Changing Demographics of Marathon Running in South Australia

With a focus on the Adelaide Marathon

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The marathon craze hit Australia at the same time as the post World War II baby boomers became parents themselves. This impacted on the demographic profile of marathon runners over time as the population aged and male and female priorities went in different directions. After 37 years the Adelaide Marathon continues to be viable and shows a very different profile from the early days.

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1. Introduction

The Adelaide Marathon began in 1979 as part of a surge of interest in long distance running which spread throughout the world during the 1970s. A number of "people's" marathons with fields soon growing into the thousands sprung up in Australia beginning with Canberra in 1977, Melbourne in 1978 and Perth, Gold Coast and Adelaide in 1979. Earlier than Canberra were some smaller regional marathons, the first of which was Traralgon in 1968, followed by Ulverstone and Townsville in 1973 and Whyalla in 1975.

Races over a distance approaching what we now call a marathon were held in Australia in the 19th century and were typically 20-25 miles. The term "marathon" was coined with the advent of the modern Olympic Games in 1896 and in Australia was first used in 1906 when Thompson Estate Harriers arranged a 25 mile event from Ipswich to Brisbane on August 25th that year[1]. It was won by Daniel Laing in 3:01:30. The first marathon in Australia over the standard distance of 26 miles 385 yards was in Sydney on 12 April 1909 and it was won by Andrew Sime in 3:05:31. The first marathon in South Australia was on 21 August 1920 and Victorian Percy Collins was the winner in 3:18:23[2].

After initial interest, marathoning in Australia was spasmodic until after the Second World War, apart from a time around the 1938 Empire Games in Sydney. For a long time officials were worried that the 26-mile distance was too far for humans to endure and "modified marathons" of between 13-20 miles popped up everywhere.

Information about competitors was scarce with results usually showing only their surname, first initial and athletic club. Sometimes their full Christian name and age would appear in an article about the marathon. Establishing a reliable demographic profile of marathon runners from the era before the "boom" took hold is a challenge. In contrast the large fields of the people's marathons combined with the ability to store a competitor's demographic information in a computer data base meant that a profile could be determined and compared over time.

In the early years of the Adelaide Marathon the results listed the finisher's residential location as well as their full name, age and sex, overall finish position and time. The inaugural organisers, the Distance Runners Club of SA and the South Australian Road Runners Club who took over the event in 1981, both set a high standard of record keeping and course measurement over the years.

2. The advent of women to the marathon

In Australia, before the 1970s participation in the marathon was exclusively a male domain, primarily because athletics simply did not cater for distance events beyond three miles for women. In the Olympic Games the longest distance for women up to 1968 was 800 metres. That did not stop women from training privately in order to compete in the marathon. The most celebrated case was in 1967 when Katherine Switzer started the Boston Marathon as an official entrant under the name K. Switzer, having tricked the officials. She was famously tackled by race director Jock Semple mid-event when he tried to remove her race number[3]. However a male companion gave Jock a shove and Katherine continued. Switzer was not the first woman to run the Boston course however. The year before Roberta Gibb ran unofficially in under three and a half hours without being noticed.

In Australia the first woman to officially finish a marathon was Therese Bell who won the NSW Veterans Marathon in 2:59:40 on 19 July 1975[4]. The first woman to *attempt* the marathon distance in Australia was Adrienne Beames on 31 August 1971 when it was reported in *The Age* that she ran a time of 2:46:30[5], which would have been easily a world best time, but there has never been independent validation of that performance. Most likely the course at Werribee was well short of the officially required 42.195 km.

The first woman to finish a marathon in South Australia was Jan Brown at Whyalla on 31 July 1976 in a time of 4:40:14[6]. Her fifteen year old son Stephen was the winner of that event in 2:53:54. This was possibly the first time in the world that a mother and son had won the same marathon. It was not until 1979 that a woman again finished a marathon in SA, when Jan Dobbie ran a time of 3:34:21 at Whyalla on 6 May. There were four other female finishers in that event, Sipra Lloyd in 3:41:40, Jan Brown who improved on her 1976 time with 3:56:20, Nora Sutcliffe in 4:40:10 and Linda Lange in 5:02:00. Jan Dobbie's time therefore became the new state record.

The 1979 State Marathon championship in Adelaide was run on a new two-lap course at West Lakes on 1 July and for the first time attracted more than 100 entries. The winner was 1974 Commonwealth Games athlete Brenton Norman in 2:25:33 and the inaugural female winner of the state championship was Sipra Lloyd who broke Jan Dobbie's state record by nearly twenty minutes with a time of 3:14:55. Runner up was Desiree Letherby making her debut in 3:31:36, followed by Anne Mann, another debutante in 4:01:13. Both Letherby and Mann would go on the run the marathon in under 2:50. Nora Sutcliffe was the only other female competitor, finishing fourth in 4:11:25 which improved her Whyalla time only two months earlier by nearly half an hour.

By the time of the first Adelaide Marathon on 7 October 1979 there had been 548 recorded marathon performances in South Australia since 1920 with the 10 female finishers up to then comprising 1.8% of all finishers.

Sub 2:20 performances in South Australia

At that time the fastest marathon run in South Australia was 2:17:24 by John Farrington at the Australian Championships at Roseworthy on 27 July 1974. Brenton Norman and Dave Chettle also finished under 2:20 in that event and the only other sub 2:20s run in SA were by Norman in the state championships in 1970 and 1973. In 1980 another five sub-2:20s were run, four in the Olympic Trial of 6 April at West Lakes and the other by Lawrie Whitty who won the Australian Championship, again at West Lakes on 27 July in 2:19:00. There has never been another sub 2:20 marathon since in SA, keeping the total of such performances at ten.

The 1980 Olympic Trial has been the *only* world class marathon ever run in South Australia to date. With a qualifying standard of 2:40 the event attracted 24 entries, including one female entrant which caused a sensation at the time! Elizabeth Hassall ran under 2:40 in the 1979 Boston Marathon and had therefore qualified. Given the inevitable interest shown by the press about this[7], the officials diplomatically responded that she would be allowed to run, but no-one was sure what would happen if she finished in the top three.

In the end Hassall was not amongst the 14 starters and Gerard Barrett won in 2:11:42 from Robert de Castella (2:12:24), Chris Wardlaw (2:12:47) and the unlucky Garry Henry (2:13:11). There were only three other finishers, Len Johnson (2:22:24), John Stanley (2:27:58) and Iain Dobbie who set a new state veteran's mark with 2:34:18.

In the book *Deek*[8], by Robert de Castella and Mike Jenkinson, Deek's coach Pat Clohessy summed up the event saying "It was a terribly hard race with five good runners fighting desperately for three Games places. I'm afraid several of them damaged themselves. It would have been better if Scott and Barrett had bypassed the race and relied on their selections for track events."

Clohessy was referring to the fact that of the six starters with a realistic chance of going to Moscow, only Deek emerged from the race unscathed in terms of his future. Bill Scott had already been selected for the 10000m and didn't need to run the marathon trial, which left Dave Chettle as the fifth "good runner". Chettle withdrew at 25km and Scott at 35km, both injured. Barrett had qualified for the 10000m but had yet to be selected, which is why he ran the trial.

Elite female performances in SA

The fastest marathon run in South Australia by a woman was 2:46:31 by Gill Dunning of New Zealand in the 1984 Adelaide Marathon. There have been only four other sub 2:50 performances by women in SA. Desiree Letherby was the first with 2:49:36 in the 1981 state marathon and she nearly matched that with 2:49:39 in the 1984 state event. In 1989 Leslie Watson from Scotland ran 2:49:49 in the Adelaide Marathon and Maureen Moyle ran 2:49:59 to be runner up to Dunning in 1984.

However other women from SA *who have finished a marathon in SA* have run under 2:50 interstate, including Anne Mann (2:48:24 in Melbourne, 1982), Bev Lucas (2:43:45 in Canberra, 1995 at age 48) and Trudy Fenton (2:41:39 in Canberra, 1989). The best time for Desiree Letherby was 2:45:55 in Canberra in 1984.

Although out of scope for this article, it would be amiss not to mention the performances by South Australia's two world class female marathoners, Lisa Ondieki and Jessica Trengove. Lisa Ondieki (then known as Lisa Martin) ran her fastest marathon of 2:23:51 at Osaka, Japan in 1988 and later that year won the silver medal at the Seoul Olympic Games. Lisa also won gold medals at the 1986 and 1990 Commonwealth Games in Edinburgh and Auckland respectively. Jessica Trengove won a bronze medal at the 2014 Commonwealth Games in Glasgow and followed that up with a personal best time of 2:27:45 in the 2015 Melbourne Marathon.

Wheelchair performances in SA

During the 1980s some Adelaide and State Marathon courses were suitable for wheelchair entrants and there are about forty recorded performances. The fastest time was in 1983 when Peter Trotter achieved 2:01:59 on the Gawler to Adelaide course, ahead of Jeffrey Wiseman in 2:04:45 and Robert Turner in 2:07:54. Julie Russell recorded 3:08:35 in that event, a mark improved by Jan Randles in 1985 in the State Marathon at West Lakes when she pushed her way to 2:35:32. In the men's division there was a three-way tie between Robert Turner, Peter Trotter and Chris Alp in 2:08:29 as a record eight wheelies overall finished that event. Robert Turner finished eleven wheelchair marathons in South Australia between 1980 and 1986.

3. Impact of the Adelaide Marathon

The first Adelaide Marathon by itself almost matched the total number of finishers of a marathon in SA to date, which was 548 from 37 events since 1920. There were 695 entries, 525 starters and 463 finishers of whom 14 were female which managed to raise the participation ratio to 3.0%. It was not a day for records though, being warm with a blustery head wind and the times of winners Grenville Wood (2:30:08) and Robyn Brown (3:28:24) were well below the existing best marks for SA.

Figure 1 shows the number of finishers in the Adelaide Marathon from 1979 to 2015, with the numbers finishing in all Festival events overlaid in green. The first Festival was in 1990.
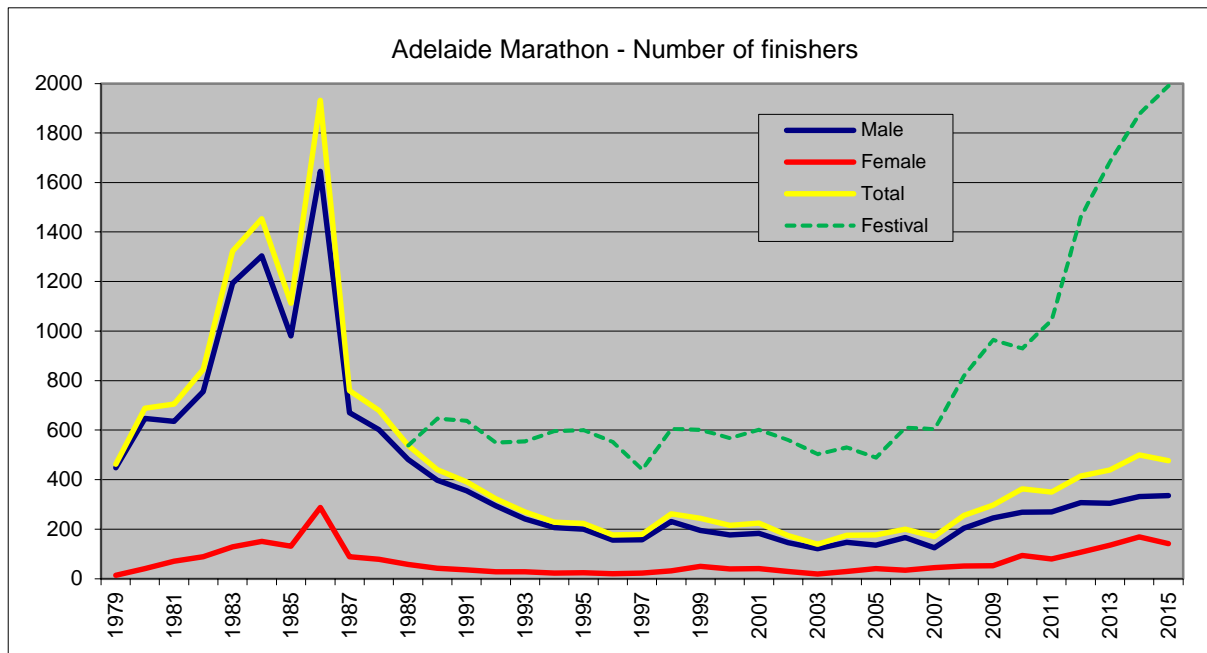
Figure 1 – Number of finishers in the Adelaide Marathon

By the end of the 1970s a total of 1011 marathon performances had been recorded in South Australia, 24 of which were by women (2.4%). At the time the longest distance available for women at the Olympics was still only 1500 metres but that would change and by the 1984 Olympics they could run the marathon, although the longest track distance for them was extended to only 3000m.

In 1980 the Adelaide Marathon attracted nearly a thousand entries and the numbers kept rising to a peak of 2750 entries for the 1986 event, which was promoted for several years as the "big one" given that it was the State's sesquicentenary (150 years) of European settlement. The State Marathon also attracted record numbers with around a hundred finishers each year to 1986, peaking at 153 in 1982. However this boom could not last and from 1987 the decline in participation began with 763 finishers in Adelaide, falling to under 500 by 1990.

