

Measurement News



March 1998

Issue #88



Dave Cundy (right, hand thoughtfully applied to chin) ponders his fate at the measurement of the Atlanta Olympic Marathon course. Dave, who is the IAAF Course Measurement Area Coordinator for Asia & Oceania, has recently been appointed manager of road events for the Sydney Olympics. Dave will be traveling to Kuala Lumpur, Malaysia, in late April to measure the course of the Commonwealth Games Marathon.

Photo by Fran Seton

MEASUREMENT NEWS
#88 - March 1998

CORRECTION

The cover of January *Measurement News*, number 87, said that Bob Letson and Ted Corbitt were shown at the measurement of the 1995 New York City Marathon. Right marathon, wrong decade. The correct year was 1985. My apologies to Ted and Bob.

1997 Paris 20km--update

From Ryan Lamppa:

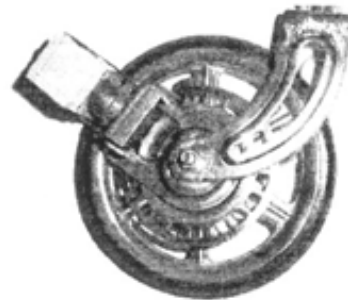
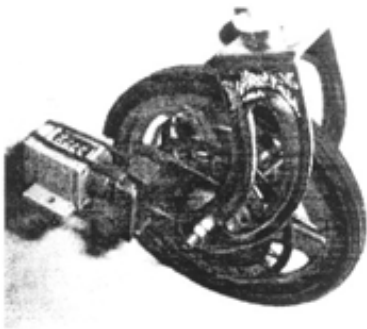
Jean Francois Delasalle from the French Federation (FFA) has confirmed that the 1997 Paris 20km course was not run as certified; it was short by approximately 170 meters. Thus, the times--including John Gwako's pending world record (57:35)--run on that course on October 19, 1997 cannot be recognized.

Here is DeLaSalle's report about verifying Gwako's performance:

"The 1997 Paris 20 k time cannot be taken into account. It was a new course that had been correctly measured by Antoine Segura, an IAAF AIMS approved measurer, but the organizer did not respect the pre-determined departure line: the runners only ran a distance of 19,830 meters. That is a shame, but it was a mistake from the organizer of that race."

The current verified world 20km road record is still Salah Hissou's 58:20 at the 1994 Paris 20km on October 16, 1994. The 1994 course passed validation.

PUZZLE OF THE MONTH



Jean-Francois Delasalle asks:

“What is this object?”

“What could it be used for?”

Send answers to Pete Riegel.

EXPERIENCE OF US MEASURERS

One way to assess a method or process, such as course measurement, is to examine the experience of those who practice it. The US list of certified courses contains information that makes some interesting comparisons possible. From the beginning of the current system in 1982 to the list as it existed at publication of November 1997 *Measurement News*, we have listed 16241 certified courses, and they have been measured by 1527 different surnamed measurers.

Computer-sorting of the list produced the graphs and tables you see on the facing page. The upper graph, *New vs Experienced Measurers*, shows the rate at which we are producing experienced measurers. In this analysis, an experienced measurer is a person who has measured two or more courses. For each year, the surnames were examined, and those names that had never appeared in any previous year were deemed to be "new" measurers. Thereafter they were considered to be "experienced."

1982 was the first year in which the Short Course Prevention Factor (SCPF) was used in the US. Only 20 courses were measured using the SCPF in 1982. Other courses were certified, but only as the dying gasp of the old system, and none of those courses are currently listed in our database. Thus we began anew in 1982. 17 people measured courses for certification in 1982, and all were "new" measurers as far as this analysis is concerned. In reality, most were experienced. As the years marched by, and more people gained experience, we saw the level of experience rise. About five years ago it reached a plateau of about 200 experienced measurers and 50 new measurers at work each year. As an example, in 1995, 234 different people measured courses. Of this 234, 47 had never measured a course before. Thus in 1995 we had 47 new measurers and 187 experienced measurers at work. Of the active measurers, 79.9 percent were experienced.

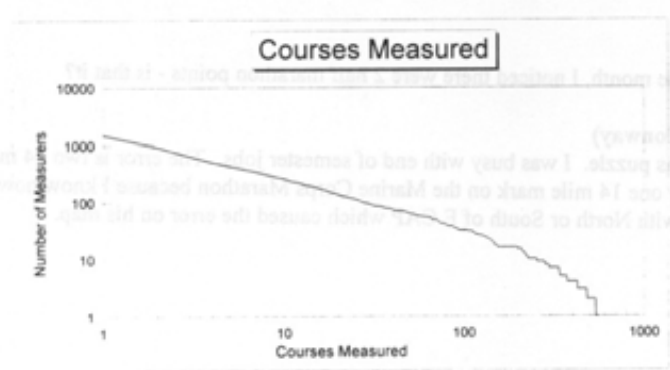
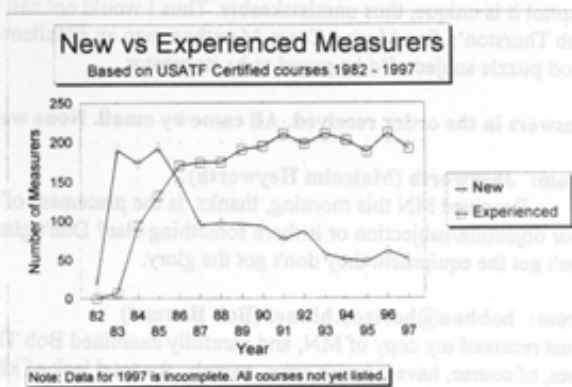
This production rate of 50 new measurers each year has occurred in spite of the fact that few of them ever attended a measurement seminar. They simply bought the book and learned by doing, supported by the network of certifiers and encouraged by the idea that they can obtain course certification without having to bring in an expert. As we saw in January *Measurement News*, skill increases with experience. By allowing newcomers to gain experience, we continually renew our supply of active measurers.

Experience may be measured both in years and number of measured courses. We have 135 people who have measured 20 courses, 32 who have measured 100 courses, and one superhuman with 557 courses measured. It is gratifying to see the depth of experience, but one question nags: 1527 people have measured one or more courses. 927 have measured two or more. Forty percent of the people who have measured a US course did so only once, and never repeated. What happened to the 600 people who evidently measured once and then quit? Did they find the process unrewarding or difficult? Is this a problem? Is there something we can do to encourage these people to repeat?

