"The high intensity training in specialties combined sports (triathlon)"

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Triathlon Canada National Performance Coach

- Olympic Distance 1.5/40/10
- Sprint Distance .75/20/5
- Team Relay .3/8/2

- All disciplines triathlon contain CRITICAL MOMENTS
- A second here or there can determine subsequent events dramatically and create a very different outcome

Victim or a Villian

- Are you going to win / lose in a knockout ?
- When is the best time to throw the “punch”
- Do you have the vocabulary to “step into the ring”

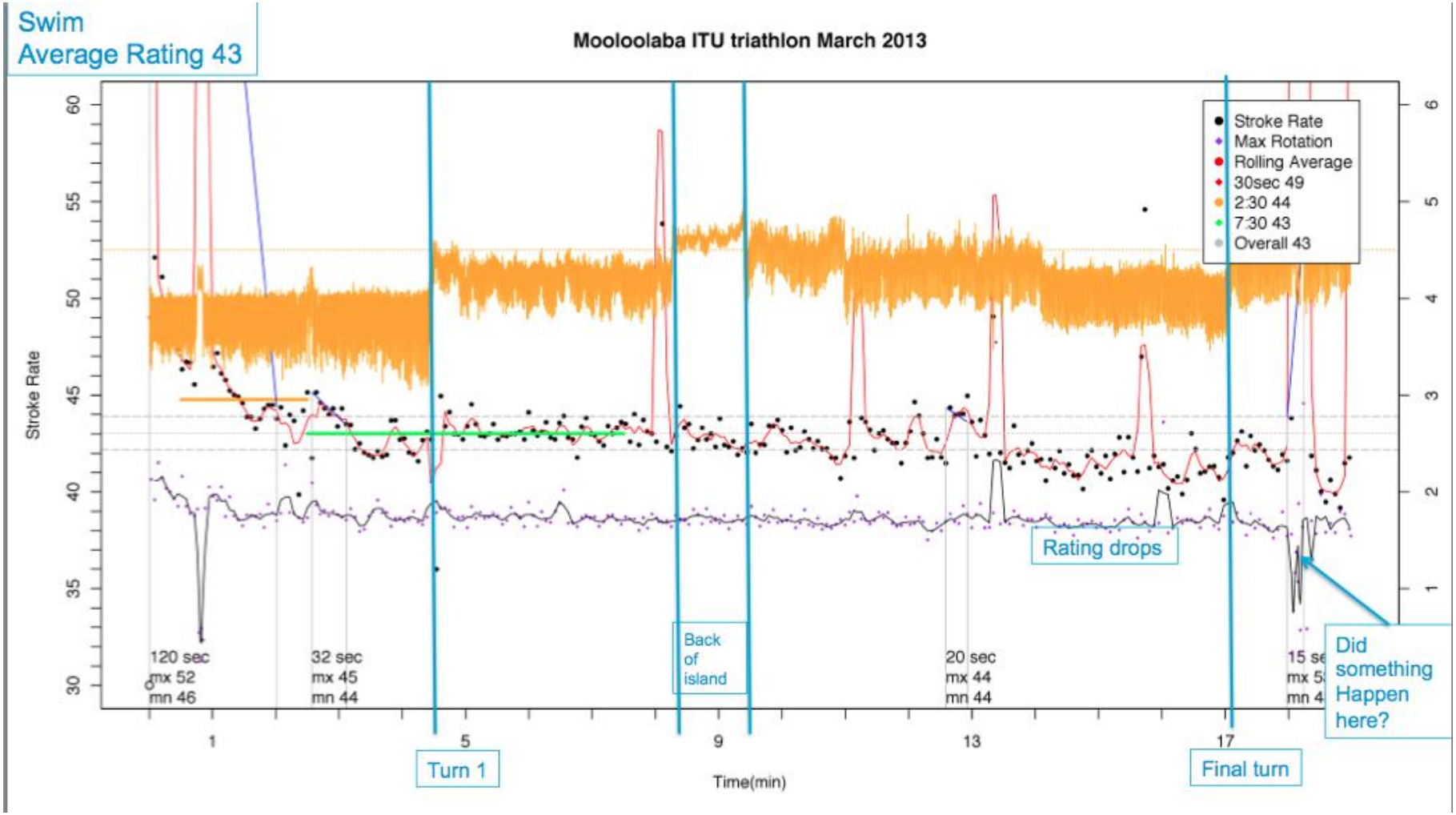

RŌKA
MAVERICK

Swim

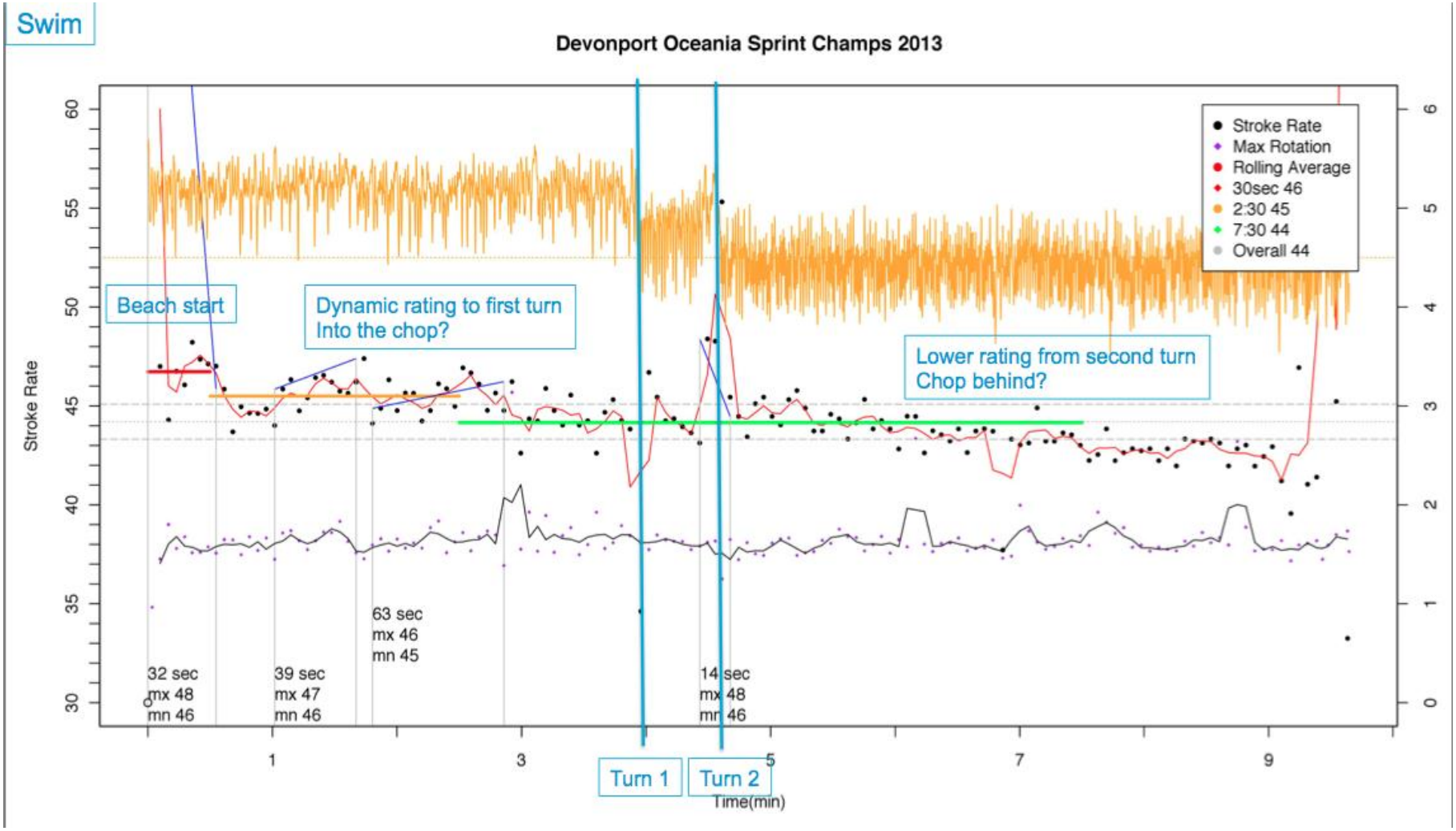
- Vocabulary
  - P50
  - P200
  - AT
  - Dead or Underwater Starts at cans with or without O2
  - Supra AT surges
  - Return to AT after Supra AT
  - back end

