

Mt. Charleston Hill Climb

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By Paul Rachal

The Mt. Charleston Hill Climb is a 17.5-mile climb at an average grade of 6%. What makes this TT difficult is its length and total elevation gain plus the fact that there is only one very small downgrade section of a few hundred yards. Apart from that small section, it's steady climbing for 17.5 miles. The race went relatively well in that I had my fastest time on the course (2:03:07), better by 4:37 than my best practice ride. This was in spite of my pacing, which I would kindly characterize as inane. The day was perfect. Temps were in the low to mid 80s and the wind was just a nice breeze in the face. I had re-gearred my drive train for climbing and it worked perfectly; I smiled as I passed riders who were laboring in big gears.

I had a clear pacing plan and I knew exactly where I wanted to increase power and where I wanted to back off. The problem was that the hard parts of this course come after the first 6 miles. When I got to places where I knew I needed to increase power, I just couldn't. The hour splits of AP/NP (Average Power/Normalized Power) are very revealing: 251/253 and 203/212. In spite of the fact that I had negative NP splits in each of the three practice rides, I did not accurately factor this into my pacing strategy. The other thing I noticed was how hard it was to even remain aware of my pacing plan and push triggers in the second hour. I was just working so hard that it was hard to think at all, much less remember my pacing triggers. When I went by one of my key triggers (6000' elevation sign), I almost missed it completely. Implementation of a VP (variable power) pacing strategy in a 2 hr TT with numerous grade changes is really hard with no supporting technology. I realize that a constant power pacing strategy is easier to implement. So, why do I insist on employing a variable power strategy? Because I know that's the fastest way to ride a TT course and I refuse to drop back and punt. I would rather figure out what the problems are and then systematically solve them.

This race and the practice rides have been enormously valuable to me in figuring out how to effectively deploy a VP pacing strategy, including a good understanding of key data that I do not now have on my bike. The other great lessons are two. One is gearing. Getting my gearing sorted out to ride at or close to my preferred cadences was huge and I think I actually would have been slower today than one (or all) of my practice rides if I had my original gearing. I actually think I did a better job of using my NP in the practice rides than I did today. I was only faster today because I rode at a higher NP, not because I used that scarce resource wisely. The second is the difference between a 1 hr TT and a 2 hr TT. It's not itsy-bitsy. It's huge. In the second hour today, I absolutely could not believe that there were times when I could not get >200w. I was calling down to the engine room and asking for more power and the engine room was dead silent – I think they were on strike. This probably just reflects my general level of cycling fitness. I'll be interested in revisiting this topic next spring. But, for now I know that the 2nd hour is a bitch.

Since I don't plan to race seriously until next spring, this race was more about getting a benchmark on my present fitness and learning than it was about doing well in any absolute or relative sense. One of the key things I wanted to experiment with was pacing, in both practice rides and in the race. I have had a chance to study the workout file in detail and I have some additional pacing observations.

My first observation is that pacing at or above one's FT (Functional Threshold) is really difficult with presently available on-bike technology, at least for me. First, it's hard to ride at a pre-determined pace close to or above one's FT, period. It's just not that easy to ride at, say 100%FT for either a segment or the entire race. Attempting to deploy a VP pacing strategy adds another huge dimension to the difficulty of execution of a precision pacing strategy. It requires a plan (not a simple matter) and some sort of triggers (e.g., landmarks) for pushes. And then the really hard part is gauging the completion of recoveries from pushes. I found that my body gives me very poor signals in this respect. To put it bluntly, my body lies. It thinks it's ready to go after a push way ahead of when it is actually ready.

My second observation is that CP (Constant Power) pacing with presently available on-bike technology is clearly the way to go for less experienced cyclists. VP pacing introduces so much additional complexity to the pacing problem that I believe a novice is far more likely to have a slower time with VP pacing than with CP pacing. VP pacing is the fastest way to go from A to B, but only if one is very skilled at it. It requires lots of practice and constant focus and concentration. During a race at or near one's FT, the required focus and concentration is not always abundantly available.

My third observation is that a PM (Power Meter) revealed just how lousy I was at pacing. I think this is one of those areas where I thought I was pretty good at something until I had hard data to look at and then I said, "Gee, I didn't know it was that bad." Well, I now know how bad I am. But, that means I know what the problem is and can systematically work to get better. Before, I was bad and didn't know it. That's worse.

Finally, out of curiosity I looked at NP and HR mile by mile. I found several things interesting. First, my max NP (281 in mile 2) corresponded to my max HR (150 in mile 2) and my min NP (159 in mile 17) corresponded to my min HR (131 in mile 17). But, other than the extremes, NP and HR often diverged. For example, I had the exact same HR (141) at Nps of 278 (mile 1), 255 (mile 5) and 251 (mile 6). Given that I think my FT was ~260 for this ride, these differences in NP are huge but my HR was the same for all three miles. In fact, from mile 8 to mile 16 my NP varied quite a bit (especially my surges in miles 11 & 14) but my HR varied hardly at all. Miles 16 & 17 were particularly misleading. Compared to my FT, I was really loafing in these miles (basically a recovery ride pace) but, due to the cumulative fatigue, my HR remained relatively high. I'm sure the HRM devotees will draw a different conclusion, but my personal conclusion is that my HRM is practically worthless for pacing.