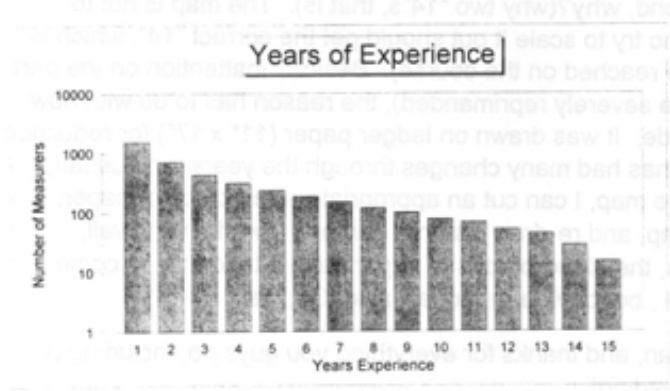


EXPERIENCE OF US MEASURERS

Year	New Measurers	Total Measurers	Exp Measurers	Courses Produced	Percent Experienced
82	17	17	0	20	0.0
83	190	197	7	512	3.6
84	173	266	93	824	35.0
85	192	324	132	1243	40.7
86	149	319	170	1236	53.3
87	94	268	174	1158	64.9
88	96	270	174	1106	64.4
89	95	285	190	1082	66.7
90	93	287	194	1150	67.6
91	76	286	210	1220	73.4
92	86	283	197	1204	69.6
93	57	267	210	1164	78.7
94	50	252	202	1053	80.2
95	47	234	187	1147	79.9
96	61	272	211	1113	77.6
97	51	242	191	1009	78.9



Courses measured	Cumulative Number of measurers
1	1527
2	927
3	642
4	504
5	432
10	258
20	135
50	63
100	32
200	15
300	7
400	4
500	2
557	1



Years	Number of Measurers	Number with years of experience
1	816	1527
2	276	711
3	117	435
4	81	318
5	50	237
6	36	187
7	33	151
8	19	118
9	22	99
10	8	77
11	17	69
12	8	52
13	16	44
14	13	28
15	15	15

LAST MONTH'S PUZZLE - MARINE CORPS MARATHON MAP

The Editor's idea of the "correct" answer (to "find the mistakes on the map") was that the map contained two half-marathon splits and two 14 mile splits. I did not notice the missing street name at 14 miles, but since it abuts the US Capitol it is unique, thus unmistakable. Thus I would not call it a true error. In case it was not apparent, I considered Bob Thurston's fine Marine Corps Marathon map an excellent example of the mapmaker's art, in spite of it being a good puzzle subject. I'd be proud to be its creator.

Answers in the order received. All came by email. None were completely correct.

From: Jheyworth (Malcolm Heyworth)

Received MN this morning, thanks. Is the placement of the 22-mi mark on the main map the object/subject of your objection/subjection or is there something else? Don't gimme a hard time about submitting by email now. If others don't got the equipment they don't got the glory.

From: bobbau@horizon.hit.net (Bob Baumel)

I just received my copy of MN, and carefully examined Bob Thurston's map that also constitutes the puzzle. This map does, of course, have a major error, namely, the total lack of kilometer marks. As a secondary error, it has two 14 mile marks. It also seems to be missing some street labels; for example, I can't find the name of the street containing those two 14 mile marks.

From: Zgerweck (Jim Gerweck)

Just perusing the USMC map/puzzle of the month, I noticed there were 2 half marathon points - is that it?

From: measurer@ican.net (Bernard Conway)

Sorry to take so long to answer this months puzzle. I was busy with end of semester jobs. The error is two 14 mile marks on the map. I am sure there is only one 14 mile mark on the Marine Corps Marathon because I know how well Bob measures. I guess it was a problem with North or South of E CAP which caused the error on his map.

Bob Thurston explains:

Dear Pete,

That's a low blow-- but I left myself wide open for it! I presume that the real puzzle of the month is not the fact that there are two mile fourteens, but first of all, which one is correct, and second, **why?**(why two "14"s, that is). The map is not to scale, of course, but those who try to scale it out should get the correct "14", which is the northernmost (the first one reached on the course). Besides inattention on the part of the mapmaker (whom I have severely reprimanded), the reason has to do with how the map was made and re-made. It was drawn on ledger paper (11" x 17") for reduction to standard size. The course has had many changes through the years, and usually instead of re-drawing the entire map, I can cut an appropriate-sized piece of paper, glue it over a portion of the map, and re-draw just that portion. It works very well, except that over several years, the glued-on bits of paper have a tendency to come loose, and usually you catch it, but obviously, not always. Oh, well.

Regards to you and Joan, and thanks for everything you guys do, including (I guess) the sharp-eyed proofreading!

Bob Thurston



TIDBITS FROM MNFORUM

MILE SPLIT ADJUSTMENT

Jim Gerweck asks:

I have a question about adjusting mile splits on an out and back course.

After doing the math, I found I needed to add 30 feet to bring the course to the proper distance. The best way to do this was move the turnaround point 15 feet further out.

My question is: If I want to adjust the mile splits, which way and how much do I move them? My first thought is to leave the outbound ones alone, and move those on the return stretch 30 feet away from the finish. However, this would seem to make the final 3 tenths of a mile long by nearly 2 per cent. On this course, it probably doesn't matter, since the stretch from 9 to the finish is almost all up hill, and people won't be able to figure the bastard distance split anyway. Should I just do what I said, or don't move anything, which would just leave the middle mile long by 30 feet (again, not a problem since it's mostly uphill too).

Jim Gerweck
Zgerweck@aol.com

Bill Grass replies:

When I measure a course I always put down temporary mile marks. Since I have to go back and make the marks permanent and record their locations to landmarks, I always adjust them. The method I use is to take the total adjustment and proportion it out by mile. On a 10 mile out and back course needing a 30 foot total adjustment, I would add 3 feet to the first mile, 6 to the second, etc. In your case with a turning point moved 15 feet, you have to make sure you got your head on straight. Do the math. Your adjustments will be in the opposite direction on the return and will get smaller as you approach the finish line with no adjustment at that point.

This is not the purest way but you will not have to backpedal when the runners complain about their split times. The flat and straight miles will be a hair long and the hilly and curved miles will be a little short. The alternative to this is to adjust each mile based on its measurements. The course would be the sum of the shortest splits and be longer than our normal method would provide. Each mile would be certifiable. I see this as a less desirable method.