During the 1980s there were a total of 10103 finishers in the Adelaide Marathon and another 1017 in the Amateur Athletics Marathons. Female participation reached 10% in 1981 and remained steady at that level each year except 1986 when a record 290 women finished (15.0%). By the end of the decade there were 1134 female finishers (11.2%).

In the 1990s the number of finishers kept declining each year until there were only 176 in 1996. Then there was a slight increase over the next few years. Total number of finishers for the decade was 2748, just over a quarter of the 1980s. The number of female finishers was 304, which at 11.1% maintained the gender balance of the previous decade. However, significantly, an upsurge of female participation began in 1999 with 49 finishers from 244 overall raising the ratio to 20.1%.

This continued throughout the 2000s to finish the decade at 18.7%, with 382 female finishers from 2038 overall. The low point of participation in the Adelaide Marathon occurred in 2003 when only 140 finished, but from there it climbed to 298 in 2009. Numbers continue to rise despite escalating entry fees, reaching 500 finishers in 2014 before falling slightly to 476 the following year. Another upsurge of female participation occurred from 2007 and in 2014 reached 33.8%, with 169 finishers.

Figure 2 shows the male to female ratio of the Adelaide Marathon from 1979 to 2015.
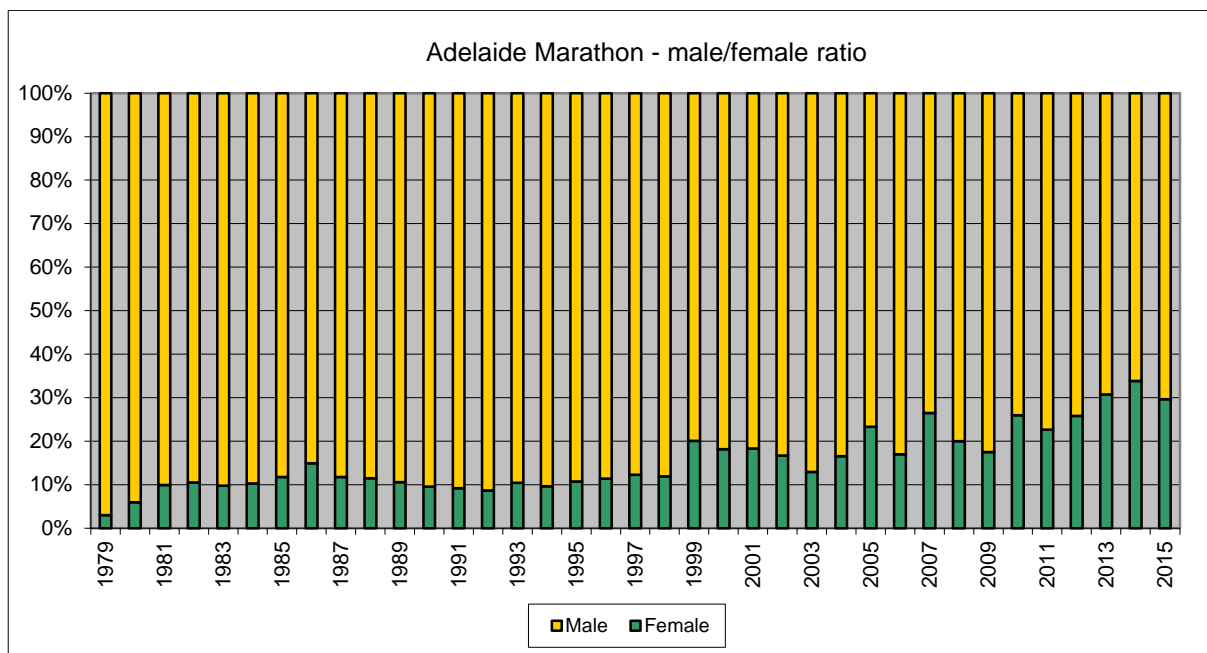
Figure 2 – Adelaide Marathon male/female ratio

While there is unlikely to be another "boom" decade like the 1980s, numbers remain healthy to ensure the event continues well into the 21st century. It's likely that female participation will continue to rise in line with a trend identified in half marathon data[9] across Australia in 2013 which found that 47% of finishers were women.

Decline of the State marathon

In 1987 the state championship was held in conjunction with the Adelaide Marathon for the first time and attracted only 32 entries. From 1988-91 it was once again held as a separate event with about 40 finishers each year and in 1992 it merged with the Adelaide Marathon for good. However the concept of a state championship seemed increasingly outdated in the 1990s and the number of entries fell to single digits by 1996. Eventually it got to the stage where no-one entered from 2006-10 even though it was still a category until 2011. The final male state champion was Mark Howard in 2005 with a time of 2:45:10 while Bernice Mutiso was a lone entrant in 2011 and took the female state title with a time of 3:25:11.

4. Demographics of the Adelaide Marathon

Figure 1 shows participation has risen and fallen and risen again during the 37-year history of the Adelaide Marathon. We have seen that female participation has steadily increased, with some sudden surges being sustained from 1981 (just over 10%), 1999 (near 20%) and 2007 (near 30%). Other variables which can be examined are age, finish time and whether participation is for the first time or repeated, as these are also available from the results for every year.

Data quality

Fortunately single year of age has been available in the results every year except 1985 when only age group information was released. Nevertheless for most of the field their actual age that year was able to be imputed from the results of previous years or other events such as the Greenbelt Half Marathon. Where no age could be found the midpoint of the age group is used, with the assumption that the age of such participants was evenly spread within the age group.

During the matching process of individual participants[10] from year to year it became clear that sometimes people put down their age at the time they entered the marathon rather than what it would be on the date of the event. This became obvious when they had aged two years between events even though the events were not quite one year apart, the date regressing backwards as it does when the last Sunday of the month, for example, is regularly used.

Therefore there is a small margin of error for this variable but it is not significant enough to impact on any conclusions drawn when looking at average age. By 2010 online entry systems virtually eliminated this as a source of error as date of birth was used to calculate a participant's age.

Average age

Figure 3 shows that the average age of all participants in the Adelaide Marathon (yellow line) rose steadily from 33.0 years in 1980 to 42.9 years in 1997 at a rate of over half a year of age *every* year. In 1998 it fell to 40.7 years before climbing once again to 42.8 years in 2002, nearly the same level as it was in 1997. After that it dropped steadily to 40.6 by 2014 and then rose again in 2015.
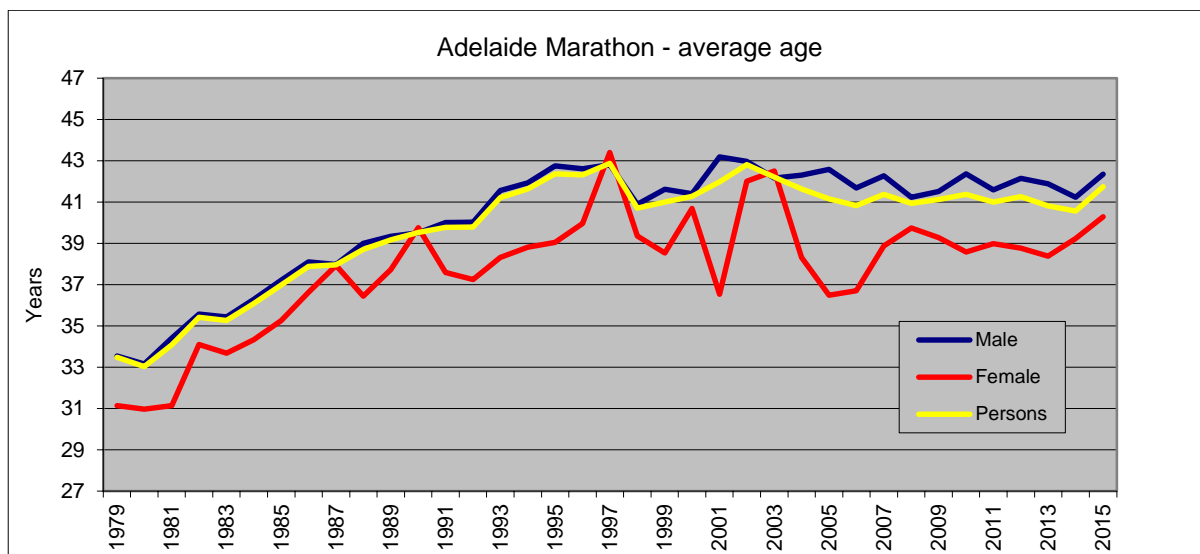

Figure 3 – Average age of finishers in the Adelaide Marathon

One aspect of which to take account is the change of rules regarding age of entrants. From 1984 all participants had to be aged 18 or over in accordance with the Association of International Marathons (AIMs) policy. The Adelaide Marathon applied for and was granted AIMs membership at this time. The early Adelaide Marathons included children as young as ten years of age.

Overall the average age of female participants is about two and a half years younger than for males, but with relatively small fields the average female age can be quite volatile and in three years (1990, 1997 and 2003) it exceeded the male average age. The volatility also took the age gap in the other direction in 2001 and 2005 when the women were over six years younger than the men on average.

The consistent rise over the seventeen years from 1980 can be explained by the fact that about half the field each year is comprised of people doing the marathon again, either the next year or after a few years' break. Much as the average age of a group of school children increases by a year *every year* as they progress through the grades, the group of people *repeating* the marathon increases the overall age, but not by as much because they are not the entire field. However it is enough to raise it six months per year every year.

The Adelaide Marathon database identifies every participant who has finished the event for the first time and therefore the average age of this group and those repeating can be calculated. These are shown in Figure 4 with the percentage of the field repeating the event overlayed in green.
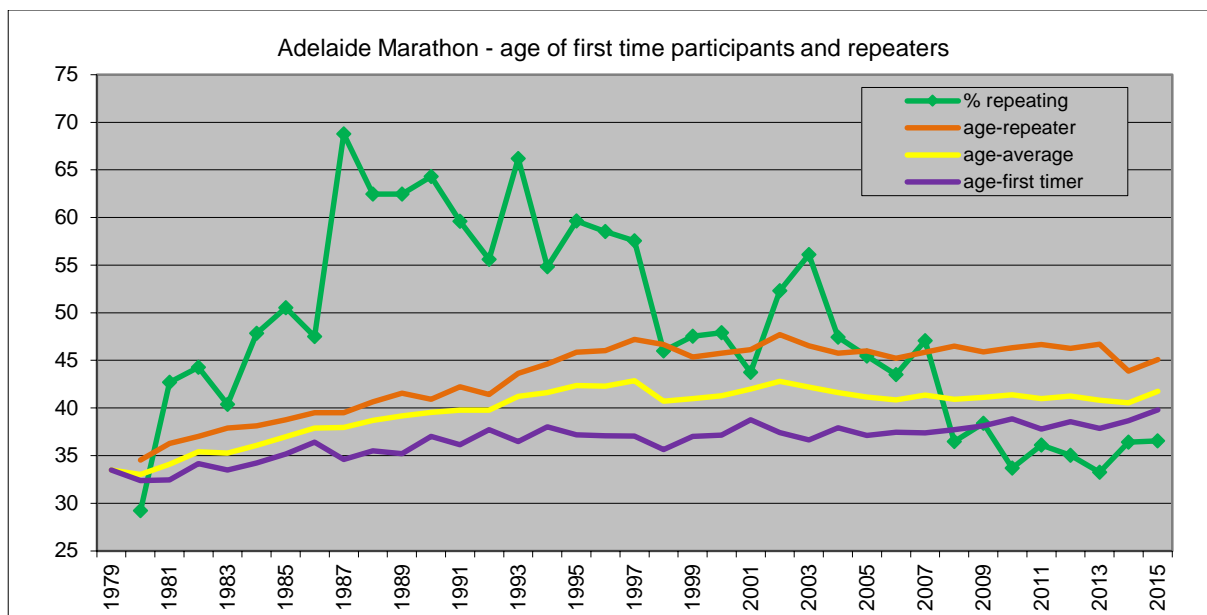
Figure 4: Adelaide Marathon - average age of first time participants and repeaters

The yellow line showing the average age of all marathon participants is the same as that in Figure 3 but with the scale range expanded which makes it seem flatter. The orange line which by definition begins in 1980 is the average age of repeaters and the purple line is the average age of first time participants. Note that these are not necessarily people doing their *first* marathon although the majority of them will be. The 1980 and 1981 results identified people finishing their first marathon and these comprised 83.4% and 85.1% of first time participants respectively.

The ratio of marathon repeaters to first-timers changes markedly over time depending on the historical phase of the event. In the rapidly growing early years to 1986 the number of repeaters remained under 50% but age increased steadily because the age of first-timers also rose by about three months per year. From 1987 participation fell rapidly and for the next ten years the marathon was supported mostly by people repeating it, as shown by the green line staying well above the 50% level. This kept the overall average age rising even though the age of first-timers remained steady at 37 years. The age gap between the two groups grew from four to eleven years during the 1990s.

A third phase can be identified from 1998 to 2007 when overall marathon participation was slightly under 200 each year and the annual number of repeaters dropped off to be around the 45% mark. Their average age remained constant at 46 years and with the age of first-timers barely increasing, overall age also remained static. In 2008 there was a sudden jump in overall participation caused by a large increase in first-timers which sent the green repeaters line plunging to the 35% level. This had the effect of reducing the overall average age to just above 40 years.

