



MEASUREMENT NEWS

January

1988

Issue #27



Minutes after finishing the Vestal XX race (20 kilometer), Alan Jones assists in getting results out of his computer. Assisting: Dom Demolino, Clain Jones, Carol Belva.

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RESULTS OF QUESTIONNAIRE ALLOWANCE FOR ERROR IN VALIDATION MEASUREMENTS (AEVM)

On October 15, 1987, Pete Riegel sent a questionnaire to people who had validated road race courses, and some other concerned parties. The two questions asked were:

- 1) Would you like to see an allowance for error in validation measurements?
- 2) If yes, how big? Pick a specific number.

The following tabulation shows the received responses to the two questions.

<u>Person polled</u>	<u>Favors AEVM ?</u>	<u>How Much?</u>
Bob Baume1	depends on circumstances	
Dan Brannen	no	none
Tom Ferguson	yes	- 0.1 percent
Bob Hersh		
Scott Hubbard	yes	- 0.1
Alan Jones	yes	- 0.05
David Katz		
Tom Knight	no	none
Bob Letson	yes	- 0.1
Jim Lewis	yes	- 0.05
A. C. Linnerud		
Kevin Lucas	no	none
Wayne Nicoll	no	none
Sally Nicoll	no	none
Bill Noel		
Rick Recker	yes	- 0.15
David Reik		
Pete Riegel	yes	- 0.1
TACSTATS	yes	- 0.1
Bob Teschek		
Bob Thurston	yes	- 0.05
Carl Wisser		
Ken Young		

The subject received a lot of hot discussion at the Convention, with no clear resolution. As tempers and minds clear we will work our way to some sort of compromise position. We seem stuck not so much on the general idea as on exact wordings and procedures.

COMMENTS RECEIVED

Bob Baume1 - "A validation remeasurement must prove the course to be shorter than the advertised distance in order to invalidate an already-granted course certification. Note: A course with a true length of 10001 meters could conceivably measure 9999 meters in a validation remeasurement, due only to error in the remeasurement." Bob also felt that the questionnaire was "loaded" in that it insisted on numerical recommendations. He felt that any measurement shortness should be discussed by RRTC, rather than applying any fixed allowance.

Tom Knight - "Why backtrack, what about courses that failed by a little bit previously? Leave well enough alone, the Records Committee can consider the validation measurement along with other extenuating circumstances"

Alan Jones - "I feel like you do on the problem that we will have to face some day when an AR or WR measures out at 9998 meters. I fought this battle long and hard with Ken Young when he first proposed the 'has to be at least the advertised distance'. You might recall that Bob Baume1 and I had a great time sharing statistics on the problem. I felt that we should have a 0.1% SCPF like we have but only shoot a course down if it measures out shorter than 99.95% of the advertised distance. For a 10k course we're talking about 5 meters or about one second. Since we round to the next second, this seems like a reasonable amount of allowable error"

Rick Recker - "Use shortest validation. Adjust times a la Track & Field News method only on short side"

Dan Brannen was willing to support a negative allowance if times on marginally short courses could be adjusted, rather than disallowing the record. Track & Field News, at Dan's suggestion, adjusted the time for Alberto Salazar's 1981 run at New York. Note: The adjusted time would still have been a WR. Since I couldn't guarantee that adjustments would be made, I put him down for a solid "no".

TACSTATS - See TACTIMES, May/June 1987. Excellent discussion of the situation.

Bob Letson - "Distance and time should be expressed in units not smaller than the least significant unit obtainable by the measurement technique. e.g. 10 km +/- 10 m, 30 minutes +/- 2 seconds, marathon +/- 42 m, 130 minutes +/- 8 seconds". Bob has also expressed the thought that there are three kinds of courses - short, accurate, and long, and that any course that bike-measures out within 99.9 to 100.1 percent of nominal be classified as "accurate".

Scott Hubbard - "I've long felt uncomfortable with the notion that a potential record could be shot down if a validator 'found' a course to be as little as a meter short of the nominal distance. There are also other factors which can affect validation efforts as have been pointed out in issues of MN. Fairness is important and maybe that should be our guide."

Kevin Lucas - "I feel the validation process is well in order. The validation process should not be a sloppy procedure. That is how I view adding another 0.1 percent error allowance. We are on the right track with both our

measurement and validation procedures. We should now be refining both. Let's fine tune them and not open the door for inaccuracy and 'about right assumptions.'"

Sally Nicoll - "The present system presents no need for this (allowance) as I see it. I do not think the public would understand your proposal. What becomes of decisions made in past validations that would be affected by your new procedure? Your proposal would be seen by many as a temptation to cut the Short Course Prevention Factor."

Wayne Nicoll - "An AEVM would add confusion to an already difficult subject for many race directors. Measurers will measure shorter. Directors and measurers will complain that 1985 - 1987 courses are too long. Current program is clear cut and works fine."

Jim Lewis - "What should you do on a validation if the 10k course measures 9998 meters? Quite a few years ago I wrote Pete and suggested that there should be a sliding scale of responses. It included the suggestion that one should 'pass' a course if the validation ride indicates the course is over 9995 meters but that there should be some type of requirement for adding distance to the course for the next year if the course is to keep its certification. I still think this is a good idea."

Pete Riegel - TAC Rule 185 says that "Performances made after January 1, 1985 will not be accepted if the remeasurement shows that the actual course distance was shorter than the stated distance".

I believe that definition of "shows" should be be "proves" or "convincingly indicates a very strong probability", and that no course should be shot down unless the validator has strong evidence of shortness.

What we may think about the rule is less important than that we follow it. If there is some deficiency in the rule it should be changed. Until then it should be followed.

A validation procedure that allows the race director to be given a quick and fair answer in borderline cases is highly desirable.

Final Disposition - This subject concerns about 6 percent of the courses that get validated, if past experience is a guide. The real effect is small, but it seems to generate high passions. We are still working our way to a guideline that will grudgingly satisfy all parties. Inputs are still welcome.

NEW APPOINTMENTS

Bill Callanan has been appointed as a TAC National Reviewer for Nevada, working with Bob Baumel toward Final Signatory status. Welcome, Bill.

Ken Young has been appointed Final Signatory. He has no review duties at present, but in recognition of his contributions to the sport, and his competence at measurement, this appointment is made. Ken and Jennifer have been measuring courses in the Tucson area.

ROAD RUNNING TECHNICAL CONFERENCE TO BE HELD AT ORANGE BOWL MARATHON

The Orange Bowl Marathon and 10 kilometer run will take place on the weekend of February 19-21, 1988. In conjunction with the other things going on that weekend, there will be a technical conference.

Star of the show will be John Disley, course director for the London Marathon. He's the one who has been responsible for seeing that everything is technically correct at this gigantic and respected race. Ask him about prepackaged water! John has measured marathon courses all around the world for AIMS, and will be prepared to talk about how things are going in the rest of the world. John has measured Beijing, Mt Meru (Kenya), London, New York and a bunch of others. He's done his share of running as well, having held the British record in the steeplechase, and gained an Olympic bronze in that event at Helsinki in 1952.

The conference will be quite informal. We'll all sit around and talk with one another on whatever subjects the conversation turns to, mainly including race management and course measurement.

The conference will be held on Friday afternoon, February 19.

We are still working out the details, but be there if you can. Get a bellyful of technical and race director talk and then run a very nice marathon or 10k. The marathon course is a beauty.

At this time no fee is anticipated for participating in this conference. All race directors, certifiers and measurers are welcome, as well as the merely curious.

Pete Riegel and Wayne & Sally Nicoll will be there, with Bob Baumel a possible.

If you think you would like to come, get in touch with Pete Riegel. He's coordinating. Or, if you wish, just show up. Exact time and place in Miami to be announced.

I hope you can make it.

ASK FOR HELP. . . .

Every so often I get a call from a frustrated measurer who has sent in a course to his certifier, and has not heard anything. The last one I heard was two months. This is a bad situation. RRTC prides itself on timely service. Our personal lives have to take precedence sometimes, but when a couple of months slips by, it's a situation that needs to be corrected. If you're in this category of letting-it-slip certifier, please don't just let the mail pile up. Instead, get in touch with me, Wayne or Bob and get the work temporarily off your back. We owe timely service to those measurers. By sharing the work we can do it.

FINISH LINES	
TIME	PLACE
0:44:13	188

Finish Line Sub-Committee
 Alan Jones, Chairman
 3717 Wildwood Drive
 Endwell, NY 13870
 (607) 754-2339

FINISH LINE MANUAL

If all race directors had a copy of the TAC Road Race and Finish Line Management manual and used it, this column would not be needed. I have just gone through the file of finish line information supplied to me by Jennifer Hesketh-Young. It is a compilation of correspondence between the Youngs and race directors over the last several years. Most of the correspondence covered the period of the summer of 1985 when they were putting together the finish line manual. In my opinion, the collective wisdom of finish line experts has been excellently brought together in one place in the *Finish Line Manual*.

We know that people too seldom go back and read reference material. There are two reasons: (1) they believe they already know it all or (2) they don't have the time. We need constant reminding of proper procedures. One such reminder is the *Guidelines Series* in *TACTIMES*. The November/December 1987 issue has Part 5 of this series: "Taking Times" by Basil Honikman. The July/August 1987 issue covered "Select Timing" by Carl Johnson. Another source of information on finish lines is *Road Race Management*. At the *Road Race Management Race Directors Meeting* in Washington, DC in November, all registrants received a three-ring binder for storing back issues of *RRM*.

SELECT TIMING -- AGAIN

Select times are so important but so little understood by first time race directors. The new race director often feels that if a printing timer is used to record times and bib numbers are recorded at the end of the chute, that is all one needs. One time Ken Young received some results that had exactly the same number of times on the printout as bib numbers recorded but the last few times were quite close together -- not spread out as is usual at the end of a race. Ken called the race director and asked where the rest of the times were.

The race director replied, "How did you know?" The race director had more times recorded than bib numbers so he just cut off the extra times!

A select time is **redundant information**. It is a time assigned to one runner which has been recorded independently of the primary system.

