

1. **Pitch Submitted By (Your Name or Organization):** Local Motion
Supporters: Old Spokes Home, V-Bikes, Skirack, Vital Communities (more signing on soon)
2. **Contact Email Address:** ross@localmotion.org
3. **Contact Phone Number:** (802) 383-8400
4. **Pitch Title:** **Replacing car trips with e-bike trips for thousands of Vermonters**
5. **Pitch Summary:** Vermonters can significantly reduce fossil fuel consumption by replacing trips taken by cars with trips taken with an e-bike--a game changer for transportation by bike. Considering that trips less than two miles account for 68% of all Vermonters' trips and that 87% of these trips are currently made with an automobile, the opportunity to replace short car trips with trips taken by bike or e-bike is low-hanging fruit with meaningful carbon dioxide reduction results. We propose to motivate thousands of Vermonters to use an e-bike instead of an automobile to travel short distances and to public transit.

We plan to take advantage of Vermonters' growing interest in commuting by bike (226% increase since 2000) through expanding successful existing programs to every corner of Vermont. These programs include statewide bike commuting workshops, free demo hubs for loaning e-bikes and cargo e-bikes, incentive programs that reward commuters for using their bike or e-bike to travel, rebates for purchasing an e-bike, and bike infrastructure improvements such as bike lanes and intersection markings.

6. **What energy sector(s) does this Pitch apply to? (Check all that apply):**

- Energy Efficiency
- Electricity
- Transportation**
- Thermal Heating &/or Cooling
- All (Total Energy)
- None: Non-energy related carbon reduction proposal

7. **Which criteria category(ies) does it address? (Check all that apply):**

- Economic Activity**
- Affordability**
- Vulnerable Vermonters**
- Other

8. **Scale of impact on Vermont's energy and climate goals:** If this proposal came to fruition, how might it move the needle in helping to meet Vermont's energy and climate goals by 2025 and/or 2050? Please outline assumptions and, if available, provide calculations.

(Calculations for numbers below are here: <http://bit.ly/LMclimatepitchcalcs>. Note that calcs use the state's 2028 goals)

- **2025:** The goal of this pitch is to replace 60 million automobile miles with the same number of bike miles by 2025. We will need to motivate a total of 25,000 people to ride their bike 12 miles per day for 200 days per year across Vermont instead of driving. This will prevent more than 23,000 metric tons of carbon dioxide resulting in about 1.3% of the 2025 goal of carbon reduction within the transportation sector. 25,000 people in a decade is a reasonable goal given that this is only 5% of the number of drivers licenses in Vermont and that 13% of all Vermonters (about 81,000) currently ride a bike.
- **2050:** The goal of this pitch is to replace 120 million automobile miles with the same number of bike miles by 2050. We will need to motivate a total of 50,000 people to ride their bike 12 miles per day for 200 days per year across Vermont instead of driving. This will prevent more than 47,000 metric tons of carbon dioxide resulting in about 1.7% of the 2050 goal of carbon reduction within the transportation sector. 50,000 Vermonters is a reasonable goal given the considerations stated above for 25,000 people. Plus, the climate for riding e-bikes in Vermont is anticipated to be better (i.e. warmer) as we close in on the year 2050.

- The numbers provided account only for bike trips that replace car trips. A significant consideration is the critical role that bicycles play in transport to and from the last mile (or five+ miles) from park and rides and public transit stops. Increased bicycle ridership can facilitate increased car-pooling and transit ridership.

9. Benefits/costs of this proposal for Vermont and Vermonters: Including, where possible, economic, financial, social, and environmental.

- **Where Possible:** E-bikes extend the distance the average Vermonter can travel by bike, which is an essential benefit in our rural state. Where someone might be hesitant to ride a conventional bike six miles to downtown or the bus stop, an e-bike makes it much easier and faster.
- **Financial:** Driving a car or truck is expensive between the initial cost, maintenance, and paying for fuel--operating an automobile in Vermont costs an average of \$3,580 per year (nearly 7% of the median household income in Vermont). The initial cost of an e-bike is between \$1,500-\$5,000 while annual maintenance costs between \$100-\$300. This is obviously an enormous cost savings for Vermonters. Since e-bikes expand the feasible distance of travel around bus stops, people will be more able to bike to public transit, which will strengthen the public transit system across the state.
- **Economic:** Increasing the prevalence of e-bikes in Vermont is an economic opportunity for the more than 60 bike retail shops across the state. The rollout of this pitch can help transform our recreationally-based bike shops into serious mobility centers. Assuming the sale of 25,000 e-bikes at an approximate average cost of \$2,000 each and 6% sales tax, we could see \$3 million in additional tax revenues. We will also see an increase in jobs at businesses that sell e-bikes. Downtowns that are well equipped for cyclists with good bike parking and safe bike lanes are shown to be more vibrant economically by increasing sales for downtown businesses.
- **Social:** Biking has a positive psychological influence on people--so much so that some psychologists use biking as a therapeutic activity for improving the health of their patients. Biking exposes people to others in their community who they would not likely see when driving an automobile--this will help bring together communities. Additionally, biking is a physically healthier choice for commuting than driving automobiles, which leads to happier people.
- **Environmental:** The amount of carbon dioxide prevented in total and relevant to Vermont's reduction goals is found in the answer for question 8 above. Beyond these results, other pollutants will be prevented by riding e-bikes instead of automobiles including gas and oil leaks, windshield wiper fluid spray, and other fluids.
- **New costs of this pitch (does not include funding already in place)**
 - E-bike Fleets: \$10,000 per demo hub at seven hubs = \$70,000
 - Rebates: \$500 per person for 1,000 e-bikes = \$500,000

