

Project Title: Bike Regenerative Brake

Project Type: video

About Project: My project is a completely mechanical regenerative brake that uses springs to store energy from braking and put 100% of it toward acceleration on demand. It is cheaper, lighter, and more efficient than current solutions and will help solve numerous problems, including air pollution, respiratory disease, obesity, and traffic.

Idea for a Better World: My dream is to permanently alter the way people move and transform their reliance on inefficient and non-sustainable fossil fuel-burning automobiles to a dependence on clean, healthy and environmentally responsible modes of locomotion. Nature cannot absorb the 16 billion metric tons of CO<sub>2</sub> that humans produce each year. The 250 million motor vehicles in the US, which generate 1.5 billion tons of that, are the leading cause of global warming and one of the biggest sources of air pollution that contribute to respiratory diseases-- the # 3 cause of death in the world with twice the death rate of AIDS. The solution: An innovation that is simple, cheap, and scalable so everyone in the world, regardless of age or income, can use it. This requires re-thinking how people use the tools they already own, like modifying bicycles, the world's most popular form of transportation, so more people will ride them more often. That's where my idea for a regenerative bicycle brake comes in. For about \$10 of raw materials, this small accessory can be attached to a bike's wheel. Each time the rider slows down, a spring stores the bike's kinetic energy as potential energy and then, with the flick of a lever, gives riders an extra boost when they decide they need it. Even if this boost prompts them to just swap driving for biking for the five miles to work and back each day, that could make a deep cut in US carbon dioxide emissions. The result is better health and a better planet.

<http://www.youtube.com/watch?v=qOBC9jKcCO8&feature=youtu.be>