One method of recording select times is to have one or more team per finish line write down time and bib numbers randomly. By doing this every few seconds, problems such as those caused by bandits who slip out of a chute, can be found. For small races I prefer the tick sheet method. A tick sheet is a pre-printed sheet that has all possible times with about five minutes per page. Every time a runner crosses the line, a check mark is made next to the time. When possible, the bib number is also recorded. The advantage of the tick sheet is that if the primary timing device (usually a printing timer) malfunctions, you still have all the times recorded. For a large race where a tick sheet is not appropriate, there should be more than one printing timer. Also, the additional stopped time is necessary for the first woman finisher and age-group records.

While I still use tick sheets for the ultimate backup, I prefer electronically recorded select times using a keyboard. There are two main advantages: (1) the person entering the bib number need only be concerned with the number (the time is recorded by the instrument) and (2) the select times can be transferred to a computer for semi-automatic alignment of bib numbers and times. The *TimeTech* and *Chronomix* timers provide select capability. I use a *Psion* hand-held computer which I programmed. I'm sure there are other instruments; if you have information on any, please let me know.

When the primary time and the select time do not agree, great care must be taken to resolve the problem. I find that my brain does not work very well on race day (particularly if I have just finished running the race) and

I often cannot determine quickly if I need to insert a time or delete a time and where the insertion or deletion should be made. Therefore, I let my program do the analysis for me -- but the program always checks with me before actually making the correction.

There is one important principal to be applied (which is spelled out very well in the **Finish Line Manual**) and that is that no runner should be given a time faster than could have been run based on the select times. In other words, if there are extra times between select times, delete the **FASTEST** time. If there are two few times between select times, a "created" time must be inserted **AT THE END** of the block. There is not sufficient space here to go into detail but, again, check Chapter VII on Race Results Preparation in the **Finish Line Manual**.

INTERPOLATED TIMES

A number of users of my program for race results preparation have asked for a capability of interpolating times. This I have consistently refused to provide. There are two reasons. One is that such interpolated times are invalid for age-group records. The second is that today the technology is available -- at low cost -- to adequately time each and every finisher. If the person pushing the button cannot keep up with the rate of finishers crossing the finish line, then the race has too few finish lines. Again (do I repeat this too often?), refer to the **Finish Line Manual** for guidelines on how many finish lines and chutes are needed based on the size of the field and the distance of the race. I believe that everyone who finishes a race has a right to receive a correct time over a course that is the correct distance. In fact, that is what the RRTC is all about.

FINISH LINE -- STARTING LINE

If the starting line is not handled properly, the finish line results could be off by several seconds. At the **Road Race Management** meeting in November, Chris Tatreau raised the issue of the importance of starting watches when the runners break instead of when the gun goes off -- if the runners break before the gun. This is covered on Page 9 of the **Finish Line Manual**:

"Since it is not practical to recall a false start for a road race with thousands of runners, the timers **MUST** be prepared to start their watches (or timing devices) **WHEN THE FIRST RUNNER BREAKS**. Timers need to be briefed

on this procedure so they won't be caught off-guard."

Chris also reminded the race directors that a countdown is an invitation to disaster since the runners will be gone when there are still a few seconds left. In fact, the **Finish Line Manual** suggests giving no preliminary commands. Just fire the gun.

Also, official results can only be recorded from devices started **AT THE START** of the race.

ALLOWANCE FOR ERROR IN VALIDATION MEASUREMENTS

I was not able to attend the IAC meeting in Honolulu (dhat it!) and thus missed the discussion on "allowance for error in validation measurements". This has been a hot topic for several years ever since the zero-shortness criterion was adopted. I was involved early on in this debate with Ken Young and Bob Baumel. We had a grand time going over the statistics involved. Ken stuck with the argument that if the 0.1% SCPP is applied and the course is correctly measured in the first place, there would never be a case where the validation measurement would come up short. However, we live in an imperfect world. What a number of us are concerned about is the 10 km course that validates at 9999 meters and trying to explain this to the running public, the record holders, and the press. In Pete's survey, I voted for a 5 meter per km allowance. This 5 meters in 10 km is equal to about one second for the lead runners which is the same as the rounding we do of results.

FINISH LINE SUB-COMMITTEE MEMBERS

John Boyle	Neil MacDonald
Mark Crook	Fred McCormick
Jack Dowling	Jack Moran
Christopher English	Sally & Wayne Nicoll
Bill Grass	Rick Staback
Alan Jones	Allan Steinfeld
Walt Jorgensen	Fred Torres
A.C. Linnerud	Ken & Jen Young
Philip Lockwood	

Alan Jones, Chairman

SELECTIONS FROM THE MINUTES

Tom Knight served as acting Secretary in the absence of Jennifer Young, and produced an exhaustive set of minutes. Most of the discussion concerned allowance for error in validation measurements, covered elsewhere in this MN. The following are some excerpts from Tom's minutes concerning the other things that were discussed:

Limbo Courses were discussed. For example a course which was signed by a final signatory but never passed on; Wayne Nicoll would like to know if we can decertify such courses or just tell the race director he has a problem.

A.C. Linnerud asked for guidance from others on measurement/certification of cross country courses. He explained how he presently does them: Multiple surface calibration for both walking and riding the bicycle, 0.2% short course fudge factor, SPR, limited certification good for that day only. Wayne Nicoll said that the process is probably not reproducible. A.C. said that he marks 1/2 Mile splits on championship courses. Doris Heritage said that cross country is a free spirit type of endeavor and course accuracy is not so important. Allan Steinfeld said that the 1984 World Cross-Country course was measured with a wheel with similar techniques to Linnerud's for accuracy.

Who owns courses? was discussed. There had been dissatisfaction expressed over our letting anybody with \$2.00 have a course map. Pete Riegel said that we need to keep the system honest; anybody can check any course at any time; he made some analogy to how the patent office operates. John White said that a club or organization may have lost their copy and the original certifier might no longer be available with his/her files; thus it is good to have one central place where anybody can get a copy. He said that only 6 to 10 inquiries have come to him in the past year. Giovanni Bartolini said that the present procedure could come in handy for some local group wanting to put on a race, and our national file would be a place to turn to.

Getting and possibly checking elevation information was discussed. It was pointed out that we never use the high or low point of elevation in any of our certification work directly; however, some people felt it was still useful information. It was mentioned that besides USGS and city engineers, county libraries are a good source of elevation info. At John White's request it was decided to add to our Measurement Certificate a spot for Drop in meters/km and another for Separation of Start from Finish in % of course distance.

Expansion of RRTC titles beyond what we already have was discussed, such as RRTC Validator, Certified RRTC Measurer, and Master Measurer. Dan Brannen said that some race directors want RRTC people on site for quick record approval. Sally Nicoll said that race directors should call her first to get her to assign a validator rather than to contact a particular validator ahead of time.

American runners setting American records on foreign courses was discussed. Also does an AIMS prevalidation count for TAC records? Wayne Nicoll said that he had been talking to some Canadians about having American records recognized on Canadian courses. He said that he had just about cracked the

door open for American records on such courses - TAC certification and validation. What if a record was set on an IAAF approved course without a TAC certification being issued? Pete Riegel said that we would have to relax our standards if we are going to automatically go along with foreign courses - they are not necessarily up to our standards yet.

Pete Riegel reported on a letter he received from Jennifer Young questioning our using a short calibration course which had been measured only once. It was decided that a second check measurement of the calibration course didn't have to be at the same level as the first; for example, a bike count check would be O.K. as the most likely error of say dropping a 30 meter or 100 foot segment would be caught this way. Bob Baumel said that due to the loss of resolution in using the Jones counter on a short calibration course, one should be careful to check the play in the counter as well as record to the nearest 1/2 Jones count. Wayne said he had a table designed to put in a little extra distance for layout of short calibration courses.

TAC rules relating to cross-country finish lines were briefly discussed. Apparently David Katz (not present) said that such rules are somewhat lacking and need to be rewritten.

"Is there a benefit to listing calibration courses in the course list?" was discussed. John White said he could list them if we so requested. Wayne Nicoll said he documents them for himself. The question was asked "Why do we need to change the present practice of not listing them?" Tom Knight asked if the minimum distance was still 1000 feet or approximately 300 meters for a calibration course to be legitimate. Someone asked about the accuracy of using mile markers along interstate roads to calibrate cars for rough course measurements.

After Dan Brannen's suggestion as to an appropriate awardee Ted Corbitt was presented with a humorous award from Alan Jones for BEST MEASURER. It was a tiny measuring wheel (by Ronco) to be used "in case one doesn't have a bicycle and Jones counter on occasion." Alan had mailed the "award" to Pete with instructions to present to the "best measurer". This was a hot potato indeed. Ted's presence solved it. The award itself may have been in jest but the spirit of it was not.

Next a short discussion of pt/pt courses with a large elevation drop was discussed. The attempted TAC rules change at last year's meeting on this issue as well as the Women's Masters record at the St. George Marathon were mentioned. Apparently a rule change would be needed if one were to call a pt/pt best other than a record. Basil Honikman said that the LOOP and PT/PT RECORDS would now be separated into two lists rather than carrying the PT/PT in the LOOP list with an "a" for aided performance. Allan Steinfeld said that IAAF/AIMS was unable to resolve the Pt/Pt versus Loop question particularly in regards elevation drop allowed. The issue of courses with "ridiculous" elevation drop was left unsettled during this meeting.

A rewrite of the Course Measurement Procedures book is taking place by Bob Baumel with assistance from Wayne Nicoll and Pete Riegel. Pete also said that we are down to our last 100 books.

Sally Nicoll introduced Carol Langenbach of Seattle who along with Amy Mors of Connecticut, Betsy Hughes of Orlando, Florida and Jennifer Young of Arizona will be measuring the Pittsburgh Marathon course being used for the 1988 Olympic Trials for Women.

Dan Brannen will replace David Katz as being in charge of the measurement of the New Jersey Waterfront Marathon being used for the 1988 Olympic Trials for Men.

Wayne Nicoll proposed to write up the results of the walking measurement for Walking Magazine.

SALLY NICOLL HONORED

Sally Nicoll has been nominated for the Road Runners Club of America Women's LDR Woman of the Year. Her contributions to the sport are numerous, as we all know. We'll find out how her nomination fares after the next RRCA Convention, but however it goes it won't change the way we think about her. Nice going, Sally!

