

Power and Transportation

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Power and Transportation (MIT article)

- Internal combustion engines (ICE) burn fossil fuels, which release greenhouse gases, which contribute to climate change/global warming.
- According to MIT, each mile, over the lifetime of the car.
- ICE 350 grams of CO₂
- Hybrid 260 grams of CO₂
- Fully Electric is 200 grams of CO₂

- *these results depend upon how the energy was produced to charge the hybrid/EV
- <https://climate.mit.edu/ask-mit/are-electric-vehicles-definitely-better-climate-gas-powered-cars>

More numbers

- **By car: 0.88 kg CO₂**
Walking: 0.039 kg CO₂
Riding a bike: 0.017 kg CO₂
- A car produces 22 times as much CO₂ as walking
- A car produces 44 times as much CO₂ as biking
- People should bike!!!!
- https://www.globe.gov/explore-science/scientists-blog/archived-posts/sciblog/index.html_p=186.html

Benefits of biking

- Reduced carbon footprint
- Easier/cheaper parking <https://parkburlington.com/downtown-parking/parking-rates/>
- Improved health/reduced stress from exercise <https://www.betterhealth.vic.gov.au/health/healthyliving/cycling-health-benefits>

Why don't people bike more?

- A bike can't carry as much stuff.
- You get wet in the rain.
- You get cold in the winter.
- You might need to change when you arrive at your destination.
- Riding a bike can be dangerous. (938 people killed in 2020 <https://www.nhtsa.gov/road-safety/bicycle-safety>)
- Riding a bike takes longer. (average speed is 12 mph <https://truecommuter.com/what-is-the-average-commuting-bike-speed/>)
- Riding a bike has a shorter range. (typical commute time is ~30 minutes (41 miles) so a commuter on a bike, for the same time, could go 6 miles <https://www.zippia.com/advice/average-commute-time-statistics/#:~:text=The%20average%20one%2Dway%20commute,day%20to%20and%20from%20work.>)

ebikes

- Ebikes use electric motors to assist pedals to have high speeds with less effort from the cyclist.
- Cruising speed of class 3 ebike is 28 mph, which is more than double the speed of fully pedal bike and about half the speed of a commuting car.
- An ebike commuter might be able to commute 12 miles in the same time as a car or peddler.
- <https://www.momentum-biking.com/global/how-fast-do-electric-bikes-go>

Why aren't more people riding ebikes?

- According to the guardian, most people don't know about them!!!!
- <https://www.theguardian.com/sustainable-business/2016/jan/29/e-bikes-are-reliable-and-healthy-so-why-arent-more-people-riding-them>

Solutions

- According to Lenny, people learn about things in the following ways:

1. Friends or colleagues (e.g., an invite)

2. While browsing online, organically (e.g., SEO)

3. While browsing online and seeing a promotion (e.g., FB ads)

4. While out and about, organically (e.g., store shelf)

5. While out and about and seeing a promotion (e.g., billboard)

6. While at home, seeing a promotion (e.g., direct mail)

7. Someone reaching out to you (e.g., sales)

<https://www.lennysnewsletter.com/p/how-people-discover-new-products>

Best ways to increase product knowledge

- According to Meredith Powell, the best way to increase product knowledge is emphasize the value, the differences among competitors and the need of the consumer
- <https://www.meridithelliottpowell.com/five-strategies-to-increase-product-knowledge/>

Solution-Make an Ad!!!!

- Make an internet ad for YouTube
- Ad should have music (Liberty Mutual song...)
- Ad should have catchy pneumonic device (McDonalds Big Mac, Arbies we have the meats...)

Ebike ad should contain the following...

- Value
 - Improve health/reduce stress
 - Easier/Cheaper Parking
 - Reduce Carbon footprint
- Competitors
 - Cars-expensive, traffic, stress, pollution
 - Train-wait, cost,
- Need
 - Transportation to commute and play

