

# Under Two Hours—and Beyond

Is the sub-2:00 marathon possible?

BY P. J. CHRISTMAN

The marathon: a magic distance and event, one that requires ambition, planning, determination, courage, persistence, stamina, and endurance, all traits the Greek messenger Pheidippides was required to possess for his clarion journey.

For it was Pheidippides's feat of running from Marathon to exhaustion and death in Athens, in order to announce nothing more than victory, that inspired the subsequent formal Olympic event. At the end of the 19th century, a modern-day race was designed to commemorate the approximate 25-mile distance he was thought to have run.

We can thank King Edward VII of England for the event's current 26.2-mile or 42.195-kilometer Olympic distance. For when His Majesty gave permission for the start of the 1908 Olympic Marathon to be upon the East Lawn of Windsor Castle, the race to finish with one lap inside London's White City Stadium, the Olympic marathon distance was increased from 24.85 miles to its present distance.

These popular contests on foot are thought to be among the planet's more testing endeavors. For those of all abilities up to the challenge, it takes somewhere between two and six hours to complete. Many fail to finish. Others end up hitting "the Wall" where glycogen has run out and the muscles can no longer sustain pedestrian movement of even the most awkward or staggering nature.

Of course there are other, arguably more difficult challenges such as climbing Mount Everest, swimming the English Channel, hiking across the Sahara Desert, biking the Tour de France, or completing Ironman triathlons. These endeavors create their own cachet through difficult requirements involving the overcoming of great mental and physical barriers.

Yet few of the planet's greatest challenges sit within range of the average soul. It takes a protracted amount of training and organization to climb Everest or to survive a Saharan crossing. And how many possess the talent, money, and support to train for and ride the Tour or the swimming stamina for an English

Channel or Cuba-to-Florida crossing? And for Ironman events, expensive biking equipment is essential.

The marathon, on the other hand, requires little equipment or special clothing. Many, with adequate training and minimal transdistance hydration, can finish the task at hand.

Ah, but the clock. Such instruments create the great watershed moments separating those who simply want to complete the distance and those who would achieve specific time goals. Breaking four and/or three hours for the 26.2-mile distance become graduation points for those so inclined.

Yet though women have broken the sub-2:20 barrier and Paula Radcliffe has run much faster, perhaps the most-imposing historical consideration still remains for some athletic nonpareil to run under two hours for the marathon distance. Many think it impossible. Others think it only a matter of time.

Your writer, even when editing the late journal of long-distance running, *Running Stats*, for 23 years called himself a “diarist” rather than a “journalist.” The latter are those who present two sides of any story in journalistic fashion. Yet I shall leave the statistics and arguments that assert the under-two realm impossible to the gainsayers. As I tell my kindergarten through fifth-grade students in Santa Fe’s Sweeney Elementary School library, stories are used to inform, entertain, or persuade.

So I shall take up the sub-two banner, as I did in my novel *The Purple Runner*, this time in a nonfictional (some may argue this description) presentation. To me it is not a question of whether the sub-two-hour marathon will occur. It is simply a matter of how, where, and when.

The following are some of the considerations that may bear on not the impossible, but the inevitable.

## Inspirations for a sub-2:00 story

Somewhere around the 1973 indoor track season, your scribe had the good fortune to view the incomparable Steve Prefontaine. It was in either the Sunkist or the *L. A. Times* meet where the photo on page 82 was taken. Among those in the flotilla behind the man from Oregon and Coos Bay are Frank Shorter, Marty Liquori, and Peter Snell—with ’72 Olympic 5,000-/10,000-meter gold medalist Lasse Viren as caboose.

Pre was an inspirational character, as was his many-time rival from adjoining Washington State, Gerry Lindgren, who subsequently disappeared for years into the ether (only much later to resurface in Hawaii).

In 1981 your author wanted to write a book that would find its protagonist concluding the story as the first man to break two hours for the marathon distance. I titled the novel *The Purple Runner*. Although Pre had never run the distance and



Courtesy of Paul Christman

▲ Steve Prefontaine in the lead, with Frank Shorter, Marty Liquori, and Peter Snell behind, among others, and 1972 Olympic 5,000-/10,000-meter gold medalist Lasse Viren pulling up the rear.

died in a 1975 car crash, it seemed a good idea to use his charismatic and talented figure as a model for a reclusive protagonist, a silent hero capable of overcoming the limited thought process that denies the possibility of the sub-two achievement. The vanished Lindgren was another model for the amalgam character. By 1983 this fictional idea resulted in the aforementioned self-published novel (in 2012 Aqueous Books generously agreed to a second edition). Many thought I was crazy for speculating on such a seemingly impossible task. They may be right. Thirty-one years later we are still slightly less than three minutes from the magic 1:59:59 required to thwart naysayers

## You think someone can break four minutes!

Concomitantly, back in the 1940s and 1950s, the preponderance of distance-running pundits and performers thought the sub-four-minute mile impossible. Who is this Roger Bannister character? And even with the assistance of Chris Brasher and Chris Chataway, why does a medical-man harrier think he can break the magic 4:00 barrier?