DON'T EAT YOUR HEART OUT

If you weren't able to journey to Honolulu for the TAC Convention and the Honolulu Marathon, be comforted. Those who went were treated to the biggest tropical storm to hit Hawaii in three years. It rained buckets for five days, power and telephones were out, and the wheelchair marathon was cancelled. The regular marathon was held in downpour conditions. It was still a lot of fun, but not what one would normally expect from a Hawaiian trip. People returning to the mainland were treated to cancelled flights, 24 hour delays, and all the horror stories attendant to winter air travel. Everyone came home paler than expected.

REFERENCES

In a recent conversation, David Katz and I were discussing the problems associated with putting a "RRCA approved" stamp on a finish line company or a measurer. We agreed that it was not an easy thing to do, and fraught with potential peril, since some people have a higher opinion of their own capabilities than others do, and this can cause ill-feeling. David strongly emphasized that anybody thinking about hiring a finish line company should ask for references. Then they should call around and talk with those references and see just how the operation worked. Ask some strong and penetrating questions and get the answers.

Same goes for measurers. Any measurer should be able to give names of people he or she has served. Ask for and use references. To prevent misunderstandings, it's wise to settle beforehand just what is being purchased.

MEASUREMENT BOOK TRANSLATED INTO SPANISH

Domingo Amason (Buenos Aires, Argentina) wrote several months ago requesting TAC permission to use all or part of Course Measurement Procedures in his work in South America. He has now completed a translation into Spanish, and a printing in that language, and will be sending a few dozen books for our use. Wayne Nicoll and Doug Loeffler will undertake to handle distribution of the books where they are needed.

Letter #1

10-18-87

To: Sally Nicoll
Ed Froehlich 402-472-7243 (o)
Karl Ungurean 402-489-4130 (h)
Basil Honikman
Pete Riegel

From: Jim Lewis, 2900 John Avenue, Lincoln, NE 68502

Subject: Heartland Hustle 10K

I hope that all of you named above will accept this as my report on my visit to and measurement of the Heartland Hustle. When one finds themselves so busy that Sunday morning is the only time that they can get to a project, you have to cut corners where you can. Hello to all.

The first thing that I would like to report is the remarkable hospitality provided by everyone connected with the Heartland Hustle and in particular by Ed and Karl. It was a pleasure to meet them and to observe their race. Karl worked a night shift on Thursday night and then measured with us the next day. He proved to be both an outstanding measurer and a man of remarkable endurance. I am still not sure when he slept between Wednesday morning and Saturday afternoon. I feel that I learned a number of things that I could take back to my own club. Special kudos must go to the Davenport Police. Their assistance was beyond my wildest dreams. It was also a pleasure to spend two days with Basil and to see Alvin Chriss for a day. In the course of many conversations Basil and I discovered that back in the mid 70's we had competed against each other in a Faculty Distance Medley Relay at the KU Relays when Basil was at NC State.

Attached to this letter you will find a number of handwritten pages labeled Page A to Page H together with a copy of the Measurement Certificate and the calibration certificate. As an overview of the procedure followed, I offer the following. On Thursday, October 8 I arrive late in the evening and after some conversation with Alvin, Basil, Karl and Ed, I had Karl take me on a tour of the course and out to his calibration course. On Friday morning, Basil and I went to the calibration course, laid out a 1000' short course at the start of the calibration course, calibrated on both, and then met Karl. We returned to the race course in downtown Davenport, laid out another 1000' foot calibration course, calibrated along with Karl, and then the three of us measured the course. (Time to praise the Davenport Police again. Four officers met us and proceeded to close down one lane of 3rd St. so that we could create our short calibration course. When we were ready to measure, they established a relay system that allowed us to measure as if we were the only people in the city. This includes riding two miles the wrong way on a one way street. Not once did we have to slow down or stop at an intersection. As a result, I felt that the quality of the measurement was greatly improved because we did very little

breaking and we could concentrate on our job and ignore traffic.) After the measurement we recalibrated on the on-course calibration course, and then returned to the Lorton Avenue calibration course and calibrated again. We returned to the hotel to check our work as fast as possible. (All data was collected "blind" so that we would not know how we were doing during the measurement.) A quick analysis indicated that the course might be only about 1003 meters and we reported this to Ed. Ed made a quick decision to add 22 feet to the course. Later in the day Basil and I returned to two major corners that had given some cause for concern and took extra information as to the desired line for cones. We painted the area both when we measured and again at this point so that we could check the line the next day. On race day I got up early and rode my bike to the corners in question but unfortunately the cones were not in place. For the race I rode in the press truck that remained about 10-30 meters in front of the lead runners. (Before the race I had checked that the start had been moved back 22 feet and made sure that the finish would be marked on the ground.) During the race I was able to observe the fact that the cones on the course were exactly where they had been promised. At the two crucial corners of Telegraph & 3rd, and Telegraph & Clark cones were extremely close together, video tape was in place to record the corners and numerous monitors were there to insure that the race came off as planned. I could see that approximately the first 15 runners did indeed follow the correct line at the first corner and the first 8 did likewise at the second corner. At the finish, I was able to join Basil who was keeping tabs on the finish line procedure and help time a few men and the lead women.

The Calibration Course: To be blunt, the calibration course on Lorton Avenue should not exist. When we first took a look at it, we were very surprised by how hilly it is. The road surface is also terrible. Our problems were compounded by the fact that there was a car parked on the course. To Karl's credit, he produced a map with elevation data within hours after being asked. The map indicates that the calibration course drops about 74 feet from the south end to the north end. An additional problem is that the curbing does not appear to be straight and thus could "lead" a rider slightly off course. I hope Pete will take this as an argument in favor of national certification and listing of calibration courses complete with elevation data which I believe would have caused Pete to not approve the course in the first place if he had known that the calibration course was not "reasonably flat". I also hope that Karl follows through on plans for a new calibration course soon.

Because of concerns for the calibration course we decided to try a 1000' short calibration course on the course. At the same time, I fear short cal courses and wanted as much comparative data as possible even if some of it might be of suspect value. We measured out 1000' on the early flatter part of the Lorton Avenue course and proceeded to calibrate. Because of the car on the course we had to use an offset maneuver. Complete data on our calibrations is found on pages D and E. Karl joined us after our

calibration on Lorton Ave. and thus he only calibrated along 3rd St. His data is on page C. It should be noted that we measured the 1000' on Lorton only once but measured the 1000' on 3rd St. twice. If repeatability is one measure of the quality of data, our calibration data on 3rd St. looks better than the data on Lorton. As a result, this data was used on pages A and B. Both before and after measuring I had one count of 7669 while the others averaged over 7674. If indeed there was a line that only needed 7669 counts and I could only find it 1 time in 4, then the "true" length of the course would be about 10005 meters. If on the other hand, 7674+ is a better value, then the course is only about 9997.5 meters. (As I told Ed, I think I know how long his course is but I am not sure how long my yardstick is.) On Lorton, Basil had one count much larger than the other three on the precalibration and on the postcalibration he had much larger values when "climbing that mountain".

(SEE MN #26)

The Course As the map indicates, the course is extremely simple. The first 1.9 miles and the last 2.2 miles are as straight as can be. As one turns onto Telegraph Road just before the 2 Mile mark and then as one turns off Telegraph onto Clark runners were to be restricted to the right half of the road (not the SPR). These two corners were in my view "weak points" for the course in that I was not sure of the race's ability to keep runners on the desired route. (As indicated above this fear was groundless as the conduct of the race was outstanding.) The loop on Indian, Concord, Boies, and Clark is about one mile long and it is easy to follow the shortest possible route. On the return it is also easy to follow the SPR. The course is extremely flat and it is not at all suprising that it yielded fast times.

The Measurement Because of the help of the police and the simplicity of the course, it should be and it was easy to measure. At the two corners in question, we had Karl get off his bike and paint the route with a dashed line. Later in the day we again returned and repainted the line and took some additional measurements to locate the path. (See page H.) The fear expressed above regarding the ability to protect the path caused Basil and I to measure an even tighter line while Karl measured the line he had painted. This could account almost completely for the difference in distances for the second and third mile discussed on page G. On the fourth mile, I had the feeling that I was riding a slightly tighter line than Karl and Basil and this could explain the small difference there. We took a reading at each mile mark and at the Mile 4 point on the way out and the Start on the way back in order to compare our own riding each direction along 3rd St. As fate would have it, Karl rode past the one mile mark, I recorded an obviously false number for Basil's Mile 4 reading, and Karl went one block too far before looking for the Mile 6 mark and so we took a reading at an incorrect point. These slip ups reduced our ability to compare the data. Nonetheless, there is remarkable similarity in the data (see page G) until the strip from the Mile 5 mark to the finish. Here Basil brilliantly rides a straight line over 6 feet tighter than Karl and I who were less than a foot apart. Since I can't offer any explanation,

I guess it is true that miracles never cease.

Conclusions: Page F gives the length of the race course in meters as judged by each possible calibration as well as the average of the pre- and postcalibration for each possible calibration course. The variation in calibration data for me causes an assessment that varies from 9999.29 meters to 10010.17. For Basil, the range is only 10,002.38 to 10008.23. Using the on course calibration course we get 10005.43 and 10003.79 for the precalibration and 10007.8 and 10005.33 for the average. Karl, who as explained above measured the actual route that was used rather than cutting the two corners a little as I did, got 10010.21 and 10012.31. Our advice to Ed was influenced by the lower figures found using the Lorton Avenue Calibration data, Basil's 10003.79 that used the on course calibration, the thought that if a record was set another measurer might not be willing to measure the two corners along the route we measured, and fear for the conduct of the race at the two major corners. We suggested that some distance be added to the course and Ed chose to add 22 feet. After the addition of that distance, I believe that the course used was between 10010 and 10014 meters. Having had time to think about this some more, I worry about the 22 feet in that it took Liz Lynch 1.25 seconds to run that distance. She missed her world best by about 5.5 seconds. Obviously we did not cost her her record but some time in the future it could happen. I now feel we should have measured the line determined by Karl without cutting corners on the corners that would be coned. At the same time I am uneasy about using a short calibration course because each single count in one of four calibration rides makes a .85 meter distance in the assessed length of the course and I was most uneasy about the data from the Lorton Avenue calibration course. Thus I was happy that Ed had the courage to add a little to his course.

Once again, the conduct of the race appeared flawless out on the course and I am sure that the race course used was longer than 10000 meters. Thanks again to my hosts for a most enjoyable weekend. I would suggest that the corner of Clark and Telegraph be coned so as to provide a softer arc. Watching the race, I felt like the runners had to slow down and almost stumble around the corner. A softer turn might make the course about .5 to 1 second faster. This would, of course, need a remeasurement but it would also give Karl a chance to recommend whether to keep the extra 22 feet for next year.

