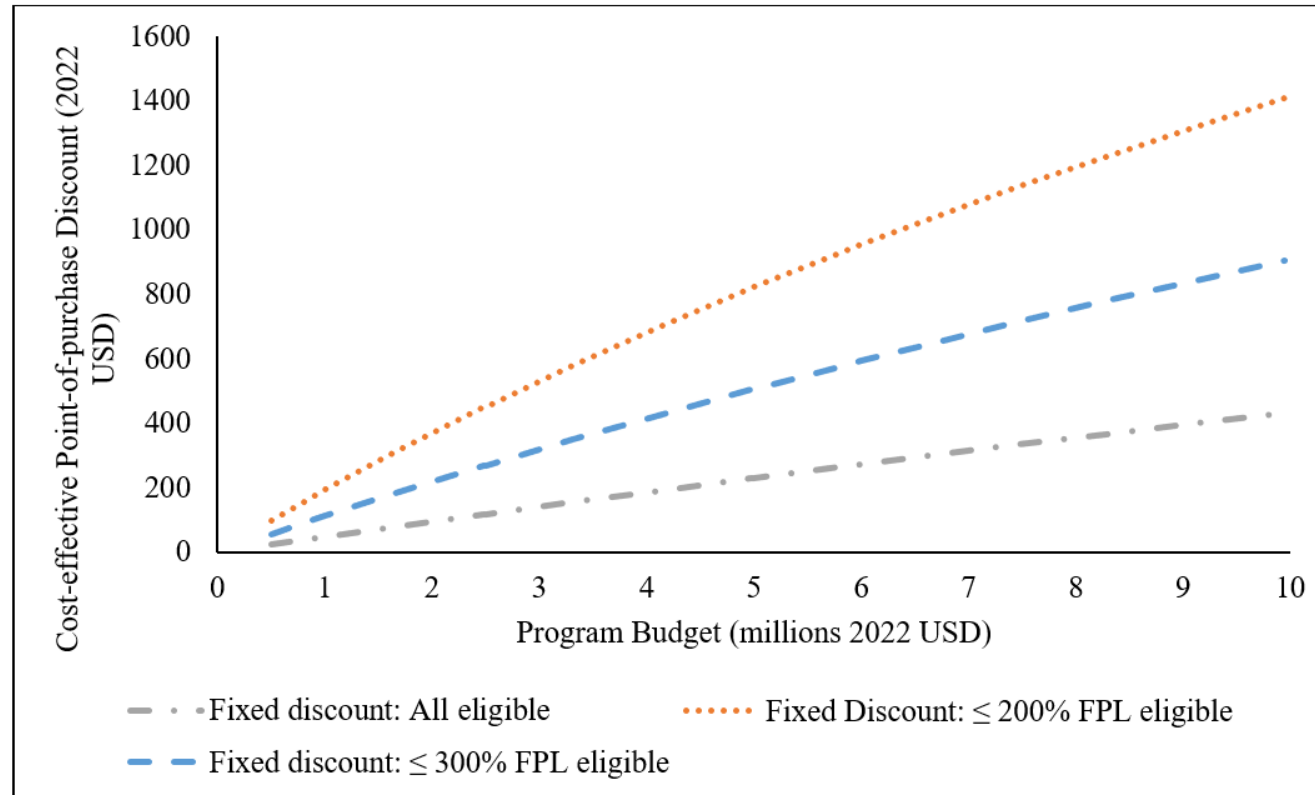
Note: For a hypothetical market size of 2m consumers.

Key Takeaway #3a: Right-sizing incentive amounts to available budget increases program effectiveness



