



How Advocates Can Accelerate E-Bike Adoption Using RMI's Free E-Bike Calculator

February 2025



Reason for Gathering

Our Mission: Transforming the global energy system to secure a clean, prosperous, zero-carbon future for all.

- **Discuss RMI's E-bike Environment and Economics Impact Assessment Calculator updates**
- **Learn from cities and states that have used the calculator for implementing e-bike programs**
- **Discuss opportunities for using the data produced by the calculator**
- **Answer audience questions about calculator scenarios, calculations, etc.**

RMI Speakers



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Agenda

- **Welcome and Introductions**
- **Environment and Economics Impact Assessment Calculator**
- **Overview of Updates to the RMI E-Bike Environment and Economics Impact Assessment Calculator**
- **Panel with Advocacy Groups and Q&A**
- **Q&A with RMI**
- **Calculator Walkthrough**
- **Closeout**

Overview – Plan for Q&A



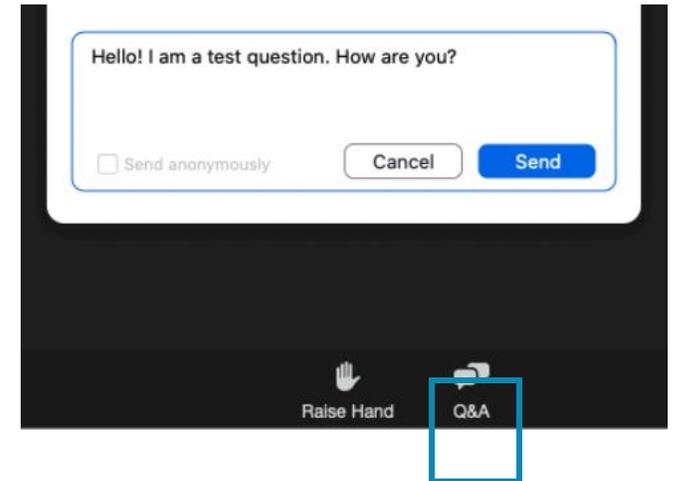
Designated Q&A with the panel before the walkthrough



Use the Q&A button to submit your questions throughout the presentation



Team members will respond or direct you to email Bryn Grunwald at bgrunwald@rmi.org





Why Did RMI Create the E-Bike Environment and Economics Impact Assessment Calculator?

What is the potential for impact?

- Transportation is consistently the largest emissions producing sector in the U.S. (30% of all emissions)
- Of all trips in the transportation sector, most are done in light duty vehicles (60%) and are under 5 miles (50% in most major metro areas)
- Using calculator defaults for the 10 states with highest transportation emissions:
 - Save 3.3 billion gallons of gasoline over ten years
 - Save residents \$11.5 billion (difference in fuel and maintenance)

Percent of Miles Driven Annually by Grouping in States with Highest Transportation Emissions

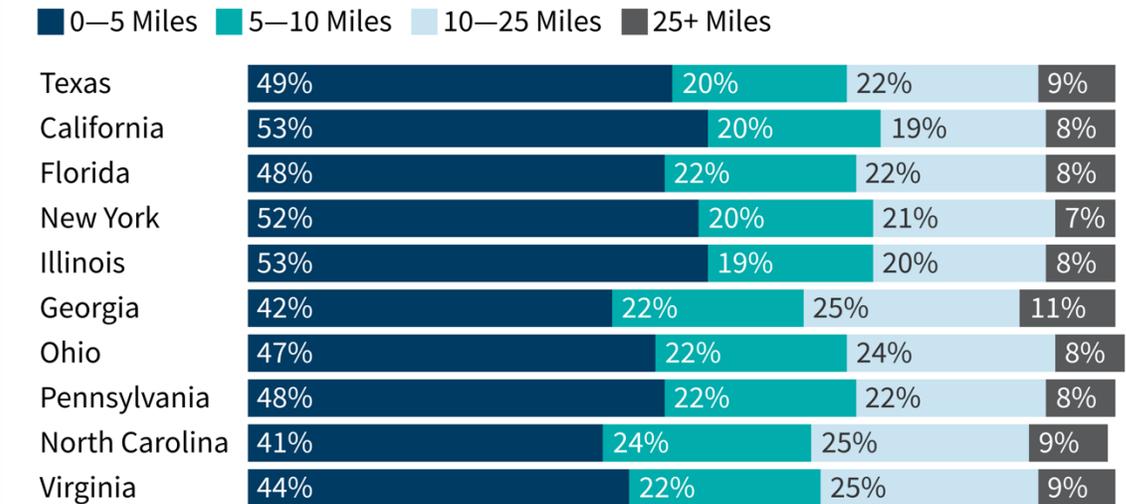


Chart: RMI • Source: Replica

What is the potential of e-bikes to meet transportation emission reduction and equity goals?

