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To serve and be Protected: Improving police officer safety and road safety at random breath testing sites in New South Wales, Australia

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Under 05 or Under Arrest

- December 1982 Random Breath Testing introduced in NSW in response to alcohol related road deaths and injuries
- Stationary RBT (static sites) or Mobile RBT (traffic stop)

NSW Fatality Trends

RBT is the most successful road safety initiative ever introduced

Roadside Drug Testing

- 2007: expanded powers to subject drivers to a saliva-based test for the presence of cannabis, methamphetamine and ecstasy
- Also mandatory blood and urine testing (hospital) of drivers in fatal crashes
- Drivers subjected to a drug test are breath tested first so alcohol and drug tests can be conducted at the same time
- 2017: 5,000,000 Breath Tests
- 2017: 101,000 roadside drug tests

Work Health Safety Issues

- **High Energy System** (workers exposed to forces greater than the body can withstand)
- NSW/Australian WHS laws similar to Canadian Labour Code (Part II)

Evolving risk environment

- 1990's to 2000's: Coronial Inquests and prosecutions from workplace incidents that resulted in the death of one police officer and a serious injury to another
- The incidents occurred whilst those police had walked onto the road to stop vehicles as part of on-road enforcement at stationary sites (although neither were RBT operations)

What the Courts said

- Judge Boland (Covi Vs NSWPF) said we must protect against (being hit by) deliberate, inattention, carelessness or mechanical fault.
- NSW Deputy State Coroner Dillon (Wilson Inquest) “it is a paradox that police operations designed to improve road safety can in some cases result in increased danger to motorists and police on the roads”.

July 2016
Change to SOP

1. The officer signalling vehicles to stop must be standing behind protection
2. Police testing drivers wait off to the side & walk on and off the road each sequence
3. The number of vehicles signalled to stop cannot exceed the number of testing officers. Previously, additional vehicles could be brought in or stacked to increase efficiency.

But there were problems

"Make sure that your chosen solution does not introduce new hazards"

Code of Practice "How to Manage Work Health Safety Risks", Safe Work Australia

- Trip hazards emerged, as did reports of police being bumped by cars whilst walking on and off the road. Police found the procedures cumbersome and the number of breath tests fell.

Dose – Response relationship

"Random breath testing has a Dose - Response relationship; jurisdictions that have reduced RBT have suffered from an increase in serious injury and fatal crashes."

Professor Ian Johnston

- Assistant Commissioner, Traffic and Highway Patrol Command ordered a review of SRBT procedures.

The Working Party

- Highway Patrol
- Generalist officers
- Varying ranks/experience
- Metro and regional areas
- Police Association of NSW
- Took advice from specialist police and civilian experts
- Round table deliberations
- Sterile tests and on-road trials

Learning the Science

- Wramborg (2005) said that there was a 10% risk of fatality where a pedestrian is hit by a vehicle travelling at 30km/h.
- The latest Austroads research is that the critical impact speed is 20km/h
- At 20km/h, there is a 10% likelihood of a fatal or serious injury outcome. The critical impact speed of 20km/h became the benchmark for risk management.

