

## "Mathematicians: Agents of Change".

**John Carty**, a long-standing CMA member and formerly of the BSSS, has some interesting thoughts to share with our members – all are picking up on the 2024 theme “Mathematicians: Agents of Change”.

He proposes three situations where discussion within the mathematics community could lead to the solution of problems, the sharing of ideas, some lateral thinking, and ultimately societal change – all using mathematics!

### 1. Housing Trust Waiting Times.

Many trust homes and units remain empty for a long time, while people are on the street or in precarious accommodation, awaiting their turn for more permanent housing on the waiting list.

ACT is the worst state in the country for this problem and it astounds me that some homes remain vacant about 14-19 weeks.

I have often felt Queuing Theory, or some Critical Path ideas, could assist in reducing the time waits. It would be a positive agent of change if at all possible.

I am not at all sure I have an answer, but I believe someone may. I brought the place down with laughs when I suggested these ideas about 30 years ago at a MAV conference at Latrobe University.

(Perhaps the above point might also be applied to hospital and aged care waiting lists, maybe not making as big an impact).

### 2. Neuroplasticity

The former CEO of SACE Board (South Australia Senior Curriculum) told me about how he was involved in neuroplasticity and reversing to some extent things like autism and Aspergers. His name is Professor Martin Westall (Flinders University). He also extended this to dyslexia. I felt there was some Mathematics “in there somewhere.”

Barak Obama gave funding for studies into the brain. Think of the positives if we could use Mathematics to help these sorts of endeavours.

In managing the AST for many years. I felt there were aspects to Special Provisions, not well grasped by any of us. In our journey as teachers, no matter the subject, if some progress can be made and Mathematics helps, it would be significant to all, including the community; it would also reduce the number of people who are future fodder for the gig economy.

### 3. Insurance and Floods.

Yes, we have our Actuarial components in Mathematics, underpinned by the study of Series and Sequences. Yet the massive rise in premiums for flood insurance in some areas, is well beyond the actuarial justification.

Maybe we could hear from the Insurance industry? And again, yes, many suburbs should not have been developed in the flood plains, but for the current residents this is well beyond reasonable.

It is gouging. I wonder if there was some combination of probability and actuarial processes made simple so as to communicate, that could be used to force public justification of premiums.

As a child growing up in Windsor, NSW before it was a Sydney suburb, I often saw the struggles a lot of family friends had with this. My parents were lucky - just above the worse floods - but as I learned more mathematics it was obvious the premiums and non-pay up of benefits, were not morally right.

It is much worse now. Can mathematics help with a solution or even a partial solution?