HEARTLAND HUSTLE MEASUREMENT DATA

CALIBRATIONS

NOTE: "A" COURSE IS 2640 FT CAL COURSE WITH PARKED CAR, ON HILL
 "B" COURSE IS 1000 FOOT SHORT COURSE LAID OUT ON ABOVE COURSE,
 ALSO CONTAINING PARKED CAR
 "C" COURSE IS 1000 FOOT SHORT COURSE LAID OUT ON RACE COURSE

CAL COURSE	JIM PRE		JIM POST	
A	7674	7672.875	7669	7673.25 av
	7669	15345.75	7675	15346.5 cts/mi
	7675.5	9.535406	7674	9.535872 cts/m
	7673		7675	
AVG	9.535639 cts/m			
B	2906	2905.25	2904	2906.25
	2904	15339.72	2906	15345
	2908	9.531660	2907	9.534940
	2903		2908	
AVG	9.533300			
C	2906	2904.75	2904	2903.375
	2905	15337.08	2903	15329.82
	2904	9.530019	2904	9.525508
	2904		2902.5	
AVG	9.527764			
	BASIL PRE		BASIL POST	
A	7490	7485.125	7477.5	7480.75
	7482.5	14970.25	7483.5	14961.5
	7483	9.302082	7476.5	9.296645
	7485		7485.5	
AVG	9.299363			
B	2836.5	2835.25	2833	2834.375
	2834.5	14970.12	2835	14965.5
	2835.5	9.302001	2833	9.299130
	2834.5		2836.5	
AVG	9.300565			
C	2835	2834.875	2834	2834
	2835	14968.14	2834	14963.52
	2834	9.300770	2834.5	9.297900
	2835.5		2833.5	
AVG	9.299335			
	KARL PRE		KARL POST	
C	2978.5	2978.375	2977	2977.125
	2978.5	15725.82	2978	15719.22
	2978	9.771571	2977	9.767470
	2978.5		2976.5	
AVG	9.769520			

MEASURED DISTANCES USING AVERAGE CONSTANT FROM ON-SITE
 1000 FOOT "C" CALIBRATION COURSE, METERS
 BASIL'S 4 MILE READING IS ASSUMED ERRONEOUS

	JIM	BASIL	KARL		SHORTEST SPLIT
START					
MILE 1	1610.713	1611.082			1610.713
(MILE 4)	1557.028	3167.742	1557.100	3168.183	1557.028
MILE 2	53.58025	53.44467		54.14799	53.44467
MILE 3	1612.340	1611.835		1614.766	1611.835
5K	169.9769	169.9046		170.2232	169.9046
MILE 4	1438.427	1449.996		1439.067	1438.427
MILE 5	1613.547	1602.049		1613.385	1613.385
START	1554.509	1554.842		1554.835	1554.509
MILE 6	175.6970	173.0231		175.5459	173.0231
FINISH	221.9828	222.0588		221.5564	221.5564
TOTAL	10007.80	10005.33		10012.31	10003.82

TOTAL MEASURED DISTANCE (METERS) FIGURED IN VARIOUS WAYS

	JIM	BASIL	KARL
A	9999.538	10005.30	
B	10001.99	10004.01	
C	10007.80	10005.33	10012.31

Note:

- A = Based on the average constant from the "A" cal course
- B = Based on the average constant from the "B" cal course.
- C = Based on the average constant from the "C" cal course.

November 28, 1987

MEMO TO: Pete Riegel and Wayne Nicoll (to save time and space!)
FROM: Jen *Jen*

It was with great delight that I originally read of the intent to set up calibration courses shorter than the original mandatory one kilometer or half mile. And, I applauded the thought to have them at the race site. Even though I am a woman and have more padding where it counts, my bottom gets sore, too, and the less riding needed, the better.

However, I think one critical step was left out of the new guidelines for use of the new 1000 foot course and that is a notation, which accompanies the report, that the counts achieved while using the short calibration course are sufficiently similar to the counts normally obtained on a standard calibration course. This is a helpful double-check and for novice riders, I think this should be mandatory, since the use of only the new 1000 foot courses by someone all the time could lead to major errors.

To take this a step further, though, I sincerely think you are making a mistake by requiring only one measurement of the shorter calibration course. The accuracy of the running course depends on the accuracy of the calibration course - the Houston-Teneco Marathon course was found short because the calibration course was short. In addition, one could then argue that you should allow but one measurement of the course itself - something which was disallowed years ago because it produced short courses. The most recent report of trends of validations is quite promising. The new method, without the old safeguards, seems to be asking for trouble. Please reconsider.

--- PETE'S REPLY ---

Good point, Jen. Using a once-measured and unchecked calibration course is definitely a poor idea. The guidelines so far published have included checks as part of the process. Some checks might include:

- 1) Is the count on the short cal course similar to counts normally obtained on a standard course?
- 2) Is the count consistent with the diameter of the bike wheel? This will pick up the omission of an entire tape length, which is the most common layout error.
- 3) Does the standard bike check (counts for 1 tape length vs counts for entire calibration course) check out?

A second taping of the course itself can be roughly done on the return walk to the place where layout started, just to see that each interval was exactly 100 feet or 30 meters or whatever. A second full-dress measurement generally will not produce enough difference to justify requiring it as part of the standard procedure. We may have to modify the procedure if it does not work out, but the procedure has been received with enthusiasm by all the certifiers who have used it so far.

Pete

NATIONAL CONVENTION COMMENTARY

As an attendee at the 1987 TAC Convention in Honolulu, I would like to use the remaining space to give some thoughts and reactions. I wish more certifiers had attended. The measuring contest was a success and should be repeated at the 1988 TAC Convention with even more effort to involve others. It would be nice for TAC/RRTC patches, T-shirts, small athletic bags, and even jackets to be available. I prefer structured meetings with agenda and Roberts Rules, because it can prevent talkative and repetitious people from boring the majority. Offering measurement service to cross-country meets is a good idea as long as no thought of records is entertained. In order to encourage the conduct of more small LDR events on tracks, I favor the acceptance of cones-on-the-curbline in lieu of a raised curb for all records except the Open records. Please use the new certification forms! (John White)

**RESULTS OF THE GREAT ANA HONUA
(MEASURE THE SURFACE OF THE EARTH WITH YOUR FEET)
MEASUREMENT CONTEST — HONOLULU — DECEMBER 1987**

Several months before the convention I asked Tom Ferguson to see what he could do to set up a test course for Convention attendees to measure by pacing. He set up a nice loop nearby the Hilton, accessible to all. Even a 100 meter calibration course. The contest was thrown open to all attendees.

Tom used a perfectly accurate measuring wheel and flawless measuring technique to determine that the absolutely true length of the course was exactly 1739.5951 meters. Here's how things came out:

MEASURER	ESTIMATE OF COURSE LENGTH	PERCENT ERROR
NICHOLAS BROOKE	1624.691	-6.61
MARGARET BROOKE	1626.190	-6.52
TOM MCBRAYER	1675.849	-3.66
DAVE GWYN	1681.583	-3.33
BEN HABLUTZEL	1686.567	-3.05
MARY ANNE MCBRAYER	1689.041	-2.91
WAYNE NICOLL	1720.364	-1.11
PETE RIEGEL	1722.222	-1.00
RICK RECKER	1725.9	-0.79
BOB LANGENBACH	1728.073	-0.66
MARCIA BAUMEL	1739.872	0.02 (First place)
BOB BAUMEL	1740.894	0.07 (Second place)
STEPHEN TABB	1750.335	0.62 (Third place)
JIM SMITH	1754.575	0.86
TOM KNIGHT	1765.651	1.50
FELIX CICHOCKI	1776.743	2.14
FINN HANSEN	1797.247	3.31
NORMAN BRAND	2463.42	41.61

Measurement techniques varied. Some used a calibrated-pace approach, using the 100 meter calibration course provided by Ferguson to establish the length of their pace. Others used their knowledge of their running pace, and timed their way around the course. A high-minded approach was taken by Norman Brand, who went 36 stories up, looked over the course, estimated that it was about a mile-and-a-half long, made some other mental adjustments, and converted it to meters.

All contestants were asked to present their estimates to four places to the right of the decimal. This is ridiculous, of course, but we asked for this in case there were ties.

The crack Baumel team has proven itself capable of measuring courses without resorting to mechanical aids, such as a bicycle or Jones counter. We await the first submission for certification based on this newly-revealed capability.

Tom left the Honolulu Marathon carbo party early to come to the RRTC meeting. He presented each winner with a beautiful wooden bowl with attached brass plate. Those who did not win gnashed their teeth in envy.

19 October, 1987

Dear Peter Riegel:

About this validation business. I think, in the next Measurement News, we should publish your proposal, and invite written argument pro and con, to be published in the issue after that. The issue in which everyone has a chance to express his views should contain the ballot. Then, whatever the decision finally arrived at, people will feel it was arrived at justly, and will not be able to blame it on the muddleheadedness of any one individual.

There are several other RRTC issues that I think should be decided the same way. The first such issue: Should course approvers be able to charge \$25, which they pocket themselves, for their services? The second: Should course approvers be paying someone \$2 a course to enter course information into a computer? The third: Should we allow course maps which make no attempt to illustrate where, within the roadway, the measurer measured? The fourth: Should we allow courses that include part-of-the-road restrictions whose course maps do not indicate a method of restricting the runners that would allow acceptable records and notable times to be run on those courses?

December 23, 1987

Now, this you're going to have to pay attention to; it's typed on our new office word processor with laser printer.

"All opinions and grievances are solicited. No cows are sacred. If you have a new measurement technique, or if you think things should be done differently, send in your contribution to MN. Your opinion will be given space. Nothing changes until somebody tries!"

Admirable words, but who wrote them? Where's our old buddy, the Peter Riegel who was the lover of "provocative questions"?

Note that my censored letter of October 19th does not draw conclusions but only raises questions for thought, and, possibly, discussion in MN. I'm willing to entertain various answers to those questions, but I can't conceive of any defensible reason to keep my letter out of our publication. It is my concern that fundamental changes in the way we do things are occurring with no rigorous thought and discussion as to the effect those changes will have on the integrity of our program.

