

# Fire Research Report

## Understanding the New Zealand Fire Service's Contribution to Non-fire Outcomes

Martin Jenkins

March 2010

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The aim of this project was to develop a conceptual framework for evaluating the value and impact of the Fire Service's contribution to its non-fire outcomes and other agencies' mandates.

New Zealand Fire Service Commission Research Report Number 102  
ISBN Number 978-1-877539-15-2 (on-line)  
ISBN Number 978-1-877539-14-5 (paperback)  
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**Understanding the New Zealand Fire  
Service's contribution to  
non-fire outcomes**

March 2010

**Final Report**

**An evaluation and monitoring framework**

MARTIN<sup>I</sup>JENKINS

## Preface

This report has been prepared for the New Zealand Fire Service by Nicole Brown, Paul Clarke and Allana Coulon from MartinJenkins (Martin, Jenkins & Associates Limited). Nick Davis reviewed this report to provide quality assurance.

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## Executive Summary

Increasingly, the Fire Service attends to non-fire incidents. These accounted for over 45% of incidents where assistance was required (ie excluding false alarms) in 2008/09. These emergencies include motor vehicle accidents, hazardous substance emergencies, medical emergencies, local and national civil emergencies and other specialist services for which the Fire Service has specialist equipment or training. Typically, the Fire Service is not the mandated lead agency.

The aim of this project was to develop a conceptual framework for evaluating the value and impact of the Fire Service's contribution to its non-fire outcomes and other agencies' mandates.

Measuring the Service's contribution to non-fire outcomes is challenging for several reasons:

- There is a general difficulty across all emergency response work in attributing activities to outcomes. For example, the number of lives saved cannot be measured because it is usually impractical to determine whether a person would have died without an intervention.
- The nature and number of non-fire incidents depends mostly on a number of factors outside the Fire Service's control. Outcome indicators therefore give a very poor guide to performance.
- This is compounded by the fact that primary reporting responsibility rests with the mandated lead agency (not the Fire Service) and by difficulties in attributing impact to one agency's role.

The above factors make the case of non-fire incidents quite different to that of fire, where the Fire Service is the mandated lead agency and has a much larger role, particularly with respect to risk reduction and preparedness. Because of the problems of attribution, and a number of data limitations, we have used a mixed methods approach to evaluation.

### Evaluation design

We developed an intervention logic for non-fire outcomes and used this to develop an evaluation design based on three strands:

- **Strand 1: Routine performance monitoring**

This is based on indicators/performance measures at different levels of the intervention logic. These do not take into account current data limitations and represent an 'ideal' set that the Fire Service may aspire to over time. We suggest that these be validated and implemented on a pilot basis for one category of incident, preferably in conjunction with other relevant agencies.

- **Strand 2: Targeted on-going evaluation projects**

Targeted evaluation projects build on routine performance monitoring data to identify emerging or problematic issues that require further investigation. These might include, for example: assessing the impact of investments in hazardous substance equipment and processes; comparing performance between local areas or regions; or investigating fire-fighters attitudes to non-fire response work and the implications for recruitment.

- **Strand 3: Summative evaluation of the Fire Service response to non-fire emergencies**

A summative evaluation of the Fire Service's role in non-fire activities would evaluate and assess how the Fire Service is performing across all non-fire emergency response work and identify whether there are areas (systematic or targeted) where the Fire Service could improve and adjust its efforts. The evaluation would draw on findings from previous evaluations and routine performance monitoring activity, as well as additional interviews and surveys.

### **Prioritisation**

Evaluation activities should be prioritised taking into account relative impact, relative cost of the activities being reviewed, the uncertainty about the assumptions underlying the activity, the cost/feasibility of carrying out the evaluation activity, and whether the evaluation is likely to effectively support decision making.

### **A sector wide approach to emergency incident monitoring and evaluation**

The difficulty in ascribing contribution to individual agencies is one reason for taking a sector wide approach to emergency incident monitoring and evaluation. In addition:

- the overall aim of improving outcomes is as likely to turn on interagency integration and role congruence as the performance of an individual agency
- some of the practical data problems are best resolved using a cooperative approach.

We suggest there is a need for a sector wide reconsideration of how information is collected and analysed for emergency incidents. This would ensure that the right information is being collected by the right agency and shared in an effective manner.

## Part One: Introduction

Alongside its statutory responsibility to protect life and property from the dangers of fire, the New Zealand Fire Service (the Fire Service) also works in partnership with a range of government agencies to contribute to enhanced community, regional, national and international security by responding to non-fire emergencies. These emergencies include motor vehicle accidents, hazardous substance emergencies, medical emergencies, local and national civil emergencies and other specialist services for which the Fire Service has specialist equipment or training.