- Comfortable with the uncomfortable
- Stroke rate Vocabulary and subsequent economies
- Different base skill levels and P50/P200 capacities have a significant impact on demands of competition and therefore preparation

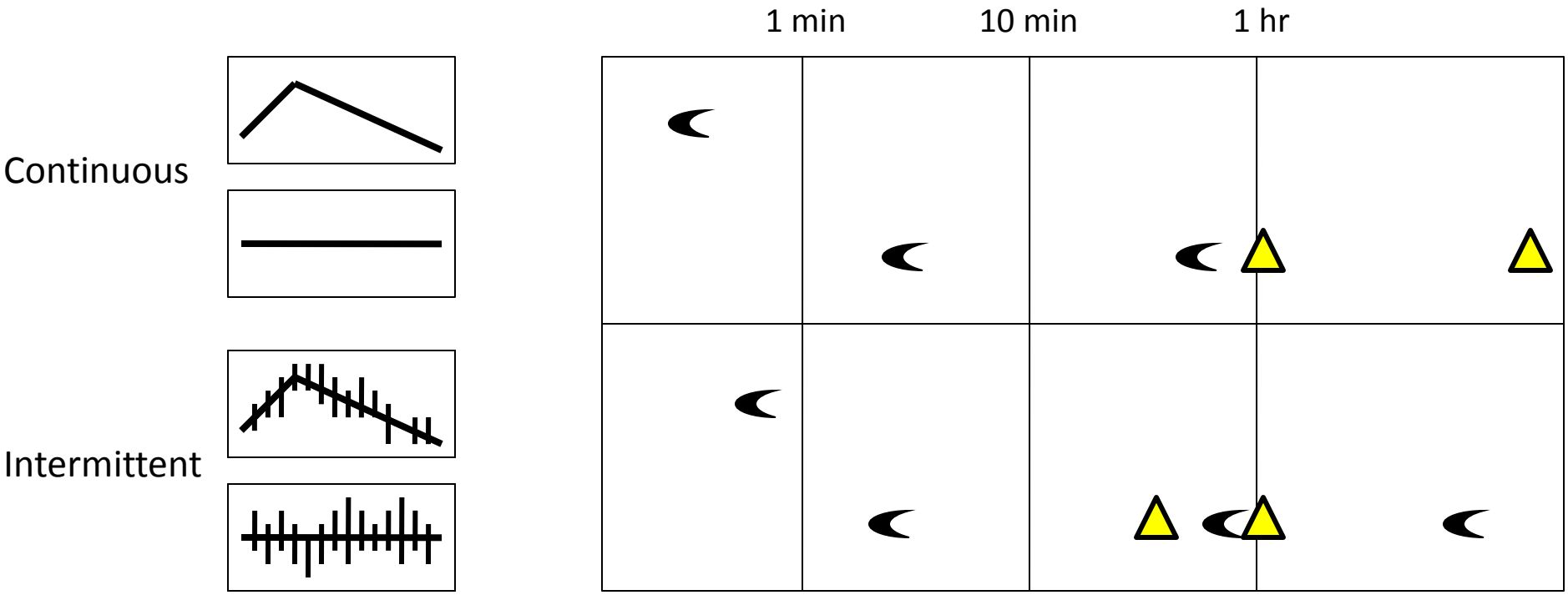
Demands of comp Variability



