



## A Bike for the Boy in the Man

It's was late in March, 2009 when I took delivery of my new electric bicycle - and I can tell you here and now that this thing is...

...absolutely lethal!!!

It's like putting a wild horse in front of a buggy and expecting it to perform like a pet that has been reared from birth.

The motor may only be rated at 200 watts - or just over 1/4 of a horsepower, but it is merciless in its power at higher speeds, even on moderate hills. It *will* stall at low speeds in 7th gear, but get it up to speed and it will fly up the bottom half of the steepest inclines - not including horrendous hills like the top of Patrick Street, Hobart - and Mellifont Street, West Hobart.

Most require 2nd to 4th gears, but the feeling is still the same - there is an unconscious tendency to pedal faster to keep up with the motor's unreasonable demands. It's similar to when inanimate objects start to oscillate, getting faster and wider in a pendulum effect until my body goes into overload.

The only way to cope with that is to pedal about half as fast as is required to maintain pressure on the gears. The faster I accelerate, the greater the input that is generated inside the motor. It will react proportionally. It feels like freewheeling in space, but that is what is required to limit the input, causing the motor to run at the appropriate speed.

No longer do my legs ache when I arrive home from town. Next, it was the top half of me - my torso, arms, hands and wrists - until I either became used to riding again (after a year) - or I had the stem on the handle bars lifted to where I need them to be, allowing my upper body to sit more upright. *That has now been done.*

The rubber ends on the handle bars were only fit for a capuchin monkey with tiny hands, so there was almost nowhere I could heavily rest my hands on the handle bars - and the tessellated surface of the rubber made my hands feel like they were being pounded with a meat tenderiser. They were the first modifications to take place.

Late last year, I knew that would be a problem when I test-rode someone else's bicycle for a few minutes, but I knew then that I needed one just like it. It felt good to be pushed rather than to push. However, I still have to mostly ride without the motor as the battery only gives me nearly 50 kilometres of pedal-assist or no pedalling at all.

The combination of pedalling on level ground, resting downhill and only using the motor on any degree of incline is worth much more than the seriously-injuring \$2,450 (of which only \$1,050 was mine), after making great sacrifices to the rest of my lifestyle. I can now go back to life's little luxuries, but bad weather is not one of them.

It may have only been the first day, however, I have already been pulled up - twice, but not for speeding. One lady wanted to know more as hers doesn't have gears. Later on, a fireman wasn't satisfied with not being able to park his car in a suitable place. Getting around is obviously going to take longer than I thought - about as long as it does on a manual bike, but that's okay. I love talking to people - and having the occasional rests during strenuous activity. (Of course, I am still being pulled up!)

That's double the benefit of getting out and about while motorists are still being manipulated by the Government. While I am on my bicycle, my mind is free, but my body isn't. It still has to take a great deal of punishment to maintain any kind of social life to keep me healthy.

I would rather have spent the \$2,450 on restoring my car, but there is no money to keep it on the road. It just sits there in the carport, quietly rotting away after having money poured into it over one year. It is the perfect car for me, having first determined that in 1991, but things are not looking good for it now. In fact, I have changed so much that I wouldn't care if all cars disappeared off the face of the earth. Soon, there will be no petrol left and millions of cars will go the same way as mine. Nature will eventually reclaim them all, but I will still be on my bike when I get to 100.

With Tasmania's unpredictable weather, I will still have to occasionally rely on those noisy, smelly, draughty, bumpy, vibrating, stopping and starting buses, some with the vinyl-upholstered bath seats that are a pain to sit on when going around corners. If only they had seat belts to keep my body in place, they would be marginally tolerable. The door bays' glass panels in front of my face offer no comfort in the fact that they could become part of my head in a crash similar to what has just happened to a young schoolgirl who received whiplash. (March 2009)

One very recent, but minor (for me) bus crash was too much - I'm getting out. The middle-aged female victim of that crash didn't fare so well. I think it was psychological shock more than anything else.

How's my progress going after riding my electric bicycle for awhile?

You may find out on the next page.

Those horrendous hills of Hobart can really take a lot of power out of the battery - as well as my legs. There is only one steep hill that I use and can't go around, but I don't need to wear myself out on the rest of them.