Appendix 1 gives a more technical explanation of Figure 4.

More generally, the age peak of the late 1990s and subsequent slight decline can be put down to the baby boomers reaching middle age causing the age of the general population to begin levelling off. Also interest in the marathon declined and shorter distances were added to create a "marathon festival" in order to ensure the event continued to be economically viable. The priorities of the various age groups and male and female participants went different ways, as shown later.

<u>Times - elite</u>

In this article the term "elite" is used to mean the portion of the field running relatively fast times without them necessarily being considered to be at a world, national or state class level.

Apart from a couple of years the Adelaide Marathon was never one to go out of its way to attract top athletes and as a consequence the elite section was quite volatile from one year to the next. From 1983 the marathon was promoted as "Australia's friendliest" with Race Director Bruce Abrahams stating[11] "We claim the title not out of lack of generosity to the other top national events (each of which is developing its own style), but because we do try to cater deliberately for the slow as well as the swift runners." This slogan lasted a long time, with the 1998 marathon results book and 1999 entry form still using it.

One exception was in 1984 when a sponsor flew in national class runners from interstate and New Zealand to compete in an "International Teams Cup". That year was the only Adelaide Marathon to have numbers of male finishers running times under 2:30, 2:40 etc and female finishers under 3 hours comparable to the other big marathons. This was supposed to be the first rehearsal for the *big one* in 1986 when Brian Chapman wrote in the 1984 Race Programme[12] "If you think this field is excellent, wait for the SA 150th Anniversary year of 1986. It will be positively world class!"

Unfortunately that didn't eventuate, with only three men finishing under 2:30 in 1986 compared to eighteen in 1984 and only one woman under three hours compared to six in 1984. The required sponsorship was already stretched to its limit across Australia and clearly Adelaide missed out.

It is interesting to look at a Figure 5 which is a rather esoteric chart showing where the winner each year would have placed in 1984. In the 1980s the male winner (except 1981) would have finished in the top 10 (2:28:07 or better) in 1984. In the early and mid 1990s this blew out to a finish around 20th place (2:32:27) in 1984 before recovering for three years when the winner ran sub 2:30. During the 2000s often the winner would not have finished in the top 40 (2:41:47) in 1984, peaking at 65th (2:47:34) in 2003. There was a slight recovery around the early 2010s when the winning time was around 2:35 before falling back to the low 2:40s.
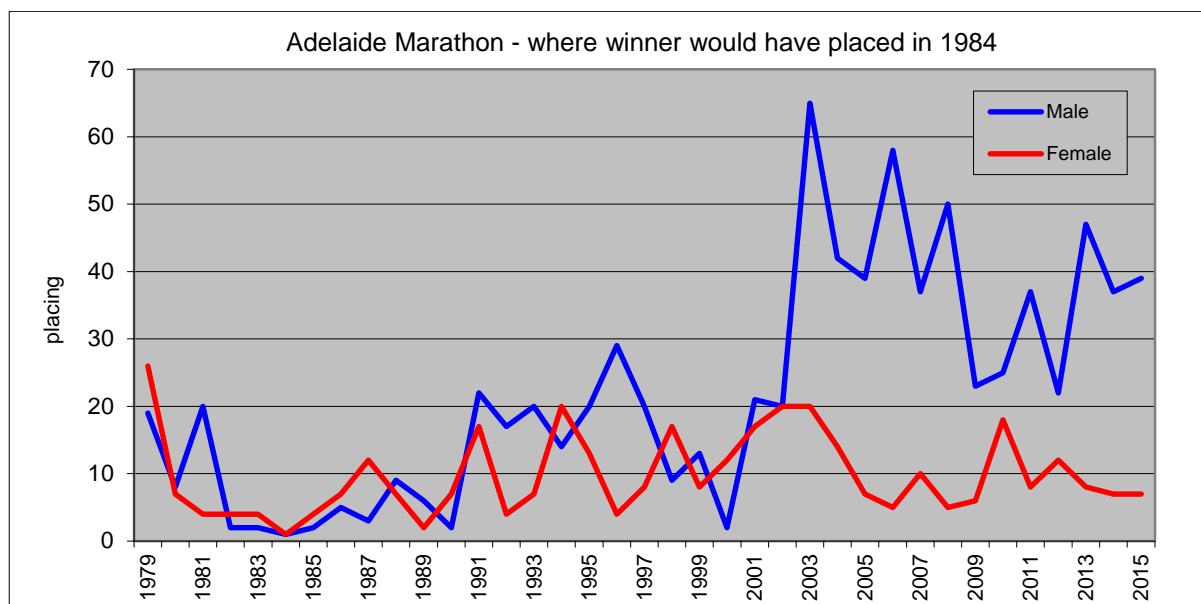

Figure 5 – Adelaide Marathon showing where each year's winner would have placed in 1984

The decline in male standards at the elite level from the beginning of the 21st century is quite stark, in contrast to female standards which have remained consistent since 1985, with each year's winner hovering around the time of 10th placing in 1984 (3:06:16).

See Appendix 2 for another measure of how the elite standard has changed, as determined by the time of the tenth placegetter.

A large marathon such as Melbourne gives a good idea of how the *number* of participants running fast times[13] has declined since the boom of the 1980s, as shown in Figure 6. While winning times in Melbourne have more or less been consistently fast for both sexes, the number of finishers in the Melbourne Marathon under 2:40, 2:50 and three hours respectively declined markedly for twenty years from the mid 1980s before making a recovery of sorts from 2009. Even so, numbers are less than half what they were during the boom. Finishers under three hours in the Adelaide Marathon are superimposed as a black dashed line for comparison.

Over 300 people ran under three hours every year from 1980-88, peaking at 641 in the fast year, 1982 which was memorable because the event attracted the huge name of Bill Rodgers from the US who ran 2:11:08 with a strong tail wind. This was also the breakthrough marathon for SA's Grenville Wood who finished second in 2:12:50, after the disappointment of narrowly missing the qualifying time of 2:16 in the Commonwealth Games trial in Brisbane earlier that year.
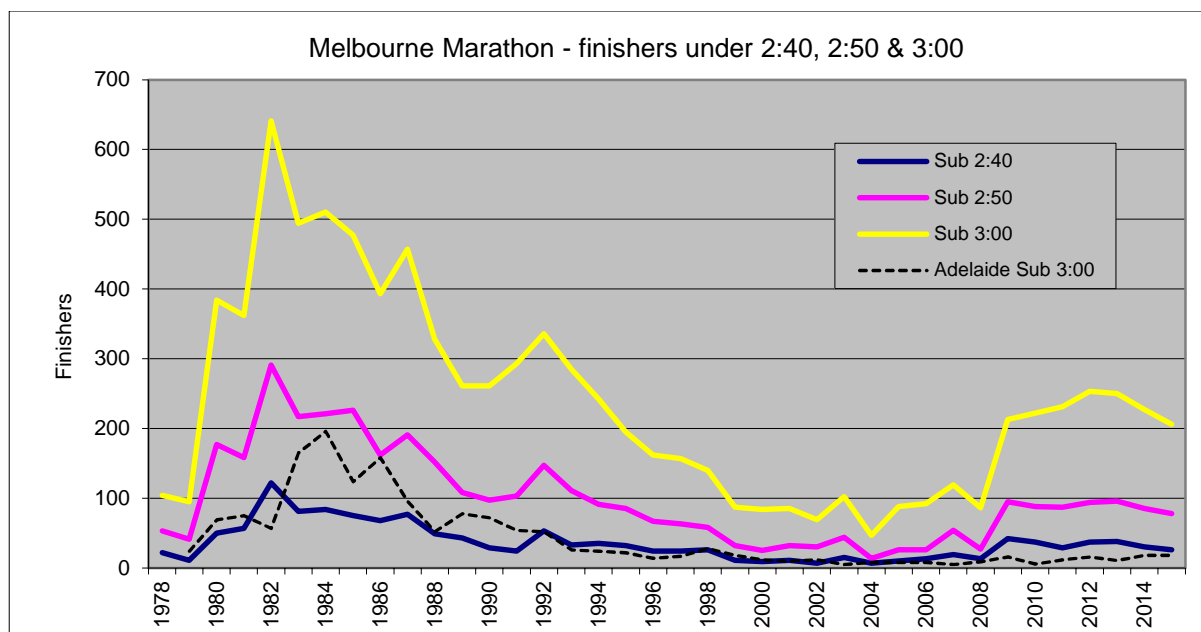
Figure 6 – Finishers of the Melbourne Marathon under 2:40, 2:50 & 3:00, all persons

After 1992 the number finishing under three hours declined sharply to a low of 47 in 2004 from where this recovered to 213 in 2009, a level maintained since. The numbers finishing under 2:50 and 2:40 show a similar trend from high points of 291 and 122 respectively in 1982 to lows of just 14 and 7 in 2004 from where numbers have recovered to around 90 and 30 by 2015.

This graph has similarities with Figure 1 which charts <u>total</u> participation in the Adelaide Marathon over virtually the same time interval. It highlights the boom of the 1980s followed by the long decline to the low point of 2004 (Adelaide was 2003) and then a significant recovery at the end of that decade which is still being sustained. However, in Melbourne the total number of participants has not only recovered to the 1980's levels, but also surpassed it with a record 6820 finishers in 2013 compared to a peak of 4798 in 1983, though clearly the proportion of elite performances has not been maintained.

<u>Times - average</u>

The average time for a marathon from year to year is largely affected by the weather on the day if other factors such as the type of course remain constant. From 1979 to 1983 the Adelaide Marathon course was point to point from Gawler to Adelaide, virtually north to south and therefore participants could be subjected to strong head winds, as was the case in 1979 when it was 20C. The average time for men in 1979 was 3:52 and for women 4:25. Next year when conditions were better, being cooler and wet the times reduced to 3:39 and 4:09 respectively. By 1982 the marathon date had been moved from October to August, but it turned out to be the second hottest August day on record (28C) and average times went back to the 1979 level!

In 1984 the course was changed to a loop design which started and finished at nearly the same point in North Adelaide and average times fell to 3:35 for men and 4:04 for women. The weather was not particularly favourable with rain and winds exceeding 20kph, but the new course meant there was no net disadvantage from the wind. This course remained essentially the same until 1995 when the western part changed from an out and back section on Anzac Highway to out along main roads or bicycle tracks to the coast and back along the Torrens linear park after skirting the airport.

Figure 7 shows male and female average times in the Adelaide Marathon. For graphical purposes the times have been converted to seconds. The horizontal gridlines in a more recognisable format are:
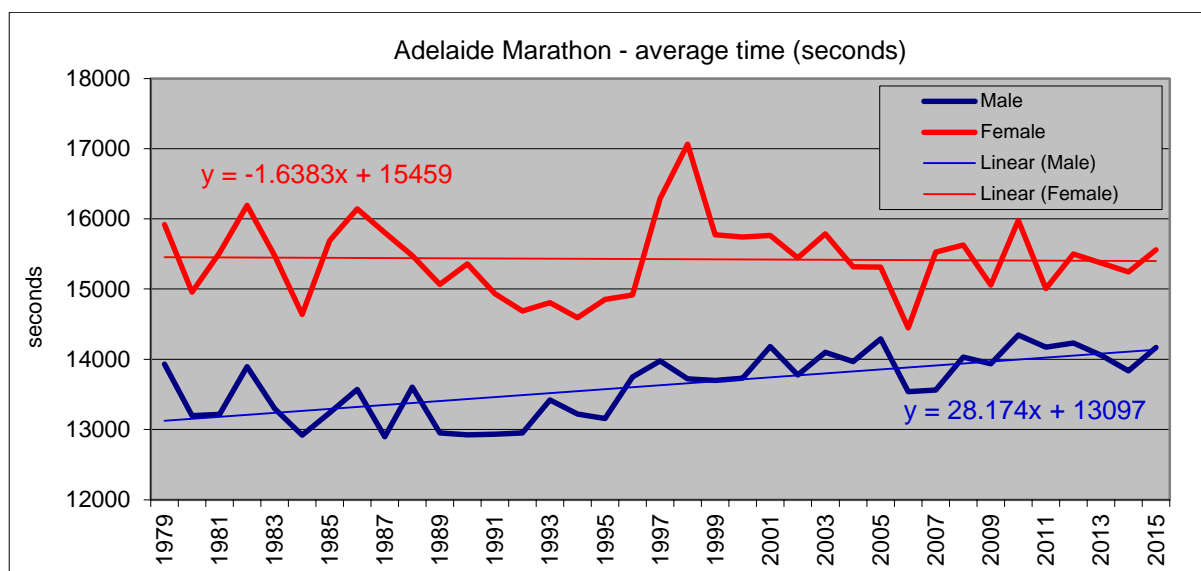
17000 = 4:43:20
16000 = 4:26:40
15000 = 4:10:00
14000 = 3:53:20
13000 = 3:36:40

Figure 7 – Average male and female times in the Adelaide Marathon

During the "Anzac Highway" era the average male time, with a couple of exceptions, hovered around the 3:35 to 3:40 mark while the average female time dropped about twenty minutes to a low of 4:03 in 1994. The exceptions were in 1986 when the *big one* became the goal of many people and therefore slower times associated with marathon debutantes sent the male average back to over 3:45 and the female average to 4:29. The marathon of 1988 struck warm weather and the 24C temperature took its toll on many competitors and the male average was similar to 1986 whereas the female average was not affected.