The Fire Service would like to improve the ability to measure its impact on non-fire outcomes. In part, this reflects that emergency and rescue services for non-fire incidents is an important and growing component of the Fire Service's role. These activities made up 32% of all incidents registered in 2008/09 and over 45% of emergency incidents where assistance was required<sup>1</sup>. Reasons for the lack of measurement and limited key indicators in this area include:

- legislative accountability for non-fire outcomes lies with other government agencies
- measuring the full impact of the Fire Service's work on non-fire activities is difficult because the relationship between activities and final outcomes are usually not observable
- the Fire Service is just one of a number of agencies which contribute to the emergency management process
- while the major role of the Fire Service in relation to non-fire incidents is 'response', the full extent of the Fire Service's contribution to outcomes varies across different categories of emergencies and specific incidents. The mix of government agencies involved also varies.

This report sets out an outcomes framework for understanding the Fire Service's contribution to non-fire outcomes and other agencies' mandates. Based on this framework, an evaluation and monitoring framework has been developed to help assess the value and impact of the Fire Service's non-fire role in the future.

### Scope of the work

The aim of this project is to develop a conceptual framework for evaluating the value and impact of the Fire Service's contribution to its non-fire outcomes and other agencies' mandates.

The key objectives of the project are to provide the Fire Service with:

- a better understanding of the intervention logic for the Fire Service's non-fire activities across all stages of the emergency management framework

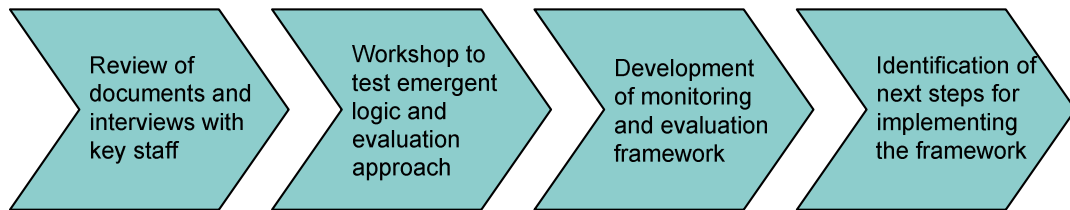
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<sup>1</sup> Not including false alarms.

- an evaluation and monitoring framework to help determine the value and impact of the Fire Service's non-fire role in the short and long-term
- next steps for implementing the framework over time and measuring the Fire Service's impact on non-fire outcomes in the future.

## Our Approach

We undertook this project in four phases:



### Phase 1: Review of documents and interviews with key stakeholders

The original intent of this project was not only to develop a monitoring and evaluation framework but to test the framework by applying it in an evaluation on the value and impact of the Fire Service's contribution to non-fire outcomes and other agencies' mandates. To understand the Fire Service's contribution to the wider emergency management sector, we reviewed key strategic documents and annual reports for both the Fire Service and partner agencies in the sector. We also conducted interviews with key staff at the Fire Service and external partners.

We intended using the information gathered to design a framework that could be populated using a survey to collect operational Fire Service data and existing data collected by partner agencies. However, the interviews with the majority of external agencies revealed that these agencies often do not have outcome measures that measure their own contribution, let alone the contributions the Fire Service's non-fire activities make to their work.

This had two implications for the project as originally conceived. First, it meant that further work was needed to define and clarify how (and to what extent) Fire Service activities contribute to other agencies services and outcomes. Second, it meant there was little value in carrying out an internal survey to collect additional information about non-fire activities when it could not be meaningfully linked to the activities and outcomes achieved by other agencies. In light of this, the decision was made in consultation with the Fire Service's Commission to limit the scope of this work to developing a monitoring and evaluation framework for reporting on the nature and value of the Fire Service's non-fire activities, including the Services contribution to wider national emergency management outcomes.



## Phase 2: Workshop to test emergent logic and evaluation approach

To develop the overarching intervention logic for the Fire Service's non-fire role, we adopted a bottom-up 'sum of its parts' approach. We sought to clarify the role and functions of the Fire Service for each of the main categories of non-fire incidents where the Fire Service is involved. The Fire Service also works with a range of other agencies as part of its non-fire related work, and regulatory responsibility for most non-fire emergency incidents is held by partner agencies within central and local government and not directly by the Fire Service. It is therefore critical that the framework developed for monitoring non-fire outcomes is well understood, tested, validated and supported by these agencies.

To understand how the Fire Service contributes to non-fire outcomes, it is necessary to first determine:

- the role of the Fire Service, relative to other agencies, in the nationally accepted emergency management framework for each area of non-fire work (Hazardous Substances, Natural Hazards and special services, Motor vehicle accidents, Medical Emergencies)
- the more detailed intervention logics for each of the main categories of non-fire incidents
- an internal intervention logic for the Fire Service which better links activities, outputs and immediate impacts to outcomes for its non-fire role overall.

