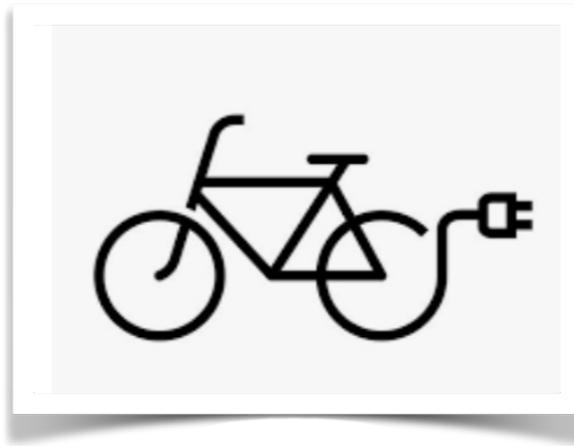


**E**



**BIKES**

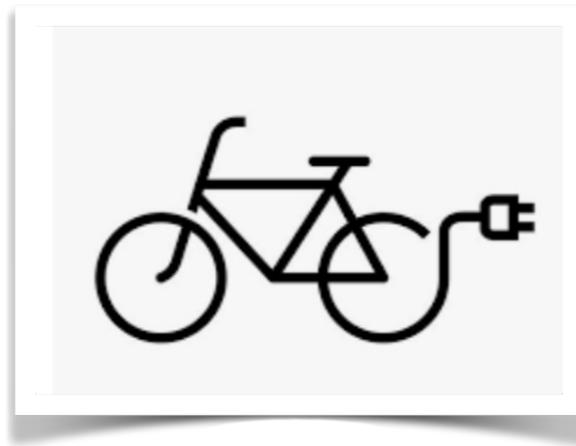
### **My take on E-Bikes by Jim Boate**

Good afternoon committee members, and thanks for allowing me the opportunity to talk a bit about E-Bikes and my experience with riding them in and around my community and on some of our great provincial trails.

My name is Jim Boate and I am a long time bike rider and a member of the Clarington Active Transportation Committee. For the last several years my interest in the benefits of E-Bikes for aging riders has grown. It started a few years ago while riding a hill and getting passed by a couple that appeared quite a bit older than me. I met up with them later at a small rest stop and I complimented them on their biking ability as they had passed me with ease on the long hill. They both laughed and pointed at their bikes, and said they are electric assist. They went on to say they do this trip twice a week to visit their grandchildren. We wouldn't be able to do that ride if it wasn't for the assist we get from our E-Bikes.

A couple of years later we decided to introduce E-Bikes to our 55+ bike club and I'm glad to say it has been a success story. Many riders who were getting older had contemplated dropping out now have smiles on their faces while riding up the hills and into the wind. With their E-Bikes no hill is too big, as long as they don't forget to charge the battery or remember to bring it. You know as we age the health benefits of socializing with others is priceless, let alone the healthy exercise and the knowledge you are doing something better for the planet, is a 10 +

# E



# BIKES

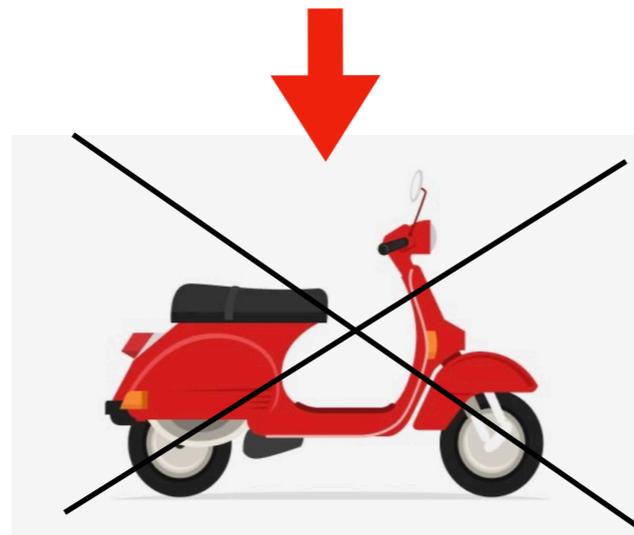
What defines my pedal assist E-Bike ?