Hugh Jones says:

If you are really concerned about nearest-metre accuracy of your split miles (it doesn't sound so), then you should make the 30 feet (let's say 9m) adjustment at the turn-around and adjust the second-half mile points likewise. Then you should make a further adjustment, dividing the correction (9m) by the number of miles in the race and adding one of these dividends into each mile as you go (one in mile one, two in mile two, etc). That would lengthen both the (previously unadjusted) outbound mile splits and the (previously adjusted by 9m) return mile splits by a fraction. The only point not requiring further adjustment would be the turnaround (previously adjusted by 4.5m) and the start/finish line.

You might also wish to consider taking the turn in a semi-circle,

rather than assuming everyone turns on the proverbial dime. No cone I've ever seen is less than 20cm across, which would lengthen the distance by $0.4m \times \pi = 1.25m$

A (RE)MEASUREMENT QUESTION

Chuck Hinde asks:

I was recently called upon to modify a half marathon course. The course was re-routed between about 11.3 miles and 12.6 miles.

I did not remeasure the entire course. Instead I measured from the finish to Mile 11 along the old route. Then from mile 11 along the new route to the new finish line. I repeated the process to insure I was accurate. The 2nd ride on the old course was within 5 counts (1 3/4 ft.) and the 2nd ride on the new course was within 8 counts (2 1/4 ft.). I used the longest old course count and the longest new course to establish the new finish line.

I did not calibrate the bike since I was merely measuring alternate distances. I did use the number of counts from "old" mile 12 to mile 11 to determine counts per mile so I could establish the new 12 and 13 mile points.

Comment? Is this an acceptable procedure?

P.S. It was a really lousy day with a slight drizzle at about 34 degrees so I was not very interested in riding the entire course twice.

P.P.S. There is a 10 km course which follows virtually the same route and finishes at the same point as the Half. Would it be OK to re-certify the 10 km course by simply moving the start line the same distance as the finish line was moved and then adjust all mile points?

Pete Riegel says:

Chuck Hinde's approach is sensible, but it contains gray areas that defy concrete rule-making. Measuring identical old vs new routes to a common point using an uncalibrated bike ought to produce a course that's as good as the original. However, as David Reik has correctly pointed out, there is a small extra degradation introduced each time this procedure is used.

I have always held that whoever performs the last measurement of a course becomes responsible for its entire accuracy. Thus, if I should do what Chuck did, and certify a new course based on someone else's measurement, it now belongs to me. If it comes up short, it's my responsibility, not the original measurer's. Chuck didn't say whether he was the original measurer.

As for Chuck's 10k adjustments, I once did what Chuck did for the Columbus Marathon. We had a perfectly good course, but the finish line needed to be moved 32 meters. So I moved every split 32 meters in the same direction, redocumented them all, and recertified the course. Since I was the original measurer I figured I was safe.

Partial remeasurement isn't as good as total remeasurement, but it makes too much sense to ignore. If properly done (and Chuck described a proper procedure) it's good enough to do the

job.

How many times can it be done to the same course before the whole thing falls apart? I don't know.

One thing that does NOT work is for someone to calibrate a bike and begin measuring at, say, the 5 mile point of a 10k, and ride to the new finish. Why? Because the 5 mile point is commonly an uncertified split, thus an uncertain distance. If the original figures are available, perhaps it can be done, but the only time I've seen this attempted it's by someone other than the original measurer.

Jim Gerweck says:

Chuck's seems to be a common situation. A finish line has to be moved, or part of the course needs to be rerouted. The key thing seems to be to make sure you measure the old route as well. I had a similar situation last year. The police made us re-route the 20k of our winter series due to increasing traffic on a section between 1 and 3 miles. Limited by time and weather, I went to the 4 mile point (which was exactly landmarked) and rode back over the new route to establish the new start. Not up to certifiable standards (esp. here in the Reik of CT), but the course was accurate enough for its purpose.

Hugh Jones says:

What Chuck Hinde did sounds completely logical and efficient to me. The only question I would ask is: was the original course measured by him? I wouldn't lay down any rules about it, but I would feel personally unsatisfied in amending someone else's work.

Doug Loeffler says:

The method Chuck uses is one I have used many times, and I have recommended this procedure to any Florida measurer who needed to make this type of course adjustment. What many measurers want to do is to go to one of the existing split points, which 99.99999 % of the time are not certified, and go from there to the new end-point. The problem with that is the split may or may not be in the correct location. Chucks method solves this problem. The only error in his method is neglecting to calibrate his bike. Without a baseline he has no way to know if the rides were consistent or if perhaps his tire was leaking air.

Moving start and finish equal amounts is also OK, and should preferably be done with a steel tape.

The courses should be re-certified in either case as the adjusted course no longer matches the map.

Bill Grass says:

I don't have a problem with Chuck's adjustment but I think the procedure could be improved. With a repeat measurement with-in a foot per mile, you can't get into too much trouble.

I made a similar modification to a 20k course when a piece of it washed into the Milwaukee River. The "old" course was rideable but not runnable. The changed piece was about 100 meter long with curves that would be hard to tape. My procedure was to ride the "old" leg twice, ride the "new" leg twice and repeat the "old" two more times. I did not calibrate the bike. My reasoning was that if I sandwich the "new" measurements between "old", I would not have to worry about temperature or slow air leaks. I used the averages and then adjusted the start accordingly. A purist could have used the worse case conditions.

Dave Yaeger says:

The procedure of measuring the portion of the course that has changed - both old and new - is one that I have used a number of times. While doing your measurement from the finish line allows the new finish line to be established as part of the measurement, it would also be acceptable to just measure the portion of the course being rerouted - in this case from 11.3 to 12.6 miles. The finish line would then be moved based on the difference in counts between the old and new routes. I normally use the longer of two measurements when subtracting from an already established course and the shorter of the two measurements when adding to course. The minor difference is over conservative but it makes me feel better.

I didn't quite understand the question about the 10 km route. If the 10 km route doesn't use the new route but will use the new finish line then you would be okay in adjusting the start by the same amount as the adjustment at the finish and then also adjusting the mile marks (or should it be kilometre marks as the overall race is a "metric" distance).

John DeHaye says:

I don't have any problem with Chuck Hinde's method for a partial course remeasurement. I've used the same method several times myself and have signed off on a few courses that were similarly modified. In most or all of these cases, the second measurer was also the original, giving a little more credence to the job. Assuming the second measurement is made using RRTC standards, I see little loss of accuracy. And remember that this adjustment will account for included additions used to bring the original measurements to full length.

I still prefer a full calibrated measurement for any course adjustment. But in most cases, this requires the original measurement data set and always requires the first located points. The length is determined by rides on separate days, months or years and uses the sum of the shortest rides as the measured length. If the original data isn't available, then you must measure from a certified split point (there's not many of these). This whole thing relies on an accurate data set, making it important for a single measurer to do all the work. I've done a few of these and so have a couple of other seasoned Alabama measurers. It significantly reduces the work load for longer courses and shouldn't degrade accuracy.