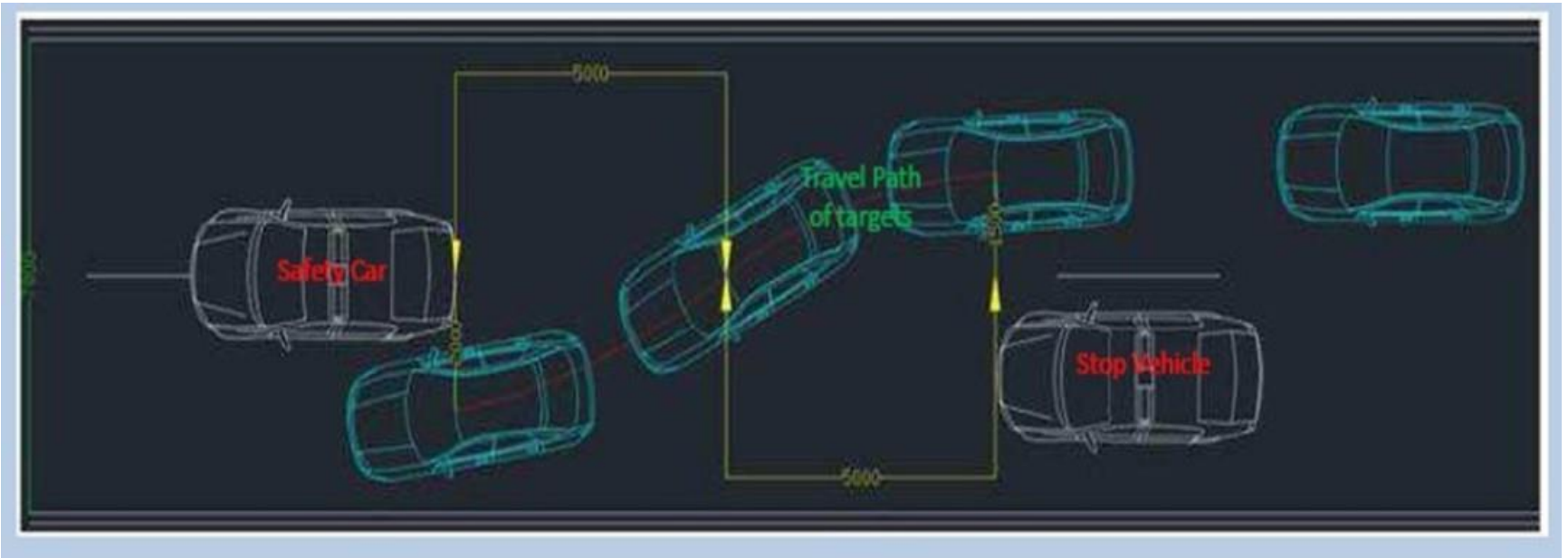
NWM-220

- Stationary HWP car hit on a freeway
- Propelled 12.5 metres by the impact and the calibrated police speedometer reached 11km/h
- The HWP car absorbed the kinetic energy from the crash
- Police driver OK

Applying the science

- Working party proposed parking one or more patrol cars to separate police standing on the road in a SRBT line from other traffic passing by the site.
- Indeed some working party members previously applied that tactic on multi-lane roads in the past but the July 2016 SOP prohibited any local variations.
- This layout became known as the *multi-lane model*

Tests and trials



Multi-lane RBT

The preferred method because:

- Creates a chicane in advance of the activity;
- Provides for a *safety car* as protection for testing officers;
- It calms traffic and forces it to change lanes/alter speed;
- Similar effect as reducing the speed limit;
- Safety car acts as an attenuator to absorb kinetic energy if struck reducing the consequences if an officer is hit.

Large or small sites

Police survey April-May 2017

- 192 responses were received from police of all ranks, duty types and locations;
- 92% were aware of the multi lane method
- ¾ had used it;
- 71% saying that it was a safer procedure at least some of the time;
- 64% said that SRBT could be improved by allowing more vehicles to be signalled and form a queue. This is known as “stacking”. This was allowed prior to July 2016.

Survey said do more work

- Multi-lane SRBT could not be implemented in all road environments such as single lane roads
- Working party had a look at the original model that had been in use from 1982 to June 2016 to see if safety could be enhanced.
- Utilised the same expert team of independent driver trainers and forensic crash reconstruction police.

Walking on and off the road

- *"If it is safe enough to be on the road (to test drivers) then why vacate it?"*

  Police Tactical Commander

- *"My vision was to the left and not on the road. Your hands tend to follow your eyes (and you could steer towards the police standing off the road)."*

Independent driving experts regarding police officers standing to the side of the road during the test day

Mitigations

- Remembering the critical impact speed, the issue to be addressed was how to protect officers from being hit as police are not isolated by a barrier of police vehicles.
- The driving instructors said police should stand facing oncoming traffic to have an earlier warning of a vehicle borne threat.