I've included a new, laser-printed copy of my October 19th letter in hopes you'll change your mind and see fit to stick it in the next Measurement News.

Sincerely yours,



David Reik
930 W. Blvd.
Hartford, CT 06105
(203)236-9160

THE ATHLETICS CONGRESS
OF THE USA

Road Running Technical Committee
Peter S. Riegel, Chairman

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November 9, 1987

David Reik - 930 W. Blvd - Hartford, CT 06105

Dear David,

Your letter contains a number of controversial and provocative questions, and I'll try to deal with them as I go:

I chose to limit the validation questionnaire to those who were knowledgeable in the process, and experienced at measurement. It was not intended as a simple "majority wins" thing but as a simple poll to see how people feel about it. It's not a new subject, but it's been bothering me for a long time, and I want to get it cleared up. What I do with it will depend on how it comes out. I don't intend to fly in the face of the majority.

Did you deliberately omit your own feelings on the subject? I saw nothing indicating your own opinion on the question. You have no obligation to answer, of course.

Should reviewers be allowed to charge \$25? I know that's more than enough to cover expenses. We all do. That policy was set by Steinfeld, but history has shown that it works. I myself charge \$15 (\$10 in Indiana for Jerry Pierce who I have trained to fill out his own certs, saving me the trouble). Some people charge almost nothing - others charge the full load. I know of at least two certifiers - good ones - who freely admit that if it weren't for the money they wouldn't be doing it. And \$25 is a trifle to the race director.

It would be nice if everybody was Christlike enough to do it for nothing, but we had that once and now, since we've allowed people to make a little money at it, we have enough certifiers to handle the work. Certifiers are not generally connected to the local TAC structure. Some of them like to come to the Convention. If they save their fees they can do it. I don't think this is an abuse of anybody. Don't you charge your employer for the work you do, above your expenses for getting to work? We give value for the money, and I don't think we need to be ashamed.

As for the \$2 per course, you may recall that I led, at one time in MN, a drive to send NRDC \$5 for every course. I myself did this for years. They had over \$1000 from me alone, and I was not the only one. Now John White is doing it. I want the job of course-keeper to be an attractive one. If computers were free, and it cost nothing to operate one, I'd say the \$2 might be high. But have you priced the kind of computer it takes to do the job? Sure, John can bootleg the work on his computer at work, but can the next guy? Should John be able to go to the Convention? Where should he get his money to do it?

I want RRTC to be self-funding to the greatest degree possible. If we are funded from the runners and race directors we are not as dependent on a single source of funding. Also, when someone is paid to do a job, I can insist that it be done in a timely fashion, and done right. The last thing I want is for RRTC to become an organization of well-meaning but procrastinating people. The running world gets service from us these days that is first-class and fast. That's the way it ought to be. Cheapest is generally not best. You get what you pay for.

Maps are something we're continually trying to upgrade. Generally if you give a measurer a break on the first couple of courses, the work gets better. On courses where there are no restrictions, a simple note that SPR was everywhere followed suffices to define the measured path. As for measurers having to show every cone placement, I think that if the course is adequately defined it becomes the race director's job to set up the course properly. Showing the cones does help though. Undefined places are already supposed to be corrected before a certification is issued.

Although we serve the records people, the greatest beneficiary of our work is the average runner who will never set a record beyond a PR. Even a slightly short course is fine for PR's. Our validation experience has shown that we're enjoying a pretty good record in having courses come out right. Even the worst courses are not horrendously awful.

I don't favor hardnosed application of our techniques. (Haven't you been using 2 postcal rides rather than 4?) If everybody could understand what we're trying to do, maybe it would work, but it's important that we be seen as reasonable people as well as accurate ones. The RRTC people themselves are pretty much tuned in, but the general measuring public needs continual education, and I think if we are gentle with them we will win them over to gradually increasing excellence. It won't happen until each one measures and has had a couple of courses reviewed. I settle for less than perfect in some cases. It's a judgment call.

I'm not going to publish your letter in MN because I really don't think all the dirty laundry should be publicly aired. MN is mainly about measurement, and I'd like to keep it that way. I know I do let a few things slip in that are off the subject, but I really don't want to open up MN as a forum for argument and disputation of non-technical subjects.

Naturally you are free to circulate whatever you wish to whoever you wish. That's how MN got started, and perhaps a Journal of Political Opinion would be of interest to people who believe things are not all they ought to be. I myself agree that things are not perfect, but given my personal limitations I am willing to settle for "good enough". I've no time for more than that.

Best regards,



December 28, 1987 - Decided to publish this after all. See other correspondence from David.

December 23, 1987

Peter Riegel
Chairman, RRTC

Dear Peter Riegel:

Was that you who "recently measured a very winding course on two lane roads in West Virginia? The presentation about this measurement, on page 20 of the September MN, ends with the question, "Is this an acceptable technique?" The answer, according to Course Measurement Procedures, would be no. The MN article says that the course was measured to the right side of the centerline throughout most of the winding route, but implies that, since the whole-road SPR was measured 100m either side of turns at intersections, no monitors, and cones and barricades, are required to enforce the right-side-of-the-road-only restriction. On page 14, Measurement Procedures says:


"Unless portions of the roadway will be closed to runners by cones and/or barricades, and will be monitored, measure the straightest and shortest path possible, moving from one side of the road to the other to follow the shortest possible route."

The MN article describes a measurement where, if the whole road had been used throughout the course, because of the many degrees of turn involved, a substantial amount of distance would have had to be added to the course, on the order of 60m, I'd guess (very rough guess). If we decide the measurement procedure described in MN is OK we will have decided to go back to the good-old days when an assurance that there would be an announcement before the race that runners must stay to the right of center on all roads, and the probable presence of traffic on race day, was sufficient to allow the measurer to stay to the right of the centerline through lefthand curves.

Do we want to go back to that?

Similarly, Measurement Procedures, and I thought currently accepted practice, would prohibit the use of cars for course measuring, not because their odometers are necessarily inaccurate, but because a car is incapable of measuring an SPR, even on a right-side-of-the-road-only course. This is assuming we're talking about measuring courses for certification, that we want courses capable of having TAC-recognizable times run on them. It's always acceptable to measure a course any way you'd like (with a calibrated car, for instance), describe your method on the entry form, but make no implication that the course is certified. It's conceivable the a course could be measured to certification standards with a motorcycle, however, because of a motorcycle's ability to follow an SPR.

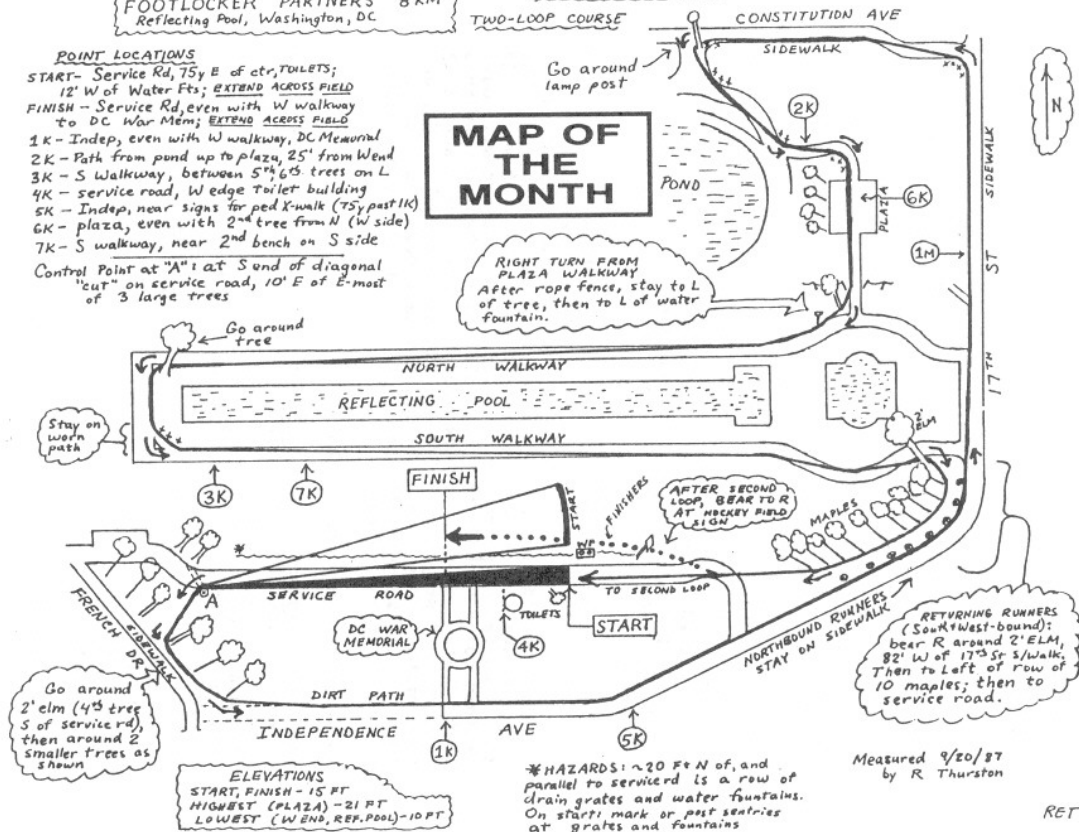
Sincerely yours,


David Reik

FOOTLOCKER PARTNERS 8 KM
Reflecting Pool, Washington, DC

MAP NOT TO SCALE TAC CERTIFIED COURSE DC 87053 RT
TWO-LOOP COURSE

- POINT LOCATIONS**
START - Service Rd, 75y E of ctr, TOILETS;
 12' W of Water Fts; EXTEND ACROSS FIELD
FINISH - Service Rd, even with W walkway
 to DC War Mem; EXTEND ACROSS FIELD
 1K - Indep, even with W walkway, DC Memorial
 2K - Path from pond up to plaza, 25' from West
 3K - S Walkway, between 5th & 6th trees on L
 4K - service road, W edge Toilet building
 5K - Indep, near signs for ped X-walk (75y past 1K)
 6K - plaza, even with 2nd tree from N (W side)
 7K - S walkway, near 2nd bench on S side
 Control Point at "A": at S end of diagonal
 "cut" on service road, 10' E of E-most
 of 3 large trees



MAP OF THE MONTH

RIGHT TURN FROM PLAZA WALKWAY
 After rope fence, stay to L of tree, then to L of water fountain.