TAPING AREAS THAT CAN'T BE RIDDEN

Hugh Jones asks:

I measured a race last October which had a section of roughly cobbled steep ascent over which it was impossible to ride a bike (and so steep that the weight distribution would have been entirely different to that when calibrating). I steel-taped these bits of the course. It was easy enough on straight sections, but on the many twists I dug tent pegs in between the cobbles and stretched the tape around them. This meant:

- i) there was no 30cm offset (although I could have placed the pegs so there was)
- ii) the SPR of the tape was a series of chords within the prescribed running line (SPR)
- iii) the tape was pulled tight but not under 50N tension
- iv) there was no SCPF added

I assumed that the under-estimate of the distance in i) and ii) would compensate for the over-estimate from iii) and iv)

I taped about 800m of a 5.8km course in this way. Should I have added in another 0.8m as SCPF? Does steel-taping imply a measurement to a lesser margin of error than the calibrated bike?

Further to this, there must be some courses entirely steel-taped (apart from calibration courses) or measured by EDM. What SCPF is used under these circumstances? Do we apply the same 0.1% just to make them comparable with courses measured by calibrated bicycle? Or can we be confident that greater accuracy allows us to declare the distance "not less than..." with a smaller SCPF?

Jim Gerweck says:

Wow!. Some good questions Hugh. Got me to wondering about measuring a track for staggered starts, which I've got to do tomorrow. I've never seen mention of SCPF in literature about tracks, so I'm not going to bother w/ it, but when using steel tape or EDM on a road course, is the standard 0.1% needed? Having only used steel tape to adjust a start/finish, I never thought about it. I'll refrain from doing so on part of the course itself until we reach a consensus. Any opinions?

Paul Oerth says:

The method you used on your cobble stone street was undoubtedly the best solution. (God! What a route to pick for a race. I wonder how many turned ankles there were in that race). In that case, Hugh, I would have added a SCPF for that specific 800 meter stretch of the course. But now you bring up another thought: is an EDM totally dependable? Here in the California Bay Area we have only used them to lay out calibration courses. But who calibrates the EDM meters? How often is it done? Has anyone ever checked one after the fact to make sure?

If anyone has ever done so it would be Pete Riegel. How about it Pete?

Pete Riegel says:

Hugh Jones steel-taped this steep, bumpy and unrideable ascent, and wondered whether he should have reduced the resultant measurement by 1/1000 as a SCPF. Since it was only about 800 m out of 5.8 km, I'd say it's something not to be worried about. I'd put it in the same class as those discussions of where to measure on a corner where the asphalt surface is crumbled and indefinite. Measurer judgment applies here.

Hugh's methodology looked OK to me. However, on a piece of course like that my inclination would be to simply walk the bike and accept whatever inaccuracy resulted. Is this a sloppy attitude? Could be.

I once certified a course that a surveyor had laid out using EDM. On the corners he used a series of chords to approximate the curved path. I asked him to add 1/1000 to the course, as I recall.

Jim Gerweck has some staggered starts to lay out tomorrow! Whoa! I have never laid out anything on a track except marks to determine the length of one lap. When we get into staggered starts there's an awful lot of geometry involved. How one measures around a curve in lane 3 is a mystery to me. The original surveyor had his theodolite (transit, if you wish) set up at the radius point, and simply swung arcs until the proper points were reached. Without this kind of setup you are stuck with the problem of measuring a curved path accurately.

This is very difficult to do with a steel tape. I'd suggest a measuring wheel used carefully. As for USATF certification,

forget it. We certify only full laps lengths on tracks, as more than that is beyond our expertise.

Good luck, Jim!

STEEL TAPES AND EDM'S

Pete Riegel says:

In answer to Paul Oerth's opinion, I've never calibrated an EDM. Back when I was just learning about course measurement from my mentor, Ben Buckner, he gave me some material that described how they are calibrated. Ben was a professor of geodetic science at Ohio State, and gave me a copy of his book *Surveying Measurements and their Analysis*.

The calibration procedure, as I recall, involved setting up on a series of carefully-established benchmarks and performing a series of repetitive measurements. I believe the benchmarks are established in several locations by USGS, but don't recall exactly. In any case, these measurements make possible an accurate calibration of the EDM instrument. I don't understand the process.

A big advantage of EDM, or Total Station, is that aside from minor setup errors, operator error is not a big factor. Most of the potential sources of error are automatically compensated for by the EDM mechanism itself. Thus high accuracy can be obtained using relatively unskilled survey crews.

If Ric Wilson is lurking, I'll bet he can give a better response than this one.

Ric Wilson says:

Yes I was lurking out there, reading the discussion about EDM's and course taping. Unfortunately, I have nothing intelligent to add. I've used EDM's in setting calibration courses but know little about how they are calibrated, only that all the ones I've rented have a calibration sticker on them and given the legal issues involved in surveying, I can't imagine that for straight line distances they don't have more accuracy than we will ever need. At the same time, I'd hate to hassle using one to measure any course that has turns or hills or both together. Repeated setups would get quite old quite fast. That's what little knowledge I have, as my last use of surveying instruments, other than for calibration course was in 1970 in school, before the advent of all these electronic gadgets.