The era of the western linear park course from 1995 lasted until 2011 after which the current two laps of North Adelaide began. Numbers competing each year were at their lowest level and male average times began rising back to slower than the 3:50 mark, nearly reaching four hours in 2010. This confirms the observation from Figure 5 where the times of the winning male from 2001 onwards took a quantum leap backwards in terms of where he would have placed in 1984.

Curiously, the average time for women took a dive in 1997 (4:31) and 1998 (4:44) before settling back to a level around 4:15. This can be attributed to a surge of walkers attempting the marathon combined with an absence of women under four hours. In 2006 the female average time fell to 4:00:49 with only two women slower than five hours, but that year was a one-of "outlier".

Figure 7 also shows the male and female trend line covering the entire 37 year history of the Adelaide Marathon. The equation gives the y-axis intercept and the slope of the line. The red female line is almost horizontal, depicting a fall in average time of only 1.6 seconds per year, or 16 seconds a

decade. In contrast the blue male line rises at a rate of 28 seconds per year or nearly five minutes a decade. This is examined in detail below where Figure 7 is repeated for age groups and the 37 year history of the marathon is split into two intervals, before and after the mid 1990s. It would appear that the early male times were abnormally fast and have returned to an equilibrium position since 1996 whereas the women were not similarly affected.

Overall the average time gap between men and women is slightly less than half an hour, but the converging trend lines in Figure 7 show that this gap is narrowing. The difference in y-intercepts is 2362 seconds or 39 minutes 22 seconds, but by 2015 the gap was reduced to 23:10. The highest gap was in 1998 at 55:43 while in 2011 it was only 13:54.

Times by age group

Figure 3 shows that average age of all participants rose by nearly ten years from 33 years to just under 43 years during 1980-1997 before falling back to around 41 years from 2005. However this does not appear to have impacted on average time at all before 1996 when Figure 7 is examined. Both male and female graphs show that the factors affecting average times in the short to medium term - say five to ten years – appear to have little to do with age. Yet it is a fact that *eventually* we all slow down as we get older. The reason for this apparent anomaly can be explained by the well known axiom in distance running that any person will improve their times for up to seven years from when they start. It makes no difference at what age they begin although clearly someone starting in their 50s would likely have had faster PBs had they began thirty years previously.

To gain a better understanding of the dynamics of age and speed, each graph in Figure 7 is split into broad age groups. These are charted in Figures 8a (males) and 8b (females) for age groups under 30 years, 30-39 years, 40-49 years, 50-59 years and for males only, 60+ years. There are insufficient numbers to show women aged 60+ each year. Even the female 50-59 group is highly volatile with some years represented by a sole participant and the results need to be interpreted with caution.
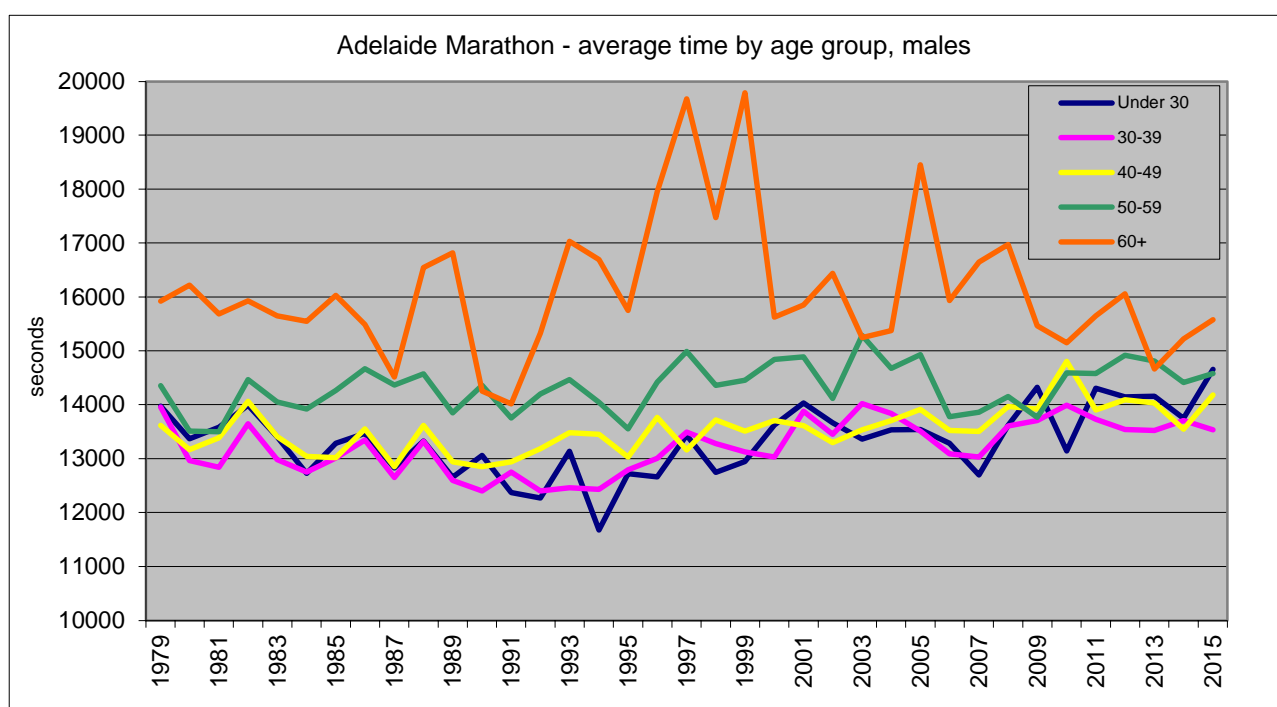
Figure 8a – Average time by age group in the Adelaide Marathon, males

The lines of the three youngest male age groups follow each other fairly closely as time progresses and are not far removed from the overall average curve of Figure 7. That is not surprising given that for most years they comprise more than three quarters of the field. They follow a downward trend (faster times) until 1995 and then move gradually upwards until 2015. Whatever caused this change of direction from the mid 1990s affected all three age groups in a similar manner. An explanation is that the fast times in the 1980s were attributable to a fierce competitiveness amongst themselves, heavy training programs modelled on their world class heroes and reckless ambition. It would seem these factors quickly became less important from the beginning of the 1990s.

The green line for males aged 50-59, clearly slower than the younger age groups, shows little change in trend at all. The line for the 60+ group shows the volatility associated with low numbers in some years, particularly in the late 1990s when there were several finishers slower than six and even seven hours. Neither of the senior age groups follows the pattern of a marked increase in speed followed by a slowdown as seen in the younger age groups.
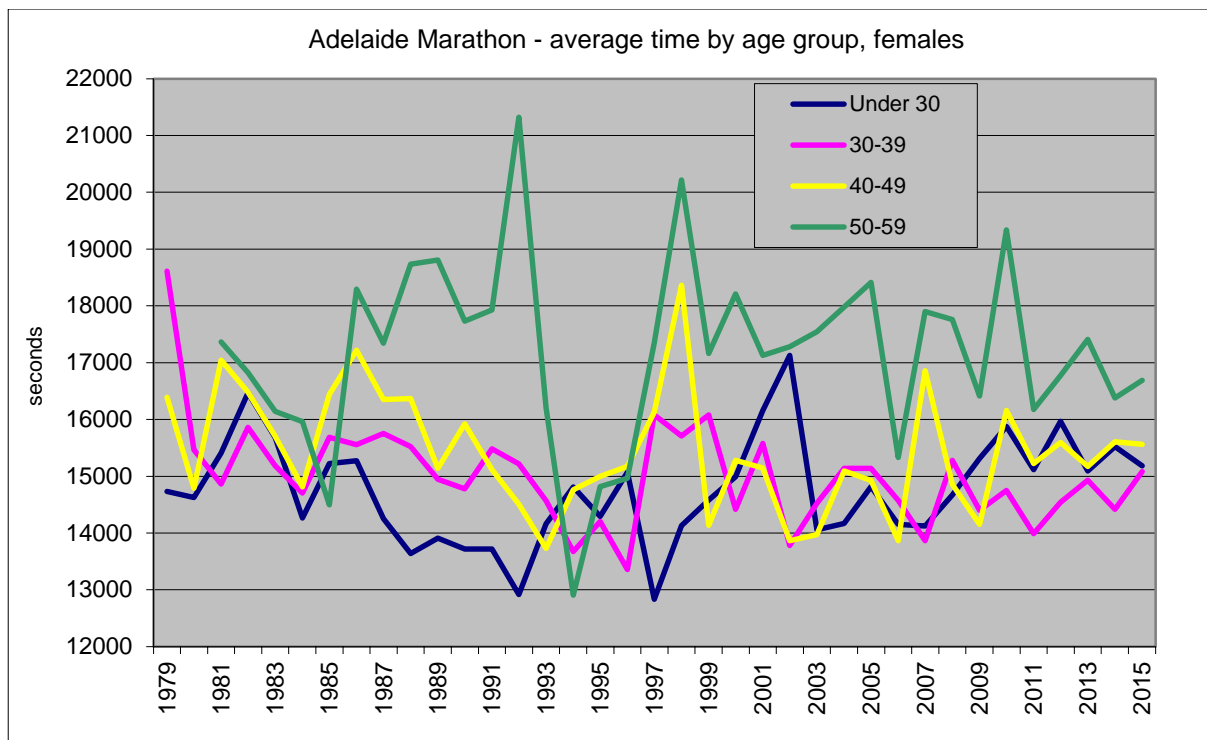
Figure 8b – Average time by age group in the Adelaide Marathon, females

Unlike the men, each of the women's age groups under 50 years has its own unique pattern, mainly because their numbers are much smaller giving volatility which can influence the trend calculation to the point where error bands are large. However, where numbers are reasonable at each end of the graph there are some similarities in the patterns displayed. For example the blue under 30 and yellow 40-49 age groups act in a similar manner from 2010. Paradoxically the pink line of the in-between age group 30-39 is much faster.

Only the under 30 women's age group shows the turnaround in speed from faster to slower observed by the younger men. Those in their 30s and 40s continue to speed up all the way through the duration of the event although at varying rates. Whatever affected the men in these age groups did not affect them. While the *average* male felt the need to train like Robert de Castella during the 1980s, it seems fair to say that this was *purely* a male phenomenon, world class women excepted.

At times, particularly from 1986-90 the four age groups are in the correct order expected for their age, with the youngest being the fastest, but usually they are mixed up. Only the 50-59 group is generally slower overall except where it is represented by a single performance as was the case in 1994. The average age of women rose by about twelve years from 1980 to 1997 and yet like the men they all sped up during most of this time.

Figures 7 and 8 can be split into two time intervals and trend lines determined for each of them. The dividing point is somewhere in the mid 1990s when both male and female graphs showed an abrupt change to their trend patterns, as evident in Figure 7. The year 1995 is used as the end point of the first era and 1996 the beginning of the second era. The results are in Table 1 where each number is the slope of the line which indicates the rate of change of average time in seconds/year. A negative number means that average time is speeding up and a positive number represents a slowing down.

The values with an asterisk are derived from a different starting point to give a more representative trend not influenced by an extreme average resulting from a low number of participants. The details are noted underneath the table.

TABLE 1 – CHANGING TREND BY AGE GROUP

Age group	1st Interval 1979-1995 (sec/year)	2nd Interval 1996-2015 (sec/year)	All Years 1979-2015 (sec/year)
MALES			
Under 30	-92	62	22
30-39	-59	21	21
40-49	-22	33	23
50-59	2	-8	15
60+	-1	-54*	3
ALL	-28	17	28
FEMALES			
Under 30	-100	51	14
30-39	-72*	-26	-37
40-49	-106	-8	-26
50-59	-31	-31	5
60+	..	..	..
ALL	-60	-33	-1

Notes:

(1) The numbers (seconds/year) are from the slope of a trend line fitted over the specified time interval.
(2) Negative numbers represent speeding up, positive numbers represent slowing down.
(3) The numbers for the entire interval from 1979-2015 are NOT a weighted average of the two component intervals.
(4) The numbers for ALL ages are NOT a weighted average of age groups.
(5) Value of -54 for males 60+ is from 2000-2015.
(6) Value of -72 for females 30-39 is from 1980-1995.

The values of *all* ages and the *entire* duration of the event are also shown. The nature of the trend calculation is such that these values are not mathematically connected to the values of their component age groups or time intervals. They are not a weighted average of them. However, conclusions can be made about their *directions* (positive or negative) and those of their respective components.

Looking firstly at the results relevant to Figure 7, while the female trend line for the entire 37 year interval is virtually horizontal with a slightly negative slope of only 1.6 seconds per year, each of the earlier and later component intervals has a trend line with a large negative slope showing a speeding up of 60 and 33 seconds per year respectively. This does not make sense intuitively, but the very reason for splitting the graph into two time intervals accounts for this. It is like riding an escalator from the first to the ground floor, catching a lift back to the first floor and riding the escalator down again. The action of catching the lift is excluded from the calculations in the two component intervals but is necessarily included for the whole interval - hence the above results.

