

Regulatory Impact Statement: Options to reduce the risks of alcohol and drug related impairment in aviation, maritime and rail

Agency Disclosure Statement

This Regulatory Impact Statement has been prepared by the Ministry of Transport (the Ministry). It provides an analysis of options to address the gaps and inconsistency that exist in how businesses manage the risk of alcohol and drug impairment in the aviation, maritime and rail sectors.

A number of recent, high profile, fatal accidents have occurred in the aviation, maritime and rail sectors where alcohol and drug impairment may have been a contributing factor, most notably, the Carterton crash in 2012. In this instance, a hot-air balloon collision with power lines cost the lives of 11 people, and highlighted the flaws in the current processes on how we manage the risk of impairment by alcohol and drugs. Although accidents of this magnitude happen infrequently, the large amount of media coverage when accidents occur leads to a perception that parts of the aviation, maritime and rail sectors are high risk.

This Regulatory Impact Statement has made a number of assumptions. This is because we do not know the true extent of any problem with alcohol or drug impairment in the aviation, maritime or rail sectors. Unlike the road sector, the Government has few legal powers to collect data on impairment following an accident.

The key assumptions are:

- costs included in the Regulatory Impact Statement. The regulators do not know how many businesses will or will not have a drug and alcohol plan when it is not mandated
- reputational damage from any further accidents in these sectors where drugs or alcohol are a contributing factor or cause could have a significant economic impact on the sectors, including to businesses that are already proactively addressing the issue
- Due to gaps in our data, we have used international data on alcohol and drug impairment across the three sectors. We assume this will reflect New Zealand's experience
- More data on the extent of the problem will allow us to make better policy interventions.

To gather more data, the Ministry of Transport proposes in option 5 that the Transport Accident Investigation Commission's legislation be amended to allow an agent of the Transport Accident Investigation Commission to test any person involved in an incident for alcohol or drugs. This will help determine the circumstances and causes of an accident. However, before legislative change is made, more policy work is required to determine how best to achieve this change as this option poses a number of challenges, including of Rights issues.

This Regulatory Impact Statement identifies estimated cost for businesses to implement drug and alcohol plans to manage impairment. The costs could range from \$355 to \$2,285 depending on the size of the business. We estimate few businesses will incur the full costs.

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Executive summary

Over the last decade, a number of high profile, fatal and serious accidents have occurred in the aviation, maritime and rail sectors where drug and alcohol impairment¹ may have been a contributing factor. In particular, the 2012 Carterton crash, which killed 11 people, led to the Transport Accident Investigation Commission (TAIC) making a number of recommendations to address the issues of drug and alcohol or drug impairment.

TAIC and the Coroner recommended the Ministry develop legislation to manage the risks of alcohol or drug impairment. TAIC's recommendations were that enforcement options be introduced, where the New Zealand Police could test people for drug and alcohol impairment across the aviation, maritime and rail sectors.

However, the Ministry has been unable to establish the true extent of any problem with alcohol or drug impairment in the aviation, maritime or rail sectors. The only way we currently have to gauge the extent of drugs or alcohol use in these sectors is to extrapolate data from international experience.

Alongside not knowing the scale of the problem, we also cannot be sure that all operators are managing drug and alcohol-related safety risks appropriately. Mismanagement of the risk in one area could have a wider reputational damage for all the sectors.

To address the concerns raised by TAIC and to gather more information on the size of the problem, the Ministry has undertaken public consultation. The consultation shows that some response was required, but not at a level that TAIC had recommended.

We recommend limited changes that balance the need to ensure a system that manages the risk without placing undue costs on businesses. We also recommend changes be introduced to build up an evidence base for future policy work.

The preferred options we recommend are:

- for commercial operators - require commercial operators to develop and implement specific drug and alcohol impairment management plans, including testing requirements, where appropriate. This may require new or amended Rules
- to allow testing of any person involved in an accident for alcohol or drugs to determine the circumstances and causes of that accident. TAIC's legislation will need to be amended. More policy work is required to determine how this option could be implemented.

We are not recommending changes to the recreation sector in the aviation and maritime sectors. In the recreational aviation sector, there are a number of mechanisms to manage impairment. In the recreational maritime sector, there are a number of other factors that affect fatalities on the water, including the wearing of lifejackets. By focusing on one part of the problem, such as drug and alcohol impairment, a response is unlikely to achieve the sought after outcome, unless all aspects of the

¹ Impairment is defined as where a person's mental or physical ability to perform a task is degraded as a result of ingesting psycho-active or performance-impairing substances.

problem are addressed. It is our view that the issues that face recreational maritime activities require a more holistic approach, examining all aspects that are important to the safe operation of a vessel.

This Regulatory Impact Statement outlines the policy process the Ministry has undertaken.

Background

TAIC has investigated eight accidents in the aviation, maritime and rail sectors over the last ten years where people have tested positive for performance-impairing substances. These people have either operated aircraft, vessels or rail vehicles or been performing functions that affect the safety of these vehicles. Forty-one people have died in these accidents. Although accidents in the sectors are low probability, when they happen, they are often high catastrophic events.

The TAIC report *Inquiry 12-001: Hot-air balloon collision with power lines and in-flight fire, near Carterton, 7 January 2012* investigated an accident that cost the lives of 11 people. The TAIC investigation found the pilot had drugs in his system.

In the recommendations from this inquiry and in response to a number of similar inquiries since 1993, TAIC recommended changes to the current system. The focus of the recommendations was on testing by the New Zealand Police for alcohol impairment for enforcement purposes.

The other recommendations included requiring operators to implement organisational drug and alcohol plans, and prescribe post-occurrence drug and alcohol testing requirements for drugs and alcohol.

The Coroner, responding to the same incident, made recommendations on the need for random testing in organisational drug and alcohol plans and allowing the Civil Aviation Authority (CAA) and New Zealand Police to undertake random drug and alcohol testing as part of the medical certification process for pilots. The Coroner's recommendations only relate to the aviation sector. TAIC explicitly stated their recommendations relate to aviation, maritime and rail.