Stay on worn path

Go around 2' elm (4th tree S of service rd), then around 2 smaller trees as shown

ELEVATIONS
 START, FINISH - 15 FT
 HIGHEST (PLAZA) - 21 FT
 LOWEST (W END, REF. POOL) - 10 FT

*HAZARDS: ~20 Ft N of, and parallel to service rd is a row of drain grates and water fountains. On start; mark or post sentries at grates and fountains

RETURNING RUNNERS (Southwest-bound): bear R around 2' ELM, 82' W of 17th St; S/walk, then to Left of row of 10 maples; then to service road.

Measured 9/20/87 by R Thurston

RET.

THE ATHLETICS CONGRESS
OF THE USA

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1987-12-01

Sally Nicoll
RRTC Validation Chairperson
c/o Ragged Mountain Club
Potter Place, NH 03265

Dear Sally:

Validation of 1987 Lilac Bloomsday 12 km Run

I remeasured the 1987 Bloomsday race course on Sunday, Oct 18, 1987, riding together with Washington state certifier Mike Renner. My measured length amounted to 12 020.5 meters, in close agreement (within two meters) of the measurement obtained by Mike at the same time, also in close agreement with the original certification measurements performed in 1985 and 1986 by Mike Renner and Bill Johnson, clearly verifying that the 1987 race course was at least 12 km in length.

While this measurement was clearly in excess of 12000 meters, the following two observations need to be made:

- 1) The Bloomsday race uses three starting lines, each on a different street. While all three merge onto the same path within the first 3 km, each is certified as a separate course, namely: WA-86008-TD (Main Ave Start), WA-86009-TD (Sprague Ave Start), and WA-86010-TD (Riverside Ave Start). Of these three courses, **only** the one starting on Riverside (WA-86010-TD) can be considered valid for record purposes (so this is the only one we remeasured). This is the "primary" start - where the "seeded" runners are started. The Sprague Ave and Main Ave starts are done remotely using radio signals transmitted from the Riverside start. The race is timed assuming that all three starts are simultaneous, but official timers are present only at the Riverside start. (The timers do know to start their watches as the runners break, since you can't call back 20000 runners for a false start!) Most of the runners up for records probably started on Riverside, but this should be checked out, because fast runners often compete in the "Corporate Cup" division, which is started from the Sprague start.
- 2) The possibility exists that some runners *might* have run a slightly shorter distance than we measured, by cutting corners using sidewalks or other surfaces off the edge of the paved roadway. For the validation, Mike and I measured the same path as was measured for the original certification; namely the shortest possible path without going outside the paved roadway. The course does include various islands in the *middle* of the road, and we just measured over those islands as if they weren't there. But we didn't measure over any surfaces off the edges of the

paved road. While it is certain that numerous runners back in the pack of over 50 000 runners did hop curbs and cut corners (but probably didn't save any distance because the crowd would have forced them to swing wide at many other corners), I think the course should be considered valid for the following reasons: (a) It is very much standard procedure to measure the shortest path staying within the paved roadway, so it would not be fair to penalize this race for following standard procedure. (b) It is likely that most, if not all, of the runners up for records ran in the roadway as the course was measured. (Evidence from videotape to be discussed later.) (c) As the validated distance exceeded the nominal 12 km distance by more than 20 meters, a runner could have cut several corners and still have run at least 12 000 meters.

Both of the points discussed above will be elaborated further in the following pages. Before launching into the details of this validation, however, I should make one other point: While Mike and I were remeasuring the course, we added a 5 km split, as no such split had been laid down during the original certification measurements. I am counting on Mike to thoroughly document the location of this new point, and I expect time splits to be given to the runners at this point during future races.

SEQUENCE OF EVENTS

I arrived in Spokane at about noon on Saturday, Oct 17, and was met at the airport by Finish Line chairman Wally Egger. We briefly discussed the organization of the finish line. I learned, for example, that only about the first 120 men and first 70 women are timed individually. All later runners receive interpolated times. (For this purpose, time cards are inserted into each chute every 30 seconds. The interpolated results are quite accurate according to race officials — usually in error by no more than 3 seconds.) In any case, this issue need not be of concern to TAC officials involved in the awarding of records, as the results sent to TACSTATS by the Bloomsday Association were **only** for those runners timed individually.

I was then met by course director Bill Johnson, who drove me around the course. It became clear to me during this process that it would be wise to let Mike ride in the lead during the actual remeasurement to be performed Sunday morning. As we toured the course, Bill verified that the path measured during the original certification measurements was as described earlier — riding right over islands in the middle of the road, but not using sidewalks or other surfaces off the edges of the paved roadway.

One of my priorities, while on the course with Bill, was to check the precise locations of the 1987 starting lines. My interest had been sparked by the inclusion of an incorrect course certificate in the packet sent by the Bloomsday people to TACSTATS — they sent a 1985 certificate which was no longer valid due to a 1986 recertification. The 1986 recertification was really just a minor adjustment: the course got slightly shortened by construction between roughly the 3.0 km and 3.5 km points, so all three starting lines were pulled back a short distance (2.37 meters) to compensate for that shortening. As it turns out, our remeasurement would have found the course to be adequately long even if they were still using the 1985 start, but I wanted to make sure they were using the current certification.

Based on the marks Bill and I found on the ground, it seems clear that the starts on Riverside Ave and Sprague Ave used the correct points as recertified in 1986. In both these cases, we saw clearly-visible paint at the correct 1986 positions, while the 1985 positions were marked only by nails without any visible paint (or just barely-visible traces of old paint). The situation was less clear at the Main Ave start, where we saw visible paint at the 1985 position, and no visible markings at the recertified 1986 position. But then Bill noticed markings on the curb suggesting that the starting-line tape put down by the city was at the correct 1986 position. Re-checks of the Riverside and Sprague starts revealed similar remnants of the starting-line tape at the correct 1986 positions.

I therefore feel quite sure that the Riverside and Sprague starts were held at the positions required by the latest certification. It is likely that the Main Ave start was also at the correct position, but I'm less sure of this. In any case, since the radio procedure used at the Sprague and Main starts was not acceptable for record purposes (and we therefore did not remeasure the courses starting from Sprague Ave and Main Ave), all that matters for this validation is that the Riverside Ave start was at the correct point.

While driving around the course, Bill and I were also scouting out a likely location for a short on-site calibration course, since the cal course used for the original certification measurements (804.672 meters in length) was about a 10 km drive from the race course start/finish area, so using it would significantly increase the time required for the Sunday morning remeasurement. The best candidate for a new short cal course seemed to be a stretch of Broadway within a kilometer of the race Finish, in front of the County Courthouse.

After Bill and I returned from the course (It was now past 4 PM Saturday afternoon), Wally Egger and I went back to the Broadway portion of the course to actually lay out a short cal course. Wally observed that instead of using Broadway itself, we'd get a still better (less trafficked) course by using College Ave, which runs parallel to Broadway but is one block farther South (thus, still closer to the start/finish area of the race course). We selected a 300-meter stretch, free of parked cars, alongside the south curb of College Ave, with the East end of this course adjacent to the Public Health building.

Wally and I laid out this 300-meter cal course using the 50-meter surveyor's tape that I have previously used for many other calibration courses. We measured the course twice, with a difference of just 2.5 millimeters between the two tapings. We applied tension of 50 newtons maintained by spring balance, and our measured pavement temperature (both before and after taping) was 10.5°C. Based on the calculations in the *Steel Taping Data Sheet* from the TAC Course Measurement Procedures manual, we had:

Raw laid out distance (first measurement):	300.0000 m
Check of laid out distance (second measurement):	299.9975 m
Average Raw (uncorrected) Measurement:	299.99875 m

Temperature Correction:

$$\begin{aligned}\text{Correction factor} &= 1.0000000 + (0.0000116 \times [10.5 - 20.0]) \\ &= 1.0000000 + (-0.0001102) \\ &= 0.9998898\end{aligned}$$

Corrected Measurement of the Course:

$$0.9998898 \times 299.99875 \text{ m} = 299.96569 \text{ m}$$

In accordance with these results, we added 0.034 m = 34 mm to our raw laid-out course so that the corrected distance of the final adjusted course would be 300.000 meters.

After we finished laying out the cal course, Wally deposited me at my room in the Sheraton-Spokane Hotel, which the Bloomsday Association had kindly arranged for me. Wally also left me with a VCR and three videotapes: two from the finish line, and one from an intermediate checkpoint on the course. I then spent Saturday evening in my hotel room, looking at Wally's tapes and making phone calls.

One of my phone calls was to Mike Renner, to make final plans for the Sunday morning remeasurement. During this conversation, Mike raised important questions about the methods used for starting the runners at the three starting lines. Mike's observations eventually led me to realize that two of the three starts (Sprague Ave and Main Ave) could not be considered valid for record purposes because of the remote radio method used for those starts. Consequently there was no need to remeasure all three courses, as only the course starting on Riverside Ave could be eligible for records. But before conclusively arriving at that decision, I made a few more phone calls: I checked with Chief Starter Tom Jones to verify the radio system used for the remote starts. And I checked with Wally Egger again to verify that all official watches were indeed started at the Riverside start (not remotely), and that the people starting them knew to start the watches when the runners broke.

On Sunday morning, October 18, Mike met me at the hotel (which is just a few blocks from the race start/finish area), and we rode our bikes to the temporary cal course laid out the previous afternoon. We arrived at the cal course at about 8:30 AM, but found a slight problem: Additional parked cars had materialized overnight, positioned so that the course Wally and I had laid out was not directly usable.

To solve this problem, Mike and I did a variant of the "swing offset" method described in the May 1985 issue of *Measurement News*, shifting the course sideways to a line 2.6 meters from the curb, where we could ride without running into parked cars. We were then ready to start calibrating by 9 AM, and we started the actual race course measurement at 9:45 AM.

The first few kilometers of the course, starting in downtown Spokane and continuing through residential areas, were slow going, requiring numerous offsets around parked cars. The mid-portion of the course, which is more rural, went faster. But there we found we were taking our lives in our

hands, riding tangents through big sweeping curves, as Sunday traffic was picking up. Happily, we both emerged intact.

