

Project key points

Requirements

- Makes minimum distance in one charge
- Hold max load - 1000N
- Charges overnight
- Constant speed uphill (South road 12% grad)
- Throttle control & dead mans switch
- Battery metre
- Easy / limited maintenance
- Waterproof housing for electronics
- Safety
- Components secured safely
- Suspension to protect against small bumps
- Comfortably portable / light enough to carry
- Driven wheels must provide sufficient grip for efficient power transfer
- Driven wheels achieve sufficient torque at road surface to propel board
- Non-driven wheels must provide low resistance whilst retaining ability to steer
- Bearings must provide minimal resistance to motion and be capable of withstanding stresses of normal operation

Desired

- Goes further with one charge
- Holds more load (i.e backpack & laptop)
- Fast charging sub 1 hour
- UI, Variable speed, Acceleration control, low power control (wireless hand-held device)
- No extra lubricating needed
- Corrosion resistant
- Nice efficient housing - protective casing
- Varying suspension (manual or active)
- Efficient suspension for smooth rides
- Mass less than 10kg
- Bearings should require as little maintenance as possible
- Wheels should be durable enough to require infrequent changes
- Wheels should be capable of running on non-concrete/tarmac surfaces for short periods