10. Decision-makers necessary for this proposal to be adopted or move forward (e.g., Legislature, Governor, a regulatory agency, a business, organization, media outlet, or financing institution, etc.)

- Entities involved include non-profit organizations, for-profit businesses, utilities and Government agencies. Additionally, municipalities, the state Legislature, and financial lending institutions could be involved. The majority of this pitch can be completed with limited Government commitments, which often leads to quicker implementation.
- **Program Management:** The actions outlined in this pitch are ideally managed by one organization with particular tasks delegated to partner organizations, businesses, and individuals. For example, if Local Motion is the overall program manager, Local Motion will coordinate the locations and contents of the e-bike demo fleets that are free to use. Local Motion also coordinates the entities (libraries, town rec departments, bike shops, etc.) that manage the day-

to-day operations of each e-bike demo fleet (Local Motion currently manages the day-today operations of our existing free demo fleet). Local Motion currently manages statewide workshops through the Everyday Bicycling Program, so this is another component that is managed by the overall program manager.

- **Funding:** The existing e-bike demo fleet uses Tier 3 funds from the Burlington Electric Department. Other Vermont utilities could also use Tier 3 funds to purchase e-bike fleets for locations across the state as well as for rebates to Vermonters for purchasing e-bikes. Funding to purchase the demo fleets and to provide rebates can also come from Legislative action, other state funds for climate solutions, or programs for low-income residents. VTTrans has been an important partner that provides funds to Local Motion for Everyday Bicycling Project workshops that reach more than 1,000 Vermonters each year; future years of funding will be used to continue and expand Vermonter education on bike commuting and using e-bikes for travel.
- **Bike Infrastructure:** An important factor for increasing e-bike ridership in Vermont is ensuring safe roads for bike travel. VTTrans recently began integrating proactive policies to improve bike infrastructure into projects across the state, which will result in safer roads for both cyclists and motorists. An opportunity to achieve better bike infrastructure at a faster pace is to set goals under the state's Complete Streets commitment (Act 34 of 2011). Working with VTTrans, transportation advocacy groups, municipalities, and regional planning commissions, the state legislature should set concrete goals with an associated timeline for Complete Streets. Furthermore, it is important to include bike parking at public transit locations and park & rides across the state. E-bike commuters especially will need better secure parking options such as lockers and covered racks--these parking needs can be obtained and installed by VTTrans, transit authorities, businesses, and organizations.

11. Strategy and key considerations: Outline the overall strategy, including gaps, barriers and opportunities for moving this proposal forward.

The success of replacing automobile trips with e-bike trips is contingent upon ensuring good awareness and education of e-bikes, access to purchasing e-bikes, and Vermonters feeling safe while riding their e-bikes. Each one of these contingencies is addressed in the strategy outlined in this pitch. Briefly, awareness and education of e-bikes is addressed by the free demo fleets, statewide workshops, resources made available online, and promotions run about e-bikes; access to purchase e-bikes is addressed by bike shops selling e-bikes and rebates provided to Vermont residents; people feeling safe while riding e-bikes is addressed by VTTrans policies for current and future reconstruction projects and repainting strategies and by the state's lead on setting goals for Complete Streets.

12. Timeline: To meet our 2025 goals, we need some proposals that can be implemented in the next couple of years as well as some "game changers" that will bend the curve even further out. What timeline do you foresee for your proposal to be developed and implemented?

This project can begin expansion and implementation immediately. In fact, the pitch is already in motion on a smaller scale. Using Local Motion's e-bike lending fleet program as a model, other demo hubs and partners can be established within a few months of planning. Rebates can be offered within months, as well. Everyday Bicycling Project workshops will continue to happen while more workshops can be offered with greater capacity.

Improving bike infrastructure, especially along commuting corridors, is already in motion through VTTrans reconstruction projects and local projects. This work can be enhanced by establishing goals of Complete Streets at the state level and associate these goals with a timeline.