

# **To Serve and Be Protected: Combining Road Safety with Work Health and Safety**

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## **Abstract**

For decades, road safety 101 has been founded on the principle of deterrence and the presence of marked police cars parked in static locations on the road network.

In 2012, NSW Police Force reimagined this principle by strategically deploying state-of-the-art Highway Patrol vehicles on the freeway network in and around Sydney for Operation Freeflow. This route-specific approach and the new Highway Patrol fleet's high-visibility marking package and suite of road policing technology now extends to other highways throughout the state.

The police patrolling Sydney's "M" roads seek to do more than deter crashes on these vital corridors. These Highway Patrol members double as a rapid deployment force, clearing the road of minor crashes and breakdowns, and taking charge of major incidents so that the road network can be returned to full capacity as soon as possible.

But what happens when road safety collides with work health and safety? WHS legislation imposes a duty upon employers to eliminate or at the very least, reduce risks to workers.

Traffic and Highway Patrol Command had to face this question in 2014-15 and carry out a safety review of Operation Freeflow following a crash where a semi-trailer careening across a centre median not far from where a Highway Patrol car had earlier been tasked.

Can police deliver road safety strategies that protect the public without exposing officers to unnecessary risks? This paper show how it is possible and asks what other agencies such as road authorities can do to assist police.

## **Introduction**

The New South Wales Government's NSW2021 plan is "the NSW Government's strategic business plan, setting priorities for action and guiding resource allocation" ([https://www.nsw.gov.au/sites/default/files/nsw\\_2021\\_plan.pdf](https://www.nsw.gov.au/sites/default/files/nsw_2021_plan.pdf)). NSW2021 contains goals related to all areas of governmental administration including transport.

Within the area of roads and road safety, two goals are of particular significance:

Goal 7 Reduce Travel Times

Goal 10 Improve Road Safety

New South Wales Police Force (NSWPF) has legislated responsibility for public safety by virtue of the Police Act 1990. Changes to the structure of the force in late 2011 saw the creation of Traffic and Highway Patrol Command (THPC) which brought all Highway Patrol officers under the direct command of an Assistant Commissioner along with state resources such as the Crash Investigation Unit, Joint Traffic Task Force, VIP Escort Unit and the Random Drug Testing Unit.

The restructure enabled THPC to task and deploy based on emerging road trauma trends and local intelligence. Highway Patrol officers are no longer deployed based on lines arbitrarily

drawn on a map but can be strategically positioned, for example, to provide route-specific coverage on state highways.

In 2011, new work health and safety (WHS) legislation was introduced in NSW based on a national model. Replacing OH&S, the new legislation, codes of practice and safety management systems place personal responsibility on workers and senior managers (referred to in legislation as “officers”) to ensure the safety of people at work including their own staff and visitors. For an organisation such as NSWPF, the definition of visitors includes people in custody and motorists under the direction of police at an incident or planned activity such as random breath testing location.

## **Operation Freeflow**

Maintaining the free flow of traffic has long been a primary objective of the Highway Patrol in NSW. During the 1980’s, officers based in metropolitan Sydney were tasked to patrol clearways each morning and afternoon to ensure that lanes were clear and that vehicles parked in clearways were towed and received a parking fine.

In the past 20-30 years, the freeway network around Sydney has expanded and roads stretching from Newcastle, Central Coast and the Illawarra are now commuter corridors used by tens of thousands of vehicles each day. Weekends offer no respite from heavy traffic as evidenced by the introduction of clearways on selected Sydney roads in 2014.

The impact of even minor incidents such as breakdowns and nose-to-tail collisions on the network can generate lengthy delays if not quickly sidelined. A major crash, particularly a protracted incident involving a heavy vehicle can result in the morning or afternoon peak being “lost”, meaning the traffic flow won’t recover.