This work is outlined in Appendix 1 of this report. Fire Service staff participated in meetings which tested the thinking and validity of the proposed intervention logic. We also circulated it to the external agencies for comment and feedback and comments received were incorporated.

## Phases 3 & 4: Development of monitoring and evaluation framework and next steps for implementation

The framework was developed through a collaborative process led by MartinJenkins and involving key internal stakeholders and representatives of partner government agencies. Semi-structured qualitative interviews were held with representatives from the Department of Internal Affairs, Ministry of Civil Defence and Emergency Management (MCDEM), New Zealand Police (the Police), St John's Ambulance Services, Accident Compensation Corporation (ACC), Environmental Risk Management Authority (ERMA) and Department of Labour at various stages of the project.

## Part Two: Background and Context

### Mission and objectives

The Mission of the New Zealand Fire Service Commission is *to reduce the incidence and consequence of fire and to provide a professional response to other emergencies.*

Although the stated focus is on 'response', in practice and for certain categories of non-fire incidents the role of the Fire Service extends beyond response into emergency sector risk reduction and readiness activities. The Fire Service also contributes to the early phases of recovery, as part of its response role, ensuring the scene or community is stabilised and secure before withdrawing.

Strategic priorities and national goals for the Commission are set out in the New Zealand Fire Service Commission Strategic Plan 2005-2010<sup>2</sup>. The non-fire activities of the Fire Service sit under Strategic Priorities three and four. The six strategic priorities are:

- 1 Improve community fire outcomes through fire prevention, fire safety and better response
- 2 Foster integration of urban and rural service delivery
- 3 Contribute to enhanced community security
- 4 Support regional, national and international security
- 5 Develop and protect our people and promote internal stakeholder partnerships
- 6 Improve service performance accountability, and resource utilisation.

### Current performance monitoring

The Fire Service currently monitors its performance by collecting data about every incident attended by the Fire Service and the Rural Fire Authority (RFA). This information is used to set incident targets and track national and regional trends. At present, while data is collected on both fire and non-fire incidents, less data is collected on non-fire incidents overall and the extent and nature of data collected varies depending on the type of incident.

This partly reflects the fact that statutory accountability for outcomes in relation to most types of non-fire incidents rests with other organisations. The information collected by the Fire Service also tends to relate to the volume and nature of activity rather than impacts. As noted above, it was originally envisaged that this gap might be bridged by drawing on other agencies' own outcome measurement, but in fact such measurement is currently lacking. One reason for this is the challenge of assessing the contribution of response activities to outcomes. We discuss this below under 'Challenges of measuring performance and contribution to non-fire outcomes'.

<sup>2</sup> <http://www.fire.org.nz/About-Us/Publications/Other-Reports/Documents/378381e02ed39180ba39b56ecbc0c54c.pdf>

### Categories of non-fire emergencies

The Fire Service annually reports on the number and nature of non-fire incidents attended and monitors the overall trends in response to non-fire emergencies. The Fire Service currently collects statistics on all non-fire incidents attended. For incident reporting purposes, the Fire Service groups non-fire emergencies into five categories:

- non-fire hazardous emergencies
- overpressure, rupture, explosives, over heating
- rescue, emergency, medical calls
- special service calls
- natural hazards (disasters).

The Fire Service has also set national service delivery guidelines (national goals) for response to fire and non-fire emergencies. These goals have been established to provide a balance between resource availability and early intervention to help reduce or minimise the consequence of emergency incidents in New Zealand. For non-fire incidents, the only national goal for responding to incidents relates to response times:

- Meet or exceed national service delivery guidelines for non-fire emergencies:
  - 30 minutes for motor vehicle accidents 90% of the time
  - 20 minutes for incidents requiring the specialist Hazmat unit 90% of the time within large urban areas and major transportation hubs
  - 60 minutes for incidents requiring the specialist Hazmat unit 90% of the time for the rest of New Zealand.

In contrast, the Fire Service reports on a much broader set of output and outcome indicators for fire emergencies. In part, this is driven by the Fire Service's overall statutory accountability for fire outcomes, but it also reflects important differences between fire and non-fire incidents. In the case of fire, the Fire Service has a large influence on outcomes through both emergency response and increasingly through prevention and education work. For non-fire emergencies, the Fire Service's role and contribution is narrower and so outcomes indicators are less informative about performance.

The fire-related indicators include a number of outcomes measures for reducing the number of fires, lives lost and cost and extent of damage to property and the environment caused by fires. Targets are also set for the response time and length of time to contain wildfires. Performance measures also exist to measure effectiveness in relation to fire safety education, prevention and advice.

