

## Editorial -

With the Olympics in full swing, our recent lockdown was made somewhat bearable. These excelling athletes do inspire us in our own sporting ventures, and to give us interest in some of these lesser know sports.

Given all the local exercise lately, here are some fun facts (according to Google) about walking:

·Walking is a mood improver and great for mental health.

·Walking sideways burns more calories than walking forward – this is due to the effort it takes to make your body work in unfamiliar ways.

·The word walk comes from the word, wealcan, which is an Old English word and literally means "to roll"

Also, Walking SA has a great web site for finding trails big and small around the state- just go to [www.walkingsa.org.au](http://www.walkingsa.org.au)

Today's articles reflect more of the wonderful diversity of the Surveying profession and its impact on the world around us. We provide some interesting facts on what is now becoming very common technology- GPS. We also look at a disappearing heritage feature being the Trig Station/Beacon and then start the conversation on what will become a massive project in Adelaide, the South Road tunnels.

Stay Safe and positive.

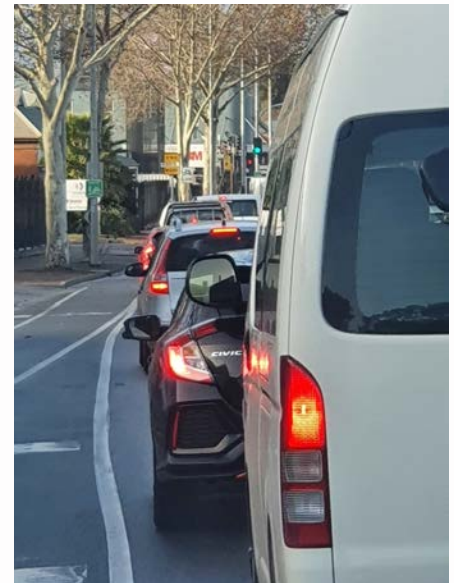
Ed - Michael



## ANOTHER TUNNEL - SOUTH ROAD

We have finally been given the news that the missing link in the South Road upgrade between Darlington and the Torrens will be undertaken with a combination of tunnels and ground level upgrade.

The last significant road tunnel project in South Australia was the Heysen Tunnels as part of the SE Freeway upgrade between the Toll Gate and Crafers. These two 3 lane tunnels under Eagle on the Hill, were completed in 1998 and opened in 2000.



From what we know at the moment two parallel tunnels are proposed to allow three lanes of traffic each way. Commencing in the south at Clovelly Park, it will travel some 4.5km north to just past Cross Road and re- appear before Anzac Highway.

The northern tunnel will commence just south of Sir Donald Bradman Drive and travel some 1.5km to just past Henley Beach Road.

Word Target Competition from last Datum  
The Nine Letter Word that  
Michael Gear Surveys always strives for?  
PRECISION



Two Tunnel Boring Machines (TBM's) will be brought in to complete these projects. At over 120m long these "underground factories" can progress at 10m per day. While massive preparation is needed to prepare the site and laydown areas just for the TBM's to start, it will take (based on 10m /day) some 450 days just to dig the southern tunnels.

We look forward to exploring all the Survey expertise required to ensure these massive machines are kept on track and on alignment.

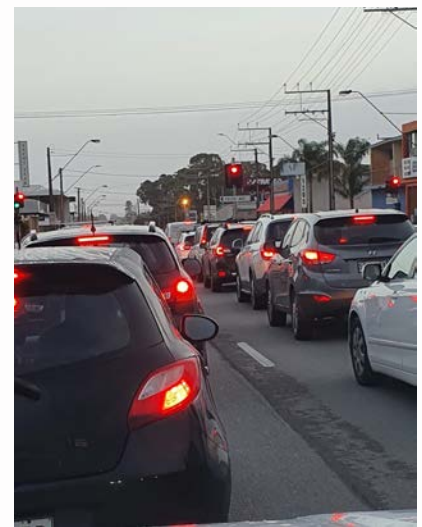
## Competition

Where will you find the longest tunnel in the world?

Send your answers to [admin@mgsurveys.com.au](mailto:admin@mgsurveys.com.au) to enjoy a prize.