TAPE STRETCH

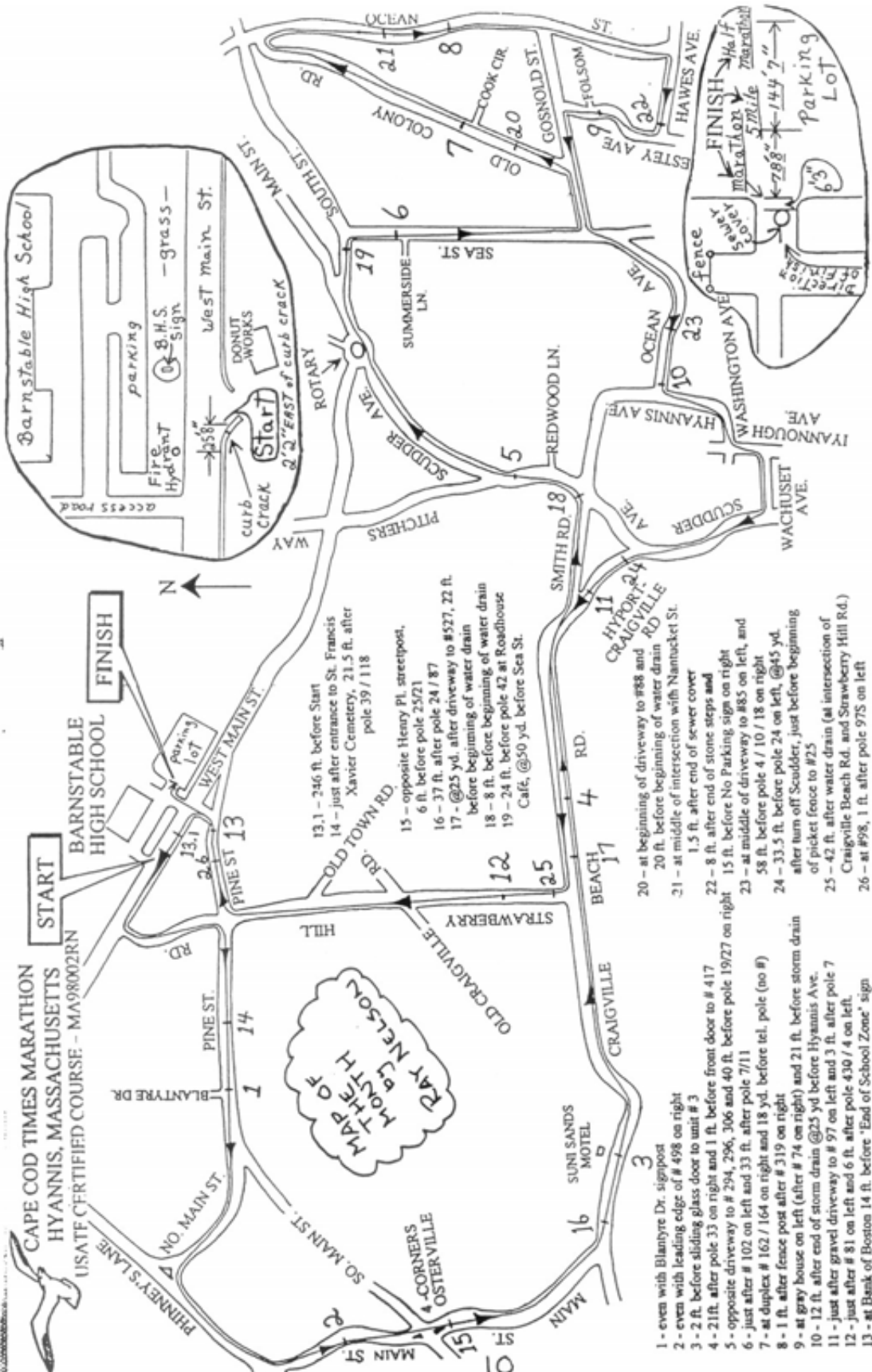
Do steel tapes acquire a permanent stretch through use? A lot of **MNForum** discussion has gone on concerning this, with varying opinions expressed.

What is missing is any documented case of it happening.

Can anyone cite a specific case in which a tape has changed its length?



CAPE COD TIMES MARATHON
HYANNIS, MASSACHUSETTS
 USATF CERTIFIED COURSE - MA98002RN



START

FINISH

- 1 - even with Blantyre Dr. signpost
- 2 - even with leading edge of # 498 on right
- 3 - 2 ft. before sliding glass door to unit # 3
- 4 - 21 ft. after pole 33 on right and 1 ft. before front door to # 417
- 5 - opposite driveway to # 294, 296, 306 and 40 ft. before pole 19/27 on right
- 6 - just after # 102 on left and 33 ft. after pole 7/11
- 7 - at duplex # 162 / 164 on right and 18 yd. before tel. pole (no #)
- 8 - 1 ft. after fence post after # 319 on right
- 9 - at gray house on left (after # 74 on right) and 21 ft. before storm drain
- 10 - 12 ft. after end of storm drain @25 yd before Hyannis Ave.
- 11 - just after gravel driveway to # 97 on left and 3 ft. after pole 7
- 12 - just after # 81 on left and 6 ft. after pole 430 / 4 on left.
- 13 - at Bank of Boston 14 ft. before "End of School Zone" sign

- 13.1 - 246 ft. before Start
- 14 - just after entrance to St. Francis Xavier Cemetery, 21.5 ft. after pole 39 / 118
- 15 - opposite Henry Pl. streetpost, 6 ft. before pole 25/21
- 16 - 37 ft. after pole 24 / 87
- 17 - @25 yd. after driveway to #527, 22 ft. before beginning of water drain
- 18 - 8 ft. before beginning of water drain
- 19 - 24 ft. before pole 42 at Roadhouse Café, @50 yd. before Sea St.

- 20 - at beginning of driveway to #88 and 20 ft. before beginning of water drain
- 21 - at middle of intersection with Namocket St. 1.5 ft. after end of sewer cover
- 22 - 8 ft. after end of stone steps and 15 ft. before No Parking sign on right
- 23 - at middle of driveway to #85 on left, and 58 ft. before pole 4 / 10 / 18 on right
- 24 - 33.5 ft. before pole 24 on left, @45 yd. after turn off Scudder, just before beginning of picket fence to #25
- 25 - 42 ft. after water drain (at intersection of Craigville Beach Rd. and Strawberry Hill Rd.)
- 26 - at #98, 1 ft. after pole 975 on left

1453 W Hill Rd
Flint, MI 48507

Dear Pete,

Measuring is typically a mundane, number-crunching, traffic-dodging experience. But, Stuff happens every year. Following are five atypical incidents from '97.

In May, runners reported unusually fast times on a 5km course I'd measured. I knew I'd measured accurately so pulled the cert and looked at the map. I had a Homer Simpson reaction when he realizes a goof- DOOH! I'd put the wrong street name around the first turn, cutting 2 blocks from the course. The race director didn't call me although he knew about my mistake before race day. He ran it the way the map showed. I offered his money back. He just wanted it right for '98...

Mid-summer, I couldn't find a cert by the number I'd figured it for. It was a '96 measurement. Found it by city and distance and, to my dismay, discovered the cert and about 8-9 others were given bad numbers. They all started with 900.. instead of 960... I redid them and sent them to all the appropriate hands.

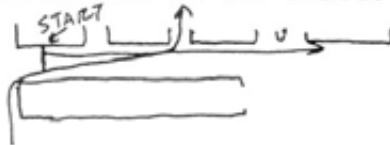
In August, I found a proposed 5km course was 2.8 miles. That's worse than a bad car lay-out. Looked at another way, the lay-out is more reason to be suspicious of courses not measured by a reputable method.