Ontario E-Bike definitions have changed. Power assisted bicycle now means a traditional conventional bike in design and style

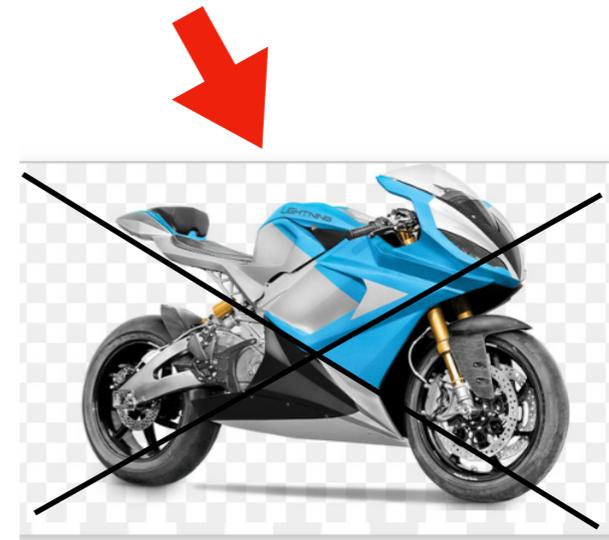
Type 1 - Traditional Bicycle style



Type 2 - Moped Style



Type 3 - Motorcycle style



Check out Bill 282, “Moving Ontarians More Safely” for a more in-depth look at the new definitions for “Power Assisted Bicycles”.

(information from Lindsey Park, MPP Durham)

# E



# BIKES

## Different types of E-Bikes

**Well here are some of the the main ones**

Urban and Commuter bikes - Mountain Bike - Mini Folding bikes - Cargo Delivery bikes and Road bikes.

They all have different levels of assist like eco, touring, sport and turbo, its like having the wind always at your back

**What class of E-Bikes is a “Traditional Bicycle” style**

It is an **Electric Pedal Assisted Bike** with no throttle, you as the rider must pedal to activate the assist. It looks and operates like a like a regular bike but can help the rider especially on hills or into head winds. The assistance cuts off automatically when a maximum speed of 32 kph is reached.

**What are the different types of motors**

**Hub Motors** located in the rear or front wheel hub are popular as they can be retro fitted to a regular bike.

**Mid Drive Motors** are located in the centre of the bike frame between the pedal crank arms. These are becoming the mainstream as they keep the centre of gravity low and the bike is a purpose built e-assist.

**Where is the battery and what type is it**

Battery placement depends on different factors, early models have them placed on the rear rack but more and more they are being designed to fit into the down tube and they become part of the bike frame. Often not visible at all. Most if not all new E-Bike batteries are Lithium Ion or Lithium Polymer. They charge quickly and last for 700 to 1000 charge cycles.

# E



# BIKES

## **How far will my E-Bike go, what's the cost and is it heavy**

### **How far will my E-Bike go on a full charge**

They'll go pretty far, most average 100 to 150 kilometres. Things like levels of assistance, wind direction, rider weight etc all affect the distance. There are some really good range calculator sites that let you dial in conditions for a more precise distance. One of the big factors is battery size in Whs, it's like having a bigger gas tank . Another big factor is how much you're helping the bike. The more you help by adding pedal power, the farther you will go. Most riders ride in the low assist level of assistance and only go to a higher levels when going up hills or into the wind. Some E-Bikes have a regenerative feature that allows some energy while going down hill to go back into the battery and extend your range slightly.

### **Here are some recent e-Bike cost numbers**

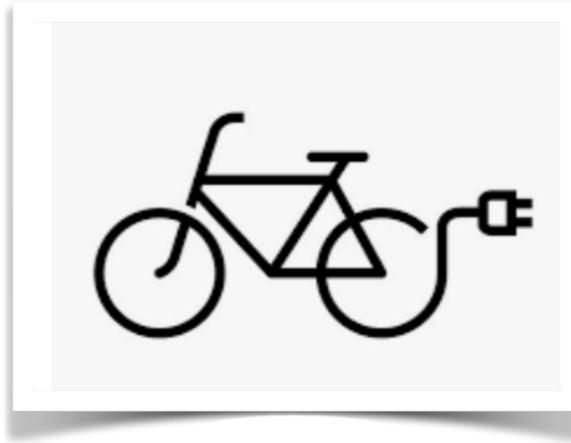
Online kits that fit it to an existing bike, \$800 to \$1,600. Buy your E-Bike online, expect to pay anywhere from \$2,000 to \$3,000,. Buy from a bike store expect to pay \$3,000 up to \$6,000. High end Tesla like bikes, expect to pay \$5,000 too \$15,000.

