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The Straits Times says

There's no Planet B for world's trash

For far too long, the world has treated the problem of the growing quantities of waste that is created like garbage: something to be dumped and forgotten. That time is over. If any doubts remain as to whether Planet Earth is facing a trash crisis, consider the recent symptoms of distress: the enforced six-month shutdown of the Philippine resort of Boracay choking in its own filth; the death of a whale in Spain with nearly 30 kg of plastic and man-made detritus jammed in its guts; the many reports of growing amounts of plastics and microplastics in sea water around the world.

Microplastics are ingested by sea creatures, which are in turn consumed by humans. What the long-term health consequences are is the subject

of research, but given their known potential as conveyors of harmful chemicals, surely it is better to take collective action now than later. But what is hobbling action at all levels is an "out of sight, out of mind" attitude. The result: rivers clogged with the flotsam and jetsam of a thriving disposable industry; fishing grounds and coastal areas ruined by industrial and farm effluent; tropical resorts overrun with tourists but lacking in sewage treatment facilities.

Governments are not unaware of the pressure to protect the environment but they too can be just as guilty of passing the buck; for years, millions of tonnes of paper, plastic and other waste from Western countries had ended up in China,

the world's leading buyer of scrap material. Late last year, however, China decided to ban what it terms "foreign garbage". The ban may eventually force other nations to do more to live up to their pledges to "reduce, recycle, reuse". But for now, reports point to the waste shipments being diverted to India and parts of South-east Asia.

Given that the volume of trash is likely to rise worldwide as consumption increases along with the growing middle class, what is to be done? There are many possible solutions, even if there is no single silver bullet. Research is being done to come up with better biodegradable products and ways to break down waste safely and efficiently. But beyond that, a clear-eyed, long-term ap-

proach is needed from consumers and manufacturers, starting with production. Take the example of plastic. It is tremendously useful but should it be used in a profligate manner, given its durability and environmentally damaging effects, even in the seemingly innocuous forms of drinking straws and bags? There are alternatives and consumers should consider the price of convenience against the long-term costs.

Boracay and Bali's garbage woes are early warning signals. Singapore has nature reserves like Sungei Buloh to protect. The assurance and safety of its food supply depend on everyone pitching in to protect this planet. Mankind has no other to call home. It cannot be a rubbish tip as well.

HomeFront

The rights and wrongs of discretionary right turns

Removing such turns in favour of arrow lights may curtail some accidents but is likely to slow traffic flow.



Adrian Lim

Transport Correspondent

Knowing when to make a discretionary right turn at intersections is one of the more challenging aspects of learning how to drive.

Take it from private driving instructor Gordon Thia, 62, who has been in the business for almost 40 years. Mr Thia says learners need to estimate the speed and distance of the oncoming vehicles, and have the skill to move off confidently when there is a safe gap in the flow of traffic.

And even licensed drivers don't always get it right. "Even qualified drivers make the mistake of ensuring that the (oncoming) traffic is clear but fail to check for pedestrians," he said.

The Land Transport Authority's (LTA) decision to remove discretionary right turns from the bulk of road junctions in Singapore, wherever feasible, is hence one that Mr Thia agrees with. He thinks it will help boost safety.

In the wake of two fatal accidents, the transport regulator announced last Thursday that it will be implementing red-amber-green arrow lights at the bulk of intersections in Singapore.

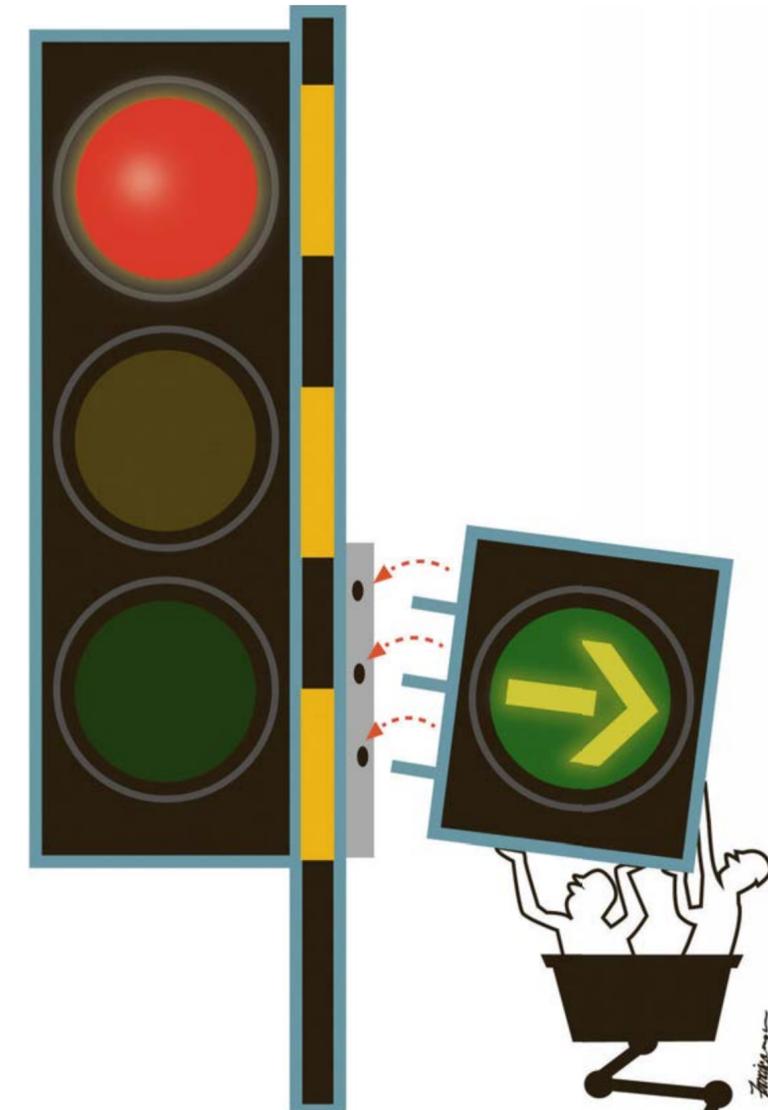
With the change, motorists will have to wait for the green arrow sign to appear before making the right turn. Red-amber-green arrow lights have already been introduced at 200 junctions, but the authority intends to extend them to nearly all intersections in the next five years.