- E-bikes are more affordable, require less space, and result in more positive health outcomes than cars
- The potential for mode shift to e-bikes is enormous!
- Decision makers often lack the necessary data to make a compelling argument for shifting investments to active transportation infrastructure

2022 Total U.S. Greenhouse Gas Emissions by Economic Sector

Transportation Electric Power Industry Residential and Commercial Agriculture

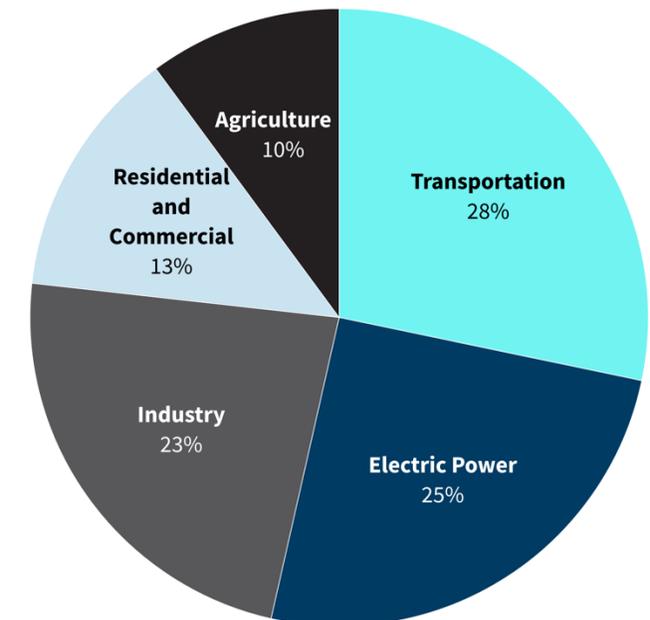


Chart: RMI • Source: U.S. Environmental Protection Agency (EPA)

How do e-bikes address gaps in transportation offerings?

- E-bikes address issues like transportation access and cut trip-related pollution
- E-bikes create access to other modes (e.g. transit)
- More cities are beginning to look at changing parking minimums to address traffic congestion, land use constraints, and climate change
 - E-bikes would allow for reliable transportation while helping cut costs associated with parking development at multi-family communities
- Access to e-bikes and dedicated infrastructure helps multifamily residents save money while accessing employment and services
 - Research from [NREL](#) showed that e-bikes can help bridge transportation gaps, especially for low-income workers





Updates to the RMI E-Bike Environment and Economics Impact Assessment Calculator

Updated e-bike calculator features

- **Added geographies and data**

- Includes 500+ cities and all 50 U.S. states, including DC
- Updated electricity and gas costs (2024 data)
- Functions at the annual level rather than the weekly level

- **Improved functionality to align with best practices**

- Incentive program now functions at three levels of income stratification (low-income, medium-income, and market-rate)
- The city-wide goal now has different levels of biking depending on season
- Utilizes state-level EV projections

- **Expanded capabilities**

- Calculates saved gallons of gas and kWh
- Estimates health benefits and avoided lost days of work due to reducing PM2.5

Updated datasets

- **Counting replaceable vehicle trips**

- How many trips of length Y miles are being taken in a town/city/state?
- Data source is Replica: all vehicle trips, anonymized, for typical U.S. days
- New infrastructure for programmatically pulling data on new locations

- **Daily temperatures for every location in the calculator**

- People bike less when it's too cold or too hot
- NOAA provides temperature records at over 65,000 weather stations in the U.S.

- **Health effects of fine particulate matter (PM2.5)**

- How does reducing PM2.5 emission by N tons affect health outcomes?
- EPA's COBRA tool calculates effect of reduction in a county on that county

Overview of the tool's assessment scenarios

City Mode-Shift Goal	E-Bike Incentive Impact
<i>Estimate the impact of shifting a percentage of passenger vehicle trips to e-bikes – with seasonal variation</i>	<i>Estimate the environmental and economic impact of an e-bike incentive program</i>
<i>Scenario planning options include a gradual replacement over 10 years and immediate adoption</i>	<i>Test out varying levels of incentive amounts by market-rate or income-qualified (low and medium-income)</i>

Both scenarios are measuring potential only. They are meant to provide stakeholders, including advocates and cities, the data they need to justify investments in e-bike incentive programs and/or bicycle infrastructure.



Panel with Advocacy Groups



Panel Discussion With Leading Advocates



Maddie Godby
People for Bikes
Policy and Communications
Coordinator



Todd Scott
Detroit Greenways Coalition
Executive Director



RMI Q&A



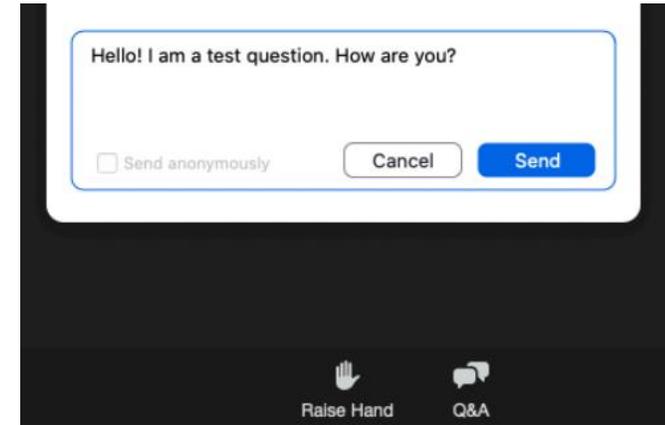
Q&A Reminders



We will be prioritizing questions sent in through the Q&A function



Team members will respond or direct you to email Bryn Grunwald at bgrunwald@rmi.org





Calculator Walkthrough





Thank you!



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