Late October found me mountain biking in the interior of Mackinac Island. Plenty of leaf and rock strewn trails criss-cross the island. Eyes regularly glance ahead for trail conditions. I'd gone about 100' down a trail, at random, when my eyes were attracted to bike parts and, NO, upside down, a Jones counter. It was in good shape and for about 24 hours its demise was a mystery.

It came from a friend's bike that had been stolen overnight. I'd loaned him a counter and the thief discarded the thing on the trail I by-chance took the next morning.

(Mackinac Island is located at the tip of Michigan's lower peninsula, between Lakes Huron and Michigan)

Finally, I had to remeasure Detroit's Thanksgiving Day Turkey trot 10km in November. The new route avoided some congested areas (there is a Big parade following the race) and overlapped on itself a couple blocks at the start.



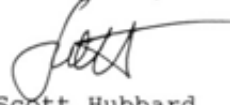
A spectator, 2 blocks from the start, saw arrows around her corner and assumed runners made a (quick!) turn there. Actually, the corner was about 5½ miles into the race. Anyway, she yelled at runners passing by to turn (instead of going straight as the course required) and, by God, they turned. Stuff happens as I said. The several thousand runners wandered an indeterminate distance. Knowing runners realized their mistake and headed back to the course, dodging parade goers, pressing through crowds 10-deep in spots.

How much they cut off and how far each person ran became immaterial as the route was rejoined. Doug Thurston with the Disneyland Marathon knows what the distressing adrenaline rush feels like to learn your runners are off-route.

There's also the bone-headed morning I drove 45 minutes to a measurement site, went to get the map and, OH NO, realized it was back home. I guess this makes 6 incidents from '97. Does this Stuff happen to anybody else?

12/25/97

Regards,



Scott Hubbard

Dear Scott,

December 30, 1997

Thanks for your "atypical incidents" letter. I am mailing MN today, so you just missed the boat for this issue. You'll be in the next one.

The three blunders which I remember most keenly happened years ago, but they were associated with BIG measurements, thus stick in my mind more than the dozens of other mistakes I've made or participated in.

When Carlos Lopes set his WR in Rotterdam, Allan Steinfeld sent me to check it with Helge Ibert and Lennart Julin. It was the first time an international marathon was validated. We checked the calibration course, calibrated, measured, and recalibrated. As we were calculating, Helge smote his forehead in dismay, as he got the course quite short. So did I. This caused dismay in the hearts of the race organization.

We thought, then went back to the cal course because our precal and postcal had changed a lot. Turned out there were TWO nails in the pavement at one end, one about a meter (out of a kilometer cal course) farther out than the other. On either precal (done in the dark) or postcal we had used the wrong one. We measured the difference, and the course came out OK. We were relieved.

The first year I was invited to measure the London Marathon (1987), we rode in a three-man group. When we got to the finish, we were greeted by enthusiasts, and merry conversation ensued. When I was calculating later at the hotel I found that, in the excitement of the moment, I had neglected to record my finish count! I had the two other sets of data for the final 2 km involved, but I was still humiliated, and I spent the next two days pacing, taping, and fighting traffic to get a number of my own to use. It, of course, agreed with the others. I really felt stupid. After all, I was the high-powered expert from across the sea, and I blew it.

The third blunder was when I flew to New Orleans to do a validation. In Atlanta, waiting for my connection, I felt uneasy, took a look, and sure enough had neglected to bring a Jones Counter. I was in panic, as New Orleans is not exactly a hotbed of measurement. But Charley George was located while he was directing a race, and loaned me his. I'd have been dead without it.

I console myself with the idea that although I make a lot of mistakes, I correct them when found. And since I check a lot, I usually find them. Certainly not always. Anyway, these experiences of ours make good sea stories.

Your letter will make good reading. Thanks.



Dieter Damm
Adolph-Kolping-Str.10
D-65719 Hofheim am Taunus
Tel. + Fax: [+49] (0)6192 27175

Date: 21. February 1998

To: Pete Riegel
3354 Kirkham Road,
Columbus,
OH 43221, USA
Fax: 001 614 451 5610

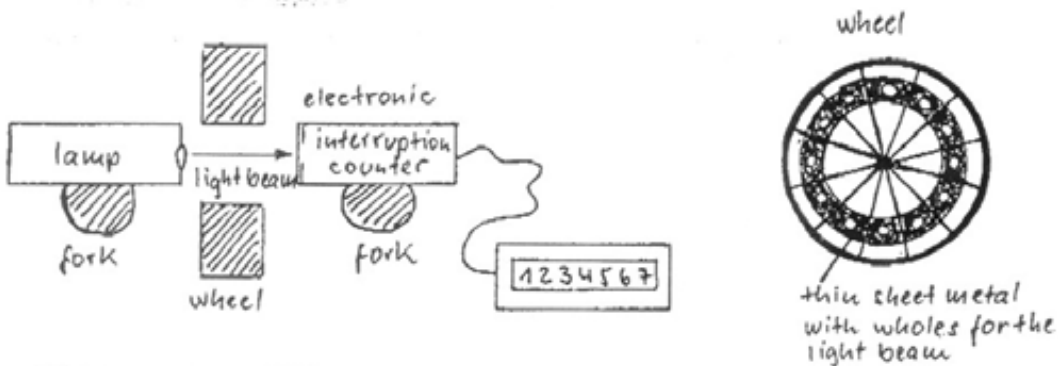
Dear Pete,

Since I'm retired I have less time, there is so much to do. This is the reason that I was able to read last MN just now. Some things were very interesting for me and I'll try to write about my ideas in my not so good english.

1. Questions about calibration: I use a solid tire the last two years, but I can't see a difference between pre- and post- calibration. Even the length of the calibration courses don't influence my figures. The average is 9459.636 digits / km the std.deviation 1.559. The length of calibration courses vary from 175.00 to 1126.79 m, the temperatur from +3°C to 24 °C. I can see a little effect of temperatur, high temperatur lower digits, low temperatur the higher and this is logical, because the material of the tire is softer. This also can be an explanation for your bigger postcalibration constant and depends on the material of the tire.

2. Usage of an electronic odometer: I think this instruments are not useful for an exact measurement as you pointed out. But they are good enough to set the km marks after a course is measured from an expert.

Once I made experiments with an electronic counter, which I constructed. A short discription:



I stopped the work, when I find out the main fault, the counting forwards and backwards. That was the same as you wrote about the odometer.

I think the mechanical principle is unbeatable.