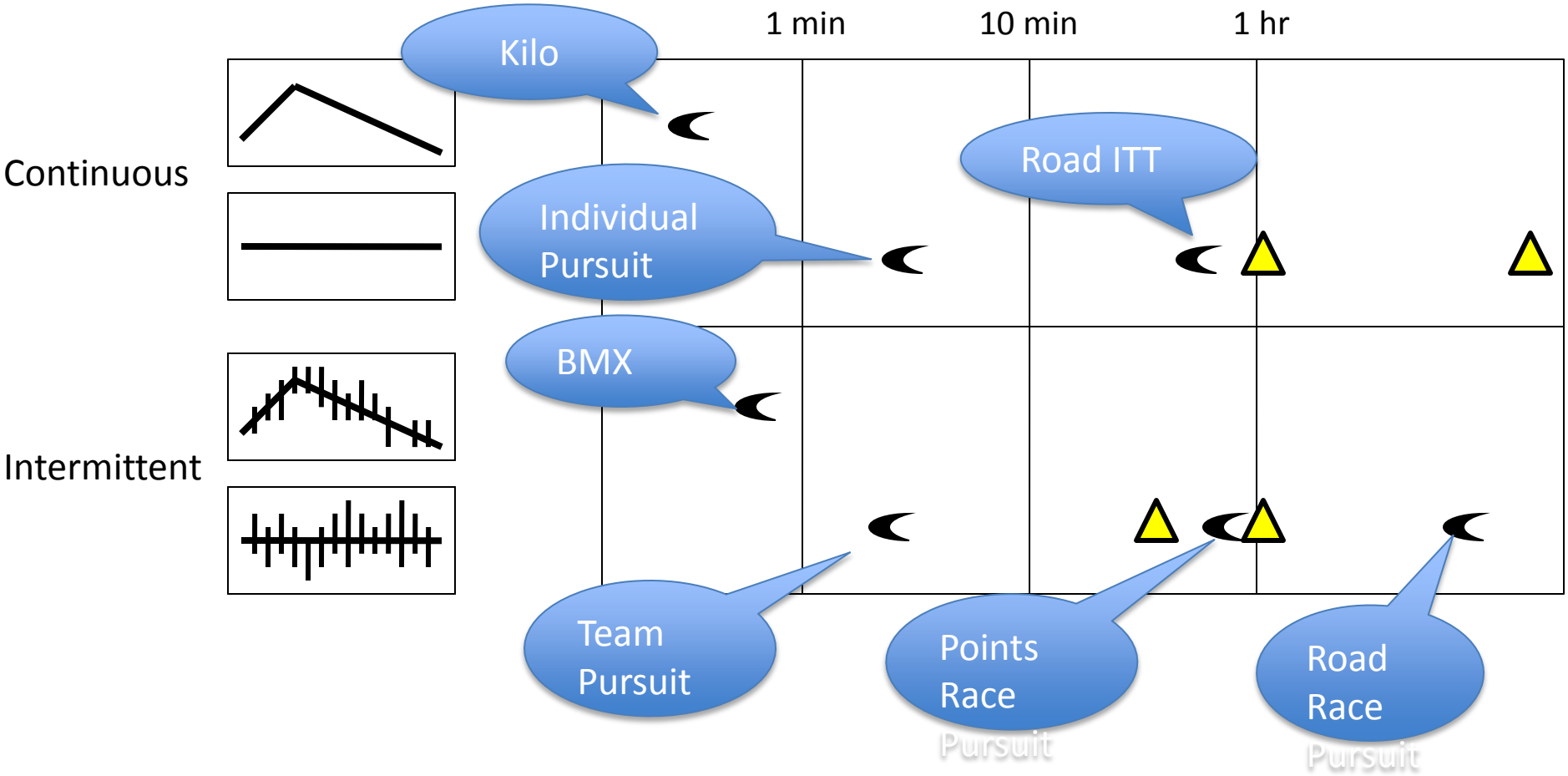
Demands of comp Variability



DEMANDS OF COMPETITION



DEMANDS OF COMPETITION



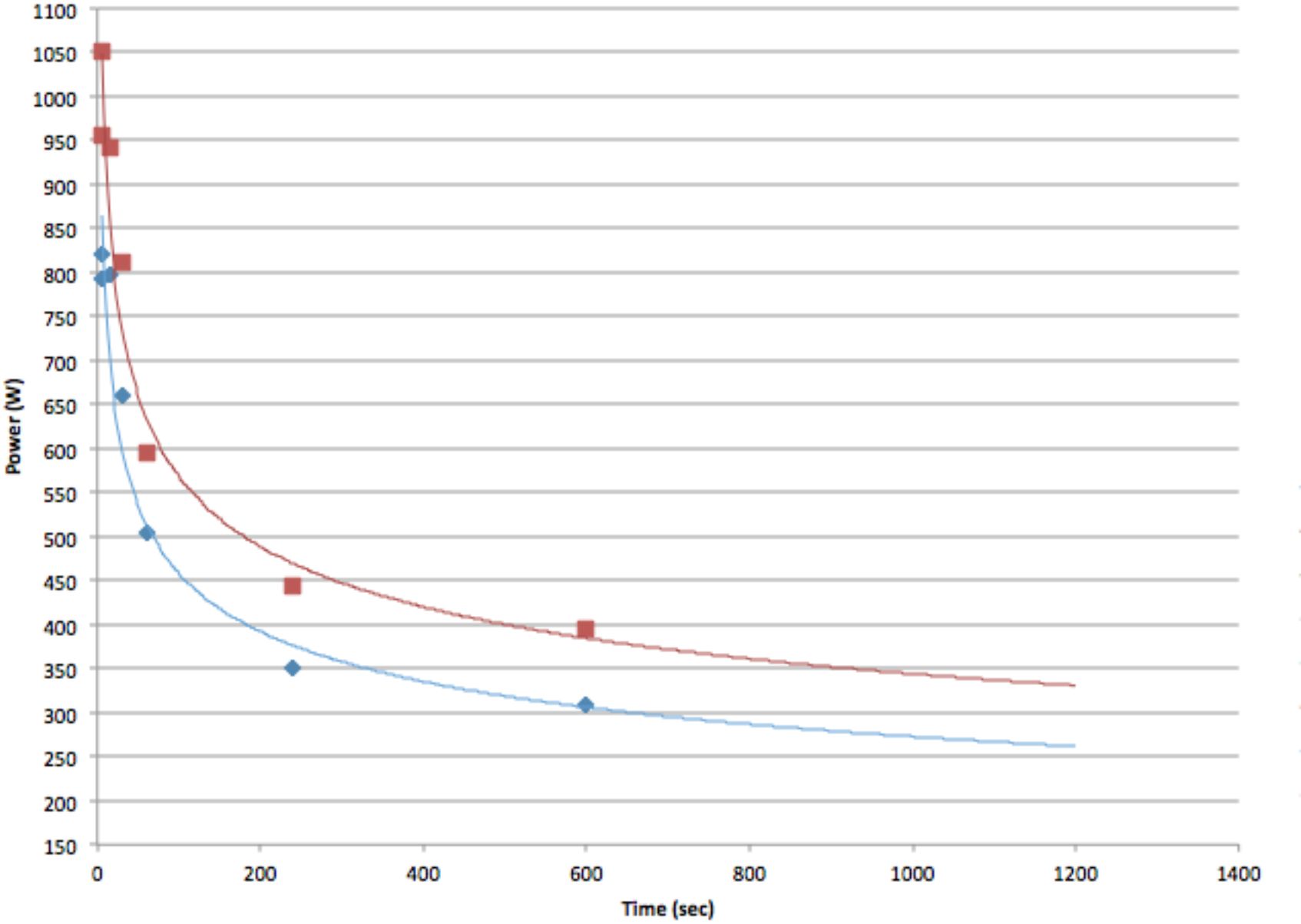
Power Profile

- Determine highest power output a triathlete can maintain for a given duration of SINGLE effort

- Protocol: (All efforts are maximal)