**One of the more expensive parts on the E-Bike is the battery, replacement cost can be in the \$700 to \$1,000 range.**

### **Is my E-Bike going to be heavy,? Yup, and here's why**

Add an 8 lb battery and an 9 lb motor to a 30 lb bike and you bike gains weight, But guess what , the extra weight isn't critical when you have E-assist, you won't even notice it when riding. However if you try shutting your assist off and pedal up hill, you will definitely notice the weight.

# E



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With an electric assist bicycle there is a thing called the “E-Bike SMILE” It happens every time someone comes back from there first try on an E-Bike.

Your E-Bike battery can be charged anywhere you can plug in a kettle. Many E-Bikes have a cell phone USB charging dock built in. They are comfortable to ride because of larger tires front fork suspension and cushy seats. You don't have to worry about the extra weigh, with E-Bikes that's not a problem. E-Bikes come with good quality lights that are always on while riding.

Seniors love to travel in Ontario, and what a better way to discover trails like the GLWT at 3200 kilometres and the spectacular Green Belt Trail at 650 kilometres. The GLWT in partnership with the Green Belt have developed a number of spectacular 1 and 2 day loop adventure rides. Too hilly for me? Not anymore with my E-Bike.



**E**



**BIKES**



One of the major benefits to riding and E-Bike is how many more places and trips you can take that do not require travelling by car.

Most trails have interactive mapping that show you where to park at different trail heads, points of interest, accommodations and places to eat and shop. Perhaps in the not too distant future, fast E-Bike charging stations will be mapped. Another point, you can buy more stuff because with an E-Bike you can install really big panniers that can hold all the stuff you buy.

Some municipalities are requiring E-Bike riders to turn off their assist mode when riding on the trail. For seniors, this is counterintuitive as we like the assist especially on hills and we are always looking for traffic free places to ride. A better solution I think would be to post speed limits on trails, some trails advise riders to avoid certain trails sections when foot and family traffic is heavy like on weekends. This is forward thinking and it allows trail users the option of planning the ride when traffic is low.

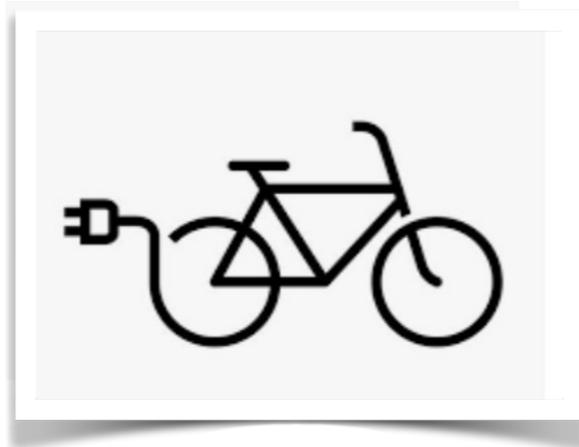
# E



# BIKES



# E



# BIKES

## E-Bike riding is here to stay and the benefits are numerous.

- They assist you in reducing stress to the heart, knees and thighs, all while allowing you a level of exercise and outside enjoyment, It's like your a kid again.
- Technology is changing so rapidly many E-Bikes are almost unrecognizable from a regular bike.
- You cut back on expenses while reducing your carbon footprint.
- E-Bikes are definitely part of the future mobility especially in cities where urban air pollution is on the rise. In Europe they are becoming a major player in the transportation sector.
- There is a wide range of E-Bike designs from taking the kids shopping to accommodating any needs that may arise.
- They are available at almost every tradition bike store, although with C19 bikes have become hard to find with new ones taking 6 to 12 months lead time.
- One local bike store said he is only going to order E-Bikes with a “Step Thru Frame” because that’s what the customers want. What’s the advantage? They are extremely easy to get ON and OFF
- Active Transportation and the E-Bike is going to be part of our future.

Thanks and if you have any questions I will do my best to answer them or get and answer back to you.