### Need for sector level measures

At present, there appear to be significant gaps across the sector in relation to outcomes reporting for many of the non-fire incidents to which the Fire Service responds. Through this exercise, the Fire Service is independently looking to develop performance measures for the activities, impacts and outcomes of the Fire Service's contribution to non-fire incidents. However, there is a need for the sector to develop measures which will provide information to all emergency service providers on the effectiveness and impact of their interventions.

### Non-fire emergency role of the Fire Service

The majority of non-fire emergency work involves motor vehicle incidents, medical emergencies, hazardous substances emergencies, and natural hazards emergencies. The Fire Service mainly provides 'response services' during non-fire emergency incidents. Alongside their core role in emergency response, the Fire Service also has risk reduction and community readiness functions in relation to natural disasters and to a lesser extent, hazardous substances. On an ad-hoc basis, the Fire Service also provides some recovery support in relation to specific emergency events (mostly natural disasters) depending on resource availability and capability.

While the nature of the response varies according to the incident, there are some general characteristics of the Fire Service which make a unique contribution to emergency management in New Zealand. These include the Fire Service's wide geographical reach and presence, in particular through volunteer fire brigades and the large on-call response force, as well as the specialist training and equipment of fire-fighters to respond to a wide range and scale of emergencies.

For all non-fire emergencies, government agencies other than the Fire Service have statutory accountability for improving outcomes, i.e. responsibility for reducing fatalities or the number of crashes on New Zealand roads is shared by the New Zealand Transport Agency and the New Zealand Police. However, the lead agency and partner agencies differ according to the nature of the non-fire emergency.

**Table 1: Emergency sector partner agencies**

Type of non-fire incident	Partner agencies
Motor vehicle accidents	<ul style="list-style-type: none"> <li>• New Zealand Transport Agency</li> <li>• New Zealand Police</li> <li>• Ambulance providers</li> <li>• Health providers</li> <li>• Accident Compensation Corporation</li> </ul>

Type of non-fire incident	Partner agencies
Hazardous Substances Emergencies	<ul style="list-style-type: none"> <li>• Local authorities</li> <li>• Environmental Risk Management Authority</li> <li>• Department of Labour</li> <li>• New Zealand Police</li> </ul>
Medical Emergencies	<ul style="list-style-type: none"> <li>• Ambulance providers</li> <li>• Health providers</li> <li>• Accident Compensation Corporation</li> </ul>
Natural disasters	<ul style="list-style-type: none"> <li>• Local authorities</li> <li>• Civil Defence Emergency Management Groups</li> <li>• Ministry of Civil Defence and Emergency Management</li> </ul>

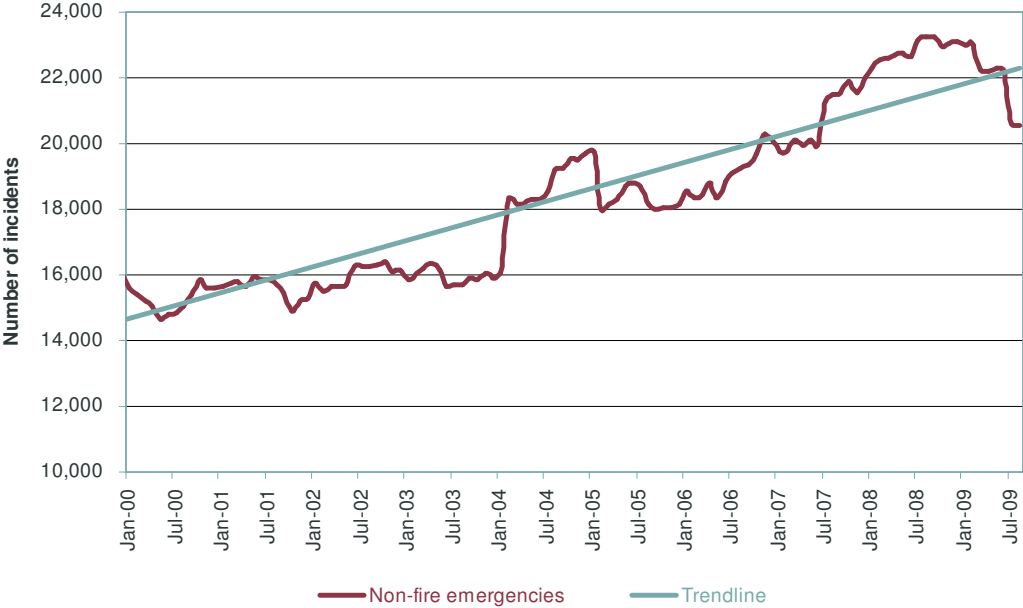
New Zealand Fire Service Commission Statement of Intent 2009/2012