The discretionary right turn system has been criticised of late, and blamed for the two crashes in Clementi and Bukit Timah. The former, on April 19, claimed the life of 19-year-old undergraduate Kathy Ong after the taxi she was in collided with a car. A 54-year-old taxi driver has been arrested.

Three days later, Ms Jasmine Lim, 23, an assistant brand manager, died from her injuries after the car she was travelling in collided with an SMRT bus at an intersection. A 24-year-old woman driver was later arrested. An online petition for the authorities to relook the discretionary right turn system, started after the two tragedies, has yielded more than 16,000 supporters.

Studies show that about 90 per cent of road accidents are attributable, in some part, to human error – from reckless driving to being distracted while at the wheel. The discretionary right turn lays the responsibility on the motorist to make a judgment call, and humans are prone to making mistakes in this instance, say many experts.

PTV Group transport analyst Tham Chen Munn said there is an "inherent problem" as drivers focused on the oncoming traffic –



so as to find a gap – may not be taking notice of pedestrians crossing. "If you are travelling at the same speed as the pedestrian walking, the right side of your car frame (where the right wing mirror is) is likely to block your view of the pedestrian. This blind spot is very dangerous," he added.

Mr Tham added that bicycles and personal mobility devices using the crossing – which move at faster speeds – could also leave drivers with little time to react.

Junctions by themselves are

among the most hazardous locations on the roads, according to a 2007 research paper published in the Journal of Advanced Transportation.

In the period between 1992 and 2002, more than one-third of the crashes in Singapore took place at road intersections, researchers from the University of Calgary found.

So why do the authorities allow the discretionary right turn?

Traffic engineers say such a system optimises traffic movement, and allows right

turning traffic to clear faster, especially when the oncoming traffic flow is low. This prevents a build-up of a long queue of vehicles waiting to turn.

"The advantage of the discretionary (right turn) is more obvious during off-peak hours or areas with lower conflicting traffic volume," said Mr Kelvin Foo, director of the TTS Group, a traffic engineering and transport planning firm.

Mr Foo said the impact of LTA implementing red-amber-green

turning arrows at junctions will be most obvious during off-peak hours, as motorists will have to wait even if the coast is clear.

During rush hours, however, vehicles will have to stop at the red arrow sign and "not take any chance at all" to do the turn, Mr Foo added.

In Singapore, most traffic junctions are designed with a maximum cycle time of 120 seconds – the total signal time required to serve all users of the intersection.

With the implementation of the red-amber-green arrows, some of the "green time" will have to be shaved off from traffic in other directions, or the total cycle time will have to increase, said Mr Sing Mong Kee, chairman of The Institution of Engineers, Singapore's (IES) transportation systems sub-committee.

Inevitably, this means motorists will have to put up with longer waits at junctions, experts said.

Mr Sing said while more lanes can be built to boost the traffic flow and junctions expanded in size, space will be a constraint.

In traffic design, it is a "balancing act" to ensure the goals of efficiency and safety are met, said Mr Sing. Countries such as Malaysia do not have discretionary right turns – instead, traffic from each direction is given its own green time. But this requires motorists to exercise patience.

In Belgium, motorists drive on the right and there, left turn crashes can result in severe injuries. A 2015 paper in MDPI's (Multidisciplinary Digital Publishing Institute) Safety journal found that at 33 intersections in Belgium where "protected left turn" signals were implemented – that allowed motorists to enter a junction without possible conflict with pedestrians or other drivers – there was a 46 per cent decrease in the number of injury crashes. There was also a 66 per cent decrease in the number of severe crashes.

Installing red-amber-green arrows in Singapore will undoubtedly boost safety for all road users.

But even with the safest designs, traffic infrastructure cannot eradicate human error totally.

Associate Professor Wong Yiik Diew, deputy director of the Nanyang Technological University's Transport Research Centre, said: "Red-amber-green arrows help to take away some of the decision (making) in whether it's safe to filter across (the junction)."

But Prof Wong said that errant motorists may still try to "push their way through" – knowing that they may not be able to make it – and attempt the right turn when the amber arrow is flashing. "It's not an engineering deficiency, but the human factor here," he added.

Mr Foo said: "When the discretionary right turn is removed, education and law need to look again at the already very strict law for red-light beating".

The implementation of red-amber-green arrows at more traffic junctions in Singapore is not the silver bullet to end all intersection crashes caused by it.

Even when the lights are in their favour and they have more certainty when making a right turn, drivers need to exercise caution and drive defensively.

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TAKE ANOTHER LOOK

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MR KELVIN FOO, director of TTS Group, a traffic engineering and transport planning firm.