Supported by Transport for NSW, Operation Freeflow commenced in March 2012 and involves the strategic placement of Highway Patrol vehicles throughout “M” roads in the Sydney metropolitan area and beyond. These motorways are the M2, M4, M5/Hume Highway and M7 in Sydney, the M1 (formerly the F3) to Newcastle and the Princes Hwy/Mt Ousley Rd/M1 (formerly the F6) to Albion Park in the Illawarra.

Those motorways are dissected into sixteen sectors with each sector assigned AM and PM shift officers to patrol between 5am to 7pm each Monday to Friday. In total 32 police are deployed to Freeflow duties each weekday. A reduced service is provided on weekends.

At the commencement of their shift, police notify the Police Liaison Officer (PLO) at the Transport Management Centre (TMC). The PLO is a Senior Sergeant experienced in road policing and acting under the authority of the Superintendent, Traffic Operations Management, also based at the TMC. The PLO works with TMC staff to ensure that incidents are responded to and cleared as quickly as possible.

Freeflow cars attending incidents as initial responders are backed by the TMC who can call upon resources including traffic commanders, response crews, cranes, heavy tow trucks and other recovery equipment to achieve the goal of returning the road to normal operating conditions.

The *Commander’s Intent* or objectives of Operation Freeflow are:

- Deter excessive speeding, thus reducing the incidence and severity of speed related crashes
- Deter breaches of current road transport legislation and encourage the free flow of traffic
- Actively monitor heavy vehicle movement and encourage driver safety
- Act as a first response/assessment vehicle
- Provide accurate, real time intelligence to the Transport Management Centre.

Operation Freeflow is a key part of the NSWPF response to NSW2021. That response includes the establishment of THPC Motorcycle Response Teams in Sydney City and the Parramatta CBD. These Highway Patrol motorcyclists patrol the downtown areas of those cities including the vital harbour crossings. Freeflow-style operations are also carried out daily on the Hume and Pacific Highways and on other state highways during long weekends. The pre-deployment of police resources to the motorways is consistent with today's terror threat. The Australian government has acknowledged that "transport systems continue to be attractive targets for terrorists seeking to inflict mass casualties, economic damage, instil fear and create spectacular media imagery" and the Department of Infrastructure and Regional Development include roads as a part of the transport system under threat.

(<https://www.infrastructure.gov.au/transport/security/>).

In the case of Sydney's Lindt Cafe siege in December 2014, the first police officer on the scene was from the Motorcycle Response Team.

### **Freeflow Taskings**

During their shift, Operation Freeflow crews carry out mobile and static patrols of their assigned sectors. Mobile patrols enable Freeflow vehicles to check traffic for any delays caused by breakdowns and minor crashes. The police radio is monitored and officers are usually listening to commercial radio traffic reports.

It has long been argued that the presence of a marked police vehicle parked by the side of the road is an effective road safety strategy.

*Stationary enforcement, such as a visible marked Police car, has a direct and local effect on traffic speed.* (Cameron et al, Page 2, 2003)

The National Roads and Motorists Association (NRMA) said as recently as March 2015 that "we strongly believe that a visible police presence is the most effective way to encourage positive changes in driver behaviour".

[http://www.mynrma.com.au/media/NRMA\\_plan\\_for\\_fairer\\_mobile\\_speed\\_cameras.pdf](http://www.mynrma.com.au/media/NRMA_plan_for_fairer_mobile_speed_cameras.pdf)

Highway Patrol marked sedans feature striking "high-vis" markings and roof mounted lights with message bar for approaching motorists. The marking package has since been replicated on motorcycles and the random drug & breath testing bus commissioned for the Christmas-New Year campaign 2014-15.

The marked highway patrol vehicles of today are much more striking than the police cars Cameron was referring to, which would have been fortunate to have two revolving beacons of poor quality with modest "Police" livery. The benefits from stationary taskings using current highway patrol marked vehicles have been enhanced, hence the support of the NRMA.

The locations of high profile static Freeflow taskings include centre median or cross over points on freeways as well as emergency phone bays on the sides of roads where police can be separated from the running lanes.