### Operational non-fire activity

The Fire Service uses its existing response capability funded under the Fire Levy to respond to non-fire emergencies. The nature of incidents to which the Fire Service responds has broadened over time as other agencies have become more focused and specialised in other non-fire incidents for which the Fire Service has specialist technical expertise or equipment. The Fire Service is facing a significant upwards trend in both the number and proportion of non-fire related incidents it attends. In 2008/09, 32% of all emergency incidents attended by the Fire Service were non-fire related, compared with 26% in 2001/02. When false alarms are removed, 45% of incidents attended by the Fire Service in 2008/09 were non-fire emergencies. The upwards trend in the proportion of non-fire incidents is mostly due to the increasing number of non-fire incidents, rather than a decline in the total number of fires.

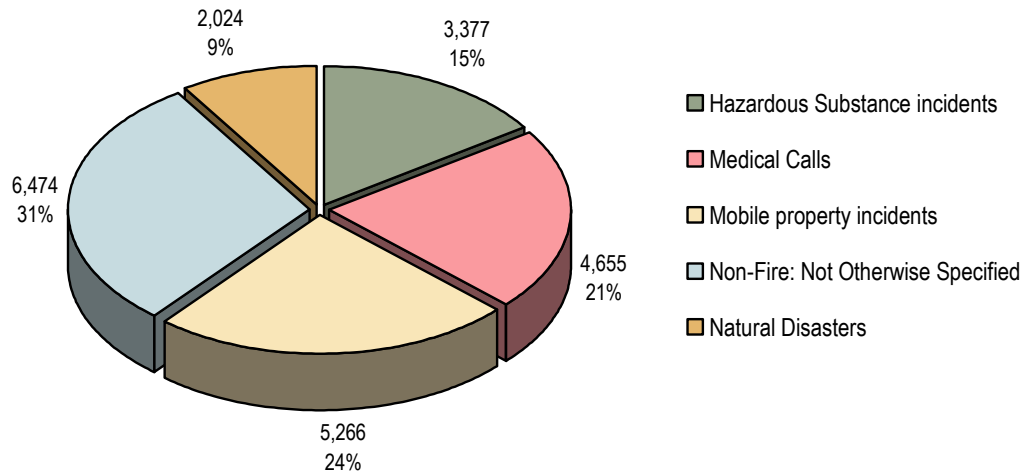
The total number of non-fire related incidents has also grown strongly over this period as shown in Figure 1 below.

Figure 1: Non-fire emergencies attended by the Fire Service



**Composition of non-fire activity**

The 2009/2012 Statement of Intent focuses on four main categories of non-fire emergency motor vehicle accidents, medical emergencies, non-fire hazardous substances emergencies, and natural disasters as the four main categories of non-fire emergencies where the Fire Service works in partnership with other government agencies to improve outcomes.

**Figure 2: Number of non-fire emergencies by type attended by the Fire Service in 2008/09**

Non-fire work makes up a significant component of Fire Service work and an even higher proportion of all incident response work for volunteer fire brigades. Using figures from a recent study by MartinJenkins on Enhancing Incident Data Collection and its Use, data shows that a volunteer fire brigade is almost one and half times more likely to respond to a non-fire emergency incident than a fire emergency in any given reporting period.

Motor vehicle incidents are the single largest category of non-fire incidents to which the Fire Service responds and this has grown in recent years. In 2008/2009, the Fire Service attended 5,266 motor vehicle incidents, representing almost one quarter (24%) of all non-fire emergencies in that year. For volunteer fire brigades, incident statistics suggest they are as likely to respond to a motor vehicle accident or medical emergency as a fire in any given month. This has implications for training, preparedness and changing perceptions, within and external to the Fire Service about the nature of the role of fire-fighters in the community.

In 2008/2009, the Fire Service attended 4,655 medical emergencies on behalf of Ambulance Services. This represents a small proportion of all medical emergencies which occur in New Zealand in any given year. As with motor vehicle accidents, volunteer brigades are more likely to respond to a medical emergency than a paid or composite brigade. This is likely to reflect their presence in remote geographic locations and small rural communities where there is less ambulance cover.

The Fire Service plays a critical role in attending non-fire hazardous substances emergencies and minimising their impact on people, property and the environment. In 2008/2009, the Fire Service attended 3,377 non-fire hazardous substances emergencies. The Environmental Risk Management Authority (ERMA) administers the Hazardous Substances and New Organisms

(HSNO) Act 1996. The HSNO Act confers enforcement powers on a wide number of government agencies, however, when an emergency hazardous substance emergency occurs, the Fire Service is ordinarily the first responding emergency service and often the only agency present. While the majority of incidents are categorised as low risk incidents by ERMA, the potential risk posed by certain hazardous substances to communities and the environment is significant. This makes it critical that the Fire Service has the capability, in terms of manpower, technical skills, equipment and established protocols and processes, to respond rapidly to a serious incident.