Best regards,

Dieter

Pete Riegel - 3354 Kirkham Rd - Columbus, OH 43221

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Dieter Damm
Adolph Kolping Str. 10
D-65719 Hofheim am Taunus 1
GERMANY

by fax: 49-0-6192-27175

February 22, 1998

Dear Dieter,

Thank you for the article. I will use it in next *Measurement News*.

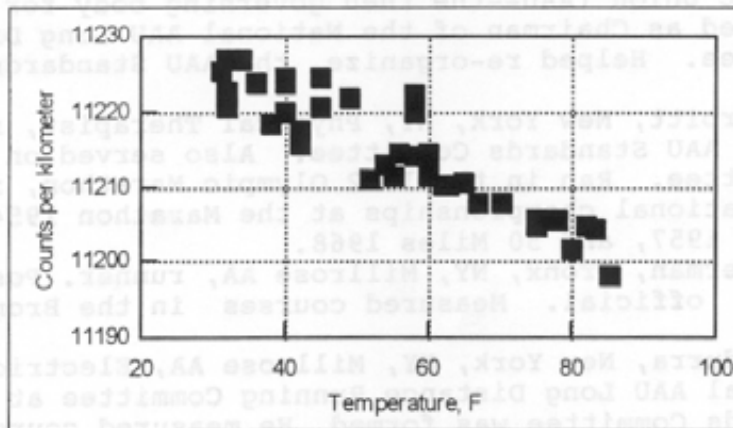
My solid tire is not as constant as yours. I have:

Average: 11214.6 counts/km

Standard Deviation: 7.5 counts/km

Temperature range: 0 to 30C

The graph below shows how the size of my tire changes with temperature.



Best regards,

PERTINENT TRIVIA

Much involvement among many individuals and organizations went into the actions that produced the post World War II running boom. A significant part of that mix was the number of competitive road runners who got involved in rescuing the sport of long distance running from near oblivion, and improving and building up the sport.

Some of the runners who helped the sport were champions, a surprise. Mostly they got involved because they were asked, and in some instances they became active because there was a perceived need not being met by anyone else.

The following list of long distance runners, taken from the Road Runners Club of America (RRCA) Hall of Fame list, were involved, in varying degrees, in the American course measuring movement. They are listed in the order of induction into the Hall. Some information has been added to help identify the runners.

1970: 1) H. Browning Ross, Woodbury, New Jersey, Penn AC, Teacher, Olympic Steeplechaser, and winner of a number of national road running championships. Ross was not directly involved in measuring, but he started the RRCA in 1957, without which the course measuring program would be operating differently today, and would have gotten under way much later.

2) Leonard Buddy Edelen, then of Alamosa, Colorado, Teacher. Set "world's best" marathon record (2:14:28) in 1963, in England. He finished sixth in the 1964 Tokyo Olympic Marathon, while suffering from a back problem. He measured the Alamosa, Colorado Marathon course which was used for the 1968 Olympic Marathon trial race. He served on the AAU Standards Committee (which preceded the RRTC) as a consultant on high altitude running matters.

3) Bob Campbell, West Roxbury, Mass., runner, and long time Amateur Athletic Union (AAU--the then governing body for track & field) official. Served as Chairman of the National AAU Long Distance Running Committee. Helped re-organize the AAU Standards Committee.

1971: 1) Ted Corbitt, New York, NY, Physical Therapist, first Chairman of the AAU Standards Committee. Also served on the RRC Standards Committee. Ran in the 1952 Olympic Marathon, in Helsinki, Finland. Won national championships at the Marathon 1954; 30 Kilometers in 1956, 1957, and 50 Miles 1968.

2) Joe Kleinerman, Bronx, NY, Millrose AA, runner. Postal Worker. RRCA and NY RRC official. Measured courses in the Bronx, NY.

1977: Aldo Scandurra, New York, NY, Millrose AA, Electrical Engineer. Chairman National AAU Long Distance Running Committee at the time the AAU Standards Committee was formed. He measured courses. Won the Junior National Marathon Championship.

1979: Thomas Osler, PhD, Math Professor at Rowan University, Glassboro, New Jersey. Served on AAU Standards Committee. Won national championships at 25 KM in 1965, and 30 KM and 50 Miles in 1967.

1980: Dr. Ken Young, Director National Running Data Center, Tucson, Arizona. Runner. Measured courses. Consultant for AAU Standards Committee. Helped to re-organize the AAU Standards Committee.

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1984: Gordon MacKenzie, New York, NY, Civil Engineer. Member of the RRCA Standards Committee from it's start. Member of the 1956 Olympic Team, running 10,000 Meters in the Melbourne Olympic Games; ran Marathon in the 1960 Rome Olympic Games.

1985: Ron Daws, Minneapolis, Minnesota, Research Analyst; second Chairman RRCA Standards Committee. Also served on the AAU Standards Committee. He measured courses and helped establish road racing in Minnesota. He had to drop out of the 1967 Pan American Marathon (back problem), but he finished 22nd in the 1968 Mexico City Olympic Marathon.

1986: Hugh Jascourt, Washington, DC, Lawyer. Runner. Was President of the RRCA at the time the RRC Standards Committee was formed. He responded to the recommendation of Ted Corbitt that the RRCA get involved in course measuring and the RRC Standards Certificates Program (imported from England).

Among the involved national running champions not mentioned previously was Bob Carman, then of California, a teacher and the 1958 National 30 KM champion. He served on the AAU Standards Committee. He did some measuring. He wrote a report relating to runner's safety.

Four USA Olympic marathoners served on either the RRCA Standards Committee, or on the AAU Standards Committee, or on both committees. They are: Ted Corbitt and Gordon MacKenzie, both of the New York Pioneer Club; and mid-westerners Buddy Edelen and Ron Daws, who were teammates at the University of Minnesota, from which they graduated. Both won National Marathon Championships, on brutally hot days, on hilly courses; both developed costly back problems (sciatica) following their national marathon victories; and both died relatively young. Such is the nature of coincidences.

A final note: John Jewell of England had a stroke about 14 months ago. Writer Andy Milroy reports that Jewell is slowly making progress after his stroke. It would be appropriate if all who are course measuring enthusiasts would write to Jewell, a former long distance runner, to say hello, to wish him well, and to thank him for his contributions to long distance running and to the course measurement movement. It was through Jewell that the Calibrated Bicycle Method of measuring was brought to the USA, and then around the world.

His address: John Jewell
296 Barkham Road
Wokingham, Berks. RG II, 4DA
ENGLAND

Do not expect a reply, but Jewell's wife Joan will get your message to Jewell. They will appreciate hearing from you.

