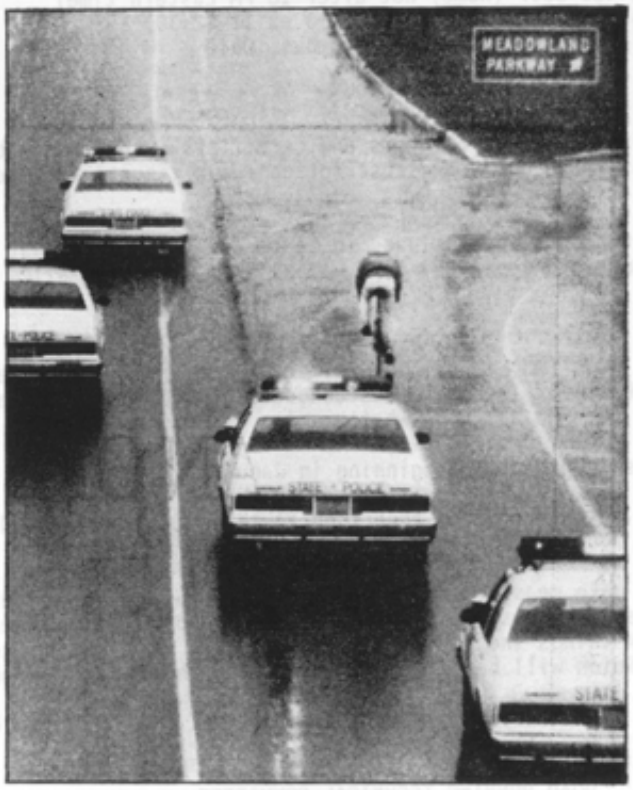
MEASUREMENT NEWS

July 1989 Issue #36



Journal photo by M. Kathleen Kelly

Dan Brannen, the course designer of the New Jersey Waterfront Marathon, is escorted by four State Police cruisers yesterday morning as he pedals his way up a rain-soaked Route 3 in Secaucus, calibrating the course from Kennedy Boulevard in Union City and North Bergen to Giants Stadium in East Rutherford.

THE JERSEY JOURNAL, TUESDAY, APRIL 4, 1989

RRTC's Dan Brannen is:

- Secretary-General, International Association of Ultrarunners
- Chairman, Ultrarunning Subcommittee, TAC/USA
- NJ State Certifier, RRTC
- Executive Director, "Pain Zone 6 Day Ultradistance Run"
- Technical Director, New Jersey Waterfront Marathon
- Co-Director, Garden State Racetimers
- Contributing Editor, Running Times Magazine
- Associate Director of Logistics/Operations, Events Management, Inc.
- Correspondent, Ultrarunning Magazine
- Mens' LDR Vice-Chairman and Trustee, New Jersey TAC
- TAC/USA National Committee Memberships: -Men's LDR Championships
  -Records Committee

Read more about Dan inside!

MEASUREMENT NEWS

#36 - July 1989

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JOHN SISSALA HONORED BY RRCA

John Sissala, RRTC's Maryland certifier and TACSTATS' Maryland record keeper, has held just about every job it's possible to hold in his club. He's worked like a bear for years and years. No longer an unsung hero, John was awarded the 1988 Nike/RRCA Rod Steele Memorial Award for outstanding club volunteer at the Road Runners Club of America Convention on June 10. Well done, John!

NEW APPOINTMENTS

Amy Morss has been appointed Certifier for New York State. Amy was one of the team that measured the 1988 Women's Olympic Marathon Trials course in Pittsburgh. Welcome, Amy.

PRICE INCREASE FOR JONES COUNTERS

The price for a Jones counter is now $40 ($45 for overseas). See the letter from Bill Noel in this issue.

AGENDA ITEMS SOUGHT

Please send in items you think should be discussed at the RRTC meetings at the TAC Convention. One item will surely be drop and separation, and how they relate to record keeping. Tom Knight sent in his own suggestion. You may have some ideas too. By planning ahead we can do a better job of allocating the time available, as well as letting ourselves know what to expect when we get to the meeting.

INTERNATIONAL MEASUREMENT

In this issue you will see some material from Mike Tomlins, AAA (Great Britain) Course Measurement Secretary. It shows the good progress they are making in England. Also, John Disley sent a report of the recent IAAF measurement seminar he organized in Poland. In conjunction with the latter, Ted Paulin, head of AIMS Technical Committee, met with Lennart Julin, John Disley, and Pete Riegel. We sat down and discussed the international measurement book that's being drafted. Some tentative conclusions reached on international methods were:

1) A short course prevention factor of 1 meter per kilometer will be used.

2) The average constant will be used.

PHILOSPHER TAKES RACE COURSE DESIGN IN STRIDE

By John Watson

Dan Brannen earned a degree in philosphy from Bucknell University in 1975 so he measures and designs road race courses for a living. What else do you do with a philosophy degree?

Brannen designed the new and yet-to-be tested New Jersey Waterfront Marathon course. He says he has been working on the course "full-time since January and full-time plus since mid-March."

He was given the job of making sure the course would produce faster finishing times while starting at the George Washington Bridge and still precisely measuring 26.2 miles. The measurement has to be exact because the marathon will be the Athletics Congress national championship race.

With the start and finish predetermined by the New Jersey Sports and Exposition Authority — the race's new prime sponsor — Brannen says, "I didn't really have much to do with the course. My priority was minimizing headaches for the municipalities."

The idea of starting the race at the bridge was not Brannen's. He says it was the start the state's race organizers wanted from the inception four marathons ago. Moving the finish line to Giants Stadium was the prerogative of the new sponsor which also operated the facility.

Brannen's job was to fit 26.2 miles in between and get as many of them as possible in Jersey City. It was a sop to compensate for the loss of the start and finish in Liberty State Park. Brannen managed to get 5.5 miles in Jersey City — the most miles of any municipality on the course.

His biggest task was making sure the distance was exact. When measuring the route, measurements had to be taken precisely one foot away from the permanent boundaries of the course. In the highly urbanized areas of Hudson and Bergen counties, where cars are permanent fixtures, the measurements were sometimes taken from the edge of their parking spaces.

The distance has to be certified with a specially calibrated bicycle wheel. Brannen had to bike the course at least twice — once he was biking in the middle of a rainstorm. As the official course certifier for New Jersey, his reputation would be ruined if the course were found to be off. He usually is the one who tells race directors throughout the state if their courses are up to muster.

Photo by Scott Lauchy

Dan Brannen, technical director of the New Jersey Waterfront Marathon, has the bearded look of a philosopher.

Brannen, 35, isn't just a technician. He is also a runner — a marathoner — and ultramarathoner. He and his wife Joyce Hayes completed the Boston Marathon earlier this month. He finished fifth in the LaRochelle Six-day race in France and covered 468 miles.

He says he graduated from college in 1975 in the midst of the running boom and got interested in the behind-the-scenes work. He became a volunteer, moved to Bergen County, married in 1985 and started directing races. Soon after, the state's official road race certifier retired and Brannen was given the non-salaried post. He is also a contributing editor to *Running Times* magazine.

"Now that he's an old married man, he doesn't get to run so much," said his wife, Hayes. "He has to pay the bills."

Tom Fleming, a former marathon superstar and one of the best-known running authorities in the state, has criticized Brannen's new course. After testing the route in his car, he says it's not going to be faster and says the hills come at the worst possible part of the race.

Brannen listened to a retelling of the criticism of the handiwork that has kept him working long hours and away from his wife for extended periods. He thought about it for a second and responded, "I don't share that opinion."

Philosophers don't get riled too easily.

Founded 1880

Amateur Athletic Association

Incorporated in 1948 as a company limited by guarantee Registered in London No. 457808 V.A.T. No. 232 1733 00

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Telephone: 01-828 9326 Telex: 942601 BAAB

Facsimile: 01-630 6328

From: MIKE TOMLINS,
AAA Course Measurement Secretary

56 Squires Lane,
Finchley,
London, N3 2AP.

Tel: [01] 349 0234.

10th March 1989.

TO: MEMBERS OF THE AAA COURSE MEASUREMENT WORKING PARTY
& ALL AREA COURSE MEASUREMENT SECRETARIES/CO-ORDINATORS

Dear

I am pleased to be able to bring you up to date with developments on course measurement, following our meeting on 29th October last, and the recommendations made by the Working Party to the AAA Road Running Committee.

Firstly, I enclose for your retention the full report of the Working Party's meeting, together with our recommendations. This was put together by our Chairman, John Disley, with help from Richard Smith and myself.

Richard duly presented the report to the AAA Road Running Committee last month, where the recommendations were largely accepted.

Max Coleby had previously produced the promised 'mock up' of the proposed advertisement on the AAA Course Measurement Scheme, which we were requesting the AAA to fund. The AAA Road Running Committee agreed to support this request to the extent of taking space by way of a full page advertisement in both Athletics Weekly and Athletics Today, and a positive response from the AAA's F&GP Committee is expected shortly. We therefore hope to run the advertisements in late March/early April.

There was just one small amendment to our original suggested wording - we had recommended that with effect from 1st January 1990, all road races run under the AAA permit scheme declaring an exact distance must have a measurement certificate to gain a permit. Although the AAA Road Running Committee fully support this principle, it was thought that because some parts of the country still don't have enough measurers in place to deal with the increase in measuring activity that would result from such a ruling, a compromise wording should be adopted for the immediate future.

A copy of the proposed advertisement is enclosed. You will see under items (1) and (2) that our recommendations have been accepted. ALL NATIONAL, AREA AND COUNTY ROAD RACE CHAMPIONSHIP EVENTS IN ENGLAND AND WALES MUST HAVE THEIR DISTANCES CERTIFIED BY AN AAA APPROVED COURSE MEASURER WITH IMMEDIATE EFFECT. This also applies to races included in the STAR*RANK "HOT 100" SERIES, and Area

and Area.....