We spent a considerable amount of time at one intersection, from 2nd Ave to Government Way, about 3.5 km into the course. This intersection is at the crest of a hill, so a great deal of sighting was required to determine the shortest path through that area. This is one place where a runner could conceivably save a lot of distance by using sidewalks. I had already decided that we would measure the same sort of path as in the original certification (i.e., in the street), but we were sorely tempted to cut this corner using the sidewalk. Finally, I decided that if we were to cut some corners on the sidewalks, while measuring others in the street, we'd have a ridiculously confused measurement, so we stayed with the original strategy. (Note: I later learned from race director Sylvia Quinn that a sound truck parked at this particular corner during the 1987 race made it physically impossible for runners to cut this corner.)

There was a potential problem at a bridge across the Spokane River, on Fort George Wright Drive just before the turn onto Pettet Drive, where some construction barricades (which had not been present during the race) were blocking the shortest path through the area. Fortunately, no construction had yet taken place (i.e., the roads were all still intact), so we needed only move a few barricades a little bit in order to measure the desired path.

The results of our measurement closely confirmed the original certification measurements by Mike Renner and Bill Johnson. I'll discuss the numerical results in some detail in the next section of this report.

On Sunday afternoon, after checking the calculations several times, I did some careful examination of Wally Egger's videotapes. These didn't contain as much coverage of the running of the race as I really wanted to see, so I paid a visit to race director Sylvia Quinn who has a videotape of the race coverage provided by a local TV station. I'll discuss what I learned from all four videotapes in a later section of this report.

In an attempt to avoid any rush when leaving Spokane, I had scheduled my departure for Monday morning, at which time I was driven to the airport by Sylvia Quinn. The first leg of the trip, from Spokane to Salt Lake City, went smoothly. But then, my connecting flight from Salt Lake City was cancelled because of a mechanical problem, and I had to spend more than 6 hours extra in Salt Lake City. (At least, I got out of the airport and saw a little bit of Salt Lake City, where I had never been before.) I finally arrived home at 3 AM Tuesday morning. Presumably, the difficulties in my trip home were not related to the stock market crash taking place at the same time.

ANALYSIS OF THE DATA

I have enclosed computer printouts and a "Knight Diagram" comparing the measurements done by Mike Renner and myself on Oct 18, 1987 with the original certification measurements done by Mike Renner and Bill Johnson on April 14, 1985. One slight problem in such a comparison is that the course remeasured by Mike and myself in 1987 isn't *exactly* the course certified in 1985, as construction altered the course between the 1985 and 1986 races, and the course was adjusted and recertified in 1986 to compensate for that cons-

truction. But the 1986 adjustment was small (2.37 meters), and I assume it was substantially correct.

A "Knight Diagram" (concept due to California measurer Tom Knight) represents each measurement of a course, not by a single number, but by a range of values graphically displaying one of the sources of uncertainty in the measurement, namely the uncertainty due to variations between different rides of the calibration course. Thus, each measurement is represented by plotting five points, obtained by calculating the measured distance using five different combinations of the pre-measurement and post-measurement calibration data.

The enclosed Knight diagram shows nearly identical ranges for Mike Renner's 1985 and 1987 measurements. My own measurement of 87/10/18 is plotted with a smaller range of values than Mike's (indicating that my tires didn't undergo as much thermal expansion during the measurement), but the range shown for my measurement lines up roughly with the center of the ranges plotted for Mike's two measurements. Bill Johnson's 1985 measurement has a larger range of values than Mike's (indicating more tire expansion), and is shifted somewhat to the right, indicating that Bill didn't ride the course quite as tightly.

Of the five points plotted for each measurement on the Knight Diagram, the "A" point (based on the *Average* of the Pre-cal and Re-cal constants) is considered the official result of a Validation. In particular, my "A" value of **12 020.53 meters** is the official result of the present validation. But the "A" value from Mike Renner's 1985 measurement, at 12020.63 m, was almost exactly the same. And the "A" point Mike obtained while riding with me during the present validation (12018.74 m) was also extremely close, differing from my measurement by only 1.79 m, or less than 1/6000 of the race distance. Mike may have ridden the course a little bit tighter than I rode it (or than he rode it himself back in 1985), as would be expected due to greater familiarity with the course.

Examination of Mike's 1985 measurement, as plotted on the Knight diagram, illustrates the various "safety factors" used in the original certification. The "P" point from Mike's 85/04/14 measurement is at 12012.03 meters. That's because, in the 1985 certification, Mike and Bill specifically adjusted the course so that Mike's measured distance, calculated using his *Larger Constant*, would be 12012 meters (i.e., the advertised race distance of 12000 m, plus the standard "short course prevention factor" of 1/1000 of the race distance). The *Larger Constant* technique consists of performing final adjustments on the basis of *either* the Pre-cal constant *or* Re-cal constant, whichever is *larger*; this is equivalent to picking either the "P" point or "R" point of the Knight diagram, whichever indicates the course to be *shorter*. (For measurements done in the morning, this is usually the "P" point.) The 8.6 m difference between Mike's "P" point and "A" point in the 1985 measurement shows that using the Larger Constant method added an extra 8.6 m to the course (as compared with using the older *Average Constant* method).

Thus, the safety factors used in the 1985 certification included: 12 meters derived from the standard "short course prevention factor," and 8.6 meters from using the "larger constant" method. In addition, a third safety factor was obtained by using Mike's rather than Bill's measurement (since Mike

rode the course more tightly). Such safety factors are required when certifying a course to help insure that if the course ever needs to be validated, the remeasurement will find the course at least the advertised race distance, in spite of any random or systematic differences between the original certification measurements and the remeasurement (especially if the validator rides the course more tightly than the original measurer). The present case was remarkable in that my measurement agreed so closely with Mike's that the safety factors used in the original certification showed up *nearly exactly* in my remeasurement!

In connection with the Knight diagram, I ought to comment that in most other cases where somebody has drawn a Knight diagram comparing several measurements, all the measurements plotted on one diagram have been done using the *same calibration course*. In the present case, the 1985 measurements were done using the North Assembly Street cal course (length 804.672 meters), while the 1987 measurements were done using the temporary 300 m cal course on College Ave laid out by Wally Egger and myself. The close agreement between the 1985 and 1987 measurements verifies that our system is working as it should; i.e. the results are independent of the particular cal course employed. It also verifies that a short 300 m cal course can give equivalent results to a longer one, when used by skilled measurers.

In addition to the enclosed Knight diagram, which shows how the various measurements compared in their determinations of the *full course distance*, I have also enclosed computer printouts showing the results of each measurement for *every sub-interval* of the course. All distances on these printouts (even for the 1985 certification measurements) have been calculated by the algorithm used for *validation* measurements; thus, they correspond to the "A" points on the Knight diagram. It should also be noted that the calculations of interval distances from the 1985 certification measurements were based not only on the 1985 bicycle data, but also take account of the final adjustment done for the 1985 certification, as well as the later adjustment performed for the 1986 recertification. (See footnotes on enclosed sheet.) Of course, the sheet for the 1987 validation displays data for a 5 km split, not shown on the sheet for the 1985 measurements, since this split was first laid out during the present validation.

Examination of the enclosed computer printouts reveals generally excellent agreement (within a few meters) for all intermediate points, except for the "Merge Spr & Riv" point, which appears to be about 10 meters closer to the Start according to the 1987 measurements than the 1985 measurements. This was supposed to be the point where the courses starting on Sprague Ave and Riverside Ave merge together. The precise location of this point is *not* described in the documentation from the 1985 certification. And when Bill Johnson and I were scouting out the course on Saturday afternoon, we could not find any leftover paint from the mark used in the original certification, so we tried to reconstruct it as best we could from detail maps drawn in 1985. Evidently, our reconstruction was off by around 10 meters.

LESSONS FROM VIDEOTAPES

As mentioned previously, I watched four videotapes from the race. These provided some additional evidence (apart from the testimony of race officials such as Bill Johnson) that the race was started and finished at the correct

points. The tapes also provided some information on corner-cutting, although I would have liked to see still more photographic evidence on this question.

The three tapes from Wally Egger included two from the Finish line, and one from an intermediate checkpoint. Of the two finish tapes, one was obviously shot by a more experienced camera operator than the other. Surprisingly, it was the *less* professionally shot tape that I found of greater value: In this tape, the field of view bounced around all over the Finish line area, occasionally showing the landmark (a light pole on the corner) used for describing the Finish in the certification papers. This verified that the Finish was set up correctly in accordance with the course certification.

The *most* interesting of Wally's three tapes was the checkpoint tape, which showed the runners rounding a corner (intersection of Government Way and Fort George Wright Drive, about 5.5 km into the race). This was a corner where runners could shortcut the measured path by hopping a curb and running across the (unpaved but apparently firm) surface to the inside of the curve. I observed that roughly the first 230 runners around this corner were all running in the road, as the course had been measured. Then runners started cutting the corner, sporadically at first, but with greater and greater frequency as the runner density built toward peak levels.

What conclusions should be drawn from this observation? The TAC *Course Measurement Procedures* manual states that (page 13): "The race course is defined by the shortest possible route a runner could take and not be disqualified." Considering that runners were allowed to cut corners and were not disqualified, it could be argued that such corner-cutting is part of the legal running route, so the course should be measured that way. Nevertheless, I did *not* remeasure along such a path; I measured the shortest route staying within the paved roadway, just as the course was originally measured for certification.

I'm not sure whether my choice was correct according to a strict interpretation of the rules, but I still think it was a very reasonable choice. I knew that if I measured a path taking many more shortcuts than the path measured for certification, I would very likely find the course short, thereby denying records to a great many runners who did run properly within the paved roadway as the course had been measured for certification.

By the way, if the corner shown in Wally's checkpoint tape is typical of other corners where shortcutting could have occurred, it seems quite likely that none of the runners being considered for records actually engaged in such shortcutting. Recall that in the tape, I counted about 230 runners before I saw the first corner-cutter. While a few of the potential record-setters may have finished later than 230th place, I should mention two other observations I made while watching the tape; namely, that (1) none of the early corner-cutters were women, and (2) none of the early corner-cutters were wearing the white-backed numbers given to "seeded" runners.

In a large race like Bloomsday, it's definitely a different race for the front-runners than for runners back in the pack. While those back in the pack can cut corners without getting disqualified, a front-runner who does the same thing just *might* get disqualified (assuming that other runners see him

and complain). I don't know whether any such incidents have occurred in races, but it does seem conceivable.