Given the high speed limits on these roads, any vehicle interceptions are conducted as a mobile traffic stop. This involves police following target vehicles, activating warning devices and pulling them over to the side of the road with the police vehicle flashing lights and presence offering protection from passing traffic.

### **The Hume Highway Truck Crash**

On 21 July 2014, the driver of a semi-trailer travelling south on the Hume Highway, Ingleburn suffered a medical episode which resulted in the truck departing the roadway, careening through the grassed median strip and into the path of traffic on the northbound

carriageway. A collision subsequently occurred with a northbound semi-trailer and debris was scattered over a large area. Traffic was disrupted for several hours.

Figure 1 below, taken from a Police helicopter, shows the crash site. The wheel tracks made by the truck at fault can be seen bottom of photo. That vehicle can be seen where it came to rest on the road. The truck that has come to rest in the median was the northbound vehicle. Shortly before the crash, a Highway Patrol vehicle had been parked in the median strip of the Hume Highway at Ingleburn performing a stationary tasking for Operation Freeflow. This tasking was close to where the crash occurred. The Highway Patrol officer had moved off to intercept a southbound unregistered vehicle. In the aftermath of the crash, the Highway Patrol officer flagged concerns about the incident with their local supervisor.

### Figure's 1 & 2: Aftermath of the Hume Highway Crash



Photographs: NSWPF Police Aviation Support Branch

The NSWPF injury recording system has provision to record “near miss” events. This event was recorded as a near miss and a wider investigation began involving the THPC Work Health and Safety Officer. Established in 2014, the WHS officer provides advice to the head of profession on safety issues.

The WHS legislation and departmental policies place an obligation on “the officer” to eliminate or reduce risks to workers in the workplace. A review of static taskings in median strips for Operation Freeflow and similar enforcement throughout the state was triggered.

### Managing risks to workers

The hierarchy of controls for risk management holds that risks should be eliminated or effective controls implemented. But how does this work for road policing?

According to the Centre for Road Safety, speeding contributes to 40% of fatal crashes <http://roadsafety.transport.nsw.gov.au/speeding/index.html>. However, reducing the freeway speed limit to 40km/h so that police could undertake speed enforcement more safely is unlikely to be considered a reasonable way to control risks.

The SafeWork Australia Code of Practice “How to Manage Work Health and Safety Risks” (2011) provides practical guidance for the management of work health and safety risks.

Codes of practice are admissible in court proceedings under the WHS Act and Regulations.

The code of practice identifies four steps in risk management:

- **identify hazards** – find out what could cause harm
- **assess risks** if necessary – understand the nature of the harm that could be caused by the hazard, how serious the harm could be and the likelihood of it happening

- **control risks** – implement the most effective control measure that is reasonably practicable in the circumstances
- **review control measures** to ensure they are working as planned.

### ***Identify hazards***

Working on roads has risks and NSWPF as well as other *persons conducting business undertakings* or PCBU's as they are referred to in the WHS legislation, must manage those risks. The term PCBU includes people, companies, organisations and government departments.

The Highway Patrol officers identified that police parked in certain locations might be hit by runaway vehicles. It was noted that the truck driver in the Hume Highway was believed to have already been deceased when he departed the road. The hazard of a collision with an out of control vehicle was the risk identified in this matter and became the basis for the risk assessment that would follow.

### ***Assess risks***

At the direction of *the officer*, the THPC WHS officer began a corporate risk assessment and review of road policing activities where Highway Patrol vehicles are parked on median strips and other areas adjacent to running lanes such as breakdown lanes. A risk assessment team and working party were formed.

Consultation with affected workers is a legislative requirement of the WHS legislation, so the "median strip working party" comprised of experienced highway patrol members including the police who raised the concerns, and elected delegates of the Police Association of NSW. The formation of small working parties has since been used for other road policing WHS issues including the impact of daytime running lights on Highway Patrol vehicles.