Visit the **Michael Gear Surveys** website for more information and past issues of *The Survey Datum* @ [www.mgsurveys.com.au](http://www.mgsurveys.com.au)

Quote .....  
Strive not to be a success but rather to be of value.  
- Albert Einstein



# Tasmania, Australia



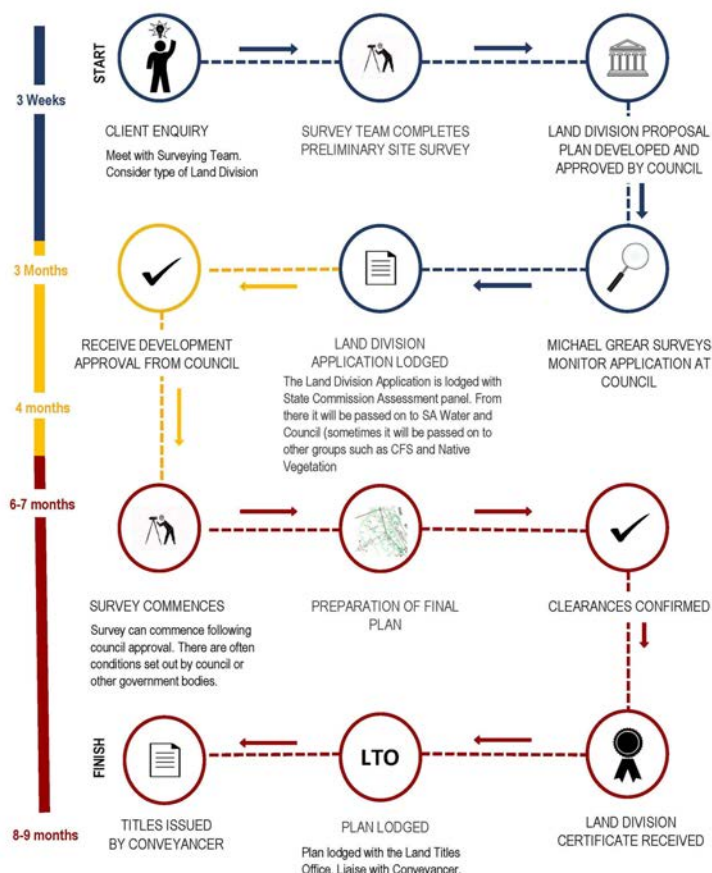
Recently, a holiday by relatives to Tasmania was just perfect timing. What photo do you send your Surveyor relative? Photos from the top of Mount Wellington (1271m) of course. And as any true surveyor will say, "Nothing says I have climbed a mountain like a Trig Station." What a wonderful view as well!



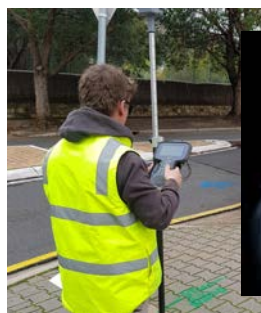
What is a Trig Station? Trig is short for Trigonometrical (or triangulation). Usually these are located on hilltops for the purposes of visibility and use with survey calculations. Historically surveyors could "triangulate" their location based on angular observations to these remote Trig Beacons. With the introduction of Global Satellite Positioning these Trig Stations are becoming a relic of history and most seem to be in various states of disrepair. It is pleasing to see Mt Wellington Trig has managed to stand the test of time.

# COME ON A JOURNEY

Completing a Land Division is a process; a journey. It can be as simple as a shift of the boundary between neighbours to the creation of new allotments. Here is a timeline to help.



Michael Grear Surveys walks this journey with you



## GPS?

While we talk about using a GPS, what we really are saying is that we use GNSS (Global Navigation Satellite Systems). GPS stands for Global Positioning System. It was created by the American's primarily for their defence systems. Private users have been allowed to tap into their signals and with differential corrections, can produce very accurate (survey level) positions.

Since these initial days of satellite locations many countries have created their own satellite systems. Australia benefits greatly because they cover Australia as well.

Satellite using technology can tap into these satellite systems, depending on the software and technology in the equipment. It would also be fair to say the more satellites you are using, the greater accuracy achieved.

*Note New Address in Whyalla*

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