Measurement Secretaries/Co-Ordinators are asked to ensure that 1) their respective Areas publicise this ruling down to County level, and 2) the organisers of any "Hot 100" road races in the Area which have not already been certified are put in touch with the most convenient AAA approved measurer.

Under item (3), you will see that the amended wording reads that with effect from 1st January 1990, Area Permit Secretaries will be authorised to refuse a permit to any race which advertises a specific distance, if that distance has not been certified by an AAA approved measurer. We accept this compromise. Where there are sufficient measurers available, the Area Permit Secretaries will insist on a certification, but where availability is a problem, they will retain discretion to waive the requirement for the time being.

You will also see the introduction of our new logo, for which we are most grateful to the good offices of Paul Hodgson. I think we should all 'push' this logo to assist with familiarisation of the principle of 'certified' courses. I suggest that local measurers should hold stocks of the logo, and once they are satisfied that the course is correct, pass over a copy to the race organiser with the request he incorporates the logo in his race advertisments and other material. I intend to ask the AAA to follow up the propsed full page advertisment with another smaller one a month or so later, showing our new logo, followed by wording along the lines: RACE ORGANISERS, DOES YOUR EVENT QUALIFY TO DISPLAY THIS LOGO? YOU OWE IT TO THE ENTRANTS IN YOUR RACE TO ENSURE THE ADVERTISED DISTANCE IS CERTIFIED AS ACCURATE, AND SOON THIS WILL BECOME MANDATORY. YOU CAN OBTAIN A CERTIFICATE OF ACCURACY FOR YOUR COURSE BY CONTACTING etc. etc.

Finally, I enclose copies of the current list of AAA Accredited Course Measurers, which I have just completed updating. Please take copies as appropriate and pass to all interested parties. I am hoping to arrange for the AAA to distribute copies of the list along with our advertisment on the AAA Course Measurement Scheme to all race organisers and club secretaries through existing mail-out channels.

Please feed-back these developments to the measurers operating under your Area control - I think they should be aware of the various efforts being made to advance the cause of accurate course measurement - and also feel free to use any of the enclosed material for any publicity initiatives you may wish to arrange locally.

Keep up the good work.

Best wishes,

Yours sincerely,

Mike Tomlins,
AAA Course Measurement Secretary.

REPORT ON AAA COURSE MEASUREMENT WORKING PARTY MEETING HELD AT KENNEDY HOTEL, LONDON, SATURDAY 29TH OCTOBER 1988

Present: John Disley, Chairman, AAA Course Measurement Working Party
Mike Tomlins, Secretary/AAA Course Measurement Co-Ordinator
Max Coleby, Member AAA Course Measurement Working Party
Jack Selby, Member AAA Course Measurement Working Party
Stuart Holdsworth, Course Measurement Secretary, Midlands AAA
Paul Hodgson, Course Measurement Co-Ordinator, Northern AA
Richard Smith, Course Measurement Secretary, Southern AA
Dave Dodwell, Course Measurement Secretary, Welsh AAA

The meeting was called to review and discuss progress in the Measurement field in England and Wales, and to propose plans for improvements and consolidation of the road measurement procedures.

1. PROGRESS IN THE AREAS

Members reported on the recognition and support given to measurement by the administrations in the areas represented at the meeting.

In general sufficient support was given in every area except the Northern Counties, who still seemed rather unsympathetic to the needs of measurers and the importance of the process of registration of certified courses. A further NCAA training seminar, however, had now been sanctioned and would take place at Teeside Airport on 13th/16th November.

The South and Midlands were solidly commited to measuring and certification and both had continued to fund training courses for measurers and the secretarial aspects of certification.

Currently there were 47 accredited measurers in the SCAA, 16 in the MCAAA (both these figures reflecting the uplift in numbers from the autumn 1988 seminars), the Welsh AAA 8, and the NCAA 20, although this latter figure should increase by around 10 following the forthcoming seminar at Teeside. This will mean that the number of accredited measurers countrywide is now around 100, although not all of them are currently active. Reasonable geographical cover is now in place in the Midlands and Southern areas, although the Northern representative expressed his continuing concern about the uneven distribution of measurers in his area. All areas recognised the need to train more measurers and continue to expand the scheme.

Members listed the support that they were now receiving:

Measurement Seminar costs
Administrative expenses for Area Secretaries/Co-Ordinators
Travelling expenses to appropriate meetings
Jones Counters
Measurers Fluorescent Jackets (SCAA)
AAA Insurance cover for Measurers per AAA block officials insurance

2. REFINING THE PRESENT PROCESS OF MEASUREMENT REPORTING

Members discussed various aspects of technical procedures, which included:

Documentation: It was considered desirable to adpot a common set of report forms throughout the four areas, and for the Midlands system to be universally adopted whereby a Certificate of Course Accuracy is valid for one year only, but can be renewed without remeasurement if the organiser confirms in writing that the course is unchanged.

Members also considered there was room for improvement with regard to certain of the report forms. The Data Sheet in particular needs revision, with more space allocated for the 'Site/location' column, and provision also needs to be made on the Summary Form for the Name and Address of the Race Organiser/Director.

It was agreed that Measurers, in addition to providing copies of their reports to their Area Measurement Secretaries and the RRC, should also send a copy to the Race Organiser. This should help to provide continuity of measurement information if different persons take over the organisation of the event in subsequent years.

Calibration Figures: A discussion took place on pre-measurement calibration ride figures and the 'short course prevention factor' of 1.001. A consensus agreed the desirability of using the s.c.p.f. but this should be based on the average of the four calibration rides. Obvious 'rogue' figures should be discarded and replaced by another ride. The average should then be multiplied by 1.001, with 'rounding up' being preferable to 'rounding down'. The resultant figure will be the 'working constant'.

3. PUBLICITY OF THE MEASUREMENT FACILITY

Members discussed the best way to ensure that race organisers understand the importance of proper measurement. There was a feeling that the existance of the AAA Measurement Scheme still needed to be publicised more effectively.

a) The original policy/recommendation of the Working Party of linking measurement certification with the granting of the Permit was still regarded as the proper way of ensuring that all races that advertised their precise distance, eg The Wrekin 10 Miles, or the Thomas Cook Charity 10 kilometres, were in fact accurately measured and certificated as such by an approved appropriate grade AAA measurer. Some areas are moving towards this concept.

b) It was unanimously agreed that fresh publicity should be undertaken, linked to the soon to be announced STAR*RANK scheme. The three elements of the STAR*RANK scheme (Standards, Records and Rankings) will all operate on the basis of accepting only performances made on certified courses, and the 'Hot 100' races must include certification as a prerequisite of inclusion on the list. The group strongly recommended that the AAA fund an advertisement in the major running magazines explaining the function of measurement in race preparation, including the point that only performances on properly measured courses will qualify for STAR*RANK. Max Coleby offered to draft such an advertisement.

c) A 'logo' should be designed to identify certification - a seal of approval that race organisers could use to decorate their event adverts to show that their was certified as accurately measured.

4. MEASUREMENT CERTIFICATION FOR 'PERMIT' EVENTS

Members agreed that we were now very close to having enough measurers to press for implementation of the original policy of 'no permit without a certificate of course accuracy', meaning that race organisers without course certification would not be allowed to advertise their events as being of a specific distance.

With some recruiting (further training seminars during 1989), and the proper use of the existing corps of measurers, members agreed that it was now feasible to recommend to the AAARRC that the following criteria should be adopted:

By 1st January 1989 - All courses for National, Area & County Road and Road Relay Championship events must be certificated.

By 1st January 1990 - All other road races run under the AAA Permit Scheme that declare an exact distance must have a measurement certificate to gain a permit.

5. TRAINING AND GRADING OF MEASURERS

The expansion of the AAA Measurement Scheme highlighted the continuing need to train more measurers. Advertisements should be placed and further seminars organised to train and subsequently accredit new measurers. Each Area should hold at least one training seminar per year designed to recruit, train and accredit Grade 2 Measurers to measure events for which AAA permits are granted at Area level.

Discussion then took place on the subject of upgrading the proficient Grade 2 Measurers to Grade 1 status. One option would be for the AAA to fund an annual seminar for the purpose of upgrading existing Grade 2 Measurers to Grade 1 where appropriate. However, after considering the matter, members proposed the following:

Area Measurement Secretaries, through the constant monitoring of reports and other data submitted by their measurers, identify suitable candidates for possible upgrading to Grade 1 status. Then, either they, or another existing Grade 1 measurer, visit one of the candidates' previously measured courses, armed with the appropriate paperwork, and checks the validity of the measurement. If this is found to be totally satisfactory, the paperwork, together with a recommendation from the Area Measurement Secretary or the Grade 1 measurer concerned, will be sent to the AAA Course Measurement Working Party Chairman for final approval.

The problem of apparently 'inactive' measurers was then discussed. It was agreed that approved measurers should be expected to measure at least 12 courses per year, with a figure of 5 or 6 per year considered marginal. Certainly, anything less must call into doubt the measurers continued official status. Area Measurement Secretaries should contact those measurers under their control who are submitting no or very few reports to ascertain whether they are no longer prepared to do the work, or are just not receiving assignments. Those no longer interested, should be deleted from our lists and, where their Jones Counters have been provided by the Areas, asked to return the equipment.

The AAA Course Measurement Secretary confirmed that, following the final 1988 training seminar at Teeside, he would update the full list of AAA approved measurers and distribute copies to all interested parties.

6. MEASUREMENT EXPENSES

Members discussed the out-of-pocket expenses associated with measuring assignments - measuring is not similar to other AAA official duties which are usually connected with officiating at actual athletic events. Although measurers are sometimes involved in actual race day activities (eg. checking that the course used by the runners is identical to the one measured), measurers do most of their work at unsocial times and frequently are required to travel long distances to carry out their work.

It was recommended that the following expenses be paid by the race organiser for the services of an AAA approved measurer:

Travel expenses, as previously, of 20p per mile (usually car miles as a cycle has to be transported), or equivalent rail fare if appropriate.