Ludicrous. Few thought such a clocking for 5,280 feet or four laps of a 440-yard track possible. After all, in June 1942 the mark still stood more than six seconds short. Even 12 years later, in 1954, could anyone manage such a time? Certainly not a former Oxford University medical student returning to a campus track from work in a London hospital. Hadn't 4:01.4 stood for nine years? Sub-four? You're joking, right?

However, in that same year at Oxford's Iffley Road track, Roger Bannister achieved a 3:59.4 clocking. Sixty years later, in 2014, the aforementioned world record stands at 3:43.13, *more than 16 seconds faster*.

## Now you say a sub-two-hour marathon!

Currently, few believe we are close to the sub-two-hour marathon, and many more still think the concept laughable, at least in the foreseeable future. The world record for the 26.2-mile event stands at 2:02:57. Isn't a 1:59:59 or better light years in the future?

Not necessarily. Maybe the sub-four-minute mile invites comparison with a potential sub-two-hour marathon. Let's begin with the shorter and already historic marks for the distance. For instance, the following is what transpired in the mile over a three-year period from July 1942 to July 1945:

- 4:06.2 July 1942 Arne Andersson, Stockholm
- 4:06.2 July 1942 Gunder Hägg, Göteborg
- 4:04.6 September 1942 Gunder Hägg, Stockholm
- 4:02.6 July 1943 Arne Andersson, Göteborg
- 4:01.6 July 1944 Arne Andersson, Malmö
- 4:01.4 July 1945 Gunder Hägg, Malmö

It is clear that during just three years, while the sub-four still remained out of reach, the world-record time improved by 4.9 seconds, or about 2.0 percent. While Bannister didn't break the barrier until 1954, here is a subsequent progression over an ensuing slightly more than four-year span:

- 3:59.4 May 1954 Roger Bannister, Oxford
- 3:58.0 June 1954 John Landy, Turku
- 3:57.2 July 1957 Derek Ibbotson, London
- 3:54.5 August 1958 Herb Elliott, Dublin

Over those four years, another 2.0 percent and nearly five-second improvement in the world record occurred. There is no doubt that as different benchmarks get closer, new horizons become visible and the numbers of competitors trying to

better any given mark increase. Over the 16 years above, the improvement was 4.7 percent.

On the other hand, to break the two-hour barrier may require long periods of training averaging 26-30 miles per day. Yet someone will figure out both how to do the training and to run 1:59:59 or better. A good indication is that several Japanese men who have run no better than low 28s or high 27s for 10,000 meters can manage 2:07 or 2:06 for the longer distance. It then follows that someone running mid- to low 26s for 10K, and with certain changes to their existing training, right now could come very close to breaking two over the longer distance.

If you think the idea too far ahead of its time, let's look at what happened over the marathon distance during a little more than 12 years:

- 2:05:38 April 2002 Khalid Khannouchi, London
- 2:04:55 September 2003 Paul Tergat, Berlin
- 2:04:26 September 2007 Haile Gebrselassie, Berlin
- 2:03:59 September 2008 Haile Gebrselassie, Berlin
- 2:03:38 September 2011 Patrick Makau, Berlin
- 2:03:23 September 2013 Wilson Kipsang, Berlin
- 2:02:57 September 2014 Dennis Kimetto, Berlin

Granted, this is only a 2.13 percent improvement over more than 12 years. A 2.41 percent improvement is still necessary to break two hours.