In establishing the context of crash risk for stationary enforcement on median strips, Centre for Road Safety data (Road Traffic Crashes in New South Wales 2013) indicates that only 3% of fatal and injury crashes occur on dual carriageway (freeway) road types (page 45) confirming that they are the safest class of road. Vehicles departing the road to the right represent 4.6% of crashes on all NSW roads, compared to 10.7% of crashes where vehicles leave the road to the left (page 27) which presented no heightened risk for median strips.

Risk assessment tools including the NSWPF safety management system (SMS) use a risk rating matrix which examines the consequences of a given risk and compares it against the likelihood of an incident occurring. Once the consequence and likelihood are determined, an overall risk rating ranging from A-D is applied with A being the highest risk and D presenting the lowest level of residual risk.

The consequences of a runaway heavy vehicle driving into a parked police could range from major injuries to the death of an officer. The consequence rating on the NSWPF risk matrix had to be rated at "C4 Critical". However it is an uncommon occurrence and rated at "L3 Unlikely" or "once every 10 years" on the matrix. This equated to an overall rating of "C". Whilst such an overall rating did not predicate that further action be taken, the working party recommended several measures.

### ***Control risks***

The hierarchy of risk controls asks if it is possible to eliminate the hazard all together:

*It may not be possible to eliminate a hazard if doing so means that you cannot make the end product or deliver the service. If you cannot eliminate the hazard, then eliminate as many of the risks associated with the hazard as possible.*

SafeWork Australia Code of Practice "How to Manage Work Health and Safety Risks" (2011, P14)".

In this case, the end product or service is the delivery of NSW2021 Goals 7 and 10. The NSW2021 Performance Report 2014-15, published as part of the state budget papers reported

on how NSW government departments are meeting the goals set in NSW2021. Positive trends were reported in three key areas directly relating to Operation Freeflow. Firstly, the average clearance time for unplanned incidents on principle routes including motorways had fallen from a (2011) baseline of 39.98 minutes to 37.67 minutes in 2014-15. Secondly, the number of major incidents that take longer than four hours to clear was reported to have fallen from a baseline of thirteen (13) per year to seven (7) in 2013-14. Thirdly, the target of 4.3 deaths per 100,000 to be achieved by 2016 was well on track to be met and indeed “NSW recorded a fatality rate of 4.1 per 100,000 population in 2014, down from 4.5 the previous year and the lowest fatality rate for NSW since records began in 1908”. <http://www.transport.nsw.gov.au/media-releases/2014-road-toll-figures-released-record-low-more-do>

With initiatives such as Operation Freeflow at the forefront of the delivery of these goals, it is imperative that providing that service continue.

The risk assessment identified a number of existing controls that were already being applied when working in median strips. Stationary enforcement duties are conducted with Highway Patrol vehicles featuring a “hi-vis” marking package as part of high profile road safety operations. The phase-in of this marking package has coincided with two consecutive years of record low NSW road tolls. Another *safer vehicles* control is that Highway Patrol vehicles also cannot be selected for service unless they have attained a five star ANCAP crash rating. Highway Patrol vehicles perform stationary taskings where there is a good line of sight to approaching or departing traffic. This is a long standing practice due to the legal requirements of obtaining a valid radar or laser speed check. The direction in which they face is determined based on the availability of egress to the running lanes and road infrastructure such as wire rope barriers or armco railing. This is illustrated in Figure 3 below. The roof-mounted variable message bar can be programmed to display road safety or advisory messages for vehicles approaching from the rear.

When performing static duties, officers wear their seat belt except when they are out of their vehicles in which case their approved reflective vest is worn.

### Figure’s 3 and 4 – Operation Freeflow Static Taskings



Photograph: Sonia Roberts

In addition to turning to road safety data to quantify the likelihood of crashes that could impact on stationary highway patrol vehicles parked in medians, road safety was able to provide guidance when parking to the left of the running lanes.

In 2012, Transport for NSW convened the break down lane safety working group to look at safety issues surrounding break down lanes. The THPC WHS officer represented NSWPF on

that working party that supported breakdown lanes being a minimum of three metres wide. In addition, communications messaging to stranded motorists that they should look for a safe place to pull over was reinforced with highway patrol supervisors and staff. Photograph 4 above shows an emergency phone bay with a suitably wide breakdown lane.