Meals as necessary during assignment, and overnight accommodation costs if appropriate - measurement of a marathon can take five to eight hours.

7. PRODUCTION OF MEASURERS' MATERIAL

One of the original recommendations of the Working Party was for the AAA to fund the production of a Course Measurers Handbook, and members agreed that this should be done. The AAA should also be asked to fund the production of a twice-yearly Measurement Newsletter, listing measurers, certifications and also serving to update measurers on changes and refinements to rules and measurement techniques. No specific timescales were set concerning the above.

8. A.O.B. - AIMS/IAAF PANEL OF MEASURERS

The Chairman agreed the need to add to the number of UK measurers currently on the AIMS/IAAF measuring panel. There is the intention to hold an international measuring seminar in Poland in May 1989, and members were also told that the AAA RRC had agreed to provide certain funds to assist with the organisation of a further international measuring seminar in England, at which it was hoped it would be possible to approve 5 or 6 more UK measurers for the AIMS/IAAF list. Only experienced measurers holding a current passport, who are both willing and able to undertake international assignments would be considered.

1st January 1989. JD/MT/RS

SUMMARY OF MEETING'S RECOMMENDATIONS TO AAA RRC:

1. That the AAA sanction and fund fresh publicity for the AAA Course Measurement Scheme in all the major athletic journals, stressing the importance of accurate measurement by AAA approved measurers in race preparation. The advertisements should be linked to the STAR*RANK scheme, making the clear point that only performances achieved on properly measured courses will qualify for STAR*RANK standards, records and rankings. This advertisement should be placed as soon as possible in accordance with the draft submitted by Max Coleby on behalf of the Working Party.

2. That the AAA approve the use of a new 'logo' to be used in respect of events that have been certified as accurate by an approved AAA measurer.

3. That with effect from 1st January 1989, all courses for National, Area and County Road and Road Relay Championship events must be certificated. (Viz. a certificate of course accuracy obtained following the measurement of the course by an approved Grade 1 measurer in the case of National Championships, and an approved Grade 1/2 measurer in the case of Area and County Championships).

   That with effect from 1st January 1990, all other road races run under the AAA Permit Scheme that declare an exact distance must have a measurement certificate to gain a permit.

4. That the AAA fund an annual seminar for the purpose of upgrading measurers to Grade 1 status, and/or approve the arrangements described above whereby candidates' work is checked by an existing Grade 1 measurer, with final approval by the Chairman of the Course Measurement Working Party (JD).

5. That the AAA fund production of a Course Measurers Handbook and a twice-yearly Newsletter, as previously described.

6. That the AAA provide funds to assist towards the expenses of those UK measurers who are invited to attend the forthcoming international measuring seminar with a view to becoming AIMS/IAAF approved measurers.

AN IMPORTANT ANNOUNCEMENT FROM THE AMATEUR ATHLETIC ASSOCIATION

TO ALL ROAD RACE ORGANISERS

At a recent meeting of the AAA's Road Running Committee, the following recommendations of the Course Measurement Working Party were approved:

(1) With IMMEDIATE effect, all road race Championship events in England and Wales must have the stated distance certified by an AAA approved course measurer. This ruling applies to Championships at NATIONAL, AREA and COUNTY levels. Failure to do so could invalidate the race as a Championship event and will certainly jeopardise its standing.

(2) All races included in the STAR*RANK scheme "Hot 100" series must have the distance certified correct by an AAA approved course measurer. Failure to do so could result in the race ceasing to be included in the STAR*RANK scheme. Rankings, records and best performance lists will be based only on courses certified accurate.

(3) With effect from 1st January 1990, Area Permit Secretaries will be authorised to refuse a permit to any race which advertises a specific distance, when that distance has not been certified correct by an AAA approved course measurer. The only exception will be when a race makes no claim as to a correct distance - e.g. Burslem Town Centre Race, Hammersmith River Run etc. Basically, race organisers must state clearly whether or not their race is of a specific certified distance before a permit is issued.

(4) Once a course is certified as correct, the race will be issued with a certificate of course accuracy. This will be valid for one year, but can be renewed without remeasurement if the organiser confirms in writing that the course is unchanged. In order to ensure that no changes are made to the course between the date of measurement and the date of the race, any race found to be below distance by a retrospective measurement, will have all performances in that race invalidated for the STAR*RANK scheme and will not be eligible for inclusion in any United Kingdom or all-time road best performance list.

For information as to how you can obtain a certificate of accuracy for your course, contact the relevant Area Course Measurement Secretary, as follows:

N.C.A.A.
Paul Hodgson,
29 Rookhope,
Rickelton,
Washington,
Tyne & Wear,
NE38 9HW.

M.C.A.A.A.
Stuart Holdsworth,
3 Malling Avenue,
Broughton Astley,
Nr. Leicester,
LE9 6QS.

S.C.A.A.
Richard Smith,
48 Heythorp Street,
London, SW18 5BN.
(Mar 20 - Jun 5:
Dave Bendy,
The Patch,
Pemswell Road,
Minehead, Somerset)

WELSH A.A.A.
Dave Dodwell,
10A Pencoedtre Road,
Cadoxton,
Barry,
South Glamorgan,
CF6 7SD.

Along with a certificate of course accuracy, you will also be provided with a 'logo', which you can incorporate in your race advertisements and race literature (see below), which indicates to entrants that your event is "Certified Accurate".

Anyone interested in training as a course measurer, is also invited to contact the appropriate Area Measurement Secretary for details of forthcoming training seminars.

STAR RANK

A.A.A. R.R.C.
CERTIFIED ACCURATE

AMATEUR ATHLETIC ASSOCIATION

New York Road Runners Club, Inc.
Organizer of the New York City Marathon
9 East 89th Street • New York, NY 10128 • (212) 860-4455
TELEX: 238093 NYRR UR • FAX: (212) 860-9754

8 May 1989

TO: Pete Riegel - TAC/RRTC
Phil Stewart - RRM
All Other Concerned Parties

SUBJECT: Jones Counter Price Increase

FROM: Bill Noel

Due to a 52.7% increase in raw material costs within the last year, the price of the vaunted JONES COUNTER is being increased to $40 ($45 for foreign air mail). This price increase is effective immediately.

Please dessiminate this price increase as promptly and as widely as possible.

Thank you!

Mr. Arthur E. Hass
2120 Golf Course Drive
Reston, VA 22091

13 June 1989

Dear Mr. Hass:

I am responding to the post script contained in your Jones Device order of 7 June.

Your contention that our price increases defy logic and that "we are milking the hard working course measurers for all they are worth" are off set by the realities of the situation.

The Club purchased the business from Clain Jones in mid 1982. At that time, he was selling the counters for $15, twice what you claim to have paid only a year earlier. The Club's position was, and continues to be, that the production of this device is something that we do as a service to the sport. Financially, we have held the price far longer than pure econmics would have dictated, and I doubt that we break even on them at $40 each in as much as we incurred raw materials price increases of 52.7% in the last year alone. Of course, the costs of postage, shipping materials, labor, carrying costs of raw materials and finished goods inventory have also increased a bit since 1981. While it is true thata 24% annual increase appears to be excessive, the realities are that the actual costs of producing the device and servicing "the industry" have increased at an even greater rate.

I hope that the foregoing gives you greater understanding of the Jones Counter business and convinces you that we are not ripping off "the hard working course measurers". I know, I'm one of them.

Your price increases defy logic. In 1981 I bought my first Clain Jones counter for $7.00. If my government salary had kept pace with the 24 percent annual increase you are charging, I would currently be making over $225,000 a year. You people are milking the hard working course measurers for all they are worth!!

Sincerely,

Bill Noel

The Athletics Congress of the USA

The Governing Body for Athletics in the United States including Track and Field, Long Distance Running and Race Walking for men and women and boys and girls at all age levels.

SALLY H. NICOLL
3535 Gleneagles Drive
Augusta, Georgia 30907
(404) 860-0712

May 7, 1989

Peter S. Riegel
3354 Kirkham Road
Columbus, Ohio 43221

Dear Pete,

Just received the May '89 issue of Measurement News and am enjoying "digesting" it. I am curious about an item on the tables appearing on Page 4 regarding measurers.

On the list of those who have measured 10 or more courses I find **D. White** with **24**. I know **Doug White of Newark, Delaware** and **Danny White of Marion, South Carolina**. On the listing I operate from I observe the following curiosity:

Courses Measured By:	Doug White	Danny White
	DE88001WN	SC88010BS
	DE88002WN	SC88014BS
	DE88003WN	SC88017BS
	DE88004WN	SC88018BS
	DE88005WN	SC88021BS
	DE88007WN	SC88025BS
	DE88008WN	SC88026BS
	DE88009WN	SC88033BS
	DE88010WN	SC88034BS
	DE88011WN	Total 9
	DE88012WN	
	DE88013WN	
	PA88003WN	
	PA88004WN	
	Total 14	

This would be a total for "persons designated **D. White**" of 23 courses - one off from your measurer - though I may have missed a course somewhere. Has the computer possibly played a trick on you and created a measurer or is there somewhere yet another member of the **White Clan** who has exceeded all others and measured 24 courses in 1988?

Fondly,

Curious Sally

Sally H. Nicoll

THE ATHLETICS CONGRESS
OF THE USA

Road Running Technical Committee
Peter S. Riegel, Chairman

3354 Kirkham Road
Columbus, OH 43221
614-451-5617 (home)
614-424-4009 (office)
telex 245454 Battelle

May 11, 1989

Sally Nicoll - 3535 Gleneagles Dr - Augusta, GA 30907

Dear Sally,

You put your finger on it exactly! In the instance of the Doug and Danny White case of combined measuring credit, THE COMPUTER MADE A MISTAKE! I scrupulously employed every analytical tool at my command, yet the mixup still occurred!

Examination of the course list reveals that the situation is as you described it in your letter of May 7. There was no single White who measured 24 courses. Could this have been a simple miscount by the MN Editor? Perhaps, but another, certainly more plausible, reason may exist.