  - 6s Small Gear, standing start
  - 6s Bigger Gear, standing start
  - 15s Rolling Start 70-80 cadence
  - 30s Rolling Start 70-80 cadence
  - 60s Rolling Start 70-80 cadence

  - 4min
  - 10min


1100
1050
1000
950
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
Power (W)
0
200
400
600
800
1000
1200
1400
Time (sec)

Under One's fatigue Resistance

12x5sec; 1:6 W:R
6x10sec; 1:6 W:R
4x15sec; 1:6 W:R
10min Rest
12x5sec; 1:3 W:R
6x10sec; 1:3 W:R
4x15sec; 1:3 W:R
10min Rest
12x5sec; 1:1 W:R
6x10sec; 1:1 W:R
4x15sec; 1:1 W:R

start cadences 1:6 < than 60 / 1:3 70-80 / 1:1 > than 90

Making Power….. Generating Speed …

“Pointscore Session”

3-5x 10min "on" with 3 min recovery

Within the "on's" Athletes ride high on velodrome in a line - staying behind and above the wheel in front of them - riding approx 28-30kph

When the motorbike comes up underneath and behind them they stay in order , accelerate and dive down the track to chase and hold the motorbike (motorbike is going 45-52 kph depending on gears they are riding)

Its optimal for athletes to produce power with cadence and minimise the crank torque In this sessions we are looking at start cadences of around 75-80 -

Women ride between 86.4 and 90 - Men between 88.8 and 92.6

- The velodrome gives us a controlled environment - the banking encourages and rewards power production with cadence and enables the athletes to produce velocity with cadence - like a rotary engine

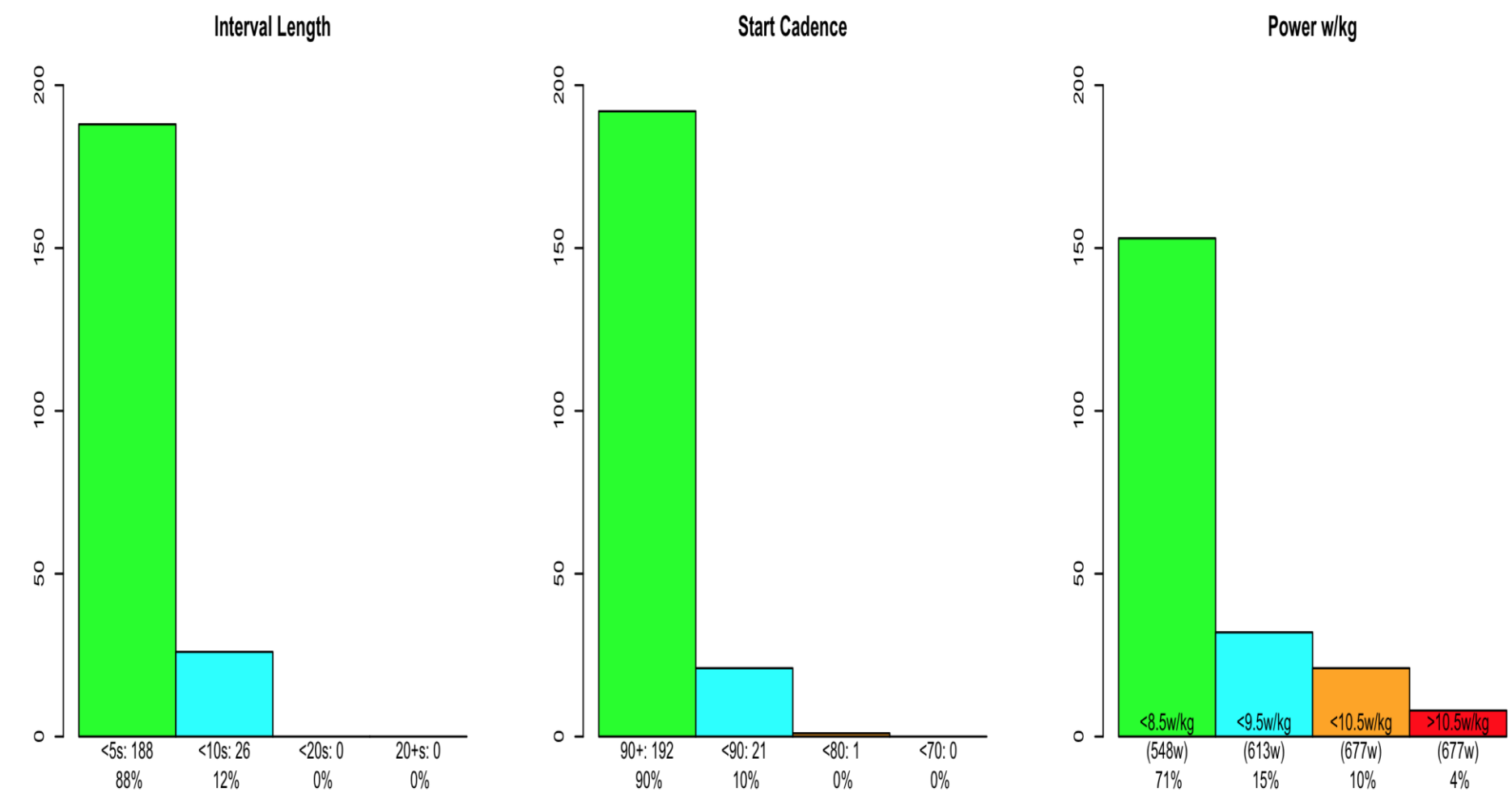
- A sample effort from Ryan Bailie
  - 8 efforts per 10 min period 40-42 seconds of work per effort (equal rest between)
  - max power 950 - 16.10 watts / kg
  - **start cadence 75**
  - **max cadence 122**
  - **start speed 30**
  - **max speed 54 (just before getting on motorbike wheel)**