In response to the TAIC recommendations, the then Minister of Transport, Hon Gerry Brownlee, the current Associate Minister of Transport, Hon Craig Foss, and the Secretary for Transport, Martin Matthews, all publicly stated there should be zero tolerance of operator impairment when members of the public are being transported by sea, rail and air.

In our policy work to address the TAIC recommendations, we have found insufficient data to establish the size of the problem. Unlike the road sector, there have been few explicit controls in the maritime, aviation or rail sectors on the use of alcohol or drugs. There is also little evidence to show that the responses proposed by TAIC will bring about a safer system.

We engaged NZIER to undertake research to fill the gap in our knowledge. The NZIER research has taken the experience in other countries of alcohol and drug use in aviation, maritime and rail to suggest that alcohol and drug impairment is widespread across all types of transport. The data on the fatalities linked to impairment from alcohol or drugs shows that approximately 12 percent of all fatalities in the aviation, maritime and rail sectors are due to impairment. In New Zealand, this equates to 61 preventable deaths over a 10-year period. The NZIER estimate of 61 fatalities is beyond the deaths reported through TAIC investigation processes, where 41 people have died because of a safety critical person testing positive for performance-impairing substances.

The value of statistical lives lost per year is just over \$24 million across the three sectors if impairment was the sole cause for the fatality. As most accidents can have multiple contributing factors, NZIER has used a 'probable, possible, and plausible' framework. This reflects the degree to which alcohol impairment was a contributing factor to the accident. The value of statistical life would decrease to \$6 million if impairment were only one of a number of factors that could have caused death. The data only estimates fatality rates. No work has been undertaken on the social or economic cost of non-fatal accidents.

Breaking the research down, there are some differences between the different modes. This is outlined in the following table.

Table one: Social cost of fatalities where impairment may be a factor

This table has averaged data over a 10-year period to mitigate the issues of a single serious incident distorting the results

Mode	Estimated fatalities due to impairment a year	Value of statistical lives average cost per year if impairment one of a number of factors	Value of statistical lives average cost per year if impairment the sole factor (\$3.95m per life)
Rail	0.1	\$0.1m	\$0.395m
Maritime – Total	4.8	\$4.69m	\$18.96m
Maritime – Commercial	0.5	\$0.49m	\$1.975m
Maritime – Recreational	4.3	\$4.25m	\$16.985m
Aviation – Total	1.2	\$0.55m	\$4.74m
Airline operators	0.2	\$0.19m	\$0.79m
Commercial helicopter	0.1	\$0.1m	\$0.395m
Agriculture and other non-airline aviation	0.3	\$0.29m	\$1.185m
Aviation – Recreational	0.6	\$0.59m	\$2.37m
Road	134		\$529.3m

The above table outlines that the social cost for the estimated fatalities. These accidents are often multifaceted. In accidents where alcohol or drugs are a factor, it is usually only one of many factors. As an example, in recreational maritime activity, although the cost may be as high as \$16.9m a year if the accident was solely caused by alcohol or drug impairment, the reality of the marine environment would imply there were a number of factors resulting in fatalities, including not wearing a lifejacket. This could take the social cost to as low as \$4 million using the NZIER model. We need to consider this when determining what level of intervention should be undertaken.

However, given the nature of accidents in these sectors, one accident can increase the social cost hugely. The social cost of the Carterton crash was \$43.45 million, nearly 20 times the average yearly social costs of the commercial aviation sector. The wider economic cost from reputational damage from the Carterton crash was felt throughout the adventure aviation sector.

If another incident of the magnitude of the Carterton crash were to happen, with alcohol or drug impairment being a factor, the economic impact is likely to be significant. The costs would be compounded due to a perception of a pattern of unsafe practices. Any media attention would reinforce the perception of risk, and would affect all businesses in the sector.

In contrast, managing the perceived risk has a number of benefits. In Australia, the aviation sector introduced a drug and alcohol management regime. They estimate there have been flight safety

benefits of about \$A70 million, and improved productivity through reduced absenteeism and workplace injuries. They have stated the cost benefit ratio is an estimated 4.55.

Similarly, in the Australian rail industry, where there are mandatory requirements for industry drug and alcohol management programmes, the economic benefit for this option have been estimated at between \$A14.96 and \$A30.46 million.

In response to the limited research, in March 2015, the Ministry undertook a targeted public consultation on how to implement TAIC's recommendations. The consultation also attempted to collect more evidence on the size of the problem and gauged stakeholder appetite for different levels of regulation. There was not a high level of interest from stakeholders in the consultation with 37 submissions and face-to-face meetings with 14 organisations.

While the consultation did not provide additional evidence on the extent of any problem, there was general agreement that the following would help improve the safety of the sector.

- An approach that focused on employer responsibility rather than enforcement. Enforcement was seen as detrimental to improving the safety culture of a workplace, as it reduced the likelihood of honest reporting and taking a rehabilitative approach for employees.
- Increasing the evidence base before implementing extreme responses. Submitters supported testing for data collection purposes rather than for enforcement, citing the complexities of evidential thresholds, accident and incident reporting and rehabilitating employees.
- Understanding the costs, benefits, risks and practical issues associated with implementation. Some submitters highlighted the lack of evidence of a problem and were sceptical of the costs and benefits of some of the options (especially the enforcement options). Some submitters suggested that impairment by alcohol and drugs was not as significant a problem as impairment by fatigue.

The result of the consultation showed that we do not have sufficient evidence to justify the high level of regulation TAIC recommended. In order to place additional costs on society, a more solid evidence base is needed. This Regulatory Impact Statement will therefore not consider a number of earlier options, including options that allow the Police to test for enforcement purposes. The full range of previous options is attached as Appendix One.