The crafty and unprincipled use of similar names by these two measurers has been noted. It may be too early to determine whether a conspiracy is involved, but the possibility cannot be lightly dismissed. You may be sure RRTC's investigative arm will get to the bottom of this matter. This serious situation is not being taken lightly.

In addition to being alerted to the White situation, we are keeping an eagle eye on Jim Smith of Oklahoma. Any future occurrence of a "J Smith" in the list of non-Oklahoma courses can only be the result of collusion. It is too much to believe that another such duplication could be a mere coincidence.

High-level discussions are under way to try to find a solution to the threat to accuracy this case represents. Measurers in future may be identified by their Social Security numbers or dental records. Or we may require some to change their names. This small sacrifice by a few should eliminate future cases of deliberate deception, and make it more difficult for scheming measurers to attempt to obtain undeserved credit by misuse of their names.

In the meantime, you may consider the MN Editor as corrected. Until blame is properly fixed, I will assume responsibility for the mistake.

Gratefully yours,

PS - I have been told that Willard Nicoll, a traveling salesman, has become an avid measurer, and that he has recently submitted courses in 38 states for certification. I know Wayne will be happy to welcome this prolific new talent to our number.

921 Bath
Ann Arbor, MI
48103

Dear Pete,

Your request for a way to measure Central Park may be moot if the problem were addressed for the '89 Trevira Twosome. In your description of the path runners are supposed to take in the Park, you don't say how they are confined to the recreational lane. If there aren't any cones or course monitors, then we ought to measure the course along the shortest possible route.

If there are cones, then the measurer should require the race director to place course monitors at all points where runners can cut tangents. If after the race it's discovered that some runners cut the course with the cones in place, then no records should be allowed unless TV can prove a potential record setter ran the correct path. Later, the race director should be appraised that a repeat where runners cut the course will result in no records for anybody and the certification is lost.

Your query is really a political football. Having been in NYC for the past two Ekiden Relays and watched action in the Park during the races, I see no reason the NYRRC isn't allowed to use the entire roadway. I would recommend the NYRRC lobby for use of the entire roadway.

Incidentally, now that I know the Park layout, I don't understand why the NYC marathon passes over that grassy patch just past Columbus Circle, about ½ mile from the finish. They cross the grass to, among other things, avoid a hairpin turn. They could enter the Park half a block earlier and make the necessary adjustment out on the course.

6/17

Best,

Scott Hubbard

THE ATHLETICS CONGRESS
OF THE USA

Road Running Technical Committee
Peter S. Riegel, Chairman

3354 Kirkham Road
Columbus, OH 43221
614-451-5617 (home)
614-424-4009 (office)
telex 245454 Battelle

June 22, 1989

Scott Hubbard - 921 Bath - Ann Arbor, MI 48103

Dear Scott,

NYRRC has taken more than its share of flak over the years for the way they race in Central Park, and I'm sure they are familiar with the points you made.

I would bet dollars to doughnuts they've tried to obtain permission to use the whole road, but getting even half a road in Central Park is quite a coup. The road runners are not the only people who want to use the road, and NYRRC cannot realistically expect the general public to be kept off the park roadways, especially since they have NYRRC races almost every weekend. Most of their races involve NYRRC members, and most are New Yorkers who are familiar with the legal route. These people might have some objection to their 10k being 200 meters oversize, just so short-cutters won't ruin record possibilities.

As a recreational runner, I know I would prefer a course that is proper length, since I myself observe course restrictions. I wonder what a poll of NYRRC members would discover?

When a race gets huge we know the runners will spill out beyond the boundaries. At what point this should cause records to be disallowed is not clear to me. The early miles in any large race have runners everywhere, because the back-of-the-packers simply have no room to run, and fill the space available. Usually any shortcutting they do is negated by the fact that they don't have the running room to develop the speed they'd like to run.

The big-time races of NYRRC are only the tip of an enormous iceberg of races they administer. They're doing a superb job of providing sport for their members. Sometimes this gets forgotten when we see the few imperfections.

The easiest technical answer to Central Park is to obtain the use of the whole road for every race, and measure that way. But this may not be realistic politically. NYRRC has to survive as a part of the New York City environment, and if, on occasion, this causes problems in race administration, it may be simply a price they have to pay.

I didn't intend the map of Central Park as a criticism of NYRRC, but only as an example of a knotty problem they have - balancing the needs of a running club with the needs of the general public.

Best regards,

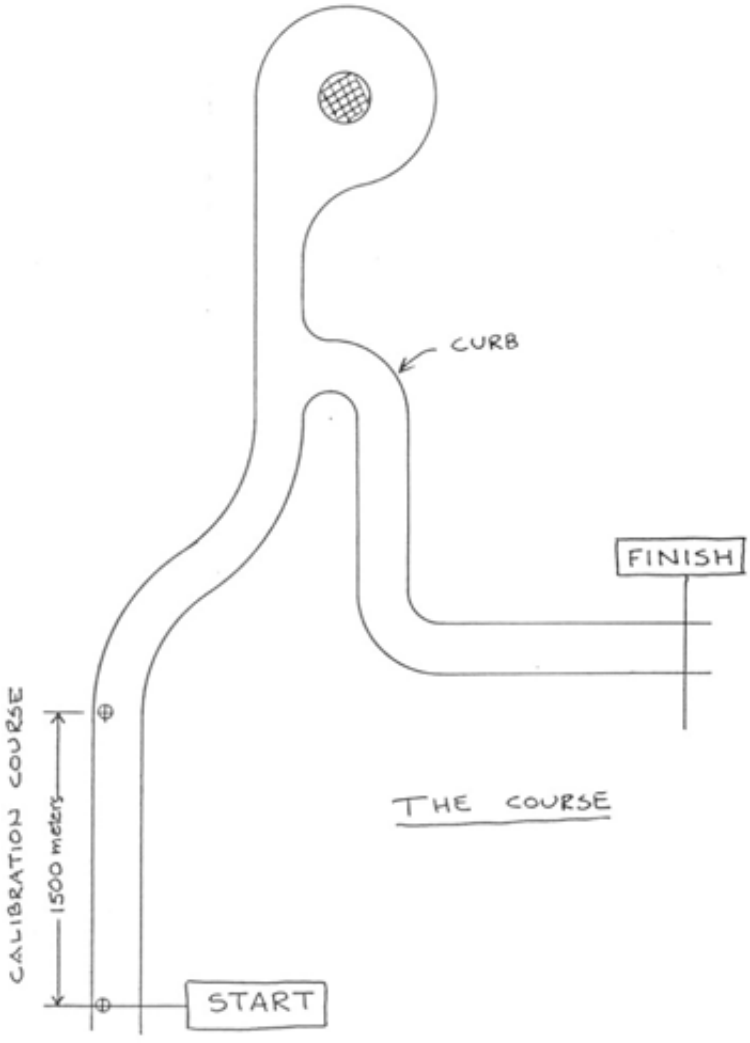
Pete

PUZZLE PAGE

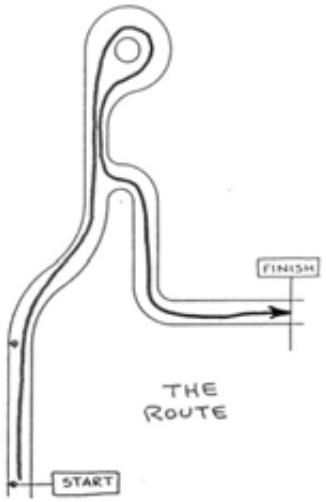
The Ant Amble Fitness Footrace

You have received a very odd course for certification. The fitness-crazed queen of a hill of fire ants wishes to hold a competition for her subjects, to determine who is fittest. She sends you not just the course map, but the course itself! She then claims it has a certain length, based on measurements she made using a very small bicycle. She even had a surveyor lay out a 1500 meter (ant meters are smaller) calibration course, and encloses a document attesting that the calibration course is indeed 1500 ant meters long.

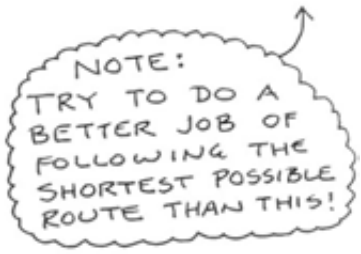
You are skeptical, so you check. How long is the course? Best answer gets a race t-shirt from the Rio Marathon, size large, pre-owned.



THE COURSE



THE ROUTE



R E P O R T

I.A.A.F. ROAD MEASUREMENT SEMINAR - WARSAW, POLAND

Friday, 14th - 21st May, 1989

This was the first seminar to be held on the technique of road running course measurement to be held in Eastern Europe and was organised by the members of the Cross Country and Road Running Commission of the Polish Athletic Federation led by Vice Chairman Henryk Paskal. The Director of the Seminar was John Disley from London, an Approved International Amateur Athletic Federation and Association of International Marathon's Road Course Measurer:

The seminar was financed by the I.A.A.F. and the pre-administration dealt with by Mike Gee in the I.A.A.F. London office.

Objective

The objective of the seminar was to introduce the "new" technique of road course measurement using the Bicycle/Jones Counter Method, to the National Athletic Federations of Eastern Europe.

Invitations

Invitations were sent to Poland, U.S.S.R., East Germany, Hungary, Czechoslovakia, Bulgaria and Rumania. Acceptances were received from Poland, Hungary, Czechoslovakia and Bulgaria. *See Appendix 1 for list of members.

Staff

Seminar Director	-	John Disley	(London U.K.)
	-	Lennant Julin	(Stockholm Sweden)
	-	Peter Riegel	(T.A.C. - U.S.A.)
	-	Ted Paulin	(Melbourne, Australia)

Venue

The Physical Education & Sports College, Warsaw, 3 miles from City Centre.

The Seminar

After the opening by Mr Jan Moulak - Chairman, Technical Committee of the Polish Athletic Federation, the three days were spent in alternating practical sessions with discussions and lectures. The venue was ideal for this format with the opportunities to ride bikes on the traffic free campus immediately outside the lecture room.