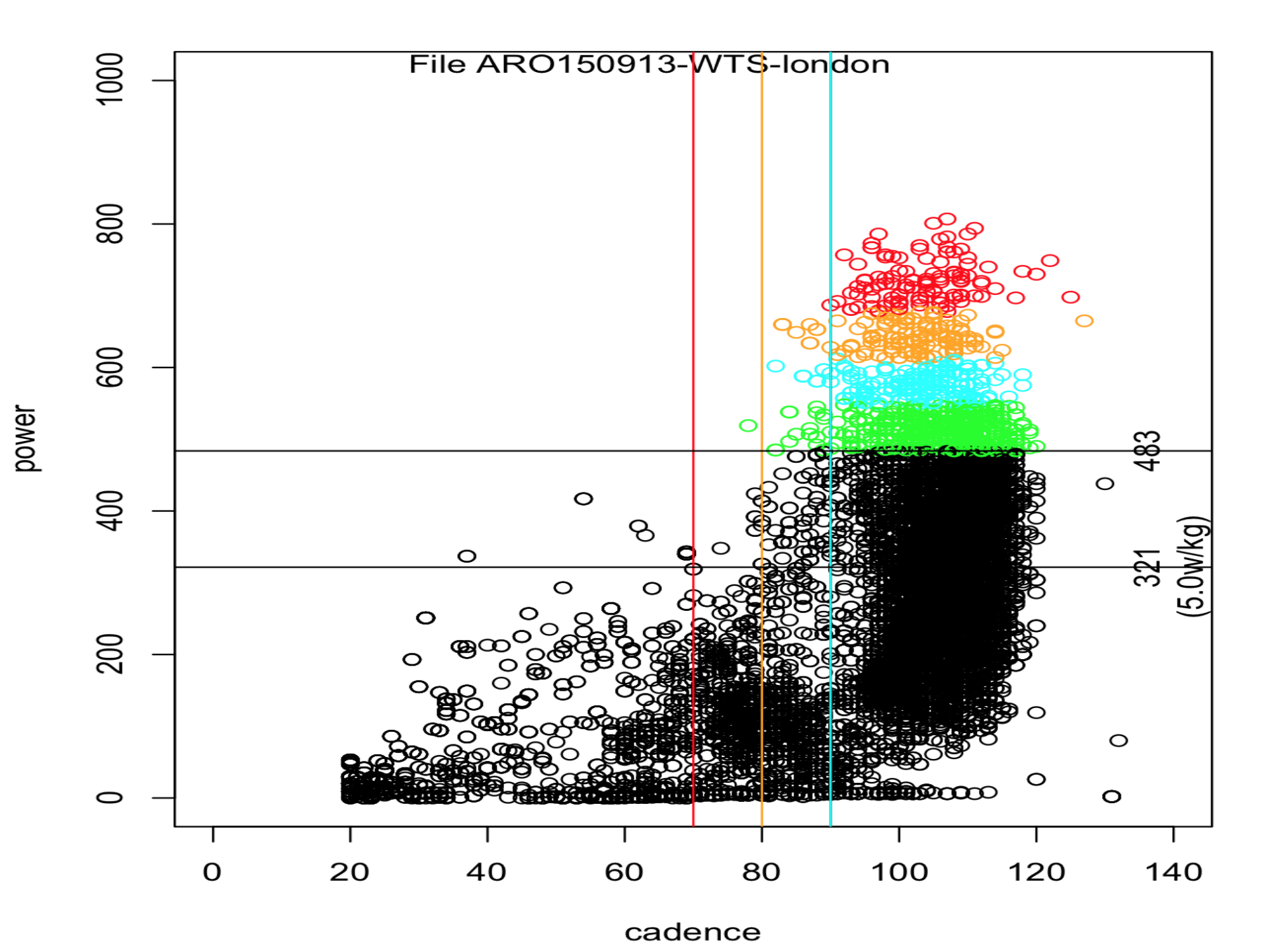
HOWEVER - If you lay down in front of the enemy it will kill you

- Power (speed) with Cadence is “nice” but the demands of competition vary
- Environmental and tactical demands may demand power (speed) with high torque

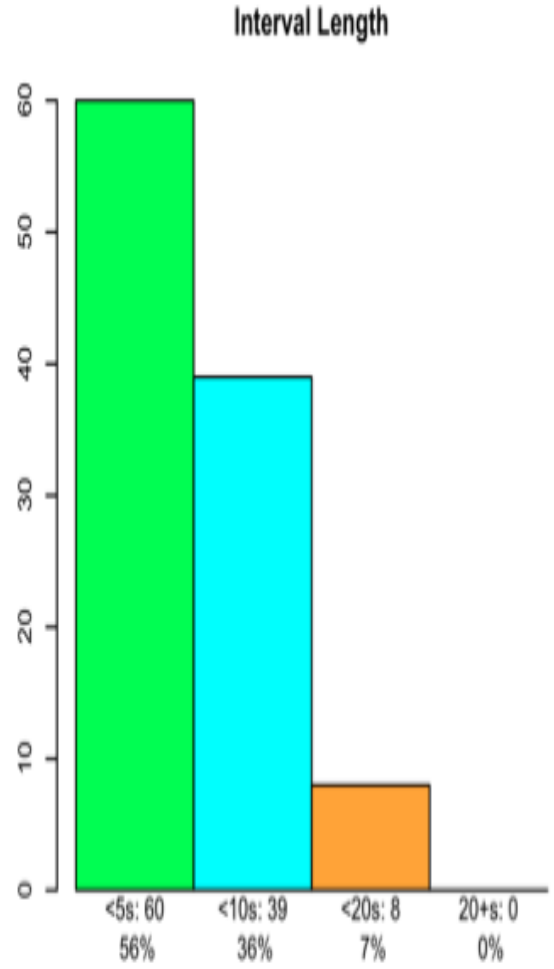
- Biggest impact on subsequent run performance is HOW power is produced on the bike

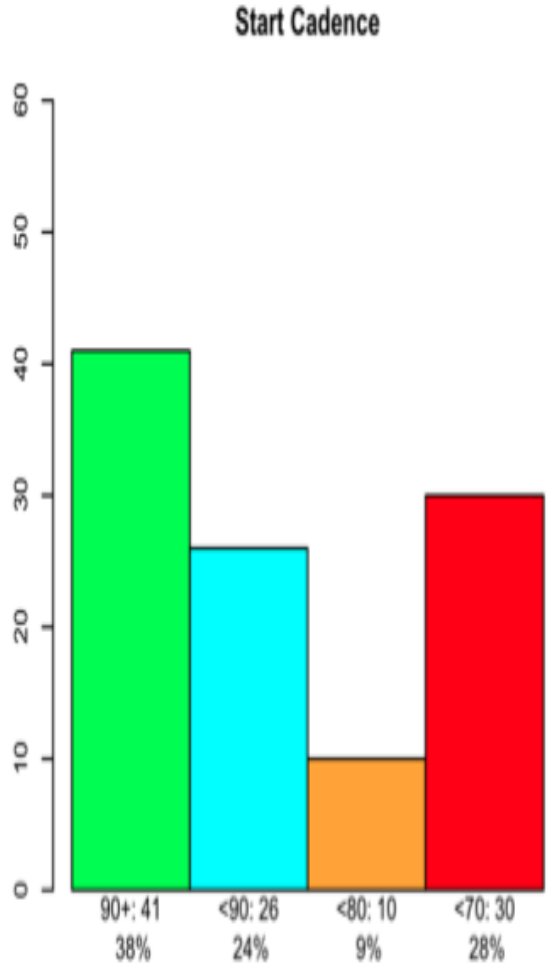
File ARO150913-WTS-london. Total Intervals: 214