When we look at how to manage the effects of impairment in the transport sector, we need to accept there are differences between the aviation, maritime and rail sectors. Each sector has unique features that need to be considered to achieve the same or a similar level of regulation.

The commercial and recreational aviation sectors are highly regulated. Aviation organisations, pilots, and other personnel must hold licences or an aviation document. This is in contrast to rail organisations, which hold one licence for all employees, so their staff do not have to hold individual licences.

In developing a response, we have sought a balance. We need to ensure another fatal accident does not occur while ensuring we have minimised unnecessary cost to business as we do not have a strong evidence base to justify those costs.

The current regime - risk based coverage

The sectors cover a variety of activities, with different sized operators, scopes, customers and geographical spread. The size of the sectors also varies greatly, from 99 commercial rail operators to a possible 900,000 recreational boats and other small watercraft. An outline of the sectors can be found in table two.

A number of changes have been made recently. When TAIC made its recommendations on the Carterton crash, it was referring to a status quo that no longer exists. It is important to acknowledge that the status quo of pre-2012, is not the status quo of today. This is largely due to changes being made in the adventure tourism sector, but also extensive changes to the maritime sector.

Changes to the management of drug and alcohol impairment since 2012

Since the Carterton crash, the Government has made specific efforts to make the adventure tourism sector safer. In 2012, the Government amended the Health and Safety in Employment (Adventure Activities) Regulations 2011, Civil Aviation Rule Part 115 and Maritime Rule Part 82² to require adventure tourism operators to describe in their safety plans how they will manage risks associated with alcohol or drug impairment.

Alongside this, the Government has made a number of changes in the maritime sector. In 2013, the Government introduced legislated legal limits for seafarers on large ships (Part 4a of the Maritime Transport Act 1994). There have also been changes for commercial domestic maritime vessels. There is now a requirement for these operators to consider the risk around impairment from drugs and alcohol in their domestic maritime operation (Maritime Rule Part 19).

Table two: Alcohol and drug policy requirements across the sectors

	Group	Requirements	Who is not covered by a drug and alcohol rule
Aviation	Adventure Aviation (27 operators including hot-air balloon, parachuting, gliders, paragliders, micro lights, and special aircraft)	Explicit drug and alcohol management programme outlined in Civil Aviation Rule Part 115	Beyond the Part 19 requirement there are no explicit drug and alcohol management plan requirements for other airline operators offering scheduled and non-scheduled public transport (passenger services, sightseeing planes or helicopters) or other commercial operations such as agricultural operations or aircraft maintenance organisations. There are approximately 700 operators and 9,000 commercial licence holders, including pilots, engineers and air traffic controllers who will be affected.
	Crew members	Requires both commercial and recreational crew members to be unimpaired outlined in Civil Aviation Rule Part 19	
Maritime	Domestic maritime operators (1,900 commercial operators including fishing, passenger and non-passenger vessels)	Drug and alcohol policy must be included, as appropriate, in a maritime transport operating plan under Maritime Rule Part 19	Recreational maritime Currently 200 operators are operating with a Maritime Operator Safety System (a requirement under Rule Part 19), with 1,700 to comply within the next three years.

² Maritime Rule Part 81 was enacted in 2011 but we are including it as one of the adventure tourism regulations.

	Group	Requirements	Who is not covered by a drug and alcohol rule
	Seafarers with STCW convention requirements (55 operators)	Legislated alcohol limits outlined in the Maritime Transport Act. Maritime Rule Part 21 require drug and alcohol be considered as part of the safety management system.	
	Adventure Maritime (300 marine craft involved in Adventure Tourism and Commercial Jet Boat Operations – River)	Safe Operational Plans, including drug and alcohol as part of the management of hazards are required as outlined in Maritime Rule Parts 81 & 82.	
	Adventure Maritime (Kayaking (150+ operators) and River boarding (7 operators))	These are regulated by WorkSafe under the Health and Safety in Employment (Adventure Activities) Regulations 2011.	
Rail	National Railway System operators (2 large operators and 6 smaller organisations)	Drug and alcohol policy outlined in legislation	About 90+ rail licence holders operate on their own tracks not on the National Rail System, but at primary legislation level all have the same application of requirements

Voluntary management of impairment issues

Alongside the requirements set out in legislation and rules, many transport operators, particularly larger companies or those that provide public transport, already have drug and alcohol management plans in place. Operators regard this as good business practice and see the plans as meeting the duties of employers and employees as set out in the Health and Safety in Employment Act. A number of operators include testing regimes that are consistent with international best practice.

A lack of explicit requirements on a number of organisations creates a situation where some businesses may operate below optimum safety levels by not prioritising the safety risk of drug and alcohol use, whether knowingly or unknowingly. This could lead to wider reputation damage for the sector if another accident involving alcohol or drugs was to happen. We estimate that there are only a few organisations not managing the risk sufficiently. However, we cannot say how many with any confidence. Any accident that happens because of inadequate management of risk has impacts well beyond the individual organisation involved in the accident.

Case study of an adventure aviation SME's drug and alcohol policy

Company A sees the safety of customers and staff as essential to the success of their business. The company is committed to giving customers the best experience they can have. Part of this is making sure the company take all possible safety measures. The company knows a serious accident would damage their reputation, as the trust of customers is critical for on-going business.

A number of years ago they decided that as part of their normal safety practices they would introduce drug and alcohol testing. The company tests all of their employees regularly to make sure they are not impaired by drugs or alcohol.

The testing includes before the employee even starts. They undertake pre-employment testing and daily alcohol testing of all staff – where they use a *Lifeloc* breathalyser. On top of this, they pay the Drug Detection Agency to come into their business and randomly test 3 -4 employees each month.

The company has found employees now take safety much more seriously and actively monitor it themselves. The CEO now feels he can confidently say drug and alcohol are not a factor in any accident in his business.

The operator sees the drug and alcohol policy as an important component of his successful business.