Impact of Misalignment between Incentives and Program Budget

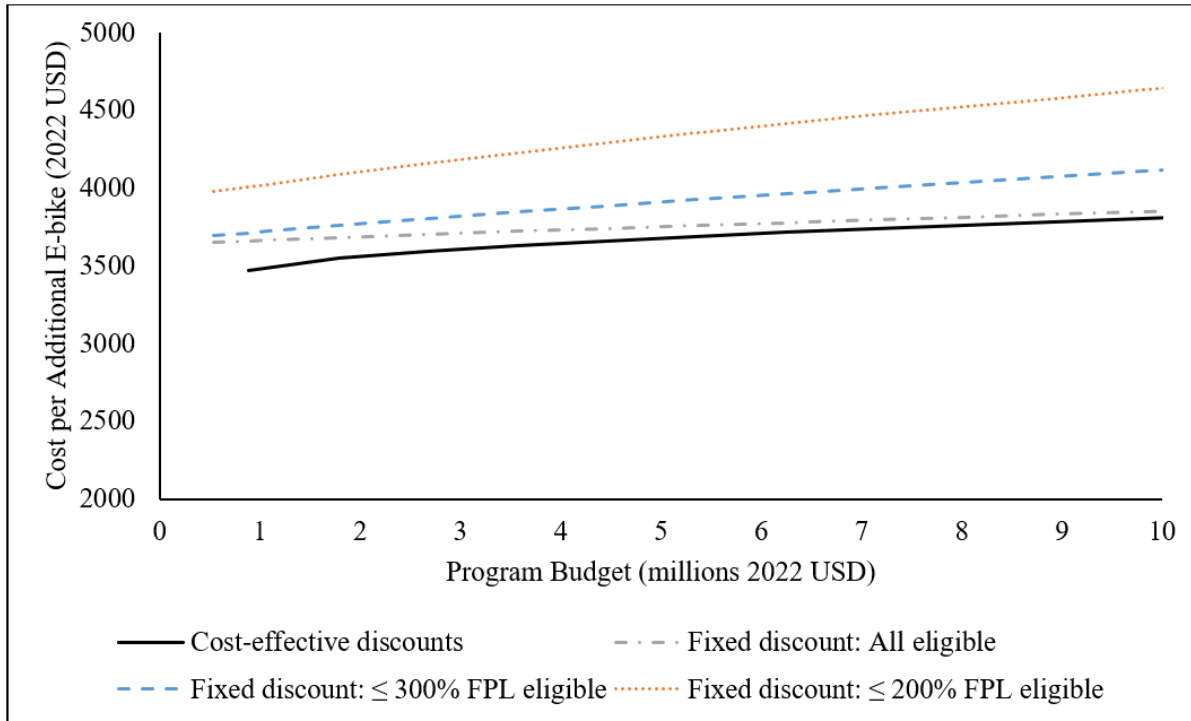
Key Takeaway #3b: Many programs likely set incentives inefficiently high



Cost-effective point-of-purchase discount amounts under equity-enhancing regimes

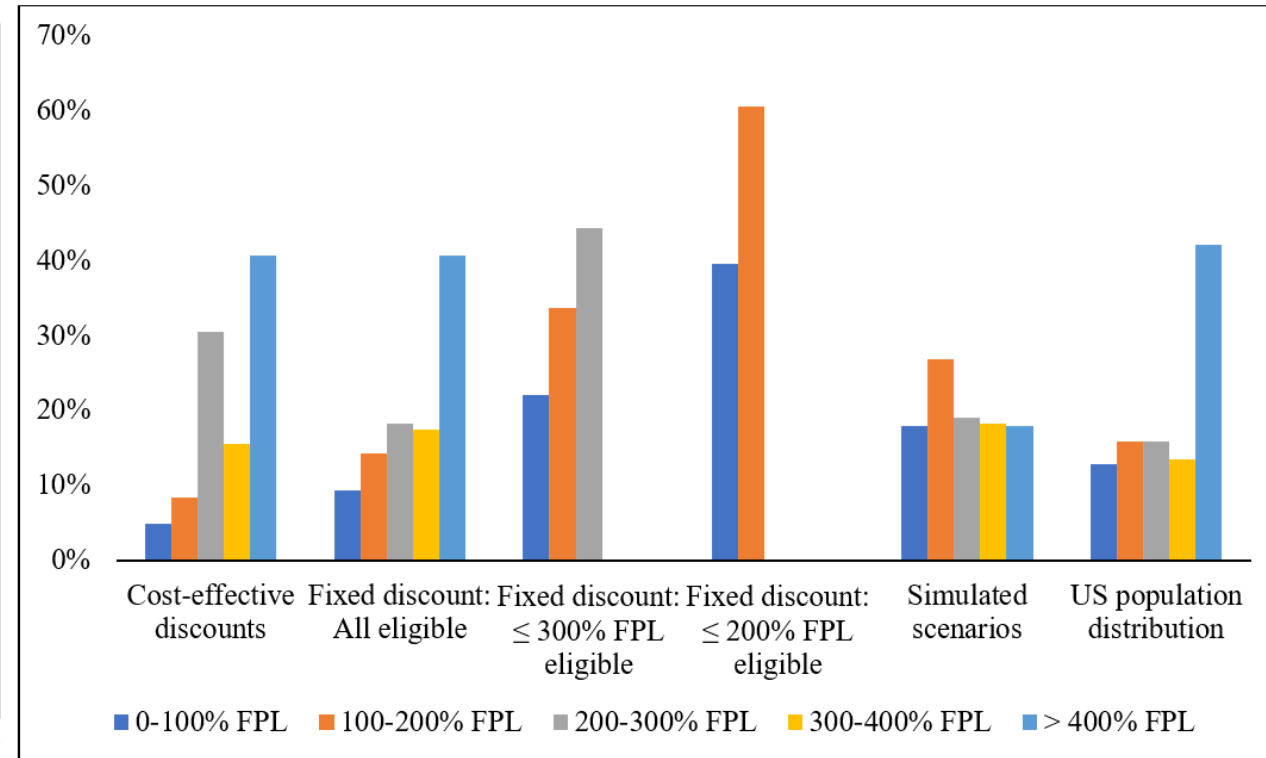
Note: For a hypothetical market size of 2m consumers.

Key Takeaway #4: Higher incentives for lower income levels reduces adoption but improves equity



Cost per additional e-bike by point-of-purchase discount regime

Note: For a hypothetical market size of 2m consumers.



Budget distribution across income groups by point-of-purchase discount regime