

# INFRASTRUCTURE AND TECHNOLOGY FAILURES: *the human dimension*

by Bill Durodié

The recent breakdowns on Singapore's modern mass transit system serve to identify some general lessons for all societies handling infrastructure failures—as well as highlighting the significant human dimension to what often appear to the authorities as mere technical issues.

On 15 and 17 December 2011 the Singapore subway system—operated by SMRT Corp.—suffered two significant breakdowns. These were just the first in a recent series of failures, affecting about 200,000 passengers, some of whom were stranded on carriages without lighting or air-conditioning for more than an hour.

The jury is still out regarding the ultimate causes of these, as the inquest into them—involving various expert witnesses—is still underway. Nevertheless, even at this early stage, it is possible to discern an interesting dimension to what happened—at least from a *human* perspective—which may not be explored through the inquiry process if it sticks to understanding the issues solely from a technical perspective.

Much of the emphasis thus far in the discussion has revolved around assessing whether there were the necessary processes and plans in place to prevent these incidents.

However, as some of the foreign experts have revealed in their contributions to the inquiry, far from there being a lack of planning, there was probably too much of it, resulting in SMRT's Rail Incident Management Plan (RIMP) being too detailed and in their opinion, too confusing.

## People versus process

Anyone who has lived in Singapore will probably recognise how many of the most basic activities—such as paying taxes, buying a car, and a whole host of public information services—are

often presented, accessed and controlled through highly detailed web portals that sometimes appear to require a PhD in bureaucratic jargon to read and decipher.

This is not to say that detailed information should not be made available, but rather that it is crucial to remind ourselves that ultimately, it is ordinary people—not processes—who handle such matters, just as it is, on the whole, ordinary people who are the first to have to deal with emergencies.

One of the woes of living in such a successful and highly educated, command-and-control, city-state such as Singapore, is that it is all too easy sometimes for the technocrats who control everything to forget that ultimately all their good intentions and plans are mediated through people.

This is true in all circumstances and of all countries. Singapore has only been chosen as an example because it is both contemporary and apposite. The culture of not questioning rules-based systems may also be somewhat more acute there.

## Communication versus conviction

During this emergency it was clear that many SMRT staff wanted to help. But it appears they were hampered by a lack of initiative—including caution over breaking or bending the rules—and constrained by poor communications.

None of these are technical failures to be redressed merely through better training or a new public address system. It may be that there is something more profoundly embedded in the

Singaporean education system, or culture, that militates against developing initiative.

This is certainly not something one can be trained for, but rather something that osmoses into people through observing the benefits gained by others—including their leaders—from seizing the initiative or taking risks.

Certainly, the only individual to have publicly taken some quite dramatic action on the day—the man who smashed a window to help get some ventilation going for people struggling to breathe in a confined cabin after calls for help went unheeded—remains the one most criticised by some of the responsible authorities to this day.

The same is true of communication. This does not just emerge from having taken a university course in public relations and media management, but rather reflects a passion and commitment to a cause—or corporation—notable by its relative absence here.

Others have already noted that, in trying to prepare itself for all eventualities, including understandable—if possibly inflated—concerns as to the possibility of a terrorist attack, SMRT lost sight of the more likely and obvious problems, including its basic operational responsibilities.

It is not just the shift in attention from the mundane and the mainstream to the exotic and extreme scenarios that is an issue here although we should note that drift is often neglected by organisations today through a growing obsession with possible threats as opposed to probable risks.



A breakdown in the SMRT Circle Line in April 2012.

### Postures versus purpose

We have also learnt recently that the former chief executive of SMRT had been extremely successful in enhancing the profitability of the business by increasing the revenue from new advertising hoardings placed around the network, as well as by maximising income from retail space at subway stations.

The lesson here is that a business or institution should never lose sight of its primary purpose, in this case running an underground rail network as efficiently and as safely as reasonably possible.

One final lesson can be drawn from the deluge of public anger—primarily expressed on-line—that has been criticised by some as having been wholly out of proportion to the magnitude and consequences of what actually happened.

This simmering desire by the citizenry to use such an incident to vent their spleen and pent-up frustrations over all manner of issues—including what are widely perceived to be distant and aloof civil servants—speaks not of any technical problem that SMRT needs to be looking into, but rather of a public that feels isolated and

overlooked in the race to turn Singapore into a world-leading, and indeed world-beating, 21st century city.

This latter is not something that is in the gift of SMRT to resolve—or even address—concerning, as it does, how some Singaporeans see themselves in relation to their country as a whole. Nevertheless, it may be something that the inquiry should at least consider.

Fortunately for Singapore, one other factor often found associated in dealing with such difficulties elsewhere, was relatively absent due to the forward-facing, technology-embracing, outlook that still predominates there.

But it may only be a matter of time before the profoundly anti-human, anti-progress outlook—reflected through Hollywood blockbusters such as *Armageddon*, *The Day After Tomorrow*, *Contagion* and countless others—and continuously expressed and reinforced through books, journal articles, media commentary, expert opinion and government policy, imposes a negative cultural narrative that only serves to make the handling of minor emergencies harder still.

Little wonder then that in closing his

Enlightenment classic, ‘On Liberty’, more than 150 years ago—the philosopher John Stuart Mill advised those in authority that “the perfection of machinery to which it has sacrificed everything, will in the end avail it nothing, for want of the vital power which, in order that the machine might work more smoothly, it has preferred to banish.”

He concluded, “A state that dwarfs its men will soon find that with small men, no great thing can ever be achieved.” [GIA](#)

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