Requirements for recreational operators

There are very few controls on drugs and alcohol in the recreational maritime sector. There are no licensing requirements and no restrictions preventing someone from operating a vessel. Section 65 of the Maritime Transport Act 1994 prohibits dangerous activity involving ships or maritime vessels. Two recent successful cases, *Maritime New Zealand v Rowles* and *Maritime New Zealand v Batchelor*, have seen recreational boat users prosecuted for the misuse of alcohol while in charge of a boat. In both incidents fatalities had occurred.

At a regional level, a number of councils have introduced navigation bylaws to govern safe boating and water-based activities. Different regions have different bylaws on the need to be free from alcohol and drug impairment. The Auckland Council introduced a bylaw in 2014 stating a “person must not be in charge of a vessel while under the influence of alcohol or a drug, or both, to such an extent as to be incapable of having proper control of the vessel”.

In contrast to the recreational maritime sector, in the recreational aviation sector requirements already exist regarding impairment through the licensing of participants. Civil Aviation Rule Part 19.7 imposes on both commercial and recreational crew members a legal obligation not to fly if they are impaired. Civil Aviation Rule Part 1 defines ‘impaired’ as “affected by fatigue, injury, medical condition, or by the consumption of alcohol or other drugs such that the person may be a risk to the safety of himself or herself or of any other person”.

The Civil Aviation Authority position is that “there is no measurable level of blood alcohol that is safe for aviation”. Alongside this, sections 43(a) and 44(2)a of the Civil Aviation Act 1990 prohibit anyone from operating aircraft in a careless or dangerous manner. There has been one alcohol related prosecution under this part of the Act.

Problem definition

TAIC and the coroners have identified that there is a problem with the number of fatalities in the aviation, maritime and rail sectors in the last decade. However, as previously stated, there is a lack of evidence to identify the size or cause of the problem, but the reputational damage remains with the perception of an issue.

We have identified two key problems.

- We do not have the data to know the true scale of the problem or if there is a problem.
- We cannot be confident that every operator is managing the risk of alcohol or drug impairment, and so there remains a reputational risk to businesses in the sectors.

We do not have the data to know the true scale of the problem

The true extent of any problem with alcohol or drug impairment in the aviation, maritime or rail sectors is unknown. Unlike the road sector, the transport agencies³, TAIC and New Zealand Police⁴ have few legal powers to collect data on impairment. A coroner can only order forensic toxicology testing of a deceased person involved in a non-road transport fatality. The post-mortem investigation tests the level of alcohol and drugs present in bodily fluids, and do not necessarily imply impairment or causality.

The only way we currently have to gauge the extent of drugs or alcohol use in these sectors is to extrapolate data from international experience. In the road sector, where good data is held, international rates of fatalities due to impairment are similar or lower to New Zealand's. On this basis, we have assumed that the other modes will be similar to the road sectors experience. However, this data only estimates fatality rates. When examining the data in relation to the fatalities investigated by TAIC, the international data has over-estimated by around a third (41 actually reported deaths due to alcohol and drugs compared to 61 assumed over a 10-year period).

We have no data on the extent of alcohol or drug use across the sectors where impairment can lead to near misses or damage to property. We could estimate drug use by using data from across the whole of society. However, there are a number of problems assuming that the transport sectors will be the same as the general population, given the cultural shift in attitude that has happened in the transport sector in recent years.

The data we do have identifies that the size of the problem is limited – with our estimates showing that alcohol or drugs impairment results in six deaths per year across all three sectors compared to 134⁵ in the road sector.

Although the data shows the problem is limited, there continues to be anecdotal evidence that a problem exists. Without evidence collected in a systematic way, we are unable to know if the estimated fatality figures show the true picture. Until we know the true extent, we will not know what the appropriate level of intervention is.

³ The Civil Aviation Authority, Maritime NZ and the NZ Transport Agency.

⁴ Except in relation to international or large domestic vessels.

⁵ This is an 10 year average from 2002-2011

We cannot be confident that every operator is managing the risk of alcohol or drug impairment

We cannot be sure that all operators are managing drug and alcohol-related safety risks appropriately. This can place participants at risk. It also exposes businesses who are proactively managing the risks associated with impairment to financial harm by bringing the wider sector into disrepute.

Due to incidents like the Carterton crash, there is a perception that parts of the aviation, maritime and rail sectors have a high-level of risk due to impairment of operators. Although the regulations introduced since 2012 have addressed the risk of unsafe practices in adventure tourism, there could still be a number of gaps across the wider sectors. If another tragedy occurred, apart from the needless loss of lives, there could be a wider economic impact, reducing consumer confidence by reinforcing the perception of an unsafe sector.

Members of the public and staff working in the transport sector should be confident that transport operators have undertaken all practical steps to ensure safety.

Objectives

The two main objectives for this work are to:

- increase knowledge to determine the size of the problem
- increase safety and reduce the risk of reputational damage.

These objectives target different aspects of the current system.

The objective to improve knowledge looks at developing a system of data collection that will improve our understanding of the extent of any problem and allows us to provide a response that is proportional to risk.

When considering the need to increase safety, we must consider the following four areas:

- **Improving safety culture:** a system that will improve the safety culture in workplaces, now and in the future.
- **Ensuring ease of compliance:** a more direct and simple approach that outlines the Government's expectations for businesses and the appropriate legislative requirements that ensure broad uptake.
- **Minimising risk of harm to all parties, including paying passengers:** a system that minimises risk and meet the reasonable expectations of New Zealanders and the international community.
- **Ensuring the response is cost effective:** balances additional economic cost for businesses and individuals with improved social outcomes.

The options are assessed against these objectives in table four on page 17.

Any changes need to consider the industry's ability to implement the changes. We also need to consider the costs to businesses, ensuring the requirements are not disproportionate to the risk and operators can remain viable, innovative and profitable businesses.

Options and impact analysis

Initially we considered 10 options to implement TAICs recommendations. However, as stated above, the consultation showed that we do not have sufficient evidence to justify the high level of regulation proposed by TAIC. The full range of options consulted on are attached as Appendix One.