The Fire Service responds to a comparatively small number of natural disasters of varying size in any given year. However, there has been a sharply increasing trend in the number of weather related natural hazards in recent years<sup>3</sup>. In 2008/2009, the Fire Service provided response services to 2,024 natural disasters, representing approximately 9% of non-fire incidents attended. However, the small number attended does not give a complete sense of Fire Service contribution in this area. The potential threat posed by natural disasters to individuals, property and the environment can be significant. This requires significant planning, training and standby capability

The majority of non-fire emergency activity involves working in collaboration with other emergency response services. However, it should be noted that the Fire Service also engages in emergency 'response' activities that do not always involve other agencies.<sup>4</sup> In 2008/09, 6,474 non-fire incidents, or 30% of non-fire activity, fell into this category. Although not an exclusive list, types of incidents include overpressure, explosives and overheating incidents. There are also a number of special service calls that the Fire Service may respond to concerning water control and roof repair in emergency situations. The Fire Service also has specialist capability which is deployed for rescues of people trapped in a lift, roof, or on a cliff, collapsed structure rescue, underground rescue, trench collapse, tree rescues and animal rescue.

This response work reflects the Fire Service's unique set of specialised capabilities, available equipment for rescue and emergency response and standing capacity. Work of this nature is not negligible and needs to be considered in the overall contribution of the Fire Service to non-fire emergency management outcomes.

<sup>3</sup> New Zealand Fire Service Commission Statement of Intent 2009/2012

<sup>4</sup> While the Fire Service provides the technical expertise and equipment, the New Zealand Police have statutory accountability for the assistance and rescue of people.



## Challenges of measuring performance and contribution to non-fire outcomes

Despite the significant commitment of resources, the Fire Service has limited measures and performance indicators for its non-fire activities and is unable to articulate the extent to which it contributes and adds value to wider emergency management and national outcomes in these areas. There are a number of factors which impede the drawing of links between response activity and trends over time in national outcomes.

- There is a general difficulty across all emergency response work in attributing activities and immediate impact to outcomes. This difficulty is compounded when the responsibility for the preventative risk reduction and community readiness role is separated from the role of providing an emergency response to incidents when they occur. A study for the UK Fire and Rescue Service<sup>5</sup> identified a number of measurement issues particular to the sector including:
  - the number of lives ‘saved’ by a Fire Service cannot be measured directly because it is often difficult to tell whether a person would have died without their intervention
  - the relationship between preventative work (by partner agencies for non-fire emergencies) and response activity and the relative impact of each is difficult to measure independently
  - the immediate impacts of activities that are delivered to a collective group of society rather than to an individual person or small group are very difficult to define. In relation to non-fire emergencies, this is particularly likely to be the case with a large civil defence emergency or serious hazardous substances emergency
  - measuring volume of incidents as a proxy for output will include perverse indicators where output increases are due to negative trends in wider national outcomes, i.e. worsening drink driving behaviour or a decline in health and safety standards in workplaces.
- By its very nature, non-fire emergency work is reactive and cannot be controlled. While there may be general trends in total numbers and across geographic locations (eg urban/rural), the severity, frequency and nature of incidents and the response required is largely unpredictable.
- While non-fire activities place a large call on Fire Service resources, legislative accountability and associated output reporting requirements for non-fire emergency outcomes rest with other organisations. This adds layer of complexity to the inherent difficulties in measuring the impact of the Fire Services response to incidents.

<sup>5</sup> Office of the Deputy Prime Minister, 2005. Measurement of output and productivity of the Fire and Rescue Service: A conceptual framework. Central Economic Advice Division & Fire and Rescue Service Directorate, Office of the Deputy Prime Minister, London.

An example of how these difficulties operate in practice is the Fire Service's attendance at motor vehicle accidents. The lead agency in managing the scene of such accidents is the Police. The Fire Service may take a number of roles: managing the scene if they arrive before the Police; administering first aid if they arrive before an ambulance; and supporting extraction of those injured.

The activity of all agencies contributes to the intermediate outcome 'fewer lives lost as result of motor vehicle accidents'. Yet there is no basis for assessing, on a case by case basis if at all, whether lives have been saved by preventing further accidents at the scene, or by the administration of timely first aid. Even if it were, it would be impossible to attribute the outcome to any individual agency involved, for example, in a situation where the policeman directing the traffic made it safe for the fireman to extract the injured party for treatment by ambulance officers. This point is underscored by the fact that neither the Police nor ambulance services attempt to measure the impact of their attendance at an accident site.