Facilities

The Polish members of the Road Race Commission - Henryk Paskal and Tadeusz Dziekonski, had provided all the facilities and equipment. This included 16 new bicycles - all the same model, which greatly helped the running of the seminar. Their organisation of accommodation and meals was also excellent. The 'students' stayed at the Sports Centre and the staff in the Forum Hotel in the centre of Warsaw.

Communication

The seminar was conducted in English and this was effective because there was at least one English speaking representative from all of the attending countries. Occasionally explanations were expanded in German. In any case, measurement is a very practical subject and involves figures which are universally understood.

Duration

The amount of time available was sufficient for explaining and practising the Jones Counter/Bicycle methods - providing that the students were already familiar with the problems of road-course measurement.

Achievement

The staff were very pleased by the progress made during the week-end. This progress was directly related to the previous knowledge of the students and their ability to ride a bike with total confidence.

The Polish group of four were excellent and only needed more practice in actual course measurement to become totally proficient.

The Hungarians went away with all the skills and understanding but will need more practice before they become as confident as the Poles. Maria Vekerdy could become Europe's first women A.I.M.S/I.A.A.F. measurer.

The Czechs had good understanding of the principles but there must be doubts if either of them will do more than pass-on the skills of measuring to colleagues who will have more time and direct interest in road running.

Our Bulgarian participated without complaint, although they were surprised by the practical nature of the seminar and re-found cycle riding as a fatiguing pursuit in their middle-age. Again I think that they understood the principles of the new measurement system but in my opinion they personally are unlikely to set-out for a 42km bike ride. I suppose it will now depend on the students and discipline of the Bulgarian Athletic Federation. If they wish to capitalise of the I.A.A.F.'s initiative then the opportunity is there but they will need to de-brief Kojuchovov and Paounov promptly before their new found skills are forgotten.

It is regrettable that neither the U.S.S.R or the D.D.R responded to the invitation as this would have made the seminar really worthwhile. Maybe a seminar could be organised in the future if delegates from these countries are definitely involved.

As it is left now - our Polish measurer wants I.A.A.F./A.I.M.S. measurers to come to Poland later this year and certificate a course in Torun - Lennart Jalin is looking at the possibilities, and the Hungarian have invited John Disley to the Budapest Marathon next October.

So progress had definitely been made and the gospel of the Bicycle/Jones Counter spread within East Europe. There are now 14 Jones Counters waiting to be used in earnest in this area - the seed is planted.

Our thanks to the I.A.A.F. and Mike Gee for setting-up and financing the seminar.

John Disley

Programme

Friday, 19th May

13.00	Lunch
14.00	Opening of Seminar - Welcome by Mr. Jan Moulak, Chairman of Technical Committee, Polish Athletic Federation.
	Supported by Mr Zbiznef Kenskivitch (General Secretary).
14.15	Introduction by John Disley.
14.30	Meet the Jones Counter and Bicycles. Practical session on bicycles on athletic track.
16.00	Lay-out calibration course in College grounds - 500m. Practice steel-taping.
16.45	Calibration videos.
18.00	Dinner

Saturday, 20th May

09.00 Discussion on Calibration and Measurement - basic principles.

09.30 Calibration.

10.15 Shortest possible route - lecture.

11.00 Practice course measurement.

12.45 Re-calibration

13.30 Lunch

14.30 Discussion of figures - pre and post calibration.

15.30 Lay-out of course practice - Area A.

18.00 Dinner

Sunday, 21st May

09.00 Shortest possible route - discussion continued.

10.00 Calibration.

10.30 Lecture - Short-Course prevention factor.

11.00 Course lay-out practice - Area B

12.00 Re-calibration videos.

12.45 Assessment of pre and post figures for calibration - how they effect lay-out and measurement of a course.

13.30 Lunch

14.30 Lecture - Practice problems in measurement.

15.30 Practice videos in streets with obstructions etc. Area C.

16.30 Final Discussion.

17.00 Seminar Close.

5/9/89

Dear Pete:

I received my latest MN today and noticed you published some of my car odometer readings. I think maybe you missed something in my numbers. If you'll look again at the odometer reaading for the "mile" between (I belive) milepost 218 and 219, you'll find that "my anomaly beats your anomaly."

In case you no longer have all of the figures, this particular "mile" measures approx .45 miles on the odo! I think your theory about the highway people starting to measure from two ends and meeting in the middle may or may not be correct, but the same thought occurred to me. Maybe someone in the measuring fraternity could tell us from personal experience whether or not that is correct.

A Jones counter on a motorcycle would probably be a better way to go for measuring ultra-long distances.

Best regards,

Mike Renner

June 13, 1989

Michael Renner - 1605 East 19th Ave - Spokane, WA 99203

Dear Mike,

I'm sorry to be so late in answering your note of 5/9/89. When I was entering your data in the computer I didn't notice the discrepancy in mile 218-219. There was so much data that I decided to abbreviate it, so it did not get into the workup.

I'll publish your note in next MN, just to reinforce the idea that highway markers may not be as reliable as we think.

As for a Jones counter on a motorcycle, it would work OK if one could figure out a way to mount it, and kept the speed reasonable. As it stands, the Jones Counter is on the verge of exceeding the rated operating speed of the counter gizmo. 20 MPH is about the max allowable, as I recall, although some horrendous overspeeds haven't broken mine yet.

I once rigged up a Jones Counter on a truck when measuring the Midnight Sun Marathon course (CN 85092 PR) on Baffin Island. Used four 500 foot cal courses enroute on the 22 miles of dirt road. We drove slowly. Measurements agreed quite well. Wrote it up in a long-dead MN. It worked quite well, although there was no way to adhere to a strict SPR with the truck. Still, I defined the course where we measured it, and the distance came out to 41900 meters, not quite a marathon. No final adjustments were made. The number of monitors required would have exceeded the populations of Nanisivik and Arctic Bay, the only towns within 500 miles.

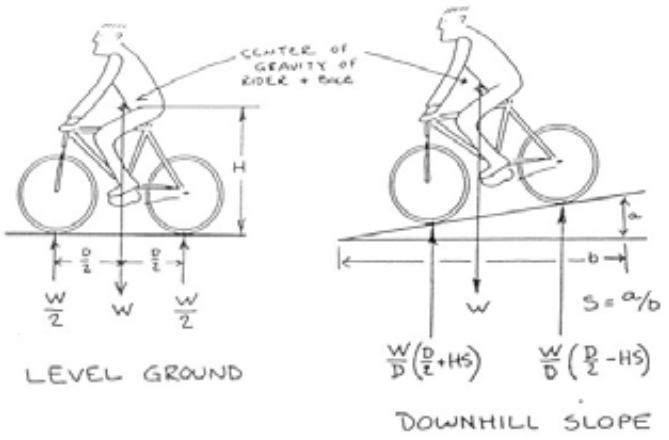
Best regards,

Pete

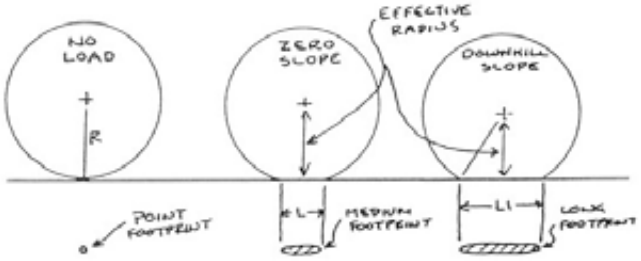
UPHILL VS DOWNHILL CALIBRATION AND RIDING

There is a difference between uphill and downhill riding. If you ride downhill, the weight of the rider is shifted to load the front wheel a bit more. This mashes it down a bit, reducing its radius. Thus you will get more counts riding downhill than uphill, over the same distance.

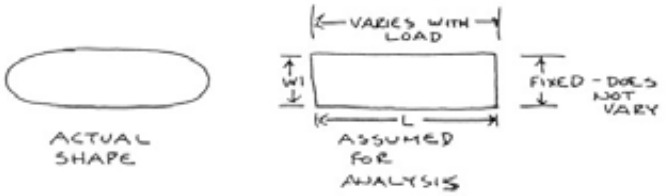
Below we have a rider on level ground and on a slope. The diagram shows how much weight is transferred to the front wheel by the incline.



Below we have some tire footprints. With no load the tire does not deform, thus rests on only a single small point. As load increases, the tire deforms more, until there is enough contact area for the internal pressure to balance the load. A light load deforms the tire a small amount, while a heavy load deforms it more.



Although the tire footprint is really an oval, that's a hard shape to analyze. In this analysis I've used a rectangle. I used 1/2 inch as the width of the rectangle, because that's about how big it is on common tires. The footprint grows more lengthwise with load than it does widthwise, because of tire geometry (more curvature across the tread than along it).



Refer to the above diagrams when reading the numerical analysis on the next page.