Ted Corbitt
New York City ,NY
January 24, 1998

Ted Corbitt



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Please Reply To: Ray Vandersteen
Executive Director
P.O. Box 7019
Villa Park, IL 60181

January 5, 1998

Pete Riegel
3354 Kirkham Rd.
Columbus, Ohio 43221



Dear Pete,

This letter is a response to an item in MN (Jan.'98, p.11) re a USATF Certified Course logo for race flyers. I agree with the "don't-give-a-hoot" majority on the issue, but only if the issue is judged the way it appeared to be from your description.

The primary purpose of the logo, I believe, is to promote USA Track & Field and it's seal of approval for road courses. As such, the use of the USATF logo, along with the term "Certified Course" would suffice. We don't need a "new" logo, whatever someone had in mind for that.

Regarding verification and the danger of false advertising: In the last several years that we have encouraged road race directors to use the Certified Course logo we've adopted in Illinois, (enclosed) we've noted only a few who've misused it. And, all the misuse has been due to something other than false labeling(a few have violated the trade mark agreement--as potentially, does the suggestion from your Minutes scribe).

Note: A standard Trademark Sublicense Agreement is enclosed, along with some Guideline instructions from the USATF National Office and several standard letters from USATF Illinois re inducements and corrections.

The biggest problem is getting race directors to just display the logo--any logo. As noted on the enclosed Sanction Fee and Promotions flyers, we've tied that use to some race benefits, including sanction-fee rebates. After several years of pushing and prodding, it's starting to take hold.

Finally, as to who would police the use of the logo: the most obvious solution would be the person in the Association who approves race sanctions (assuming, of course, there is some connection with course certification); the LDR Chair (assuming there is an LDR program in the Association); next the person who approves course records; and, minually, the folks who measure courses and approve certifications.

I realize there's more than a fair amount of assuming, here, but as you know there are some race directors who would not comply under any conditions. Unless of course, USATF (RRTC) would require a signed agreement to display the logo prior to the use of the course. Difficult--but possible, I believe,--though, I wouldn't recommend it.

Yours in Track & Field,


Ray Vandersteen

Scott Hubbard
1453 W Hill Rd
Flint, MI 48507

Dear Pete,

I found two items of interest in the '97 RRTC USATF Convention minutes; the validation adjustment policy and discussion of the ChampionChip. If there is to be future dialogue about the Chip, include North American distributor Mike Burns (734 665 7052). He'll be able to answer all questions and concerns posed in the minutes--and any other queries.

I would involve Ryan Lamppa of the RRIC in discussions regarding what times are used for records. Ryan is familiar with the Chip and regularly receives Chip-generated results. Ryan, as you know, can be reached at 805 683 5868.

Per the validation adjustment policy, I wonder, what is a full length course? Is it something 1.001 long or as long as it needs to be on validation for records purposes? Yours is a good point to start the debate in the Nov '97 MN, "The only practical solution is to use the same standard method and then assume equality of all courses for comparison purposes." Thus, you'd recommend a course found less than 1.001 long on validation be brought up to that standard. Otherwise, "..it will not be considered as prevalidated for the next race and can take its chances with the next validator."

I see two different thoughts at work above. Say I'm director of the Crim 10 mile and Pete Riegel validates the course and finds it is 10 miles 20'. I'm HAPPY! My records will count. The course passed the independent inspection of an expert measurer sent in by our national governing body. I think over your recommendation and reasons to add 33' to bring the course up to 1.001 long and decide against it. If another validator next year found the course 55' short, unacceptable for records, I'd be mad as hell with you and generally unhappy with the measuring fraternity.

As director, I'm smart and know measuring is not an exact science but wouldn't understand how 2 'experts' could disagree so much. I don't think you could adequately explain to me the discrepancy. In fact, if I were you, the original validator, I'd be mighty puzzled with the turn of events.

On this point, I'd be opposed to adding distance to bring my course up to 1.001 long. I'd be happy the SCPF worked and I've got an accurate, record-quality course. I wouldn't care if I qualified as a prevalidated course.

For comparison purposes, there is a thread of reason to make 'undersize' validated courses 1.001 long. But, and this is an important point, we don't have to.

Is it better to recommend making courses 1.001 long after validation or to eliminate any leftover SCPF distance down to the nominal distance? I lean toward a .05% long recommendation since we accept records from validated courses found as much as .05% short. I could also live with trimming excess SCPF distance down to the nominal distance.

1/14/98

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Regards,


Pete Riegel - 3354 Kirkham Rd - Columbus, OH 43221
Phone: (614) 451-5617 FAX: (614) 451-5610
E-mail: Riegelpete@aol.com

Dear Scott,

January 17, 1998

Thanks for your January 14 letter. Although there was some discussion of the Chip at the convention, nobody got very heated up about it. Mike Burns had a booth there and seemed to have a lot of interested people hanging around.

With regard to pre-validation: it is always done at the request of the race director, never at our insistence. It is totally voluntary. In the case of Chicago Marathon, Jay Wight went along on Chuck Hinde's second ride and rode 5 meters tighter than Chuck's best, so 5 meters was added. Jay's expenses (and maybe a fee - I don't know) were borne by the race organization.

In the case of the Arts Fest 12 km, in Evansville, Indiana, I went there at RRTC expense to check out the course after a record was set. I got the course at 12006 meters. Great. The course passed, and the organizers heaved a mighty sigh of relief.

I told them they could avoid future validation measurements if they added 6 meters to the course. Great, said they, and I changed the certification map to reflect the new location of the start and issued a new certificate.

If they had elected not to change the course, we would still have the option NOT to require a validation - we do accept some courses without a remeasurement. So, if the Crim passed by 20 feet and you elected not to lengthen it, Basil Honikman and Doug Loeffler might say it's good enough. Of course, since it passed at 20 feet over, it could be that validator Pete had a bad day, and the next guy might shoot it down. If you were then mad, I'd wonder why, as you'd have had a gift of an undeserved record on the first validation. After being offered a chance at prevail and declining it, it's yourself you should be kicking. Look at the standard deviations on those validation measurements - that's the real world of measurement. Anybody who expects a perfect world is doomed to disappointment.

As for your leaning toward a 0.05% long recommendation, that's duly noted but at present the subject is closed. One reason for my edict was to put an end to wrangling over small things, and get everybody singing from the same sheet of music. I don't have a problem with arguments, but when they go on too long, with no resolution, then the guy in charge is supposed to make a decision so we can get on with things. That's what I did.

Best regards,