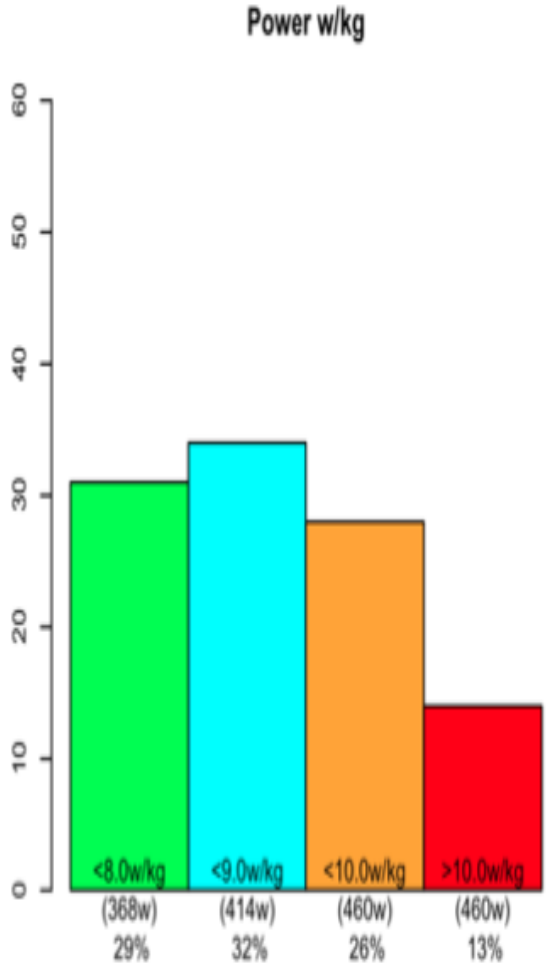


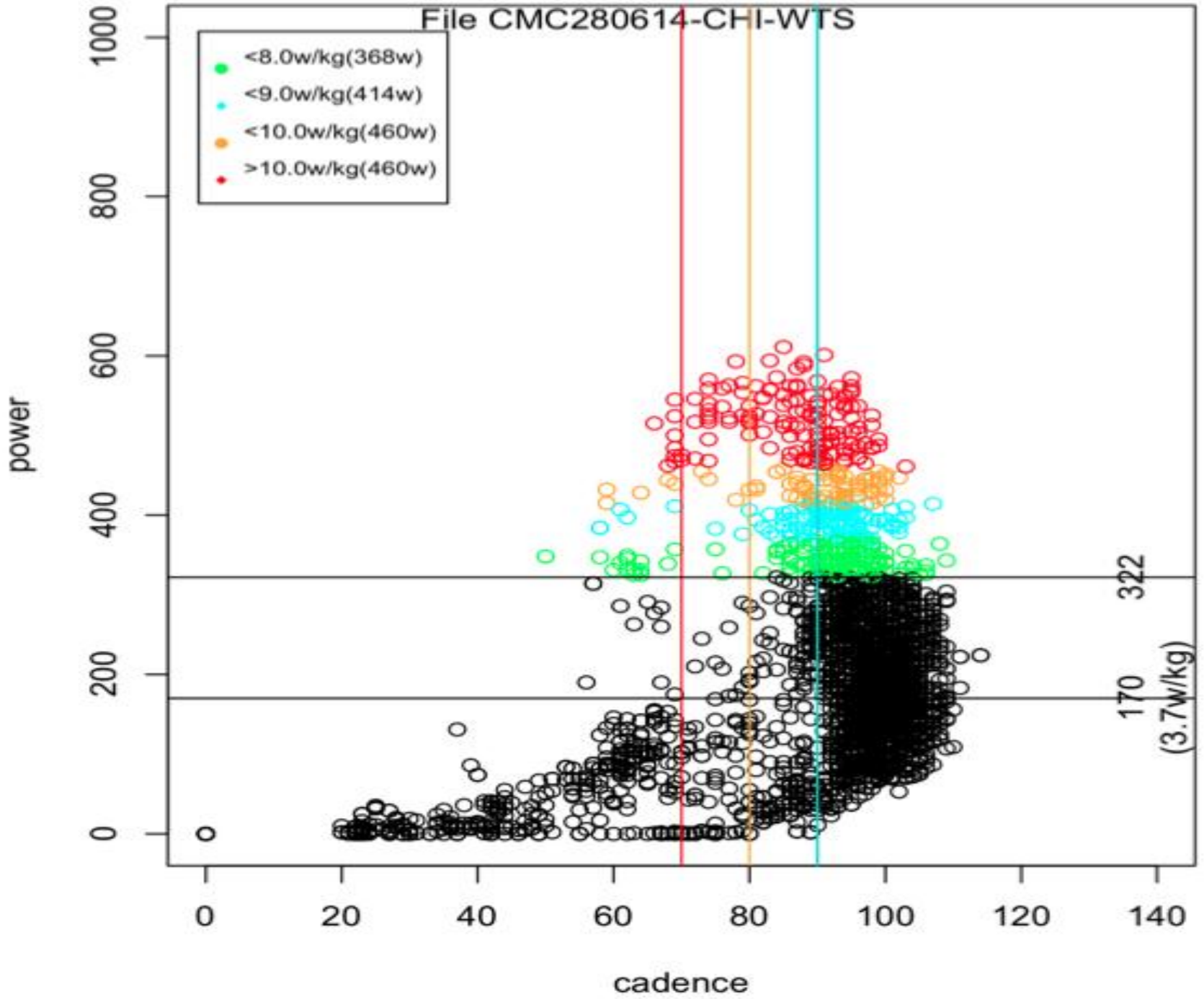

File ARO150913-WTS-london
power
cadence
0
200
400
600
800
1000
0
20
40
60
80
100
120
140
483
321
(5.0w/kg)