The median strip working party also sought to allay any concerns of individual members by conducting a field audit of static tasking locations. Region highway patrol commanders were assigned responsibility for carrying out site inspections in their areas. The methodology for those inspections was adapted from one already used for stationary random breath testing to identify elevated risks associated with the design of individual static sites.

That process resulted in a small number of static sites being abandoned in favour of alternative sites nominated by highway patrol officers.

### ***Review control measures***

Following the completion of the working party, a review process was initiated. This included field inspections and audits component by Highway Patrol Senior Sergeants. Existing NSWPF SMS safety observation procedures are employed for these inspections which are also undertaken by the WHS officer and senior commander's including the Assistant Commissioner THPC.

In late 2014, a complaint was made to WorkCover NSW claiming that a highway patrol vehicle in northern NSW was parked in a "dangerous" position and that NSWPF should be investigated for breaches of the WHS legislation.

The THPC WHS officer provided advice to WorkCover regarding the median strip working party process and outcomes. The site in question featured a wide centre median that offered protection to the stationary police vehicle from the rear in the form of wire rope barrier and front protection from a concrete barrier from a nearby bridge. Based on the information provided by THPC, WorkCover declined to investigate the matter further.

With a number of major road projects scheduled to commence in 2015, site selection may need further review should road construction and narrow lane widths impact on safety.

Figure 5 below depicts narrowed lanes during the widening of the M5 motorway in south west Sydney in 2014-5. Static taskings on the median or side of the road on this section of road in the photo would not be possible.

**Figure 5 – Changed traffic conditions**



Photograph: Sonia Roberts

### **The role of roads agencies**

WHS safety management systems contain various "elements" not dissimilar to the safe systems approach to road safety and its "pillars". Road agencies plan, build and construct

*safer roads* which are used by the public as well as workers like police, maintenance crews and tow truck operators (safer people).

When selecting a suitable site for random breath and roadside drug testing, police are able to use their own vehicles as well as traffic cones to implement a layout that reduces the speeds of passing traffic and provides a safer working environment. This is depicted in Figure 6 below, a stationary testing site on Campbelltown Road, Campbelltown over the 2015 June long weekend.

**Figure 6 – Stationary Testing Site**



Photograph: Sonia Roberts

For speed detection and activities on freeways such as Operation Freeflow, police need to make use of infrastructure that has been built in to the road. Freeflow and related operations throughout NSW make a significant contribution towards NSW2021. Consultation with law enforcement in road design phase to establish areas where police can park safely and provide high-visibility static taskings could make a contribution towards both work health and safety and road safety.

Areas such as contraflow cross over points in median strips could be constructed with concrete enforcement pads, surrounded by protective structures to reduce the likelihood of a police vehicle being struck, or at least reducing the severity of such an impact. Multiple pads are required to as to ensure enforcement does not become predictable.

Static locations already in use need to be proactively maintained and kept free of debris that can easily cause a puncture to a highway patrol vehicles low profile tyres.

Vehicles involved in minor collisions often need to be shepherded off the running lanes by police or RMS road crews. Even then, traffic flow is unlikely to fully recover until all the vehicles, tow trucks, flashing lights etc are gone. The risks of secondary collisions and delays of exchanging drivers' details and investigating minor crashes by the side of a freeway can be eliminated by directing vehicles to pre-determined locations off the road as depicted in Figure 7.

**Figure 7 – Directing vehicles off the I-90 freeway near Chicago**





Photograph: Sonia Roberts

## Conclusion

Police undertake activities ranging from responding to armed offenders to working on roads where risks can be elevated but where there is no option but to provide the service. At times, conflict can arise between the legislated responsibilities of the Police Act and the WHS legislation.

Operation Freeflow, the median strip working party and outcomes have shown that provided that controls are implemented, work health safety and road safety can be complementary and not mutually exclusive.

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