Following consultation, five options have been analysed - three legislative and two non-legislative. Table four on page 16 compares the options with the objectives in.

Commercial operators

- *Option 1* Continue with the current risk based approach to managing impairment.
- *Option 2* Create or amend rules that require commercial operators to develop and implement specific drug and alcohol management plans, including testing requirements, where appropriate.

Recreational participants

- *Option 3* Continue with the current approach of policing for dangerous or careless behaviour.
- *Option 4* Enable the New Zealand Police to test for alcohol impairment when there is good cause to suspect impairment, by prescribing in legislation maximum legal limits for alcohol.

Commercial operators, passengers and recreational participants

- *Option 5* Amend TAIC's legislation to allow testing of any person involved in an incident for alcohol or drugs to determine the circumstances and causes of accident.

All options offer varying degrees of savings in public health costs as a result of injuries, Accident Compensation Corporation (ACC) costs and lower impact on economic growth. Additionally, preventing the significant cost to industry arising from reputational damage associated with loss of life further increases the value of benefits over costs.

Although we do not think we have enough evidence to justify the level of intervention supported by TAIC, we believe the evidence we have justifies a more limited response.

Implications, benefits and costs of each option compared

Commercial

Option 1: Continue with risk-based approach to managing impairment.

This option requires no change beyond what has been introduced for commercial operators since 2012.

The perceived safety risk that will still exist in these sectors could reduce consumer confidence, leading to economic costs. Having different regulatory regimes for different transport operators makes it difficult for the public to assess risk levels before undertaking an activity.

Option 2: Create or amend rules that require commercial operators to develop and implement drug and alcohol impairment management plans, including testing requirements, where appropriate (preferred option)

Option 2 would need rule-based changes to explicitly require all commercial organisations in the aviation, maritime and rail sectors to have a drug and alcohol plan. The regulatory agency would work with the sectors to give guidance on what is expected.

As outlined above, the result of the consultation showed that we do not have sufficient evidence to justify the high level of regulation TAIC has recommended. Option 2 is a small step change to the current regime, with the majority of businesses already compliant. This option would ensure all businesses were brought up to a base level. This would meet the objective to increase safety and manage reputational risk by ensuring all operators have considered and are managing for risks of impairment by alcohol and or drugs.

There would be little additional cost to the Government if this option were implemented. All auditing would be done as part of the wider auditing process and can be met from current budgets.

There would be some additional compliance costs for the commercial operator. This option would mean it was possible to have a range of responses depending on the type of business. The testing could include combinations of pre-employment, post-incident testing or good cause. The regulator may consider random testing is appropriate for some operators. The estimated costs for a small operator (less than 10 staff) and mid-size agency of (between 20-50 staff) are included in the table below.

Table three: Potential cost for businesses

	Low estimate based on a small operator who does not test currently	High estimate based on a medium sized operator with testing in place already
	One-off costs	
Develop plan and material	\$70 (1.5 hours) ⁶	\$135 (3 hours)
Develop monitoring and management procedures	\$135 (3 hours)	\$450 (10 hours)
New equipment	No testing equipment required	\$1,000 (for a re-useable breathalyser)
Staff training	\$90(1 staff plus trainer for 1.5 hours)	\$380 (5 staff plus trainer for 1.5 hours)
Total one-off costs	\$295	\$1,965
	Annual on-going costs	
Auditing and approval cost	\$60 (1/4 hour) ⁷	\$240 (one hour)
Testing agency costs/ in-house testing		\$1000 (for 10 accredited agency tests) or \$500 (for in house 25 saliva tests)

⁶ This is based on Stat NZ Industry Profiler mean employee earnings figures <http://businesstoolbox.stats.govt.nz/IndustryProfilerBrowse.aspx> plus overhead costs. The highest rate (for water transport) of \$35 an hour was used. It is estimated cost could be lower for other sectors. Costs have been rounded to the nearest \$5

⁷ Auditing costs are part of regular auditing from the regulating body and are estimated time for the drug and alcohol plan component of these audits/assessments. The cost will differ each year depending on the audit cycle. The cost shown in for a full audit, held every three years.

	Low estimate based on a small operator who does not test currently	High estimate based on a medium sized operator with testing in place already
Calibration of equipment	None	\$80
Total on-going costs	\$60	\$320
Total costs	\$355	\$2,285

We estimate few businesses will incur the full costs quoted.

The level of additional work for businesses to prepare and operate a drug and alcohol management plan would vary depending on the business and the type of operation. The costs would include developing the plan, training staff on the implementation, implementation costs and monitoring compliance. A number of these costs will already be part of the normal auditing process.

The majority of businesses would not face additional costs

As stated previously, the majority of businesses would not face additional costs, because they are already required to have a drug and alcohol plan or they have a voluntary drug and alcohol programme.

Given the number of businesses this option could affect, this could mean additional costs of from \$248,500 to \$1.59 million in the aviation sector if all 700 operators were required to implement new drug and alcohol policies. It is highly unlikely that all 700 operators will need to implement new drug and alcohol policies.

In the maritime sector, the majority of operators are small, one or two people operators and will have a sufficient drug and alcohol policy under Maritime Rule Part 19, or will be working towards entering the Maritime Operator Safety System in the next three years. Larger rail companies are unlikely to have additional costs. Smaller tourist and heritage groups not on the National Rail System are the most exposed in the rail sector to additional costs to develop plans. However, given the nature of the majority of these organisations, it is not expected detailed plans would be required.

Adventure aviation, the majority of commercial maritime vessels and any rail organisation on the National Rail System already require some degree of drug and alcohol management plan, and as such will incur few additional costs. However, if a more comprehensive testing regime is required there may be some further expenditure. The regulators will work with industry to minimise unnecessary costs and ensure the plans reflect an appropriate level of safety.