File CMC280614-CHI-WTS. Total Intervals: 107

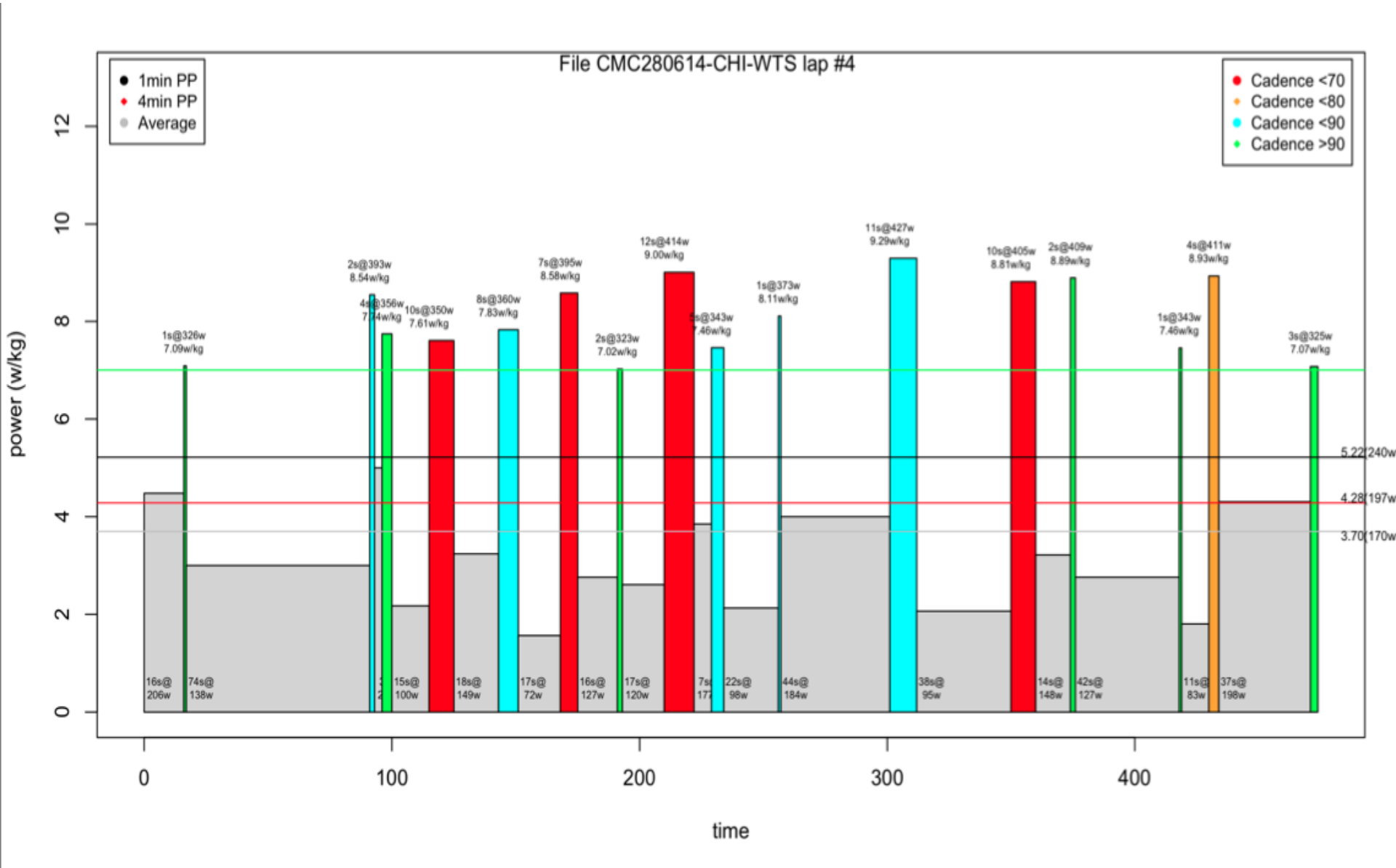







File CMC280614-CHI-WTS
<8.0w/kg(368w)
<9.0w/kg(414w)
<10.0w/kg(460w)
>10.0w/kg(460w)
power
cadence
0
200
400
600
800
1000
0
20
40
60
80
100
120
140
322
170
(3.7w/kg)