WEIGHT TRANSFER EFFECT ON A PNEUMATIC WHEEL

ASSUMED INITIAL CONDITIONS

WHEEL LOAD OF RIDER AND BIKE ASSUMED 50-50 ON LEVEL GROUND

W = COMBINED WEIGHT OF BIKE AND RIDER, LB =	180
D = SPAN BETWEEN WHEEL CENTERS, FEET =	4
H = HEIGHT OF CENTER OF GRAVITY OF BIKE AND RIDER, FT =	3.5
S = DOWNHILL SLOPE OF GROUND, M/M =	0.05
W1 = WIDTH OF CONTACT PATCH, INCHES =	0.5
P = TIRE PRESSURE, PSI =	80
R = RADIUS OF BIKE WHEEL AT ZERO LOAD, INCHES =	13.5

CALCULATED VALUES

FORCE = F = (W/D)*((D/2)+(H*S))

FORCE ON FRONT WHEEL AT ZERO SLOPE, LB =	90
F = FORCE ON FRONT WHEEL AT INDICATED SLOPE, LB =	97.875

LENGTH = L = F/(W1*P)

L = LENGTH OF CONTACT PATCH AT INDICATED SLOPE, IN =	2.446875
L1 = LENGTH OF CONTACT PATCH AT ZERO SLOPE, IN =	2.25

EFFECTIVE RADIUS = (R^2-(L/2)^2)^.5

EFFECTIVE RADIUS OF WHEEL AT ZERO SLOPE, INCHES =	13.45304
EFFECTIVE RADIUS OF WHEEL AT INDICATED SLOPE, INCHES =	13.44444

COUNTS/KM = 125319/(EFFECTIVE RADIUS)

COUNTS PER KILOMETER AT ZERO SLOPE =	9315.279

EFFECT OF VARYING SLOPE ON ABOVE CONDITIONS

SLOPE M/M	SLOPE M/KM	FRONT WHEEL FORCE, LB	LENGTH OF CONTACT PATCH, IN	WHEEL RADIUS,IN	COUNTS PER KM	2 WAY DIFFERENCE IN 1 KM COUNTS
0.000	0	90.0	2.25	13.4530	9315.28	0.0
0.005	5	90.8	2.27	13.4522	9315.85	1.1
0.010	10	91.6	2.29	13.4514	9316.43	2.3
0.015	15	92.4	2.31	13.4505	9317.01	3.5
0.020	20	93.2	2.33	13.4497	9317.60	4.6
0.025	25	93.9	2.35	13.4488	9318.19	5.8
0.030	30	94.7	2.37	13.4480	9318.79	7.0
0.035	35	95.5	2.39	13.4471	9319.39	8.2
0.040	40	96.3	2.41	13.4462	9320.00	9.4
0.045	45	97.1	2.43	13.4453	9320.62	10.7
0.050	50	97.9	2.45	13.4444	9321.23	11.9
0.055	55	98.7	2.47	13.4435	9321.86	13.2
0.060	60	99.5	2.49	13.4426	9322.49	14.4

If the foregoing assumptions and analysis are correct, there isn't much effect on calibration for uphill vs downhill. On a standard kilometer with a 20 meter drop, you would get about a 5 count difference between the uphill ride and the downhill ride. Calibration courses on steep hills are rare, but if you have one, and you have been scratching your head because you get more counts in one direction, scratch no more.

The net effect of uphill/downhill is small for all but the most extreme courses. One such extreme example is the St. George Marathon, which drops 19 meters per kilometer. If the measurer calibrated on a flat course, and measured the race course in a downhill direction, the course would wind up about 10 meters shorter than intended. If the measurer had enough energy to ride one of his measurements uphill, there would be a 20 meter disagreement between his rides, even if he rode perfectly and had no calibration change!

The same effect happens with wind. The more headwind, the less load on the front wheel, and thus fewer counts. In the absence of a real wind, the faster you ride, the fewer counts you get, because you are creating your own headwind. This partially cancels the hill effect, since one tends to ride faster on downhills.

I have noticed that I get a difference when calibrating on windy days. Have any readers had the same experience?

I may try riding slowly vs riding fast to see what difference it makes. If you decide to do any experimenting, be sure to let MN know how things come out.

We know a few things about the behavior of bike wheels. For the same distance traveled:

1) You will get more counts riding downhill than uphill.

2) You will get more counts with a tailwind than with a headwind.

3) You will get more counts on a rough surface than a smooth surface.

Fortunately, all of the above effects are well within our 0.1 percent SCPF, and we don't really have to worry about them.

MULTILINGUAL MEASURERS

Are you a measurer? Do you speak a language in addition to English? If you are fluent in another language, you may have a chance to help out as measurement spreads out around the world. At present IAAF is working toward the education of measurers around the world, and the biggest barrier we have is language.

Let Pete Riegel know if you have a second language. Nothing will happen right away, but it's possible that something exotic could become available.

USE OF CERTIFIED COURSES BY CLUBS

According to Footnotes, Summer 1989, Harold Tinsley, in Road Race Management, reported on a club survey. Thirty-eight clubs (average membership 567) responded, with results as follows:

"Ninety-two percent conduct an average of 77% of their races on certified courses, with 49% of those actually conducting 100% of their races on certified courses. Three-quarters of the clubs using certified courses have their own calibration courses and 72% of those have no restrictions on outsiders using them. Only 14% restricted others from using their certified race courses."

Pete, 5/19/89

I know that Benji Durden uses Adobe Illustrator in the MacIntosh to draw his maps. Wouldn't it be nice for us to have a special discussion and perhaps a demonstration of how computers are being used in certification work and map making at this year's TAC meeting?

Tom Knight

405 Curtis Court
Wayne, PA 19087
June 8, 1989

Peter S. Riegel
RRTC Chair
3354 Kirkham Rd.
Columbus, OH 43221

Dear Pete:

This response to your very thoughtful letter of March 30 is long overdue. I have reflected on your discussion and now have the benefit also of Bob Baumel's views as printed in the May issue of Measurement News. Over the past month I have also conversed by phone with Basil Honikman and Jack Moran.

I believe that primary motives among elite open or age-group runners in selecting a specific race can be found among the following:

1. Appearance or prize money are being offered;
2. The race has achieved high national ranking (top 25 or 75);
3. Race management is known to be competent;
4. The course is certified and the race is TAC sanctioned;
5. The course is beautiful or easy or tough as one desires;
6. The race is a highlight in the local racing scene.

Probably few runners select a race because that race meets record setting criteria. Certainly the popularity of Boston, New York, and Los Angeles marathons (as well as other point-to-point races such as Bay-to-Breakers) has NOT been dependent upon one's capability of setting a national record. Such races will continue to attract runners even if "point-to-point" records are eliminated because these races offer:

1. tradition;
2. prize money;
3. circuit points;
4. bonus dollars (connecting LA-Boston-NY wins).

The more I have thought about the issue, the more I object to the concept of dividing race courses into 3 categories as Bob Baumel so ably illustrated. You have well described that the present definition (2m/km drop and 10% sep) includes 87.4% of the present certified courses used in road racing.

I believe that I can be an advocate for the proposal to adjust the record-quality course definition to 1m/km drop and 30% separation which actually will increase the inclusion to 88.5% of certified road race courses (using your figures in May MN). Specific races would lose record status, while others would gain it; however, the overall increase in record-quality courses seems to me to be an argument in its favor.

I understand the technical work that Ken Young has done gives support to tightening the drop factor to 1m/km and encourages consideration of relaxing the separation factor to the 30% level. My conversation with Basil Honikman gave indication that he would favor such a redefinition; Bob Baumel's letter indicates his support of the idea; Jack Moran informed me he could support the concept; you seem to be open to simplifying the definition.

If we can get support in the LDR committees for such a redefinition, the sport should be enhanced. Thus, I summarize my position as:

1. Redefine record-quality courses as those meeting the limit of 1m/km drop and a maximum of 30% separation;
2. TACSTATS would maintain records ONLY for these record-quality courses;
3. Races using courses that fail to meet these standards would have to depend on the factors I listed earlier (tradition, money, points, bonuses) as their enticements which probably is what has been their motivators at the present time.

Thanks for the privilege of continuing the dialogue.

Sincerely,

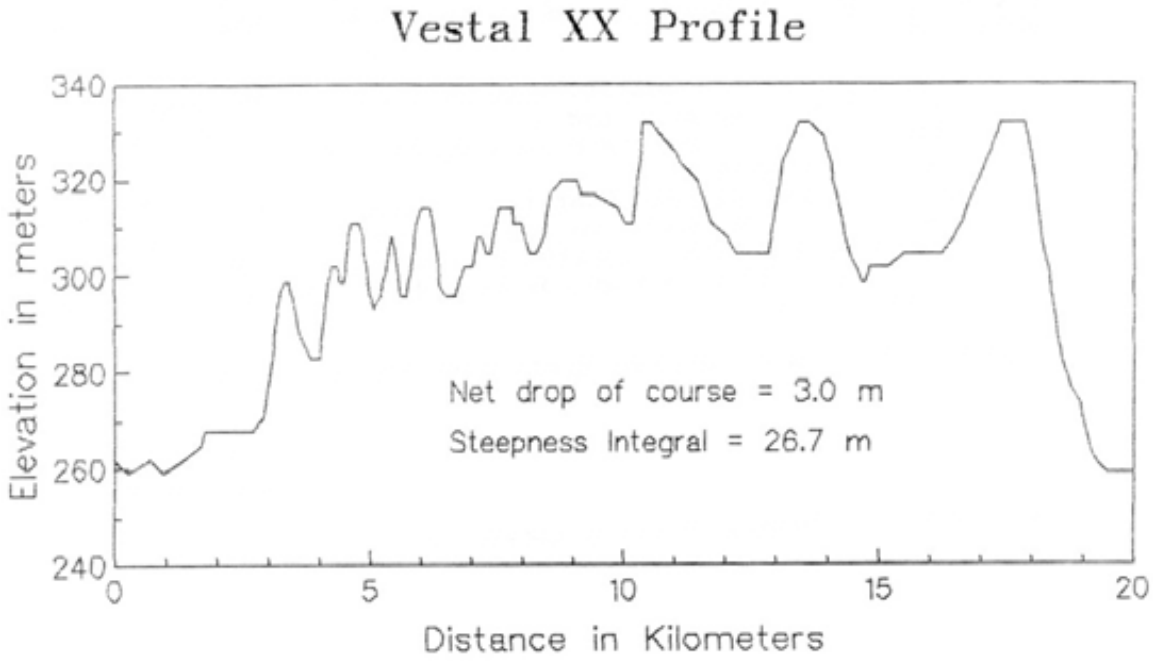
Norman M. Green Jr.

xc:TACSTATS, Baumel, Brannen, Moran, Young

Hill Effect to Second Order

by Alan Jones

I enjoyed Bob Baumel's article on second order effects of hills in the January 1989 issue of Measurement News. I had been thinking about this for some time but Bob actually came up with something workable that produces a figure of merit. Bob asked for data on other courses so I've complied. However, what a job! I spent an entire evening huddled over a 1:24000 topographic map. It's a good thing I'm near sighted. As Bob requested in the article, I've sent the data to him. Here is a plot of the course profile.