Clear information will be provided to businesses on what is expected

The regulator will supply clear information of what is expected in a drug and alcohol policy. The advice can cover a number of options depending size and type of operation. This will result in certainty about what is required. The Civil Aviation Authority has done this with its Advisory Circular for Rule Part 115. This is particularly helpful for small and medium businesses who often struggle to understand and meet non-specific requirements. As small and medium businesses make up the majority of New Zealand's industry, this is an important consideration.

A consistent approach

This option will provide consistency of approach, while allowing flexibility for operators, with a range of options depending on the drug and alcohol-related safety risks. The operator must choose the

approach that is right for the level of risk in their business, but this will be done in consultation with the regulator, who will assess if the plan is appropriate during the auditing process.

Any testing will need to comply with employment and privacy laws.

This option includes processes for the regulator to undertake regular audits to ensure the plans are implemented. If a plan is not implemented, one potential penalty is the business losing their licence to operate, however this is generally reserved for more extreme cases and is an unlikely action. In the first instance, the regulator would work with the operator to ensure they are compliant.

Recreational

Option 3: Continue with the current approach of managing dangerous or careless behaviour. (preferred option)

For recreational maritime and aviation participants, the current legislation states that persons cannot undertake a maritime or aviation activity in a dangerous or careless manner. In the aviation sector, Rule Part 19.7 also prohibits operating an aircraft while impaired by alcohol or drugs.

Although these provisions have not been used extensively to address impairment, it has been used in both maritime and aviation.

Although this is the preferred option, we do not think it will meet the objectives. However, we do not think the evidence is currently sufficient to justify a higher level of intervention. As more data is collected this decision will be reviewed as part of the evaluation on the policy. Further interventions may be proposed at a later time.

Option 4: Enable the Police to test for alcohol impairment when there is good-cause to suspect impairment by prescribing in legislation maximum legal limits for alcohol.

Option 4 would require legislative changes to the Civil Aviation Act 1990 and the Maritime Transport Act 1994 to introduce maximum limits for alcohol.⁸ This would give the New Zealand Police the ability to test for alcohol impairment when they have good cause to suspect impairment. If a person were found to be impaired, the charge would be as per section 65 of the Maritime Transport Act 1994 or section 43a or 44a of the Civil Aviation Act 1990.

There are a number of considerations if this change was introduced, particularly with recreational boating. In the maritime sector, there is currently no framework of licensing or registration to allow for the easy identification of who is in charge of a vessel. There are also a number of other factors that affect fatalities on the water, including the wearing of lifejackets. By focusing on the drug and alcohol impairment part of the problem, this option is unlikely to achieve the sought after outcome, unless all aspects of the problem are addressed.

Having explicit requirements in one area does not necessarily lessen fatalities. In Australia, the only States that do not have alcohol testing for recreational boat participants are Western Australia and the Northern Territory. Reviewing the percentage of boating deaths by drowning, there is no discernable difference between these States and the States with explicit requirements.⁹ There is also no discernable decrease in drowning deaths since the introduction of alcohol limits in States with limits.

⁸ There is no recreation rail sector

⁹ https://sls.com.au/sites/sls.com.au/files/slsa_2013_national_coastal_safety_report.PDF

It is our view that the issues that face recreational maritime activities require a more holistic approach, examining all aspects that are important to the safe operation of a vessel.

If we were to progress with this option, costs would depend on the extent of the coverage and how often and where the New Zealand Police could test.

Using the current police maritime fleet (two vessels) there would be limited additional cost, but also limited coverage. The vessels are in Auckland and Wellington. However, during anniversary weekends, and other high risk/high visibility occasions, such as New Years Eve, the vessels can and do move to other parts of the country.

The option would allow Police to test a skipper if they observed dangerous behaviour. This would not require additional resources as the police would be investigating this behaviour already. There would be additional resource costs of \$381 per blood test above the cost already incurred in an investigation. In addition to this, there would be additional prosecution costs.

The difference to the status quo is limited. The Police can currently prosecute a person if they are intoxicated in charge of a vessel, but allowing testing would give a conclusive means to show alcohol impairment. There are no figures available for how often the Police would use this power.

If more resource and coverage were required, expanding the Police fleet would cost \$2.3 million per new vessel, with running costs of \$450 per hour.

Commercial operators, passengers and recreation

Option 5: Amending TAIC's legislation to allow testing any person involved in an incident for alcohol or drugs to determine the circumstances and causes of accident (preferred option once satisfactory policy work on how it will be implemented is undertaken)

TAIC is currently unable to enforce mandatory alcohol and drug tests following an occurrence. This limits its ability to accurately fulfil its legislated purpose, which is to determine the circumstances and causes of incidents or accidents, with a view to avoiding similar occurrences in the future.

Option 5 would require changes to the Transport Accident Investigation Commission Act 1990 to allow TAIC to test any person involved in an incident for alcohol or drugs to determine the circumstances and causes of the accident. There would be no consequences for a subject if alcohol and/or drugs were found to be present. The purpose of this option is solely for research purposes. Under the TAIC Act, regulators are not able to prosecute based on the information gathered by TAIC.

The Ministry agrees with the intent of this option, however, before legislative change is made, more policy work is required to consider how best to implement this option as it poses a number of challenges.

TAIC investigate approximately 30 cases a year. The decision to investigate is often made after the window for alcohol testing has passed (5 hours for a blood test). As a result, an agent, acting on behalf of TAIC, would need to take samples prior to an official request from TAIC. Alongside this, accidents in these sectors can often happen in inhospitable or secure places, creating practical difficulties and delays in getting samples, even for agencies such as the Police.

We also need to consider carefully how an agent working for TAIC could compel a person to give a sample if they refused. In the road sector, under the Land Transport Act 1998, if a person refuses an

alcohol or drug test, the penalties are the equivalent to if they had failed the test. As this option does not have a penalty regime associated with it, new offences would need to be established.