*Yet within the span of 1993 through 1998, or six years, the 10,000-meter world record time improved by 2.7 percent (27:07 to 26:22—although the record now stands at 26:17.53). And while Dennis Kimetto has averaged 2:54.8/kilometer for the 42.195K marathon distance, a 2:50.6/kilometer is required to break two hours. Only a 4.2 second improvement per kilometer is necessary to finish in less than two hours.*

Still, many argue that comparing the marathon to the mile is like contrasting apples and oranges. The training required for a distance more than 26 times as great is indeed much more rigorous in scope. It requires unusual determination and the ability both to withstand the effort required and to recover sufficiently in order to sustain the miles and protracted time on feet sufficient to develop such endurance. But training is relative. Your writer believes that while all the stars must align in terms of course, weather, competition, and many other factors, modern-day athletes should shoot for those stars. Until any barrier is broken, certain clockings are thought to be unreachable.

Let's look at some of the factors that may lead to a sub-two-hour marathon:

1. **Course.** In my discussion I am going to favor the Virgin Money London Marathon course, for that is where the Purple Runner was successful. Rotterdam,



*Paul Tergat*  
2:04:55, 2003



*Haile Gebrselassie*  
2:03:59, 2008



*Patrick Makau*  
2:03:38, 2011



*Wilson Kipsang*  
2:03:23, 2013



*Dennis Kimetto*  
2:02:57, 2014

Photos © Victah/[www.PhotoRun.net](http://www.PhotoRun.net)

Berlin, and Chicago may be flatter and slightly faster than London, but London has a legal net drop of slightly less than one meter per kilometer, certainly fast enough to achieve a sub-two. Khalid Khannouchi set a WR on the course. Whatever the course, it should maximize oxygen availability by being close to sea level and should be as flat as possible.

2. **Weather.** Here is where the fastest courses may have to rely on the whim of Mother Nature. For instance, London in the second half of April may have a challenging assignment. Race day ideally needs to be overcast or even to present a misting rain, and the temperature probably needs to be within a range of mid-50s to a high in the low-60s Fahrenheit. Increasing sunlight with rising temperatures is anathema to any sub-two attempt. A combination of temperatures in the 70s Fahrenheit and infrared heat from increasing sunlight makes a record nearly impossible, particularly as darker-colored clothing and pavement absorb more heat than their lighter equivalents. Indeed, the gods must be propitious for any such successful attempt.

3. **Time of day.** An early start is almost inevitably required. Perhaps the best time for a sub-two race to be run would be in the darkness of night. The JAL Honolulu Marathon begins around 5:00 A.M. to avoid tropical heat, albeit the race is still too warm for record purposes. A sub-two attempt may be optimal in the cool of the early-morning hours. Yet spectator enthusiasm and support, as well as the numbers of watchers for any television or Internet broadcast, may expand greatly in the second half of the morning.

4. **Genetics.** Thin is in. Yes, it helps to be very thin, with perhaps a history of childhood running and a diet largely vegetarian to create superhighways for arteries. But the most important genetic component may be *surface-to-bodyweight ratio*, or the ability to dissipate heat. You don't have to be Kenyan or Ethiopian to be thin, but genetic history and makeup may play their parts. Still, former world champion Rob de Castella had apparent mesomorphic legs and appeared in running shorts to be about a 2:40 marathoner. He ran 2:07. Britain's Mo Farah and American Galen Rupp are appropriately slender. Rupp even has the long stride of many Ethiopians and Kenyans. Yet long stride lengths generally are less efficient than shorter ones for such a distance. Color of skin, nationality, and race do not matter. Being thin, with a good circulatory system, does matter.

5. **Training.** Most elite marathon runners today average 100 to 140 miles or 150-200 kilometers of training per week. It may take at least an eight-week regimen of 200 miles or 300 kilometers per week, or 26-30 miles per day, to achieve a sub-two marathon. Many break down attempting to log such miles. However, just as certain Japanese succeed in running very fast marathons on mediocre 10,000-meter times, they do so largely upon long, slow running and very long, slow walking to augment any faster work.

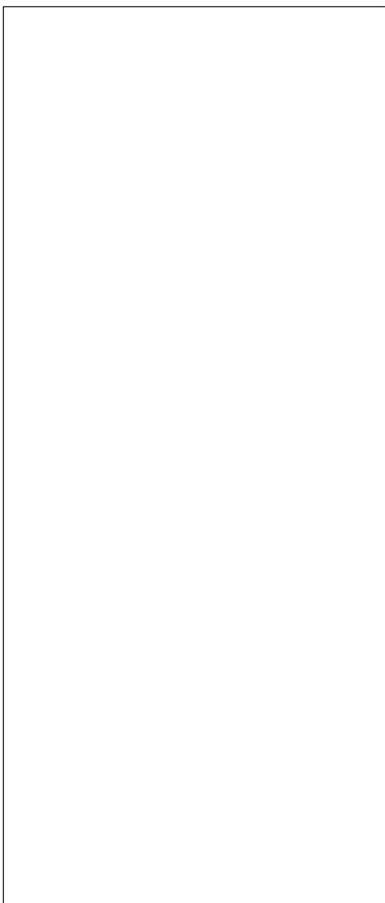
6. **Speed Work.** These efforts would be the most testing parts of the necessary training. It is unexplored territory. Once a week, initially four 5Ks of approximately 14:00 in duration, with five minutes of recovery, might be increased over four to six weeks to eight 5Ks of 14:00 each before the taper week.