One explanation for the sudden slowdown in the female average times observed in Figure 7 after 1996, as mentioned on page 12, is the heavy promotion for walking at the time and a campaign to change the SARRC's name to include walkers in it. Officially nothing was changed but many newsletters included the walkers anyway. Participants in the walking division are included in this analysis because there is little difference in times between the faster walkers and slower runners. People who wanted to mostly walk and do some running at times were required to enter as a runner, but they were no match for the serious walkers. While there were about equal numbers of male and female walkers and slow runners, this situation affected the women's average times more than the men's because their overall numbers were smaller.

The male trend line has a positive slope of 28 seconds per year over the *entire* duration of the event but when split into intervals it has a negative slope of 28 seconds per year until 1995 followed by a positive slope of 17 seconds per year. As previously noted the three younger age groups also follow this pattern with remarkably similar *overall* positive slopes ranging from 21 to 23 seconds. In the earlier interval these slopes are all negative but significantly decrease in value as age increases, from 92 seconds per year for the under 30 group to 59 seconds for the 30-34 group and 22 seconds for the 40-49 group. In this case the correlation between age and average time is evident.

From 1996 the three younger male age groups reversed this trend but not at the same rate according to age. Men under 30 years had the fastest slowdown at 62 seconds per year and this is commensurate with their fastest increase in speed during the previous interval. Men aged 30-39 slowed by 21 seconds per year while the 40-49 group slowed by 33 seconds per year.

The older age groups behave differently. The average time of men aged 50-59 has not changed much during the history of the event. In Figure 8a the green line meanders around the four hour level throughout and overall there is a slowdown of fifteen seconds per year in another example of the "escalator effect" where in the first interval the rate slows at only two seconds a year and during the second interval it *speeds* up at 8 seconds per year. This is even more pronounced for the 60+ age group, being practically level both throughout the entire history of the event and during the first interval. However, during the second interval and taken from 2000 to avoid the false impact of the very slow finishers of the late 1990s, there is a convincing speedup of nearly a minute per year.

Women in all age groups sped up during the first interval, the three younger groups at a rate of about fifteen minutes per decade and the 50-59 age group at five minutes per decade. Apart from the under 30s, they continued to speed up during the later interval but at a much lower rate. The under 30 age group slowed by nearly a minute a year and are the only group to have a similar pattern to the corresponding men's group.

To summarise, there is little difference in the evolution of average time over the 37 year history of the Adelaide Marathon from faster until the mid 1990s and then slower until now for <u>all</u> men aged under 50 years. The older men are now running faster times than before, particularly those over 60 years. All women aged 30 years or more have been decreasing their time over the duration of the event, while the younger women are now slowing down after fifteen years of becoming faster.

5. <u>Long term changes to the marathon in South Australia</u>

We have seen year by year changes to participation, age, male/female ratio and times in the large marathons held annually in Adelaide and Melbourne thanks to the availability of complete results and demographic characteristics. There is also enough reliable information to look at the changes in average, fastest and even slowest times for four long term marathons in South Australia which have spanned at least three decades.

These are (1) the combination of marathons held under the auspices of amateur athletics bodies, which include state and national championships, games selection trials or other time trials; (2) the Whyalla Marathon which commenced in 1975 and lasted until 1996; (3) the Adelaide Marathon which commenced in 1979 and (4) the Pichi Richi Marathon which commenced in 1982.

Only the Adelaide and Pichi Richi Marathons continue to be held, with the last state championship being contested in 2011. It is possible state or national championships will be held again although the latter would only be likely should Adelaide ever be selected to host major international games which include athletics.

Table 2 shows the average, fastest and slowest times by decade for the four long term marathons. In the Amateur Athletics series all events prior to 1950 have been grouped together to enable a valid comparison to be made with later decades. Marathons were held in 1920, 1925, 1932, 1937 and 1941. They resumed in 1956 and were held annually until 2011 although there were no entrants from 2006-10. The Whyalla Marathon was held annually from 1975 until 1996 except in 1994 when a half marathon was held. It resumed in 1995 at a new location but that lasted only another year.

The boom of the 1970-80s is clearly shown by the number of finishers in the Amateur Athletics series. Looking at the State Marathon, there were 32 finishers in 1977 compared to 13 the previous year. In 1978 this jumped to 49, then in successive years from 1979 to 94, 119 and 147 respectively before peaking at 153 in 1982. From there it fell back to around 100 each year until 1986, after which the decline began, as noted on page 6.

The Adelaide Marathon began as a result of the boom and the regional Whyalla and Pichi Richi Marathons were well supported by people looking to run more marathons within easy reach. The Whyalla Harriers recognised this need in the mid 1970s, beginning well before the Adelaide Marathon and many local athletes travelled to Adelaide to compete in the State Marathon. In 1982 the Port Augusta YMCA Road Runners Club became the first non-amateur athletics body in SA to host a marathon when they designed the course to Quorn through the Pichi Richi Pass.

TABLE 2 - AVERAGE, FASTEST & SLOWEST TIMES BY DECADE FOR LONG TERM MARATHONS IN SOUTH AUSTRALIA

Marathon & Decade	Years	Average time	Number of finishers	Fastest time	Competitor	Slowest time	Competitor
Amateur Athletics (1920-2011, not continuous)							
pre 1950s	5	3:42:28	11	2:57:06	Ern Jolly, 1937	4:28:19	Thomas Byrnes, 1920
1950s	4	3:23:30	26	2:35:35	Frank Tutchener, 1958	4:10:14	R. Gorman, 1957
1960s	10	2:55:21	99	2:21:58	Derek Clayton, 1967	3:38:49	Robert Clarke (SA), 1967
1970s	10	3:04:57	285	2:17:24	John Farrington, 1974	4:32:00	Max Barnes, 1978
1980s	10	3:13:36	1017	2:11:42	Gerard Barrett, 1980	5:35:03	Alan Lang, 1986
1990s	10	3:03:52	125	2:30:55	Joe Petkovic, 1990	5:02:16	Sue Worley, 1994
2000s	6	3:09:00	14	2:32:07	Mark Howard, 2000	3:52:01	Sarah Cox, 2000
2010s	1	3:25:11	1	3:25:11	Bernice Mutiso, 2011	..	..
Whyalla (1975-1996 except 1994)							
1970s	5	3:25:18	114	2:26:52	Jack Foster, 1978	5:17:00	Derek Blackburn, 1979
1980s	10	3:23:02	175	2:29:31	John Duck, 1980	5:49:18	Vanessa Berg, 1983
1990s	6	3:14:03	54	2:35:02	Glen Harvey, 1991	4:35:36	David Showell, 1991
Adelaide (1979-2015)							
1970s	1	3:53:11	463	2:30:08	Grenville Wood, 1979	5:34:43	Martin Johnson, 1979
1980s	10	3:45:53	10103	2:20:23	Steve Poulton, 1984	8:05:50	Lesley Pearce, 1988
1990s	10	3:45:10	2748	2:22:49	Frank Shevlin, 1990	8:30:00	Prince White, 1992
2000s	10	3:56:31	2038	2:22:32	Devic Borislav, 2000	7:15:07	Louise Bird (et al), 2001
2010s	6	4:01:40	2540	2:35:01	Steven Page, 2012	7:50:26	Ziad Junblat, 2012
Pichi Richi (1982-2015)							
1980s	8	3:58:43	342	2:38:59	Ian Hill, 1987	7:30:17	Margaret Zivkovic, 1982
1990s	10	4:00:57	301	2:42:36	Peter Tutty, 1990	7:43:00	Bernadette O'Connor, 1998
2000s	10	4:21:43	317	2:53:39	Steve Guy, 2001	7:20:28	Dick Crotty, 2001
2010s	6	4:17:17	301	2:51:46	John Csongei, 2013	8:03:54	Stan McCartney, 2014

Notes:

(1) Amateur Athletics includes State and National Championships and Games selection trials.

(2) Number of finishers includes only those with an available time in the results or newspaper report.

(3) Slowest time of available times only. Two recorded finishes with times of over 10 hours are excluded.

(4) In the 1967 National Championships there were two competitors named Robert Clarke, from NSW and SA.

(5) In the 1986 State Championships Dick Crotty also recorded 5:35:03.

(6) In the 2001 Adelaide Marathon Louise Bird, Iva Hardwick, Kylie Fickling and Russell Barton all recorded 7:15:07.

(7) In the 1982 Pichi Richi Marathon Cynthia Lear also recorded 7:30:17.

(8) In the 1998 Pichi Richi Marathon Helen O'Connor also recorded 7:43:00.

A number of other marathons have been held in South Australia, but the only one which went any length of time was the Jade Marathon from Cleve to Cowell which began in 1989 and ended officially in 1994 although it continued unofficially until 1998. The Barossa Marathon which began in 2012 is an upgrade of the highly successful Barossa Half Marathon which had its origin in the early 1980s

and is likely to become a long-term marathon. A marathon was held at Loxton in 1990-91 and there have been a number of one-of or novelty marathons including the notorious Fanatics Marathon which was run on Christmas Day for a number of years beginning in 1981. This has now sensibly become a well-attended half marathon as the Christmas Day tradition continues.

The evolution of faster average times can be seen in Table 2, where in the Amateur Athletics series times reduced from 3:42 before 1950 to 3:23 in the late 1950s to 2:55 in the 1960s, which in a sense can be considered the "heyday" of amateur marathon running. The Amateur Athletics Association only gave certificates to finishers under 3:30 and there was little incentive to keep running after that time, as exemplified by the *slowest* time of the decade being a rather respectable 3:38:49 by Bob Clarke, the founder of the City-Bay Fun Run. Incidentally there was a remarkable coincidence during that particular marathon, the 1967 National Championship where Robert Clarke from NSW ran 2:38:49, exactly an hour faster than his SA namesake!

Although the average time slowed by nearly ten minutes in the 1970s because of an influx of slower runners courtesy of the boom, elite performances became faster and dipped under 2:20 for the first time when Brenton Norman on his debut won the 1970 State Marathon in 2:19:46. John Farrington ran the decade's fastest time, winning the national title in 1974 in 2:17:24, over four minutes faster than Derek Clayton's 2:21:58 in the 1967 National Championship at Oakbank.

This pattern repeated itself in the 1980s when the average time slowed by nearly another ten minutes (mainly because by then non-registered athletes could participate), but the elite performances were topped by Gerard Barrett's 2:11:42 in the 1980 Olympic Trial, an improvement of over five minutes on Farrington's time. Average times picked up again in the 1990s at 3:03 but only because the event reverted to registered athletes rather than all comers.

Average times at Whyalla were about ten to twenty minutes slower than the State Marathon but still fast as relatively few people bothered to stay on the course longer than four and a half hours. This event tended to attract state and even national level representatives looking to improve their best time on the flat multi-lap course but there was one year, 1978, when a world class runner, Jack Foster aged 46 years from New Zealand, was looking to qualify for the Commonwealth Games and needed a marathon to run and Whyalla was the only plausible event within reach[14]. However it was in April and it turned out to be a hot day of 34C and Foster could only manage 2:26:52, still good enough to remain as the event record. Legend has it that at the 35km mark Foster jumped into a 44 gallon drum of water to cool off. Hopefully he knew it was for sponges rather than drinking water!

The fastest time by a woman at Whyalla was 2:56:57 by Candice Charles in 1990.

Apart from the first event in 1979, the average times in the Adelaide Marathon remained consistent at around 3:45 until the 2000s when they dropped ten minutes and then fell to slower than 4 hours by the current decade. The increasing participation of female competitors, particularly in the older age groups as shown in Table 3, combined with the changing reasons for running a marathon and the large decline in men aged under 40 years are most likely the main causes for this trend.

One peculiar aspect is the inclusion of the marathon on so-called "bucket lists" (ie lists in books such as "101 things to do before you die") and it would be interesting to ascertain how many entrants are participating *solely* for this reason and their demographic characteristics.

The popular Pichi Richi Marathon is the only one of the four long term marathons to maintain the same course for its entire existence apart from small variations to the start and finish locations affecting only the first and last kilometre of each event. Comparison of times over the decades is therefore unaffected by major course changes. Being effectively the only point to point course of the four, times can be affected by the weather more than anything else. The other factor affecting times is the uphill gradient with a gradual rise of some 400 metres to the 35km mark followed by a gentle downhill run into Quorn.

Not surprisingly, average times for the Pichi Richi Marathon are about fifteen to twenty minutes slower than for the Adelaide Marathon. They hovered near four hours until the 2000s when they slowed to around 4:20 which is consistent with the slowdown experienced in Adelaide. In the early years the Pichi Richi Marathon attracted male state level runners who were able to complete the course within ten to fifteen minutes of their personal best and the consensus was that a time under 2:35 was possible for *them*. No doubt the course could be run under 2:20 by world class runners but none were ever going to show up.

The female course record has gradually been whittled down from an early mark of 3:23:58 in 1985 by Helen O'Connor to 3:19:03 by Mandy Towler in 2009 and then to 3:13:16 in 2011 by Nicole Butterfield. The male record of 2:38:59 set in 1987 by Ian Hill, improving on Steve Guy's inaugural 2:40:10 in 1982, still remains after withstanding a serious challenge in 1990 by Peter Tutty who unfortunately struck atrocious weather and missed setting a new mark by less than four minutes.

Table 2 also lists the *slowest* times for each decade of the long term marathons. For a couple of years during the early 1980s an endurance award for the slowest time was given in the Adelaide Marathon and the 1985 race instructions, in keeping with being the friendliest marathon, announced that the finish line would remain open for eight hours. However this became a farce in later years when some entrants took time out to have a picnic or similar meal break, thereby keeping the officials waiting until well into the afternoon up to ten hours after the start time. While this can be commonplace in ultra marathons, for the purposes of this article such times are excluded as most walkers can complete the distance in six to seven hours.