Despite the logistical issues surrounding the collection of post-occurrence samples, the Ministry believes there is a strong rationale to pursue this option to build an evidence base for future work in this area. Without strong data, it is hard to justify further regulation and cost on businesses and the public. By giving TAIC the ability to collect data to better understand the impact of drugs and/or alcohol, we can start to see if further regulation is appropriate and cost-effective.

The regulators have commented that since TAIC only investigate a limited number of cases per year, the information obtained by them may prove of little value if not supplemented by other means. If the regulators were given greater testing authority, we would be able to gather more robust data.

This proposition has not been considered in detail in the policy process. There are a number of issues to consider. Regulators have the ability to sanction operators for non-compliance but the intent of this option is for research and not for prosecution. However, there is merit in considering how it could work. This could be included in the policy work when looking at how option 5 is implemented.

Until the necessary work is undertaken on how option 5 could be implemented, we are unable to calculate costs. However, given the costs associated with the investigations, we would expect this to be a small percentage of the current costs. This option would increase our data, and would allow us to determine if a higher level of intervention was justified.

Table four: Assessment of proposed changes against criteria (the blue options are the recommended options)

	Improve data collection?	Would it improve safety outcomes?	Minimise harm to paying passenger?	Is it likely to be cost effective?	Is it simple for business to implement?
Option 1 Risk based coverage (current regime for commercial operators)	Neutral maintains status quo	Neutral maintains status quo	Neutral maintains status quo	Neutral maintains status quo	Neutral maintains status quo
Option 2 Drug and alcohol management plan (DAP)	Neutral	Moderately Difficult to quantify. The focus is on changing culture and preventing incidents	Moderately Monitored by commercial operators and the regulatory body	Yes Cost for business with no DAP (\$295-\$1,965) initially with on-going yearly costs of \$60 – \$320)	Yes One model across the sectors with clear advice on implementation
Option 3 Current regime for recreation participants	Neutral maintains status quo	Neutral maintains status quo	Neutral maintains status quo	Neutral maintains status quo	Neutral maintains status quo
Option 4 Police test recreational participants for alcohol impairment with good cause	Yes Data from Police testing	Possible Difficult to quantify and the issue is part of a larger issue. Would need to be done in conjunction with other changes to improve safety	N/A	No Although the costs are limited, this option provides no more than the status quo.	N/A

Option 5 Commission tests people involved in occurrence	Yes	No. For data collection purposes. It will allow for stronger evidence-based policy	In long term as research improves ability to regulate	Yes There are approximately 30 cases a year. The additional cost is likely to only be a small addition to the investigations costs.	N/A
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Consultation

The following relevant agencies were consulted on this Regulatory Impact Statement: Civil Aviation Authority, Maritime New Zealand, New Zealand Transport Agency, WorkSafe New Zealand, the Ministry of Business, Innovation and Employment, the New Zealand Police.

The CAA, while it agrees with the intent of the proposals, considers they do not go far enough to address the recognised risks. The CAA considers the following.

- There is sufficient data (domestic and international experience) to justify intervention options that include providing the regulator with the ability to conduct non-notified testing and testing post-occurrence (incidents and accidents).
- The preferred option would help proactively address safety risks while simultaneously generating significantly more data than can be obtained through post-occurrence testing, either by TAIC or regulators.
- Implications of the preferred option on human rights and privacy matters could be addressed through appropriate legislative and regulatory drafting to define the procedures.

Maritime New Zealand supports the use of Maritime Rule 19 for commercial operators. They are not supportive of random testing being mandated by the regulator.

In the recreation area, the Police and Maritime New Zealand have expressed support for enforceable drug and alcohol limits.

Conclusions and recommendations

For commercial operators, option 2 is the preferred option. This option will create rules that require commercial operators to develop and implement specific drug and alcohol impairment management plans.

The operators will choose the approach that is right for the level of risk in their business. The administrative tasks associated with approving the alcohol and drugs policy and processes is the responsibility of the regulator and will be incorporated in the existing cost of the audit.

Option 2 is a small step change from the current regime. It will bring all transport operators in the aviation, maritime and rail to a base level. This option achieves the objectives: being cost effective, as the majority of operators will already be compliant; it is proportional to the risk; is a more direct and simple approach, rolling out what is already widely adopted across the sectors. It will moderately increase the safety and minimise harm to passengers by ensuring all operators have considered how to manage the risks associated with alcohol and drug impairment.

For recreational participants, option 3 is the preferred option. This option will maintain the current regime for the recreational sector where impairment is managed through the current legislation.

We are also recommending option 5, to amend TAIC's legislation, following further work on how best to do so, to allow testing any person, involved in an incident for alcohol or drugs to determine the circumstances and causes of accident. This would meet the objective to build a stronger evidence base for any future work.

Implementation plan

Option 2 could require amendments to Maritime and Civil Aviation Rules. No regulatory changes will be required for the rail sector. These rule changes will be developed and consulted on in 2016.

The transport Rules programme has the development of alcohol and drug impairment rules in the policy development stage. Once the Cabinet has agreed to the proposed options, this work will be transferred onto the Rules programme for 2015/2016.

The Ministry, in consultation with the transport agencies will develop drafting instructions on the scope of the changes.

The transport agencies will make changes to the appropriate Rules, with support of the Ministry. The transport agencies will consult on the development of the rules during the regular Rules making process. The resourcing for the changes will come from the Rules making budget, and will be determined by the priority that is placed on the work.

These rule changes would come into force following rule development and consultation with industry.

A communication strategy will be developed by the agencies to ensure operators are aware of the changes. The transport agencies will work with their sectors to support to develop and maintain their safety systems. They will be encouraged to take preventive measures to comply with minor deficits.

In the maritime sector, the majority of the education and support is being undertaken as part of the Maritime Operator Safety System. In the aviation sector, the Safety Management System will cover a large number of operators. However, a number of operators, such as aviation engineers, will require a separate communication.