They can be ignored, because they are just too steep - and they are nowhere near where I usually go. The top of Charles Hand Park in Rosny Park is unavoidable for me, so I still have to walk the bike over that bit. Using the motor means I don't have to push it hard by hand anymore. This route is the shortest one to and from town, from home, and has the shortest distance of the steepest incline, compared to other routes.

However, moderate inclines don't pose a problem. In fact, if I am not careful, and don't pedal slower than the bike is going, the motor drives the bike faster and faster until I am almost out of control - even uphill. Of course, the correct gear must be selected for the speed of the bike, which can mean doing about 15 KmH in top gear over the Tasman Bridge, but it is possible to get out of control there.

The stiffness of the pedals determines which gear to use, and 5th instead of 7th (top) feels better on the bridge. Now that I have put toe clips on the pedals, I have more power by lifting one leg while the other is pressing down, but the motor can still stall in 1st gear in the top 10 metres of the path in Charles Hand Park.

This path has one of the worst inclines for bicycles around Hobart, and seems as bad as Lynton Avenue, Mellifont Street and upper Patrick Street. I will have to measure each one for comparison.....and I have, but only on the street maps! (Having done that – it is much worse!)

#### Very important rules –

- Check to see if the motor's push-button switch is on or off.
- Never apply battery power unless the front wheel is pointing straight ahead...  
...or while going around corners, other than slowly!
- Charge the battery soon after the top LED (of three voltage levels) goes off -  
- or the battery will simply cut out when it is needed most. (That protects the circuit.)

#### On the rough technical side –

- About 50 watts (36 volts at 1.5 amps) per hour for 8 hours is required to fully charge the battery.
- That's about 432 watts per hour, nearly half a kw/hr, or **8 cents** to go nearly 50 km without pedalling.
- An old, but good car will travel at 40 mpg in the country, 14 kilometres per litre or 7.1 L/100 km.
- 3.55 litres (at \$1.20/L) over 50 km (without vehicle maintenance) will cost you **\$4.26**.
  
- That means this electric bicycle costs only **16c/100km**, whereas a good car costs **\$8.52**.
- If I pedal for half of that trip while the motor is turned off, that's **32c/100km**, but that car still has the same economy - and cost.
  
- Of course, you should add the cost of **iron-enriched cereal** for breakfast or you won't be going far!

#### Photo Time for Everyone

Now the fun really begins. If you have ever wondered where the steepest hills in Hobart really are, this is the place to find out – and many people rave about Mellifont Street, but “shock, horror” – according to the street map, it's pretty tame, compared to others.

I am in the process of making a tilt meter to sit on the handle bars so I can say “This is steep, and this is steeper – keep away from those hills!” Unfortunately, I have been forced to walk my bike over some as “the battery will be chewed to bits!”

View all at 200% for full size



Lynton Avenue, Sandy Bay  
from King Street (bottom)



Lynton Avenue, Sandy Bay  
From Davey Street (top)



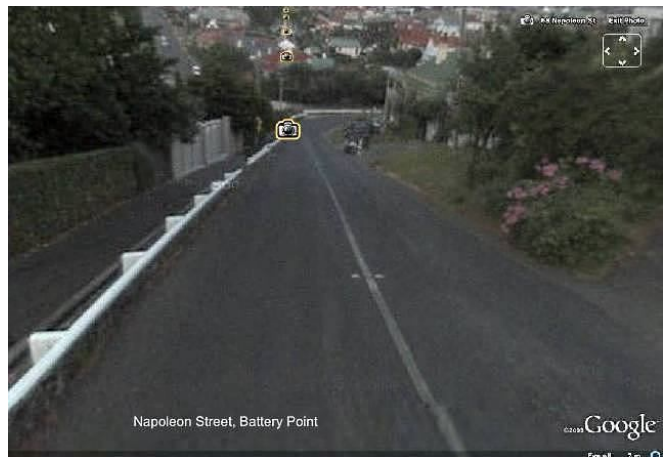
Mellifont Street, West Hobart  
from Valley Street (bottom)



Mellifont Street, West Hobart  
from Mt. Stuart Road (top)