This course is just slightly downhill with the finish about 3 meters below the start. The start and finish are within one percent of each other. As can be seen, it is a tough course. The drop of 3 meters has the effect of shortening the course by (4.5 x 3) 13.5 meters according to Bob's formula using A = 4.5. The hills give a steepness integral of 26.7 meters which has the effect of lengthening the course by (B = 5) 133.5 meters. Therefore, the net effect is a lengthening of 120 meters. For various speeds, here are the expected slowing down:

Speed(minutes/km)	Speed(minutes/mile)	Slow down(seconds)
3:00	4:50	22
4:00	6:26	29
5:00	8:03	36

This is interesting since in 1978 I ran two 20 km races. One was the Vestal XX and the other was a rather flat (certified) course (Sun Run). My time on the Vestal XX course was 1:19:56 and my time on the Sun Run course was 1:19:25 -- a difference of 31 seconds at a speed of 4 minutes per kilometer! Pretty close agreement with Bob's theory!

Note from the graph that the first half is basically uphill and the second half basically downhill. During the Vestal XX race I got my time at the half-way mark. By taking the data and breaking the course in two, I find that the first half has an effective lengthening of 297 meters and the second half an effective shortening of 177 meters. Taking my average speed of 4 minutes/km this theory says my second half should be faster than the first by 1:53 whereas the second half was only 1:28 faster. I suppose my tiredness in the second half canceled some of the gain I should have seen.

We wouldn't expect each course to be analyzed for the steepness effect but I think, as Bob does, that this type of data is helpful in determining what to do about non-loop courses. I'm trying to get the topo maps for the Boston Marathon and do the same analysis. (Ugh -- 42 kilometers of data!) However, even if we were to determine that the steepness effect slows the course by more than the net drop shortens it, we still have to face the problem of the possible effect of a trailing wind.

Alan Jones
3717 Wildwood Drive
Endwell, NY 13760
607-754-2339

Revised version of part of a letter I sent all Western certifiers in Feb 88. – FROM BOB BAUMEL

Drop and Separation

A course's "Drop" is the net drop from Start to Finish in meters, divided by the course length in kilometers. For example, if a 10 km course starts at an altitude of 362 meters and finishes at an altitude of 344 meters, then its Drop is:

$$\frac{(362\text{ m} - 344\text{ m})}{10\text{ km}} = \frac{18\text{ m}}{10\text{ km}} = 1.8\text{ m/km}$$

The course's "Separation" is just the *Straight line distance between the start and finish* expressed as a percentage of the total course distance. Thus if the straight-line Start-Finish distance is 830 meters for a 10 km course, the Separation is:

$$\frac{830\text{ m}}{10\,000\text{ m}} \times 100\% = 8.3\%$$

The "Drop" and "Separation" figures **must** be calculated in the designated units (meters/km and percentage). This will usually be easiest if the "Altitude" and "Straight line distance between the start and finish" figures on the certificate have been written in meters. To help with conversions from English units, I have written an Appendix to this letter containing guidelines on conversions of units.

The "Drop" value is *negative* when the Finish is at a higher altitude than the Start. Please **do not** change the word "Drop" to alternatives such as "Rise" or "Climb" in such cases. Just leave the word "Drop" alone, and enter the negative value. Thus, for example, if a 5 km course starts at an elevation of 253 m, and finishes at 257 m, its "Drop" is −0.8 m/km.

When you enter **zero (0)** as the "Separation," this is a special code indicating that the course starts and finishes at **exactly** the same point. Such a course can be run repeatedly to cover multiples of the original course distance, and all such multiples are automatically considered certified. If the start and finish aren't *exactly* the same, then please enter a *non-zero* number as the "Separation" even if it's a very small number. For example, if the start and finish of a marathon are separated by only 4 meters, the Separation is 0.01%.

The Drop and Separation of a course determine the eligibility of that course for road-running **records** according to TAC Rule 185.5. (Note that the Drop and Separation are the *only* numbers determining record eligibility. Other numbers such as the optional "Total climb" figure that the measurer *may* provide you with, have no bearing on record status.) Currently, a course is eligible for records if its Drop does not exceed 2.0 m/km, and its Separation does not exceed 10%. Marks set on courses *not* meeting these criteria are listed separately as "point to point records, possibly aided by wind or slope."

There has been much discussion during the past few years about changing Rule 185.5. One possible change was proposed at the 1988 TAC Convention, and was not approved at that time, but was tabled so that the issue will be up for discussion again at the 1989 Convention. There could very likely be some change in the numerical value of the Drop and/or Separation limit, or in the interpretation of either figure. For more information, please refer to pages 6-21 and pages 43-45 of the May 1989 issue of Measurement News.

Association of International Marathons and Road Races

AIMS

sponsored by adidas

24 April 1989.

Dear Pete,

Just a quick note after my return from competing in the Lewis & Clark Trail Relay across Washington State and the Boston Marathon.

Believe it or not we (Hamilton's Ancient Flying Kiwis) won the Masters Division of the relay. Boston, I'd rather not talk about. 3:45 for me and never felt so terrible after a marathon. I think all of our team just didn't realise how much a race every day for eight days (as in the relay) would take out of us.

Whilst in L.A I visited a cycle shop and they had one solid tyre in stock - don't know what brand, cream in colour with two nylon cords around the inner perimeter. Looked very good and the shop is to try tio locate others and send me a price. In case you want to contact them - Henry Carstensen, BIKELAND, 1237 W Lincoln Avenue, Anaheim, CA 92805, Ph: (714) 535-1445.

John Disley had written to me about Helge. This brings up the matter of insurance and I'll take the matter up at the Board Meeting and with the IAAF.

Hope you are able to attend the IAAF/AIMS Course Seminar is Warsaw in May. I can't afford the time to go there after the Board Meeting in Istanbul so won't see you then. Maybe somewhere later in the year.

Best regards,

Andy Galloway
SECRETARY.

Secretary P.O. Box 10-106
Hamilton, New Zealand
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Telephone: (71) 493-369

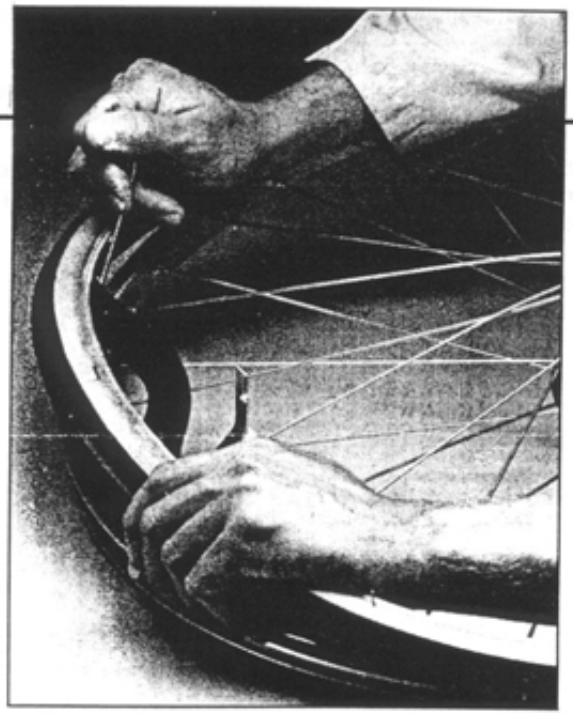
More on "No-Mor Flats" Tire Inserts

The Nov '88 Measurement News stated (incorrectly) that I had tried the "No-Mor Flats" inserts sold by Cyclo Mfg. Co and didn't like them. Let me point out first that I never actually *tried* a product of that name, but merely *heard* about them (from a bike shop proprietor who said they provided so little shock absorption that they often resulted in broken spokes). Secondly, the product I heard about from the bike shop proprietor (which was sold five or more years ago under a name similar to "No More Flats" although I don't recall the exact spelling) might *not* be the same product as is now being marketed by Cyclo Mfg. Co under the name "No-Mor Flats".

The product currently being sold as "No-Mor Flats" was recently discussed in *Consumer Reports* magazine (below). They didn't like it, but they reviewed it from the viewpoint of normal cyclists—not course measurers. In spite of its high rolling resistance and difficult installation (common to "Eliminators" and other products of this type), it may be a good measuring tire. Note that according to CU, it didn't reduce the bike's maneuverability or comfort. If interested, you might order one and check out its calibration consistency.

Bob Baumel

Foam-filled bike tires don't roll so merrily along



Serious, well-equipped bicyclists never venture forth without carrying a spare inner tube. Flat tires are a fact of cycling life.

A new product known as *No-Mor Flats* promises to make the spare inner tube unnecessary. It's essentially a firm foam insert that fits inside a bike tire and that can't puncture or deflate.

An accomplished cyclist on our staff recently put a bike equipped with *No-Mor Flats* through its paces. Based on his experience, we say: If you're a serious cyclist, don't discard the spare inner tubes yet.

The *No-Mor Flats* was hard to install. We had to use three tire levers and a screwdriver (see photo), and we marred the wheel rim and tore the tire bead slightly in the process. Removing the *No-Mor Flats* created further blemishes.

The inserts didn't affect the maneuverability or the comfort of the *Lotus Challenger* 12-speed bike our cyclist rode.

But the inserts did add about three pounds to the bike's weight (larger sizes would add even more weight), and they made riding slower and harder.

Riding with *No-Mor Flats* inside the tires was comparable to riding with only half the recommended tire pressure. To find out how that affects actual riding, our cyclist tried one *Lotus Challenger* with *No-Mor Flats*, and an identical bike with standard inner tubes. He rode each bike several times over a 10-mile course. The bike with *No-Mor Flats* was 1½ mph slower, on average, because it had higher rolling resistance. The bike didn't coast as well downhill, and it was somewhat harder to pedal uphill.