7. **Nutrition/hydration.** Many runners feel they are going to be the exception to the necessity of proper fluids and glycogen loading and maintenance. Sure, it's important to be able to burn some fat in the fourth half hour of four, if not earlier. But runners can lose as much as 6-10 pounds of water during those two hours. Accordingly, it is not hard to see limiting that loss to 2 or more pounds at the expense of stopping for drinks and/or intaking osmotic sugar/salt replacement liquids on the fly might be worth a minute or several in a performance. Maximize carboloading, continue hydration during the race with drinking fluids, and ensure that at least one or two of those drinks are ideally suited: that they possess sugar and salt replacement of the nature that, diluted sufficiently, will osmotically quickly pass through the stomach lining.

8. **Good competition/pacing.** It's no secret that drafting to save energy exists in car racing, in cycling, and in distance running. For one man to break two hours, he needs competition and/or some sort of pacing draft for as many miles—at least 20—as possible. Sitting in a draft can save considerable energy, so the potential record setter should run as few miles alone as possible.

9. **Reverse splits.** With all due respect to Steve Jones, the runner who breaks two hours may have an easier time of it with a 60:00 or a few seconds slower the first half and then a 59-plus for the second half. Lots of time can be lost in the last 6.2 miles from having gone out too fast. Such a faster second half also requires cool weather and not climbing temperatures.

10. **Incentive.** This may be the most overlooked yet important and exciting dynamic in creating whole new approaches to training and attempts upon a seemingly elusive mark. Sometimes a large bounty for achieving a particular clocking suddenly finds all kinds of talented people coming



out of the woodwork. Not only do more such imaginative souls want to give it a shot, but they suddenly become willing to try whole new methods of training, nutrition, and other preparations. Why would these exceptional athletes attempt new methods to achieve the seemingly impossible? Well, suppose some sports adventurer like Richard Branson, at the helm of London's sponsor, Virgin Money, decided to offer a \$2 million bonus for the first athlete to break two hours on the London course and pass a drug test? The costs would be minimal, unless the record was set in London and the publicity generated was colossal and worth every pence. Perhaps something like "Virgin Terra Incognita" on the tails of Virgin Atlantic planes?

For a successful assault upon the magic two-hour barrier, there are of course many other factors including rest, mental toughness, preparatory diet, proper shoes and clothing, preliminary racing, and studying the great marathoners of the past. But the aforementioned factors may well be the most critical in achieving such an awe-inspiring goal.

## Nonbelievers still may shake their heads

When all is said and done, there will continue to be numerous compelling arguments against any such accomplishment. Still remaining will be unconvinced hordes similar in imagination to those who think transportation speeds are limited. The Anasazi did not have the wheel; 19th-century citizens lacked the horseless carriage; and early-20th-century dreamers could not yet imagine jet travel, television, satellites, the Internet, and a journey to the moon, all to occur before the third millennium. These same prognosticators remain resolute that the sub-two-hour marathon is either impossible or is so far in the future that none of us alive today will ever see any successful culmination to this apparently illusory quest.

Yet make no mistake about the challenge: there are many parallels to the sub-four-minute mile that was once thought to be beyond reach. And just as the mile record now stands well below what was once thought to be too difficult to obtain, so too will the time for the marathon eventually rest well below two hours. Much like landing on the moon, swimming from Cuba to Florida, or moving from the vacuum tube to the transistor to the circuit board, it takes vision to achieve successful results.

In the future, the miniaturization of the storage of electricity and a pipeline from the waters of the Ohio, Missouri, and Mississippi Rivers—solving two problems by bringing water to a drought-stricken southwestern USA—and a high-speed rail system throughout the United States all may see reality.

With that same imagination and vision, so too will certain determined athletes initially and then regularly run under two hours for the mystical 26.2-mile marathon. 