The first official time over six hours in South Australia was recorded by Howard Williams, aged 32 years in 1980 when he placed last in the Adelaide Marathon in 6:06:23. Some people light heartedly claimed a state record by finishing slower than Howard at the Honolulu Marathon later that year, but performances outside South Australia are beyond the scope of this article. The slowest accepted time in Table 2 of 8:30:00 was recorded by Prince White aged 58 years in Adelaide in 1992.

6. Age Group Demographics

The final study of changing marathon demographics is an expansion of the earlier analysis of how in broad age groups average speed changed over time. It looks at each five year age group from 20-24 years to 65-69 years and the under 20 and 70+ groups in two ways. Table 4 is a comprehensive compilation of average and fastest times and participation in every decade for each age group for males and females in the Adelaide Marathon. Although information is presented for five decades, bear in mind that the "1970s" is represented by 1979 only and with small numbers in some age groups the average and fastest times cannot be reliably compared with other decades. At the other end of the time scale the 2010s now have six years of results which is enough to draw reliable conclusions, particularly if the data is converted to an annual basis.

Firstly, changes in marathon participation itself over the decades are examined and this is followed by the propensity of the general population to try a marathon as shown by the participation *rate* per 100,000 persons in each age group.

Marathon participation

The data in Figure 9 is the annual participation during 2010-15 (calculated by dividing the total participation by six) expressed as a percentage of the annual participation of the 1980s. Given that there was a decline in participation from 1990 which has now been reversed overall (see Figure 1), the amount of *recovery* to 1980s levels can be seen in each age group.
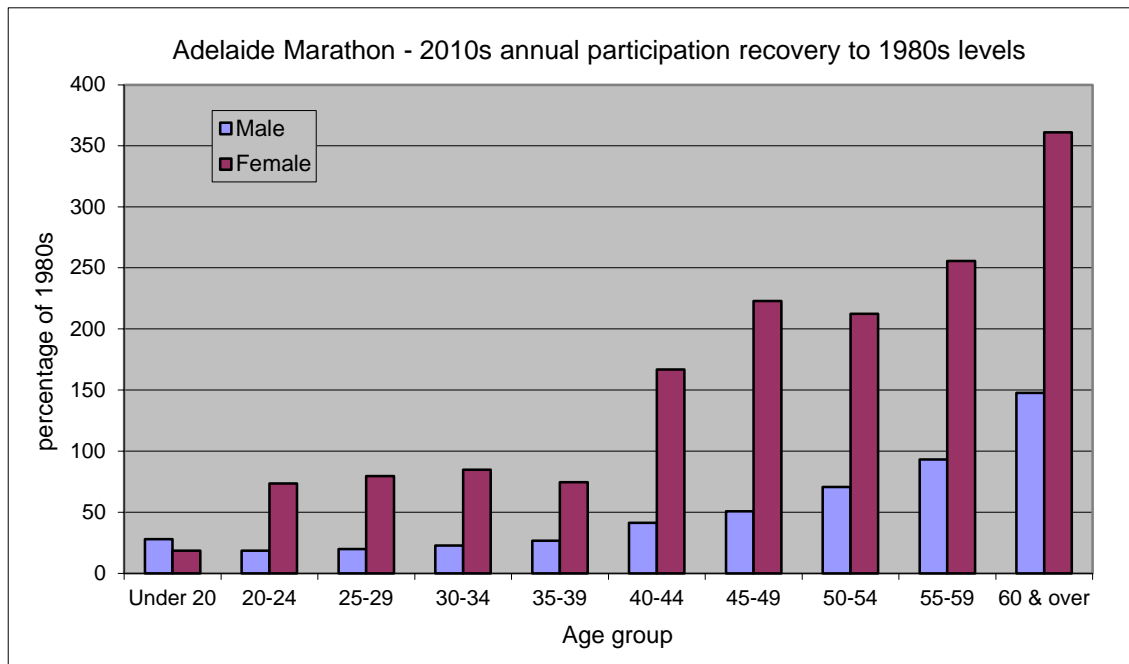
Figure 9 – 2010s annual participation recovery to 1980s levels

The obvious feature is the large increase in female participation from age 40 and over. Participation of women aged 40-44 is over 50% higher now than in the 1980s and from age 45 years has more than doubled. Curiously average times for the groups in their 40s for the 2010s have slowed by ten minutes from the previous decade whereas the groups in their 50s have become faster, as seen in Figure 8b. It's likely both groups are settling into an equilibrium level with the increasing numbers of over 50s now giving reliable average times while during the 2000s the women aged 40-49 were more serious about their marathon time whereas now with large increase in numbers it could be another bucket list phenomenon.

Numbers of younger women under 40 years have recovered to about 75% of the 1980s level and again there are differences in average time change according to age group. In the 2010s women under 30 have slowed from both the previous decade and the 1980s while women over 30 have become faster in both instances.

The men tell a different story altogether, with participation recovery less than 30% in all age groups under 40 years and improving to over 90% for the 55-59 group and nearly 150% for 60 and over. Average times have slowed accordingly from the 1980s in all age groups under 60. The 60-64 group shows a slight improvement and the 65+ group a significant improvement in times over the 1980s.

Participation rate

The marathon participation *rate* of the general population is defined as the number of finishers in a particular age/sex group per 100,000 people in the group. This definition does <u>not</u> determine the true rate of marathon participation in Australia, which would need to include the results of <u>all</u> marathons, but enables a comparison for the Adelaide Marathon over time.

Figure 10 uses population census data[15] from the Australian Bureau of Statistics (ABS) to show how the numbers in age groups for the total population of Australia compare thirty years apart. The bulge shown by the green bars representing the 1981 population for all age groups under 40 years is evident. There were simply more people at that age then and therefore the age profile of marathoners reflects this. Thirty years on the bulge has moved upwards in the chart and has become much wider as the population increased both naturally (births minus deaths) and from a net increase in migration to Australia. While there are more people in every age group, the increase is marginal in ages 5-19, significantly higher for ages 0-4 and 20-39 and in all older age groups the population has nearly doubled in the past thirty years. In the 80+ age group the population has *tripled*.
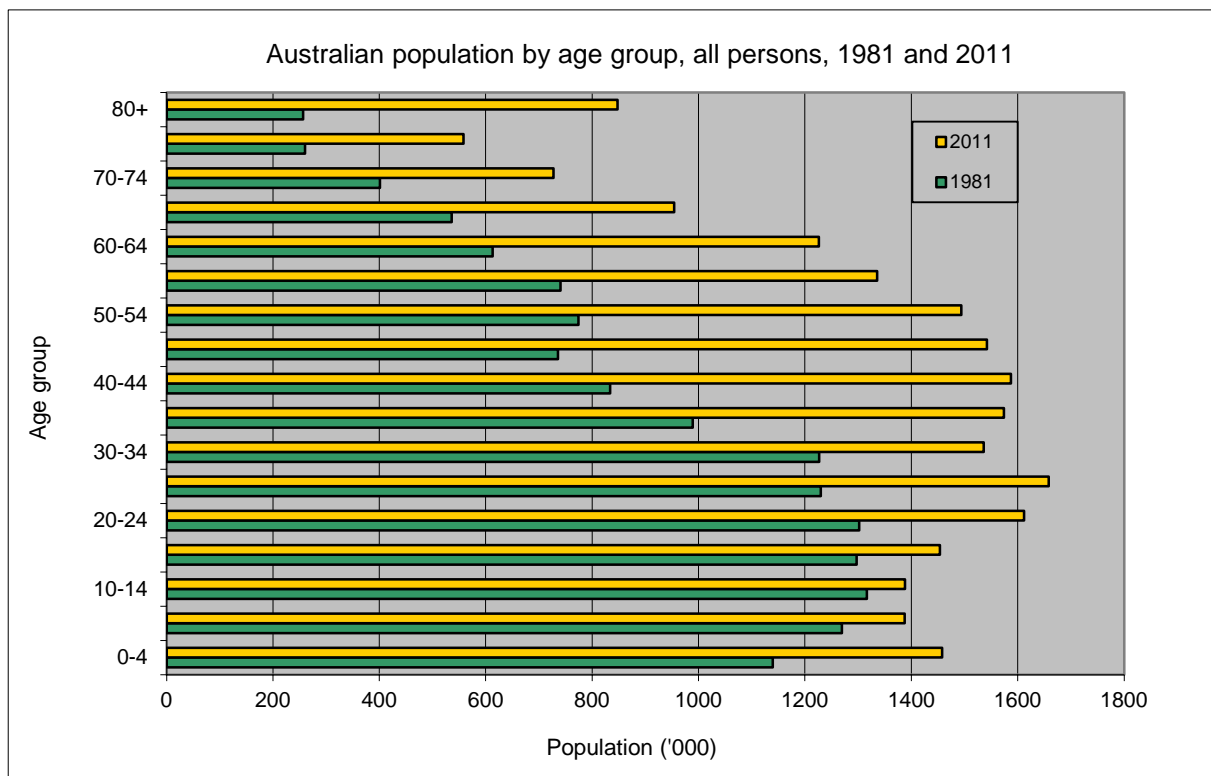
Figure 10 – Australian population by age group, all persons, 1981 and 2011   **Source: ABS**

Therefore it is not surprising that there are many more older marathon participants now. What is surprising is that the younger population is not running the marathon in large numbers as well considering that there are now more of them.

Table 3 compares the participation rates in the 1980s to the 2010s. The percentage decline from the 1980s shows very different results for men and women. In the 1980s the participation rate for men under 30 was over *six* times that of the 2010s. For under 40 it was over five times and for under 50s it was over four times that of the current decade, which means a decline of 75% or more for all men under 50.

For women under 40 the decline is much less, being more than 50% for the 35-39 group only. For women aged 45 or over the participation rate is now <u>higher</u> than it was in the 1980s which means the decline shows as a negative number in the table.

TABLE 3 - CHANGE IN PARTICIPATION RATE BY AGE GROUP, ADELAIDE MARATHON

Age group	Australian population		Annual participation		Rate per 100,000		Decline in 2010s (%)
	1981 ('000)	2011 ('000)	1980s	2010s	1980s	2010s	
MALES							
20-24	660	823	46.0	8.5	6.97	1.03	85.2
25-29	622	841	114.3	22.5	18.36	2.68	85.4
30-34	622	769	195.7	44.3	31.45	5.76	81.7
35-39	504	782	206.3	54.7	40.92	6.99	82.9
40-44	427	787	137.6	56.8	32.21	7.22	77.6
45-49	377	764	80.3	40.7	21.28	5.32	75.0
50-54	396	740	45.4	32.0	11.48	4.33	62.3
55-59	370	662	22.2	20.7	6.00	3.12	48.0
60+	904	2031	13.1	19.3	1.45	0.95	34.3
FEMALES							
20-24	642	788	5.9	4.3	0.92	0.55	40.2
25-29	608	817	19.7	15.7	3.24	1.92	40.9
30-34	605	767	22.4	19.0	3.70	2.48	33.1
35-39	485	792	28.6	21.3	5.90	2.69	54.3
40-44	407	801	17.6	29.3	4.33	3.66	15.3
45-49	358	778	7.4	16.5	2.07	2.12	-2.7
50-54	379	754	4.0	8.5	1.06	1.13	-6.8
55-59	370	674	1.5	3.8	0.40	0.57	-40.5
60+	1164	2283	0.6	2.2	0.05	0.09	-81.6

Source of population data: ABS website, www.abs.gov.au

Note: Annual participation rate in Adelaide Marathon only. Australia-wide rate is higher.

The significant increase in annual participation of women aged 45+ is mostly explained by the fact that their numbers virtually doubled from 1981 to 2011, but nevertheless they are the only group to have increased their participation *rate* since the 1980s, hence showing a "negative" decline. The resulting percentage increase for ages 55+ cannot be taken too seriously because of the small numerical base from which they are calculated.

<u>Fastest times in age groups</u>

The most remarkable age performance in the Adelaide Marathon was 2:38:46 by 60 year old Derek Turnbull from New Zealand in 1987. This set a new world best time for both age 60 and the 60-64 age group. This mark has since been reduced to 2:36:30 by Yoshihisa Hosaka from Japan in the Oita Marathon in 2009[16]. Turnbull still holds the age 65 world best time of 2:41:57 set in London in 1992.

The best female age performance was set by 45 year old Leslie Watson from Scotland with a time of 2:49:49 in the 1989 Adelaide Marathon. In 1991 Doreen Cock aged 68 ran a time of 3:52:50, which compares favourably with the current world best for age 68 of 3:36:22 by Jane Miners from Great Britain in 2014 at Luzern, Switzerland.

