



Thinking (and Walking) Tangentially

By Dave McGovern

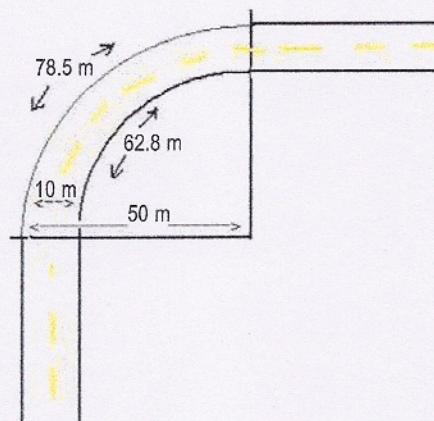
I've just returned from the San Antonio Marathon where I was recruited to hold pace for four-hour walkers in the half marathon. There were over 30,000 participants in the race so a lot of walkers were shooting to come in under that mark. And yet I spent most of the race all alone. There were plenty of people walking at the same pace as me, but they were all—ALL—walking waaaay over on the other side of the street.

To me, walking the shortest distance in a race is second nature. I've done it for years in training so I see the straightest line from turn to turn without even thinking about it. Sometimes I even catch myself "cutting the tangents" when driving—not recommended!

Cutting the tangents derives from simple geometry: the shortest distance between two points is a straight line. Yet most beginning walkers will follow the curves of the road wherever they lead, often walking many meters longer per turn. In a race like San Antonio, not following the straightest line can add up to a mile or more of extra distance walked over the course of a marathon. (Your Garmin isn't lying... You really did walk 6.48 miles in that 6.2-mile "10K" race you did last week!)

A little junior high geometry: The circumference of a circle = $2\pi \times r$. If a road is 10 meters wide and makes a 90-degree turn (1/4

of a circle) and the radius of a circle from the origin (center point) to the outside edge of the road is 50 meters, the difference in distance travelled is $[2\pi \times r]/4$ of the outer edge of the road along the turn (which is $1/4$ of the circumference of a full circle) – $[2\pi \times r]/4$ of the inner edge of the road. So the distance saved by walking along the inner edge of the road rather than the outer edge of the road is $[2\pi \times 50]/4 - [2\pi \times 40]/4$ or $78.5\text{m} - 62.8\text{m} = 15.7\text{m}$. At 12 minutes per mile (2.24 meters per second) that's 7 seconds. For one turn! That's 7 FREE seconds just by taking the shortest distance along that one turn. Now multiply that 7 seconds by the dozens of similar turns during the race and you can see how walking the shortest distance consistently can really add up.



Walking the shortest distance is a pretty easy process, but it takes some practice before it becomes ingrained so that you do it automati-

cally when racing. A few How To's:

- ♦ Look far ahead down the road to where the walkers or runners ahead of you are disappearing around the next turn. Head in a straight line for that point.
- ♦ Whenever possible hug the inside of the turns.
- ♦ When coming out of the turn look ahead to the point where the next turn disappears and head in a straight line for that point.
- ♦ Try to anticipate what the people ahead of you are doing so that you don't have to suddenly scramble the long way around packs of walkers.

Let's say you've just turned right, hugging the curb on a road course, and the next turn is a left-hand turn 400 meters ahead. Ideally you should walk as straight a line as possible to the curb of the upcoming turn, gradually crossing the street diagonally to reach that point. Most of the people around you will immediately cross the street, like lemmings, and then walk along the curb on the far side of the road. You may not be able to walk in the middle of the road at home during training, but in a race, with the road closed to traffic this is unnecessary and doing so will add 20 to 30 meters to the distance walked. Again, multiply that 20 to 30 meters by 20 turns and you've saved 400 to 600 meters (3:00 to 4:30 minutes at 12:00 pace) over the course of the race.

One final note: Cutting the tangents is not cheating! Not doing so is cheating yourself! Races are measured on the tangents, so if the course is advertised as a 10K, it is a 6.2-mile race, measured along the shortest possible distance. The elite runners and faster walkers will be walking a 10K, but somewhere in the middle of the pack things break down and a lot of the slower walkers and runners start wandering the course along the curves which results in the slower athletes actually walking a much longer distance than the faster athletes.

Racing is hard! A marathon—or a 10K or 5K—is a long way to go. Why walk 27.3 miles or 6.48 or 3.24 when you can walk 26.2 or 6.2 or 3.1? If you can't be fast, at least you can be smart! Cut the tangents! ♦

Dave McGovern is a 20+-year veteran of the U.S. National Racewalk Team who now coaches masters and elite walkers and enjoys cutting the tangents to the nearest seafood buffet. Visit his website at www.racewalking.org.