The example described illustrates the point made above about the relatively minor role the Fire Service plays in non-fire emergencies. While response to motor vehicle accidents is important, the Fire Service typically plays only a small part in strategies to improve road safety which focus on prevention through user education, enforcement (eg of speed limits and the use of alcohol) and engineering design for safety. In such circumstances, outcomes measurement of itself provides very limited insight into the contribution of response. This contrasts to the situation with fire, where response has traditionally played a more significant role.

## Implications for the monitoring and evaluation framework

The context for the development of a monitoring and evaluation framework for non-fire outcomes is very different to that for fire: the role of the Fire Service is narrower, its contribution is often dependent on the involvement of other agencies, and there are difficulties in attribution.

In practice, this means that the approach to monitoring and evaluation for non-fire outcomes should not necessarily be expected to be the same as for fire. Indeed the challenges of attribution suggest that it will be based on indicators to a far lesser extent and alternative approaches (e.g. qualitative enquiry) will be necessary. It also means that sector wide approaches will be critical to gaining insight into outcomes generally, before the Fire Service's contribution can be assessed.

## Part Three: Developing a monitoring and evaluation framework

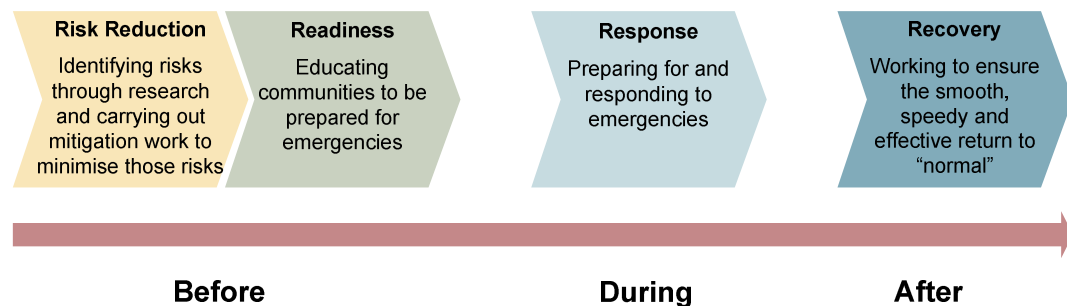
Developing a monitoring and evaluation strategy requires consideration of the following:

- the role and value-add of the Fire Service, relative to other agencies, for each area of non-fire work
- the strategic goals, objectives and intended outcomes of 'lead agencies' with legislative accountability for each of the Fire Services main areas of non-fire emergency work, and how this is measured by those agencies
- the availability of data to help determine the value and impact of the Fire Service's non-fire role in the short and long-term.

### The Emergency Management Framework

To understand the role of the Fire Service relative to other agencies, we adopted the Emergency Management Framework or 4R's for managing fire risk in New Zealand currently used by the Fire Service. As this framework is commonly understood and used by all government agencies involved in emergency management, it provides a useful way of demonstrating where the Fire Service contributes and adds value, alongside other agencies for all types of emergencies. The framework, as shown below, includes three phases of emergency management (before, during and after) and the key interventions at each stage.

**Figure 3: Emergency Management Framework**



In relation to fire risk, the Fire Service is primarily responsible for all phases of the emergency management process. However, for other non-fire emergencies, the Fire Service plays a more limited role in the emergency management process, working in cooperation with other agencies that hold responsibility for, or contribute to, different stages of emergency management.

Overall, the government has a key sub-theme or national outcome which is 'Safer Communities'. This provides an overarching outcome to which all emergency services (and government agencies concerned with emergency management) contribute.