The existing legislation are already explicit about the need to manage the risks associated with drug or alcohol impairment, so no changes are required. The NZTA can provide guiding expectations aligned with current legislation as to its expectations for more effective drug and alcohol plans across the industry.

Maritime New Zealand and the CAA will use the proposed rule changes as the focal point for an awareness campaign. These campaigns will highlight the risks associated with drug or alcohol impairment and the responsibility of operators to monitor and manage these risks through:

- consultation with industry participants on the proposed rules changes
- advice and guidance to industry participants about the rule changes, implications and expectations following rule approval and again when they come into force
- involvement with operators individually through audit processes.

The Ministry will commission a report to determine the most appropriate way in which option 5 can be implemented. The Ministry will report back the Cabinet on any proposed changes by September 2016.

Monitoring, evaluation and review

Once the rule changes have been completed, they will sit within a wider safety management system. As part of the monitoring framework for the safety management systems, the agencies will monitor if there are behavioural change in the sectors that improves safety, including the managing of risks associated with drug and alcohol impairment as part of the wider performance monitoring of the safety management systems.

The auditing of the safety management system will give improved data on safety issues. The agencies will use this improved data to refine the regulatory approach. This would include addressing any unintended consequences that may occur. This data will also need to be evaluated carefully to determine with certainty what it implies. Fewer non-negative tests may not necessarily mean the policy is a success or failure. For example, it could mean either that the problem is not as wide spread as expected. It could conversely mean the problem was widespread but that the rule changes are effective because people are aware of the risks and management of those risks. Likewise, an increase in the reported non-negative tests could be indicative of a successful regime and a number of other issues. All of the data will need to be interpreted in relation to the wider information gathered during the auditing process.

One of the main objectives of this project is to increase knowledge to determine the size of the problem. Option 5 will produce new data on the presence of drugs or alcohol in accidents investigated by TAIC. The Ministry will monitor this, along with any new data that becomes available as part of the agencies monitoring the safety management systems.

As we do not have baseline data of incidents involving alcohol or drug impairment we will review against estimate made by NZIER, and outlined in this paper. If the size of the problem is significantly greater than the current situation, further work will be undertaken. The Ministry will undertake on-going review as part of its role of responding to TAICs recommendation. A formal review of the policy will also be undertaken in five years, once sufficient data is collected to determine if the policy response is adequately addressing the issue.

If it becomes apparent, the size of the problem justifies additional regulation or a different policy response, the Ministry will undertake further work on this.

Maritime New Zealand, the CAA and the Ministry will review the rules as part of their regular rules assessment.

Commercial

Recreational

Status quo

Some existing controls¹

- Explicit requirements for adventure aviation, aviation crew members, rafting and jet boat operators, large international (SOLAS) vessels and rail licence holders.
- Where applicable, drug and alcohol policies for smaller maritime vessels.
- Most large aviation, maritime and rail operators already have well-functioning drug and alcohol policies. Workplace testing is at the discretion of each operator and determined by its own risk profile.
- Enhanced education would be a feature of any on-going work.

Legislative change	No
Fit with TAIC recommendations	No
Costs to business	Low
Cost to Government	Low
Improve safety outcomes	None
Fits with international practice	No

Drug and alcohol plan

Similar to existing controls²

- All operators required to have a mandatory drug and alcohol management plan.
- Workplace testing will be at the discretion of each operator and be determined by its risk profile.
- Drug and alcohol management plans will be audited by a Crown agency.
- Similar to the status quo once the CAA introduces Safety Management System.

Legislative change	Rule
Fit with TAIC recommendations	Partial
Costs to business	Low
Cost to Government	Low
Improve safety outcomes	Moderate
Fits with international practice	No

Post-occurrence testing

Increased data collection (2 options)

- All operators will be required to have a drug and alcohol management plan with mandatory post-occurrence testing. The testing would be undertaken by either:
 - 3.1 the operator, or
 - 3.2 TAIC (or an approved third party).
- No additional penalties beyond the status quo for employees.
- New penalties for operators not carrying out post-occurrence testing.

Legislative change	Rule
Fit with TAIC recommendations	Partial
Costs to business	Low-Medium
Cost to Government	Low
Improve safety outcomes	Moderate
Fits with international practice	No

Includes testing of crash survivors⁵

- TAIC (or an approved third party) will be able to test for the presence of alcohol or drugs after a defined occurrence.
- No additional penalties for positive impairment test result.
- New penalties would be needed for people who refuse testing.
- This would allow TAIC to test people who have survived an accident to determine if drugs or alcohol were a factor in the accident.

Legislative change	Legislation
Fit with TAIC recommendations	Partial
Cost to Government	Potential
Improve safety outcomes	No
Fits with international practice	No

Enforcement

Introduces maximum alcohol limits (2 options)

- All safety-sensitive roles will be subject to maximum alcohol limits.
- The Police will be able to test for alcohol:
 - 4.1 after a defined occurrence, or
 - 4.2 when there is good cause to suspect impairment.
- Penalty and enforcement regime established.
- High cost to Government

Legislative change	Legislation
Fit with TAIC recommendations	Partial
Costs to business	Low
Cost to Government	Unknown
Improve safety outcomes	Yes
Fits with international practice	Yes

Introduces maximum alcohol limits (2 options)

- Skippers or pilots will be subject to maximum alcohol limits.
- The Police will be able to test for the presence of alcohol:
 - B.1 after a defined occurrence⁴, or
 - B.2 when there is good cause to suspect impairment.
- A penalty and enforcement regime established.

Legislative change	Legislation
Fit with TAIC recommendations	Partial
Cost to Government	Potential
Improve safety outcomes	Yes
Fits international practice	Yes

Options considered by this RIS

1. Risk based coverage (current regime for commercial operators)
2. Drug and alcohol management plan (DAP)
3. Current regime for recreation participants
4. Police test recreational participants for alcohol impairment with good cause
5. Commission tests people involved in occurrence