Make congestion your friend

- Reducing the speeds of passing traffic was achieved by reintroducing stacking

Single lane RBT

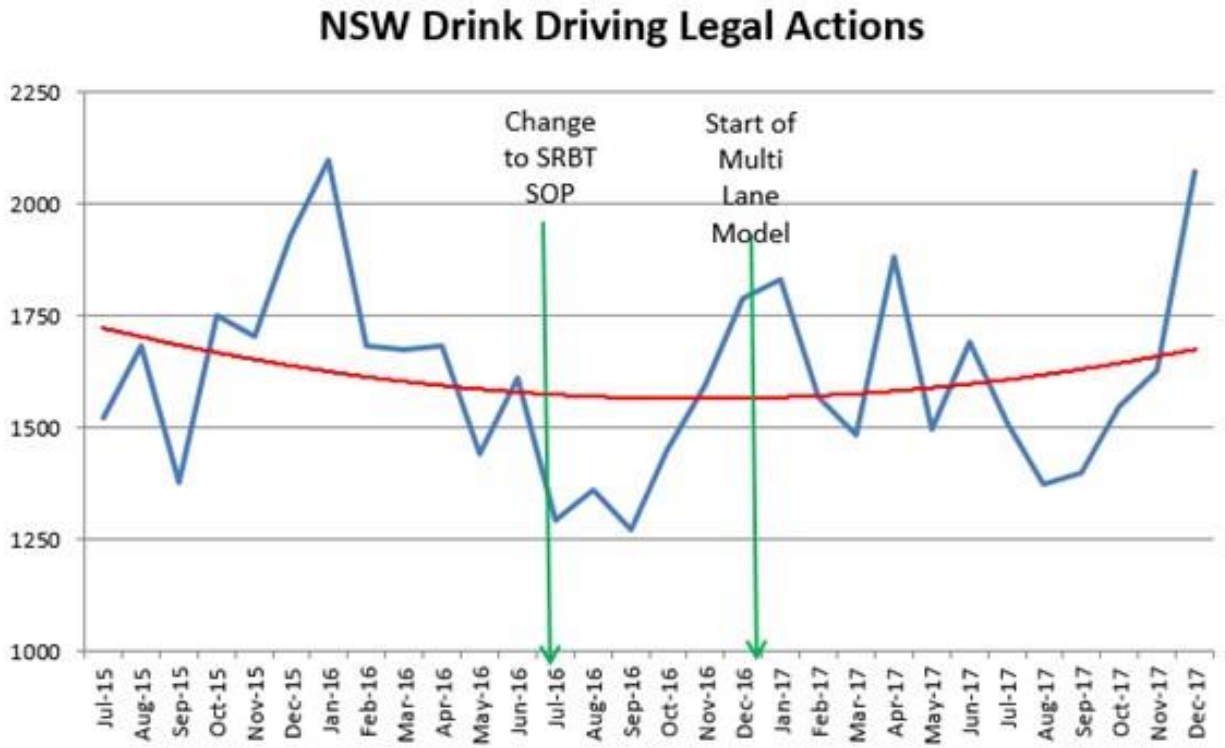
Where the single-lane model of SRBT is used:

- Police can stop more vehicles that there are testing officers (known as stacking). This can reduce the travel speeds of passing vehicles (risk of vehicle strike),
- Testing officers to stand facing oncoming traffic. This was identified by independent driving instructors and can make police more aware of any threat.

Single lane method

Tests Vs Detections

Average Breath Tests Per Month			
Period	Non-HWP	HWP	Total
July 2015 to June 2016	161,418	369,627	530,930
July to Dec 2016	80,216	206,622	286,838
Jan to Dec 2017	112,348	270,023	382,371



Fatal and Serious Injury Crashes – RBT and the *Dose - Response*

Year	Fatal Crashes	Deaths
2014*	285	307
2015	326	350
2016	356	380
2017	356	394

Serious Injury Crashes	
12 Month Period Up to 30 June	
2014	12,925
2015	12,309
2016	12,210
2017	12,172

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The key players