Napoleon Street, Battery Point  
from Bath Street (bottom)



Napoleon Street, Battery Point  
from Trumpeter Street (top)





Patrick Street, Hobart  
from Harrington Street (bottom)



Riawena Road, Montague Bay  
from Tasman Bridge to Rosny Park



Riawena Road and Bastick Street  
Rosny Park side of Rosny Hill



Riawena Road, Montague Bay  
Montague Bay side of Rosny Hill



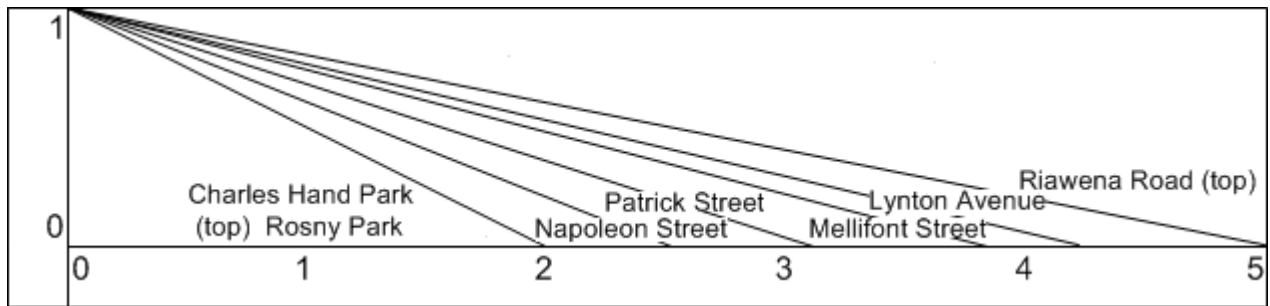
Bastick Street entrance to  
Charles Hand Park (Rosny Park)

Sometimes, I am reminded of other hills around Hobart, but believe it or not, the map says they are similar to these. Napoleon Street appears to be the steepest hill.

Soon, I will know for sure after I build a simple tilt meter from a plastic box, some wheels and light it up with LEDs.

Some hills are curved and may be steeper at one point, while others are a steady incline over a longer distance. Only a tilt meter will reveal the truth about Hobart's Horrendous Hills.

Ray Thomas (April, 2009)



Rising ratio of 1 in 2 to 1 in 5

**Well, this is surprising!** Many drivers are very familiar with Mellifont Street (in West Hobart), but according to one street map, that is nowhere near as steep as many other hills around Hobart!

It's more than enough that I have to ride (and walk) over Riawena Road (on Rosny Hill) to get to town, but the junction of the footpath in the park (next to Rosny Hill Road) appears to be the most horrendous incline in Hobart.

Now you know why I have an electric bicycle, but I still can't ride up it. It is just too steep because the motor will still stall, even while pedalling in 1st gear. After all, it is only 200 watts, or just over 1/4 of a horsepower.

The incline of the Southern Outlet (Hobart end of the Kingston run) is closer to that of Riawena Road (Rosny Park) than Napoleon Street (Battery Point). I can maintain about 10 KmH in 1st gear at the top of Riawena Road, but I get tired quickly over such a long run. So does the battery!

If the Tasman Bridge didn't have such violently protruding obstacles, extremely narrow walkways and gale force winds, which usually make me stagger (with bike in hand) across the river, it would be a dream run. It can be - when I am concentrating **110% of the time**.

Of course that doesn't always happen, as someone found out when the door to a service box blew open, right at the wrong moment. One rider went over the rail and onto the road below. Others (including me) have crashed into one, or the other, rail a few times. Bumped is a better word as low speed is only possible in such winds.

Girrabong Road in Lenah Valley (just around the corner from Lenah Valley Road) doesn't even rate on this scale, as it is just beyond the right border. It's about 1 in 5 to 6, which is a bit less than the top of Riawena Road (looking out over the Tasman Bridge).

It's not much better avoiding the Charles Hand Park footpath by using the Rosny Hill and Riawena Roads junction like cars, because the run is longer, but still too steep for anything higher than 1st or 2nd gears - and the motor, to stop my legs from eventually aching.

Watch this space in the future!