In this connection, it's interesting to note that although the modern emphasis in course certification is to measure the shortest route available to *any* runner in the race, an application form used until recently by certifiers in some parts of the country (and possibly *still* used by some) asked the question: "Was the measuring route identical to the shortest route that can be permitted to be run by the winner of the race?" The modern emphasis (on the path of *any* runner) probably does better at preventing certification of short courses, but this older question acknowledges that the race winner may be subjected to a different standard than runners back in the pack.

An ideal race course would be measured along a path that the front-runners *will* run, and that *nobody* in the race can possibly shortcut. One way to accomplish this is by measuring the shortest path within the paved roadway (where the front-runners normally run), and by then erecting *barricades* preventing anybody from cutting corners using sidewalks or similar off-road surfaces. The impracticality of doing this in a race the size of Bloomsday is illustrated by a story Sylvia Quinn told me while I watched the 4th videotape (i.e. the TV coverage tape):

As I noted when I described the course measurement, Mike and I observed that at the corner of 2nd Ave and Government Way, a runner could save a fair amount of distance by using sidewalks. Sylvia said it was physically impossible for runners to cut this particular corner in the 1987 race, because they were blocked from doing so by a sound truck parked on the sidewalk. But Sylvia *also* told me that race officials received *complaints* from runners, saying they didn't have enough running room because of this parked truck. The moral is that when you've got 50 000+ runners in a race, you need to provide every possible square meter of running space, including any available sidewalks!

Regarding the 4th videotape (of the race coverage broadcast by a local TV station), it actually contained relatively few shots of runners on the course, consisting instead largely of commentary and interviews (to say nothing of commercials). Thus, it did not provide any information on corner-cutting beyond what I already knew from Wally's checkpoint tape. But it did contain a few items of interest:

One example was an aerial shot of the wheelchair start, showing that the wheelchair racers were started from the correct spot on Riverside Ave. Assuming that the runners started at the same place as the wheelchair racers, this provides extra evidence that the start was in the right place. Another interesting item in this tape was a shot showing some of the lead runners running over a center-island on Pettet Drive, just after the turn from Fort George Wright Drive. This verifies that it was correct to measure right over center-islands, as was done in both the original certification and the validation.

ACKNOWLEDGMENTS

I would like to thank Sylvia Quinn, Wally Egger, Bill Johnson, and the other members of the Bloomsday Association for their complete cooperation with

this validation. I am also very grateful to the Bloomsday Association for providing my hotel room in Spokane (which was certainly not required, as the cost of this validation is otherwise being paid by TAC).

I enjoyed measuring with Mike Renner, and was thoroughly impressed by his skill as a measurer, and by his astuteness in raising questions about the method used for starting the race. For these reasons, and also for his good work as a certifier during the past year, I have promoted Mike to the position of Final Signatory, which means that he now has the authority to sign Measurement Certificates without getting my countersignature on each one.

Sincerely,

Bob Baumel

Bob Baumel

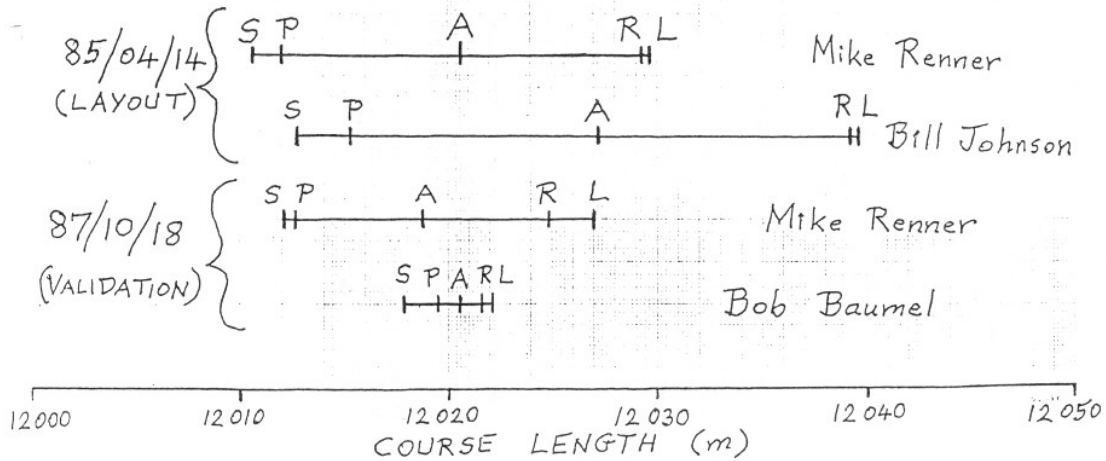
cc:

TACSTATS — 7745 SW 138 Terrace — Miami, FL 33158
Sylvia Quinn — P.O. Box 1511 — Spokane, WA 99210
Mike Renner — East 1605 19th Ave — Spokane, WA 99203
Don Kardong — 1081 Paulsen Bldg — Spokane, WA 99201
Pete Riegel — 3354 Kirkham Road — Columbus, OH 43221

KNIGHT DIAGRAM

Renner (1985): S = 12010.65, P = 12012.03, A = 12020.63, R = 12029.24, L = 12029.63 m
 Johnson (1985): S = 12012.72, P = 12015.28, A = 12027.21, R = 12039.17, L = 12039.57 m
 Renner (1987): S = 12012.10, P = 12012.63, A = 12018.74, R = 12024.85, L = 12026.88 m
 Baumel (1987): S = 12017.85, P = 12019.46, A = 12020.53, R = 12021.60, L = 12022.14 m

KEY: S = Shortest Distance (from Highest cal ride), P = Distance from Precal,
 A = Dist from Avg Precal & Recal, R = Dist from Recal, L = Longest Dist (Lowest cal ride).



**COMPARATIVE MEASUREMENTS OF THE
KAPIOLANI PARK ONE MILE RACE COURSE —
HONOLULU, HAWAII**

		MEASURED DISTANCE	PERCENT DIFFERENCE
<u>9-27-87</u>			
PETE RIEGEL	USA	1.001	0
ANDY GALLOWAY	NEW ZEALAND	1.00286	0.19
JIM MOBERLY	USA	1.00440	0.34
<u>12-7-87</u>			
NICK BROOKE	HONG KONG	1.00185	0.08
DR ZHAO	PEOPLE'S REPUBLIC OF CHINA	1.00194	0.09

In the early part of the week preceding the Honolulu Marathon AIMS conducted a short seminar in course measurement. As a part of this seminar two new members of the AIMS organization, Nick Brooke (Hong Kong AAA, China Coast Marathon) and Dr. Zhao (Beijing Marathon) got to try themselves at bicycle measurement. They were given unfamiliar bikes and shown the 1000 foot calibration course that Pete Riegel laid out in Kapiolani Park as part of the Honolulu Marathon measurement. The measured course was a one-mile course laid out at the same time as the marathon course, to be used in a post-marathon match race between Jim Ryun and Kip Keino.

The original layout of the one-mile was flawed by imperfect agreement because all of the three participants were glad to be done with the marathon ride and two rode quite wide on the single turn in the one-mile course.

Nonetheless, in spite of unfamiliar bikes and a language barrier the measurements were accomplished. Translation for Dr. Zhao was done by Huang Yayan of China Sports Service Co. Ms Huang learned several measurement terms not in her vocabulary during the course of the work.

It would be premature to draw any sweepingly optimistic conclusions from this tiny measurement, but nonetheless it is a good start. The more we ride together the better we will get.

MULTIPLE NAMES FOR SAME COURSE?

Cedric Jagers wrote, in November "Running Journal", of a race that was using the TAC Certified course of another race. The race turned out to be too long because they didn't follow the proper route.

Kevin Lucas sent me the clipping, along with the marginal note "This is one reason each race using a course should have its own certificate".

I replied to Kevin with "What they really need is a map to follow. Why recertify the whole thing under another name? How does that help? No new course is generated. I can't see that it does any harm to do it, but I'd hate to see it become a national RRTC policy. We'd be in a position of becoming sort of a national policeman over race courses. Not entirely bad, perhaps, except that we lack the manpower to do it effectively. And nothing is lamer than a law that is not enforced.

I think a course should be known primarily by its ID number, and used for as many races as it can (assuming the original measurer doesn't sue the next user). Just as a single track is used for many track meets. You don't rename a track for each meet, why do it for roads?"

This came up at the TAC Convention, and we reached no strong conclusion. At present it is my view that we in RRTC are sort of like the U. S. Patent Office. Anybody can write for a patent document and get all sorts of good technical dope for a very low price. If he then does the wrong thing with it, a lawsuit may ensue. But the Patent Office itself is not sued.

When people certify a course it is with the understanding that the course map and certificate become publicly-available documents. If they want to keep their course a secret, all they have to do is not certify it.

We could play our courses close to the vest, and let nobody have copies unless they show us they have good reason. This would, in effect, close our courses to public examination, which I hold to be a very bad thing. Everything we do should be able to stand public scrutiny. There are lots of ways to look at this. Any ideas out there?



**The
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National Governing Body for Athletics in the United States

December 17, 1987

Dr. LeRoy T. Walker
1108 Chowan Ave
Durham, NC 27713-1234

Dear Dr. Walker,

As a recipient of one of this year's President's Awards I wanted you to know that I greatly appreciate it. Although I consider myself already rewarded by the pleasure I get from the work it is still thrilling to be selected for public recognition. I thank you and those who assisted in my selection.

Like most of the recipients of such an award, I am helped in the work by a lot of people - in my case the members of the Road Running Technical Committee, the certifiers who check the measurements of all those road race courses. I am nominally at the head of the group, but all of us work hard.

On the flight back I was seated near Eulace Peacock, one of the Hall of Fame inductees. He was wearing his ring, and several people stopped by during the flight and personally congratulated him. He was beaming with pleasure.

I talked with one of the people who congratulated him, and they said that seeing that award, and the way he reacted to it, and his little grandson, was the most moving moment they had ever experienced in sport.

Eulace himself said of the occasion "There I was, crying like a baby, and my grandson was cool as a cucumber".

Thanks again.

Best regards,

Please reply to:
PETER S. RIEGEL, Chairman
Road Running Technical Committee
3354 Kirkham Road
Columbus, OH 43221
(614) 424-4009 Office
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