People who enjoy long-distance bike tours probably won't want to put up with the shortcomings of *No-Mor Flats*. More-casual cyclists may not mind some extra pedaling effort in return for no more flats.

No-Mor Flats is available in discount department stores or by mail from Cycle Mfg. Co., 1438 S. Cherokee St., Denver 80223. The company markets nine models, but it doesn't have ones for some common tires—there's none for the 26x1½-inch or 26x2-inch tires used on the popular all-terrain bikes, for example. Prices range from about $17 to $22 apiece.

This is based largely on Wayne's material (and includes much of Wayne's stuff verbatim), but has also merged in a lot of stuff I've been sending certifiers.

Guidance to New RRTC Course Reviewers

The following is guidance to newly assigned TAC/USA course reviewers on the administration of the course review and certification process. You will serve an apprenticeship under me as a reviewer of course applications. As soon as I feel that you are ready, I will appoint you as the certifier for your state (i.e., Final Signatory) and you will operate with only minimal guidance from me. In the event either of us is unhappy with the relationship, we should discuss the matter as soon as possible. I have trained and appointed several certifiers since I have been Vice Chairman West and I believe that all concerned with the certification program—race directors, measurers, runners, and the certifiers themselves—have been pleased with the volunteer work accomplished and the competence demonstrated. Welcome to RRTC.

When you receive an application, go over it thoroughly, being sure to check all the calculations very carefully. (Some certifiers use a computer program that I wrote to help me check the calculations—see May '89 issue of Measurement News, pp 23-24. This program was written for the Apple Macintosh but can surely be modified for use on other computers.) Probably the hardest part of reviewing an application is in deciding whether the measurer really rode the Shortest Possible Route (SPR). One "10 km" course whose application I approved shortly after I became a certifier turned out to be about 100 meters short when checked later, presumably because of poor riding. Look for clues in the words the measurer writes on the application and map, and in the "measured path" line (if present) on the course map. If you still have doubts, you may wish to phone the measurer to see what you can learn by talking to him/her.

Do not be too rough on new measurers for minor deviations from approved methods, but at the same time, do take every opportunity to convince the measurer to improve his/her work so it is the way you want it on subsequent submissions. On a marginal application from a new measurer, look to see if his data reflects that he has the distance and he has sufficient information to lead you to the exact start line, around the course on the measured path, and to the exact finish line. If it meets that test, you may approve it even though the map isn't up to your artistic standards. If his map is a line drawing of the course without a measured-path line, but he convinces you that he measured an *unrestricted* SPR (i.e., SPR using the whole roadway), then add a statement to that effect on the map. Do *not* approve a course if it has restrictions that are not documented on the map.

Do not be surprised if you do not receive any response to your critique of the measurer's initial submission. Many measurers wait until the last minute to submit, then the race is held, and they give it little thought until the next year. It is wise to give the measurer a reasonable deadline for a response (for example, 90 days) and at the end of that time, inform him that a new measurement and application will be required. If you do not do this, your files may soon fill with uncompleted transactions.

When you think a course should be approved, make up a certificate/map combination for it. This certification document must fit on a single sheet of paper, xeroxed on both sides as needed. In addition to the certificate you fill out, this document must include a map that describes the exact positions of

the Start and Finish (and Turnarounds if any), and unambiguously defines the course route, and includes precise descriptions (with exact barricade locations) of any restrictions needed to prevent runners from shortcutting the measured path. If you have room, it's also nice to include other available information such as a split list, elevation profile, etc.

My preference, whenever possible, is to xerox both the certificate and map (photographically reduced) side-by-side onto the *front* of the document, and to xerox less important information (such as a split list) onto the back. Putting the map on the *front*, helps insure that the map won't get lost if the race director xeroxes the certificate and neglects to copy what's on the back. Unfortunately, it's not always practical to reduce the map alongside the certificate because sometimes we get maps with lettering so small that any further reduction would make them unreadable. In that case, I simply xerox the map (full-sized) onto the back of the certificate—but with a note added prominently to the bottom of the certificate: "SEE MAP ON REVERSE" (Again, this is to discourage anybody from xeroxing the certificate without the map).

Enclosed in this mailing is a blank for making up certificates. Xerox as many copies of this form as you need. You'll notice that this form has two signature lines at the bottom. The upper line is for your signature, and the lower one is for my signature after I give my approval to each certification. When you are promoted to Final Signatory, you will be sent a certificate form with only *one* signature line, since you will then have the authority to sign off on certifications yourself.

In filling out the certificate, you must enter the course's "Drop" and "Separation" (see enclosed sheets), and you must assign each course a "Certification Code." Certification codes take the form AA-yynnn-CC where "AA" is the two-letter postal service abbreviation of the State where the course is located, "yy" is the year of certification, "nnn" is a 3-digit sequence number assigned by each certifier for the courses he/she certifies during each year, and "CC" is the certifier's initials.

A few notes on items in the certification code: First, "AA" is the state where the *course* is located, not where the certifier is located. If you write certificates for more than one state, then in assigning the "nnn" sequence number, you have your choice of using either a single sequence for all courses you certify during the year, or of assigning separate sequences in each state. (All that matters is that each course gets a unique code.) The certifier initials ("CC") are usually two letters, but we occasionally use three letters in order to make sure each certifier has a unique set of initials. When you write a certificate for a *calibration course*, it gets a unique certification code just like a race course. (But calibration courses don't always need certificates, given the current emphasis on short cal courses used for just a single race course measurement.)

When you personally measure a course outside your assigned territory, you may write the certificate for it, and handle it the same way as applications you get from measurers within your territory, but do send a courtesy copy of the final (approved) certificate to the certifier responsible for the region.

When a course is intended to *replace* an older certified course (which should be taken off the certified-course list at the same time as the new course is added), then in the white space near the middle or bottom of the certificate, add a note indicating the certification code of the course you are replacing; for example, "(replaces OK-83139-BB)".

When you think a course should be approved, send me four (4) copies of the certificate/map combination, and include the measurer's complete application package. (Please be sure to keep your own copy of the application, as I will not return this to you.) Also include copies of any written correspondence between you and the measurer. (Or if you handled it all by phone, include a brief description of what you went through.) When I approve the certification, I keep one copy of the certificate/map for my records, I send one copy to Pete Riegel for national listing, and I return the remaining (countersigned) copies to you. You can then keep one copy for yourself and send one to the measurer or race contact.

For your review, you are authorized to charge applicants a fee that may not exceed $25. Some certifiers charge the full $25 on the principle that building up a cash reserve helps them be more active. Others (including myself) charge less to make it easier for measurers, and also to provide less grounds for contention in cases when you *don't* approve a certification (so the measurer doesn't think he "paid" for the certification—the fee is only for your review and doesn't guarantee approval). You may wish to keep some accounting of what you take in and spend out in case the IRS ever questions it. So far we have no guidance or requirement to account for these fees.

The packets you send me should include a $2 per course national listing fee that goes to the RRTC course registrar (currently Joan Riegel), and a $5 fee for my review. You may combine these in a single $7 check payable to me (and I'll send the $2 to Joan). When you are promoted to Final Signatory, you will send me only the $2 listing fees payable to Joan.

The certificate you fill out for each course contains a number of dates. The most important is the "Date when course paperwork, sent for evaluation, was postmarked," as this is the effective date of the certification according to TAC Rule 133.3. This must be no later than the day before the race in order for the certification to apply to that race. When you receive an application from a measurer, the date to enter is the postmark date of the packet you received from the measurer. When you measure a course yourself, enter the date that you mail the packet to me.

Here are some thoughts on potential conflict of interest. People are going to ask you about getting their course measured. Be sure they understand they are free to measure their own, and give them all necessary guidance in getting started. If they want someone to measure for them, be sure to give any competent measurers you know a fair shake, and let the race contact know about them. If they insist on having you do it, then take it and charge them a fair market price. A mark of a good certifier is to have a state course list that reflects many different measurers. It indicates you have successfully guided many people thru the process. Be sure that the people you deal with understand the difference between your volunteer duty as a certifier and your agreement with them as a measurer.

As you become adjusted to the job, watch for the false advertising of courses in your state and do not hesitate to challenge them. Encourage other runners to watch for falsely advertised courses and have them send you the entry forms. Urge races with a certified course to publish the identification number on their entry form. Get to know your most influential regional running magazine and club newsletter editors & feed them stuff you want published.

I am pleased you are joining the Road Running Technical Committee and I believe you will enjoy sharing the camaraderie and knowledge within the committee. You will automatically receive the publication *Measurement News* that is published bimonthly by Pete Riegel. At any time, feel free to call on me for advice or guidance.

Bob

Bob Baumel
1989-05-08

Colorado Springs...

I was eager to attend the RRCA convention, because Pete and I had our first home in Colorado. We lived above Fremont Pass in a little mining town of 1500. Pete engineered for the Climax Molybdenum Company; I worked in their rental office. I remember the difficulties of adjusting to 11,200 ft altitude and to the challenges of cooking. When I wrote to Betty Crocker asking whether I should double the suggestions for mile-high baking, the answer I received was: "No one lives at 11,000 feet."

The view from our window was spectacular. We looked out above timberline off the top of the planet and were constantly awed by changes in season and climate. The average snowfall was 30 feet -- we skied 9 months of the year on a company-owned ski hill across the road. I wouldn't ski unless it warmed up to 0 degrees F. Pete and I watched the thermometer outside our door -- and off we would go!

In spring we skied over the back side of the hill into Vail Pass, where someone would meet us with a car for the uphill trip home. There was no town at Vail then. Leadville was our nearest civilization ...a 13-mile trip through a twisty canyon.

We explored deserted mining camps in our new '59 VW Bug during summer's thaw. You're right! This has nothing to do with course measurement -- During pasteup, I noticed a blank space and decided to fill it!

I enjoyed touching base with all of you who attended the conventiion. I am constantly impressed with everyone's dedication and enthusiasm.

Best regards,

Joan Riegel