Chicago Hot Lap



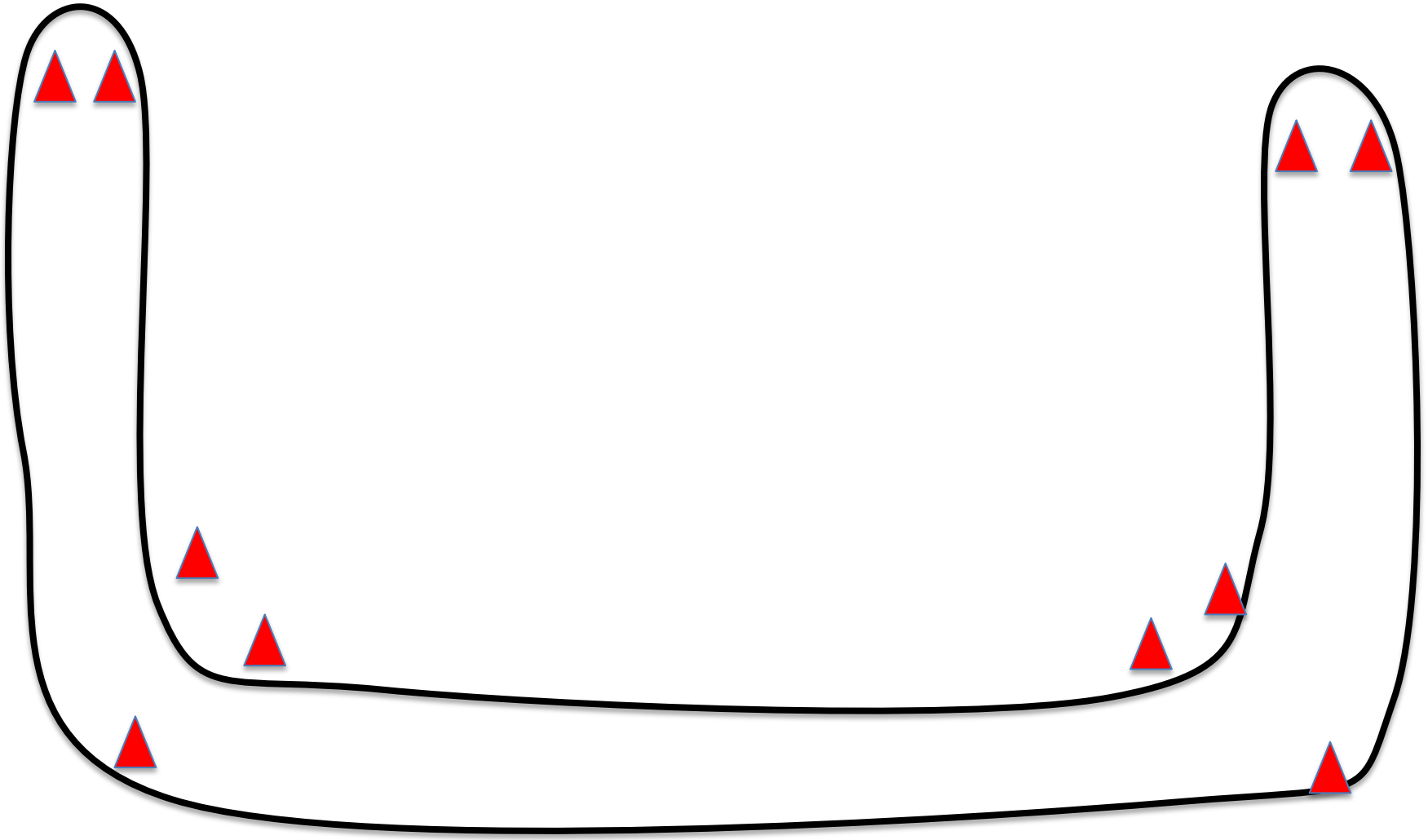
Paris/New York/Gebara/Chicago/Gasteiz ☺

- 8x through

- 3 min rolling turns behind moto - last 10 sec slow down
- 10 sec attack from cadence of <70
- 40 sec rolling turns behind moto - last 10 sec slow down
- 10 sec attack from cadence of <70
- 40 sec rolling turns behind moto - last 10 sec slow down
- 10 sec attack from cadence of <70
- 1.20 min rolling turns behind moto - last 10 sec slow down
- 10 sec attack from cadence of <70
- 40 sec rolling turns behin moto - last 10 sec slow down
- 10 sec attack from cadence of <70

- Attacks all high power and torque - aiming for 10 second "long worm"

4's @ Asteguieta



The Run …

- Subsequent performance post swim and cycle


DEXTRO ENERGY
DEXTRO ENERGY TRIATHLON
ITU WORLD CHAMPIONSHIP SERIES
DOCHERTY NZL


2005 Tiszaujvaros ITU World Cup
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CAN
Teck
GIANT
KAHLEFELDT
AUS
Hy-Vee
triathlon
ITU Elite Cup
PEPSICO
Sara Lee
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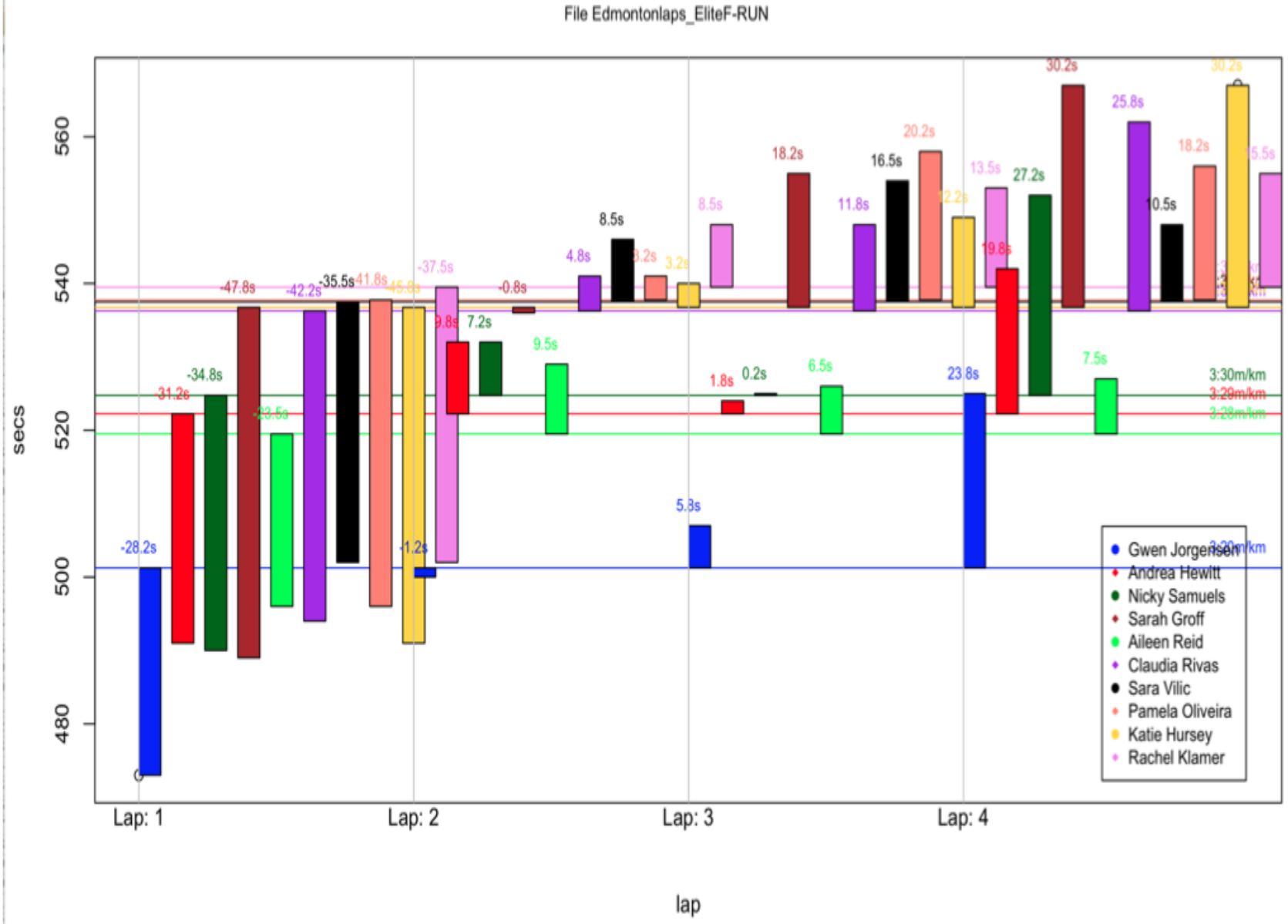
Seal the deal – Critical Velocity under fatigue and stress


File Edmontonlaps_EliteF-RUN
secs
560
540
520
500
480
Lap: 1
Lap: 2
Lap: 3
Lap: 4
lap
-28.2s
-31.2s
-34.8s
-47.8s
-23.5s
-42.2s
-35.5s
-41.8s
-45.8s
-37.5s
-1.2s
9.8s
7.2s
-0.8s
9.5s
4.8s
8.5s
3.2s
3.2s
8.5s
5.3s
1.8s
0.2s
18.2s
6.5s
11.8s
16.5s
20.2s
12.2s
23.8s
13.5s
19.8s
27.2s
30.2s
7.5s
25.8s
10.5s
18.2s
30.2s
3:30m/km
3:29m/km
3:28m/km
Gwen Jorgensen
Andrea Hewitt
Nicky Samuels
Sarah Groff
Aileen Reid
Claudia Rivas
Sara Vilic
Pamela Oliveira
Katie Hursey
Rachel Klamer