TABLE 4 - ADELAIDE MARATHON: AVERAGE & FASTEST TIMES BY AGE GROUP

Age Group & Decade	MALE Ave time	No. finish	Fastest time	Competitor	FEMALE Ave time	No. finish	Fastest time	Competitor
Under 20								
1970s	4:13:13	30	2:45:44	Andrew Both, 18, 1979	4:32:21	1	4:32:21	Nicola Quinn, 14, 1979
1980s	3:59:26	186	2:37:06	Glen Devers, 16, 1981	4:31:40	21	3:25:54	Cheryl Webb, 16, 1981
1990s	3:43:02	16	2:48:40	Leigh Stokes, 18, 1998	4:16:37	1	4:16:37	Joanne Krieger, 19, 1993
2000s	3:44:18	9	3:11:32	Richard Frimpong, 18, 2009	4:30:47	2	3:58:21	Jessica Magrin, 17, 2003
2010s	4:05:58	18	2:43:57	Bradley Wauer, 19, 2010	4:52:04	1	4:52:04	Sophie May, 19, 2011
20-24								
1970s	3:54:24	46	2:30:08	Grenville Wood, 24, 1979	3:41:15	1	3:41:15	Anne Mann, 24, 1979
1980s	3:41:23	460	2:24:52	Shaun Hunt, 24, 1984	4:09:00	59	3:06:20	Trudy Fenton, 24, 1984
1990s	3:34:48	72	2:33:22	Mark Howard, 23, 1998	4:06:21	16	3:21:39	Fran Higgins, 23, 1991
2000s	3:48:10	59	2:56:19	Aaron Lange, 23, 2006	4:07:00	16	3:08:39	Stephanie Gaskell, 21, 2005
2010s	3:58:29	51	2:48:55	Sean Deleavy, 23, 2014	4:16:09	26	3:18:03	Joanna Kruk, 24, 2011
25-29								
1970s	3:43:20	72	2:33:51	Robert Barnard, 26, 1979	4:05:10	6	3:28:24	Robyn Brown, 26, 1979
1980s	3:38:37	1143	2:20:23	Steve Poulton, 26, 1984	4:08:28	197	2:49:59	Maureen Moyle, 29, 1984
1990s	3:28:56	196	2:27:53	David Meade, 28, 1998	3:48:31	43	3:05:46	Leah Wright, 27,1993
2000s	3:46:26	141	2:32:07	Mark Howard, 25, 2000	4:09:34	67	3:06:02	Eilis Connery, 25, 2007
2010s	3:51:05	135	2:39:50	Luke Goldup, 27, 2011	4:17:18	94	2:58:19	Tracy Clinch, 27, 2015
30-34								
1970s	3:51:24	103	2:44:32	David Martin, 33, 1979	5:18:24	1	5:18:24	Christine Bock, 30, 1979
1980s	3:37:00	1957	2:20:27	Paul O'Hare, 34, 1983	4:14:10	224	2:46:31	Gill Dunning, 34, 1984
1990s	3:29:48	375	2:22:49	Frank Shevlin, 30, 1990	4:02:36	39	3:02:32	Leah Wright, 33, 1999
2000s	3:44:50	243	2:31:03	Elad Haas, 33, 2002	4:09:45	62	2:54:31	Eliza Mayger, 33, 2006
2010s	3:48:50	266	2:42:42	David Staehr, 34, 2011	4:07:12	114	2:59:15	Tracey Taylor, 31, 2015
35-39								
1970s	3:53:52	89	2:48:20	Trevor Mitchell, 35, 1979	5:06:09	2	4:53:53	Marjory Burnard, 39, 1979
1980s	3:37:45	2063	2:25:50	John Duck, 36, 1989	4:17:12	286	2:51:15	Desiree Letherby, 37, 1983
1990s	3:34:01	437	2:28:26	Chris Muirden, 36, 1999	4:19:05	60	2:53:03	Linda Christison, 35, 1996
2000s	3:45:14	279	2:22:32	Borislav Devic, 37, 2000	4:02:21	64	2:55:38	Eliza Mayger, 35, 2008
2010s	3:46:47	328	2:35:01	Steven Page, 38, 2012	4:01:20	128	3:01:23	Tracey Tasker, 36, 2015
40-44								
1970s	3:40:48	49	2:45:23	Iain Dobbie, 40, 1979	4:30:14	2	4:28:06	Rosemary Crowley, 41, 1979
1980s	3:39:21	1378	2:29:36	Frank Smith, 42, 1984	4:31:23	176	2:59:14	Mollie Whitehorn, 41, 1988
1990s	3:36:21	492	2:32:05	Gary Zeuner, 41, 1995	4:05:41	60	2:58:59	Jeannette Mase, 40, 1993
2000s	3:46:38	251	2:34:09	Michael McIntyre, 43, 2001	4:06:16	59	3:06:39	Patricia Galvin, 42, 2000
2010s	3:52:46	341	2:47:12	Paul Greenwood, 43, 2014	4:15:02	176	3:04:54	Charmaine Symons, 42, 2014

TABLE 4 - ADELAIDE MARATHON: AVERAGE & FASTEST TIMES BY AGE GROUP (Con't)

Age Group & Decade	MALE Ave time	No. finish	Fastest time	Competitor	FEMALE Ave time	No. finish	Fastest time	Competitor
45-49								
1970s	3:56:46	31	3:04:24	William Kirkwood, 47, 1979	4:38:55	1	4:38:55	Nora Sutcliffe, 49, 1979
1980s	3:46:08	803	2:33:36	Gerry Hicks, 47, 1980	4:33:07	74	2:49:49	Leslie Watson, 45, 1989
1990s	3:46:39	373	2:33:00	Tony McCool, 46, 1990	4:24:52	38	2:53:31	Bev Lucas, 45, 1992
2000s	3:49:51	231	2:42:52	Michael Tagell, 48, 2004	4:16:58	39	3:21:05	Elizabeth Bennett, 46, 2009
2010s	3:57:10	244	2:39:59	Raymond Wareham, 47, 2014	4:26:40	99	3:08:43	Fiona Oakes, 47, 2013
50-54								
1970s	3:56:32	18	2:59:57	Roy Sutcliffe, 50, 1979	..	0	..	..
1980s	3:52:43	454	2:37:31	Peter Kallio, 50, 1986	4:43:27	40	3:26:17	Sonia Simpson, 53, 1983
1990s	3:55:15	262	2:50:11	Len Martin, 53, 1990	4:47:54	26	3:35:10	Jacky Whitting, 52, 1994
2000s	3:58:43	201	2:48:46	David Standeven, 50, 2002	4:47:04	32	3:39:13	Rita Clark, 50, 2000
2010s	4:02:14	192	2:56:06	Chris Taylor, 52, 2011	4:44:03	51	3:45:02	Vicki Tuckey, 51, 2012
55-59								
1970s	4:05:18	8	3:21:27	Bill Caudle, 58, 1979	..	0	..	..
1980s	4:06:38	222	2:54:24	David Padget, 55, 1987	5:02:56	15	3:58:12	Doris Ellis, 56, 1986
1990s	4:03:04	114	2:56:46	Keith Eva, 55, 1998	5:06:40	9	3:54:46	Jacky Whitting, 57, 1999
2000s	4:00:41	132	3:05:36	Dean Elliott, 56, 2009	4:52:11	27	3:50:40	Marilyn Bevan, 57, 2002
2010s	4:07:29	124	2:51:56	Peter Hallahan, 56, 2014	4:41:26	23	3:36:50	Jenni Lutze, 55, 2015
60-64								
1970s	4:24:52	1	4:24:52	Peter Rogers, 60, 1979	..	0	..	..
1980s	4:13:28	71	2:38:46	Derek Turnbull, 60, 1987	4:28:28	3	4:09:13	Doreen Cock, 64, 1987
1990s	4:06:02	50	3:06:31	Julius Keller, 60, 1991	5:43:11	5	5:20:29	Susan Bardy, 61, 1994
2000s	4:16:38	63	3:27:31	Paul Rugless, 60, 2009	5:07:11	6	3:56:04	Sue Tyson, 60, 2009
2010s	4:13:24	74	3:16:59	Lester Smith, 62, 2013	5:14:14	9	4:21:39	Jane Sturzaker, 61, 2014
65-69								
1970s	4:25:46	1	4:25:46	Harry Purvis, 69, 1979	..	0	..	..
1980s	4:32:57	39	3:20:16	Keith Mander, 65, 1986	5:04:18	3	4:02:47	Doreen Cock, 65, 1988
1990s	5:00:33	32	3:27:42	Roy Zimmerman, 66, 1995	5:21:26	5	3:52:50	Doreen Cock, 68, 1991
2000s	4:43:03	23	3:29:41	Doug Smart, 66, 2009	5:34:57	3	4:26:47	Fujiko Yamada, 66, 2001
2010s	4:22:25	31	3:31:37	Paul Rugless, 65, 2014	5:07:54	4	4:28:50	Angela Grattan, 65, 2013
70 and over								
1970s	..	0	..	..	..	0	..	..
1980s	4:33:39	21	3:40:07	Richard Bryant, 70, 1981	..	0	..	..
1990s	4:58:42	12	3:42:14	Ken Matchett, 73, 1995	..	0	..	..
2000s	5:16:25	14	4:09:03	Andrew McComb, 70, 2001	5:26:26	1	5:26:26	Susan Bardy, 70, 2003
2010s	4:30:36	11	3:31:09	Liam Hanna, 70, 2014	..	0	..	..

Notes:

(1) Derek Turnbull's time of 2:38:46 in 1987 was the world best for age 60.

(2) A result showing 3:45:02 for Donna Arbuckle, 64 in 2002 is likely to be one hour too fast and is excluded.

(3) Susan Bardy, 70, is the oldest woman to finish the Adelaide Marathon with 5:26:26 in 2003.

(4) Of 10 results for the male 75-79 age group the fastest is 4:26:30 by Antonio Bonazzi in 2012.

(5) Alfred Ryan, 80 finished in a time of 5:49:38 in 1994.

7. <u>Summary</u>

As the centenary of the first marathon held in South Australia approaches in August 2020, this endurance event which in Australia was mostly confined to amateur athletics bodies in the capital cities until 1968 or conducted as a professional enterprise has now become widely accepted in the community and indeed a "must do" for many people. The demographics (the characteristics of the population) of participants has changed from being solely an event contested by men of varying ages under 60 before the 1970s in Australia to one where for the first time more than one in three finishers of the 2014 Adelaide Marathon were women.

The worldwide running boom of the 1970s quickly spread to Australia and by the end of that decade major people's marathons were established in many capital cities and these were supplemented with smaller regional marathons. While some only survived a few years, others such as Whyalla and Pichi Richi went on to become long term events, the latter now enjoying its 35th year.

The rapid increase in participation from the running boom in the early to mid 1980s could not be sustained in any marathon in Australia and as shown in Figures 1 and 6, numbers taking part quickly slumped towards the end of the decade. However, the events survived with the advent of marathon "festivals" which introduced shorter distance events such as half marathons and 10kms to ensure the featured marathon was still economically viable.

The average age of participants in the Adelaide Marathon rose steadily from 33.0 years in 1980 to a peak of 42.9 years in 1997 before declining slightly to hover around 41 years in the current decade. Overall the average age of female participants is about two and a half years younger than for males. The consistent increase in age by over six months per year *every* year until 1997, as seen in Figure 3 can be attributed to a combination of factors. Each year's event had a large proportion of participants who had finished it before and were doing it again. This combined with first time participants, whose average age was generally five to ten years younger and tended to reflect the aging of the population in general, caused the sustained rise in overall age for seventeen years.

Eventually the age of repeat participants levelled as their numbers declined from the beginning of the 21st century and their proportion of the field fell well below 50%, causing overall average to remain steady at just above 40 years. A closer look at age groups shows that the while the marathon appealed to younger men under the age of 40 years in particular during the boom years, the appeal now is to women aged 40 and over.

This finding is consistent with the number of women since 1995 who have become *Warriors* upon finishing their tenth Adelaide Marathon, now at eight compared to only two in 1995. The equivalent achievement in the Melbourne Marathon, the *Spartans* have increased their female membership from 21 to 98 over the same time. However these numbers are disproportionately small compared to the number of male Warriors and Spartans, being only 3% and 7% of the total in 1995 and 2015 respectively for both marathons.

The average time for women in the Adelaide marathon has remained virtually constant at a little over 4 hours 15 minutes throughout its 37 year history. Statistically it is speeding up by a marginal 1.6 seconds per year or 16 seconds a decade. In contrast the men are slowing down at a rate of 28 seconds a year and are now averaging around 3 hours 53 minutes compared to 3 hours 36 during the mid 1980s. The time gap between men and women has decreased by 16 minutes since 1979.

Despite this narrowing, the gap will probably settle down at around 20 minutes as the males reach their equilibrium position after the abnormally fast boom of the 1980s. The women in general were not similarly affected, no doubt preferring not to train at 140-170km a week for months on end.

For the first twenty years the Adelaide Marathon was promoted as "Australia's friendliest" not out of disrespect of the other high profile people's marathons, but in order to attract slower runners, women and people who prefer to walk the event. This strategy worked well and for a while Adelaide boasted the highest completion rate where around 95% of starters were able to finish the event.

It is a fact that there has never been a sub 2:20 performance in the Adelaide Marathon although several of the winners in the 1980s had PBs under that mark. The best time of 2:20:23 was set in 1984 by Steve Poulton from NSW and in the same year the best female mark of 2:46:31 was recorded by Gill Dunning from New Zealand. It's likely the men's mark would have been bettered two years earlier had it not been for the 28C heat when Colin Neave from Canberra won in 2:21:10 and Anne Mann who won the women's race in 2:52:24 would have approached Dunning's time.

However there have been ten sub 2:20 marathons run in South Australia, the last being at the national championships at the West Lakes course in July 1980 when Lawrie Whitty ran 2:19:00. Earlier that year the Olympic trial was held and four world class athletes battled it out for three spots in the Olympic marathon team, all running 2:13 or better. That event, with just seven finishers from 24 entrants, is the only world class marathon ever held in South Australia. The other five sub 2:20 times were recorded in State or National championships during the 1970s.

There has never been a world class performance by a woman in a South Australian marathon, although the state has produced two such world class marathoners in Lisa Ondieki and Jessica Trengove who both have PBs under 2:30 and have won major championship medals. Three others, Trudy Fenton, Bev Lucas and Desiree Letherby have national class times of 2:45 or better interstate.

Of four SA marathons identified as being long term, two (Adelaide and Pichi Richi) survive thanks to strong organising bodies and the runners who support them. For a while in the mid-2000s it looked like neither would continue, but people stepped up at the last minute to ensure they would. The Whyalla marathon enjoyed a long life from 1975 to 1996 but fell victim to a lack of support from runners who preferred the accompanying half marathon.

The fourth of the long term marathons were the series of events conducted under the auspices of amateur athletics bodies beginning in 1920 with the first marathon held in Adelaide. These events were spasmodic until 1956 when the State Marathon championship was held annually until 2011. However, the state marathon suffered a slow death from the early 1990s when the concept of state marathon champion seemed outdated. From 1992 the championship was held in conjunction with the Adelaide Marathon but there were no entries from 2006-10.

The future of the marathon in SA looks bright thanks to a resurgence of interest since the late 2000s and some new events which have emerged, notably the highly successful Barossa Marathon which no doubt will become long-term and country events at Coober Pedy and Kangaroo Island. The *fast* boom of the 1980s is unlikely to occur again as that phenomenon, although ignited overseas, was kicked along here at just the right time by Australia's marathon heroes Rob de Castella, Lisa Ondieki and Steve Moneghetti. All three are Commonwealth Games gold medallists and Lisa Ondieki also won a silver medal at the 1988 Seoul Olympic Games.

8. <u>Acknowledgements</u>

9. References

1. https://ausrunning.net/misc/faqs.php#first-mara-aus Frequently Asked Questions (FAQs)

2. South Australia Running: No. 15, March 1986. Article by Brian Chapman "South Australia – Marathon State" pp 11-13, featuring a history of the event before the Adelaide Marathon began

3. The Boston Marathon, Joe Falls, 1977 (Collier). Second page of photographs after p114

4. https://ausrunning.net/misc/faqs.php#who-42k-aus FAQs

5. The Age, Wednesday 1 September 1971. Article by Ron Carter "Adrienne makes short work of marathon", p14

6. Whyalla News, Wednesday 4 August 1976. Uncredited article "Good win to junior in country marathon"

7. The Advertiser, Saturday 5 April 1980. Article by Peter Haynes "An Olympic-size hassle"

8. DEEK (The Making of Australia's World Marathon Champion), Robert de Castella with Mike Jenkinson, 1984 (Collins). p63

9. https://ausrunning.net/misc/reports/half-marathons-2013.php Half Marathon Report 2013 by Michael Peters

10. https://ausrunning.net/stats-sa-distance-events/ Distance Events Statistics compiled by Ian Hill, spreadsheet "Adelaide Marathon Finishers, 1979-2015"

11. Sunday Mail 1983 Festival City Marathon Programme, Race Instructions and Entrants' List, South Australian Road Runners Club. Article "Welcome" by Bruce Abrahams, Race Director, p3

12. Sunday Mail 1984 Festival City Marathon Programme, Race Instructions and Entrants' List, South Australian Road Runners Club. Article "Up Front Action" by Brian Chapman, pp 10-11

13. https://ausrunning.net/marathons/search-races.php?year=All&series=Melbourne&state=All All Melbourne Marathons from 1978

14. Whyalla News, Friday 14 April 1978. Uncredited article "Foster the man to beat in tomorrow's marathon"

15. http://www.abs.gov.au/websitedbs/d3310114.nsf/home/Population%20Pyramid%20-%20Australia Australian Bureau of Statistics, animated pyramid showing profile of Australia's population by age and sex from 1971-2061

16. http://www.arrs.run/SA_Mara.htm A compilation of World single age marathon records

Appendix 1 – Technical Note re Figure 4

The overall average age is driven by the ratio of first-timers to repeaters of the event, where for the former the majority are people participating in their first marathon and the remainder are either visitors or locals who have previously run a marathon elsewhere.

In the early years of the event until 1986 the numbers were increasing rapidly and the majority of the field were first-timers, the value of which is simply the repeaters (green line) subtracted from 100. In 1987 the dynamics changed dramatically when the number of first-timers fell from 1015 in the *big one* of 1986 to only 237, a quarter of what they were, while repeaters fell from 918 to 522, still more than half what they were. Thus the green line jumped to nearly 70% and remained well above 50% until 1997, thereby continuing to increase the yellow average age line at a consistent rate of six months per year.

The average age of the purple first-timers line reflects the age of the population in general and it has continued to rise slowly during the history of the event. However the first-timers exclude people under 18 years (since 1984) and effectively seniors 60 years or over and therefore its growth rate is slightly different.

Trend lines fitted to each variable in Figure 4 (not shown) separately up to 1997 and from 1998 to 2015 have the following equations:

	To 1997	From 1998
Repeaters (orange)	$y = 0.6573x + 33.966$	$y = -0.0447x + 47.287$
Overall (yellow)	$y = 0.5465x + 32.825$	$y = -0.0287x + 42.134$
First-timers (purple)	$y = 0.2801x + 32.659$	$y = 0.1280 + 34.128$

The slope of the line is the decimal fraction before the "x" and indicates the rate of annual age change. The repeaters rise by 0.6573 per year, which is nearly eight months, until 1997 while the first-timers rise by 0.2801 per year or about three and a half months. The combined effect on the overall rate is 0.5465, a little more than six months per year.

From 1998 the age of repeaters levels off and in fact shows a very slight decline of about half a month per year while the age of first-timers continues to rise by a month and a half per year. The impact on the overall field is a slight decline as the sharp fall in the green repeaters line from 57% in 1997 to 34% in 2013 causes the yellow line to move towards the purple line in Figure 4.

To summarise, in the early years the event grew rapidly and first-timers comprised more than half the field. Then during the decline from 1987 to 1997 the event was mainly supported by people who had previously participated in it, with first-timers dropping to about a third of the field. For ten years from 1998 there was a slow resurgence by first-timers but only by default as overall numbers were small anyway as the number of repeaters declined. After 2008 the first-timers increased their numbers significantly to consistently form about two thirds of the field in the Adelaide Marathon. While this trend continues the overall average age will remain steady at just above 40 years.

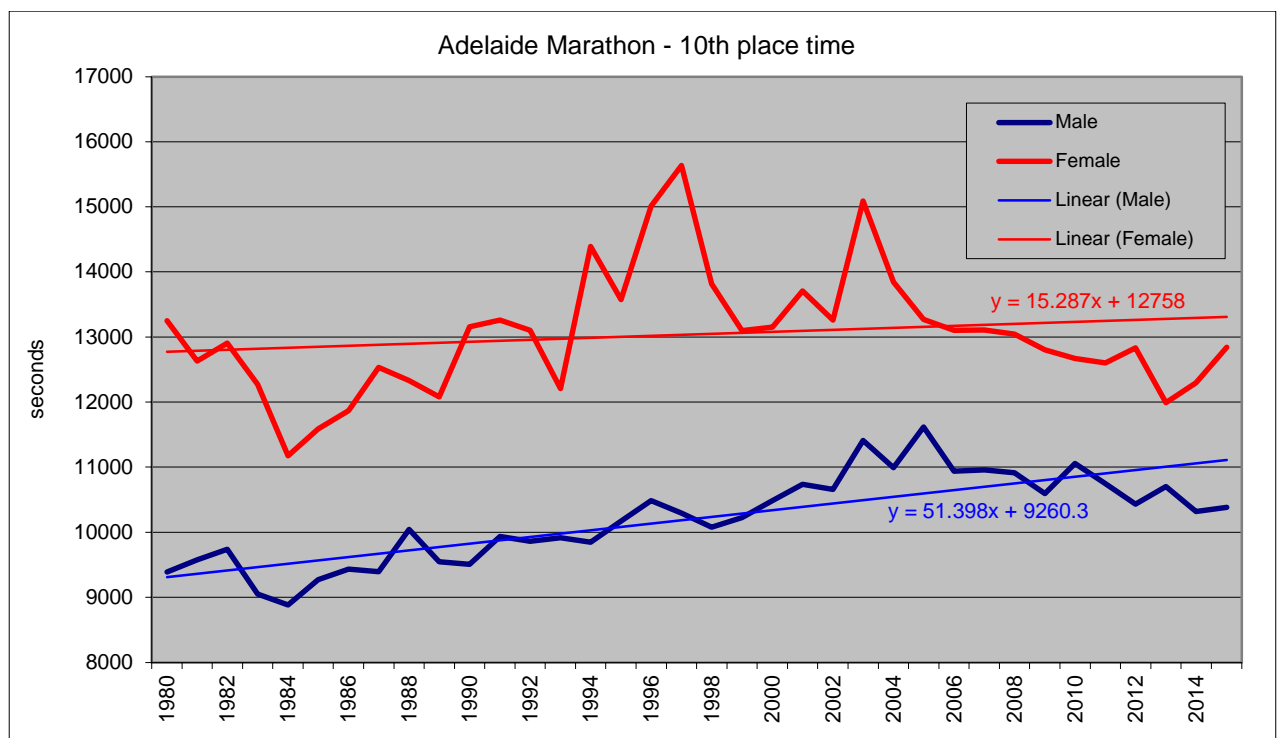**Appendix 2 – Adelaide Marathon 10th place times**

One way to compare the depth of the field from year to year is to look at the time of the tenth placegetter, a practice common in the United States. Table A1 shows these times for the Adelaide Marathon and the size of the field for males and females in the running division only. Walking and wheelchair performances are excluded.

TABLE A1 - ADELADE MARATHON: 10th PLACE TIME

Year	MALE Time	Field	FEMALE Time	Field
1979	2:48:40	449	4:38:55	14
1980	2:36:30	647	3:40:48	41
1981	2:39:36	635	3:30:32	70
1982	2:42:21	782	3:35:04	88
1983	2:30:52	1192	3:24:32	129
1984	2:28:07	1304	3:06:16	150
1985	2:34:33	981	3:13:06	139
1986	2:37:13	1645	3:17:47	288
1987	2:36:35	668	3:28:53	76
1988	2:47:21	601	3:25:28	78
1989	2:39:09	481	3:21:20	57
1990	2:38:27	403	3:39:15	44
1991	2:45:37	355	3:41:01	36
1992	2:44:20	291	3:38:21	25
1993	2:45:16	238	3:23:28	26
1994	2:44:08	205	3:59:50	22
1995	2:49:33	196	3:46:14	22
1996	2:54:44	151	4:10:09	20
1997	2:51:32	154	4:20:37	20
1998	2:47:57	222	3:50:15	24
1999	2:50:27	187	3:38:18	43
2000	2:54:47	170	3:39:13	33
2001	2:58:59	179	3:48:25	38
2002	2:57:38	144	3:40:58	29
2003	3:10:11	119	4:11:28	15
2004	3:03:11	145	3:50:45	28
2005	3:13:41	132	3:41:07	40
2006	3:02:18	165	3:38:24	34
2007	3:02:37	126	3:38:28	42
2008	3:01:52	203	3:37:25	51
2009	2:56:35	241	3:33:23	50
2010	3:04:15	265	3:31:07	88
2011	2:59:06	268	3:29:58	79
2012	2:53:52	304	3:33:53	106
2013	2:58:22	303	3:19:52	134
2014	2:51:59	331	3:24:57	169
2015	2:53:02	335	3:34:02	141

Note: 1979 time is excluded from the graph.

Figure A1 shows the variation in the finish times of the tenth placegetter over the history of the Adelaide Marathon from 1980. The times from the first Adelaide Marathon in 1979 are omitted because of the small number of female finishers (14) from which the slow tenth place time unreasonably impacts on the trend line, causing it to decline which could lead to a wrong conclusion. Although the same could be said for the times recorded in the mid 1990s and 2003, these are part of an important phase of the event when participation declined to its lowest level and therefore they need to be included. The low female participation at the start was likely because it simply took women longer to become interested in trying a marathon.

Figure A1 – Adelaide Marathon 10 place time, 1980-2015

The large variation of female times from the trend line is the result of smaller fields over much of the event's history, with a range of nearly 75 minutes from fastest to slowest tenth placing, excluding 1979. In contrast the male range is only 45 minutes and the curve and trend lines are more compact.

Despite this the female trend line is a reliable indicator because of the long and consistent decline (faster times) in the curve over the past ten years to the same level recorded before 1990. It shows a small slowdown in the time of tenth placing since 1980 at a rate of 15 seconds per year.

In contrast the male trend line shows a slowdown of 51 seconds per year, more than triple that of the women. The curve has also declined in the past ten years but unlike the women the tenth place time has returned to only the level it was at 2000, which is still much slower than the 1980s times.

These findings are consistent with those from Figures 5 and 7 which are, broadly speaking, that over the history of the Adelaide Marathon the men have slowed down but the women haven't.