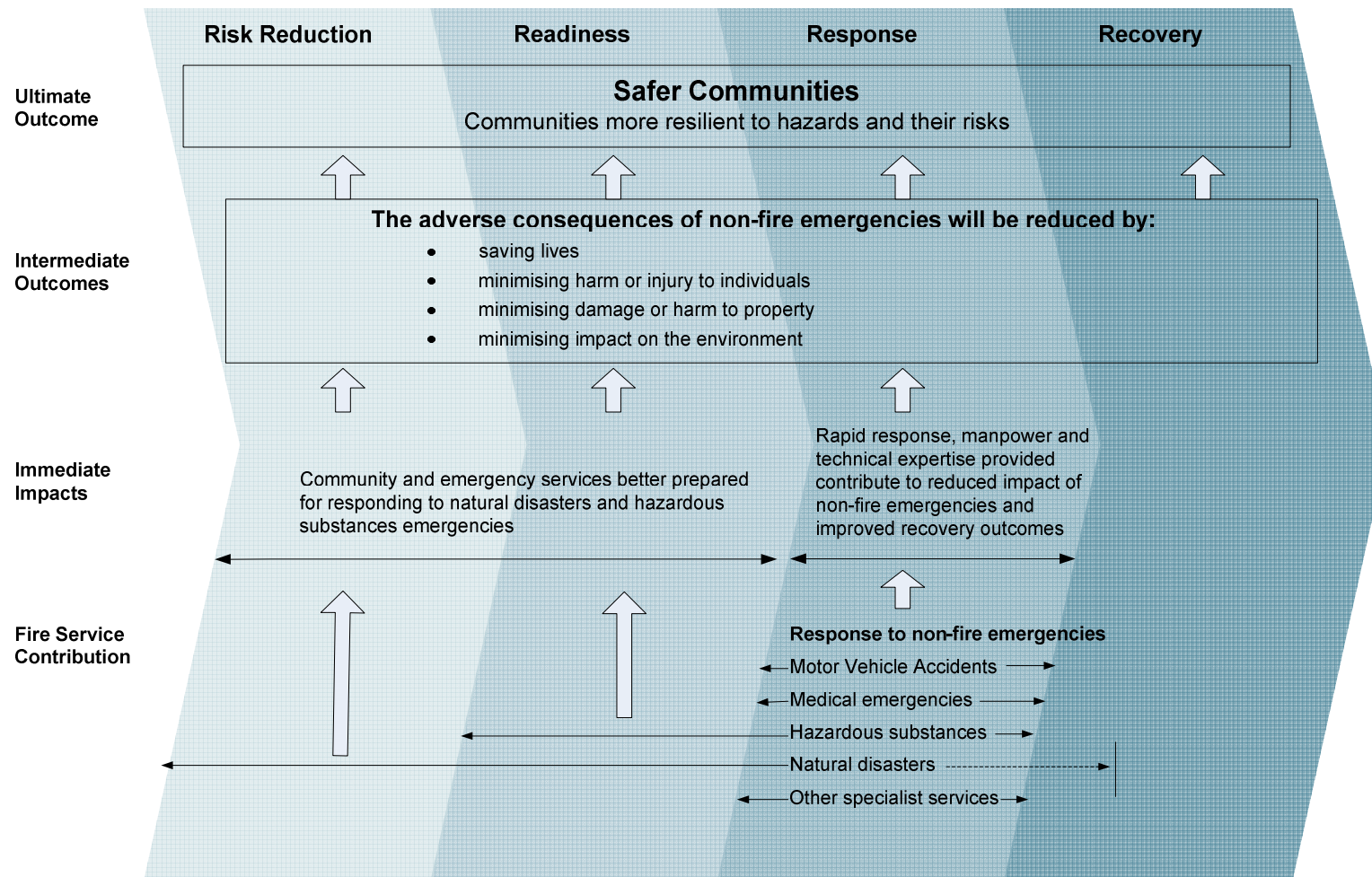
The Department of Internal Affairs has set a high level outcome 'Safer communities: Communities are more resilient to hazards and their risks'. The Department has identified four intermediate outcomes which contribute to achieving this and align with the four emergency management phases of risk reduction, readiness, response and recovery:

- 1 the overall risk from hazardous events has been reduced to a level acceptable to the community
- 2 individuals and communities are resilient and self-reliant through being well informed of hazards, their consequences and how best to manage and prepare for them
- 3 Civil Defence Emergency Management stakeholders are prepared for emergencies and can respond effectively
- 4 communities can recover faster from emergencies, minimising negative long-term impacts.

Across the emergency management framework, the breadth of the Fire Service's role is shown in Figure 4 below. It emphasises the focus on response, but shows that there are areas where its role goes beyond this.

Figure 4: Fire Service role in non-fire emergency management

**Fire Service Contribution to non-fire emergency management outcomes**



## A conceptual model

As previously noted, precisely determining the extent to which the Fire Service contributes to wider shared outcomes is problematic, even with a carefully designed evaluation framework. However, developing a framework for guiding monitoring and evaluation activities reduces the level of uncertainty in our knowledge and provides an opportunity to acquire insight and assurance that the Fire Service is performing the appropriate non-fire emergency functions efficiently and effectively and resources are appropriately allocated. This will help identify ways to improve the level of impact on outcomes.

Developing an effective monitoring and evaluation framework requires a clear understanding of the intervention logic (i.e. how various activities or outputs produce a number of results that in turn lead to outcomes). This approach is particularly suited to evaluating complex, multi-faceted interventions where multiple agencies are involved in improving outcomes. Intervention logic enables an understanding of how the intended outputs and impacts are achieved and factors that constrain or facilitate their achievement. It is also useful for identifying critical focus areas and issues on which limited evaluation resources should be applied.

An intervention logic for non-fire outcomes is shown in Figure 5 overleaf.

Figure 5: Fire Service non-fire outcomes intervention logic

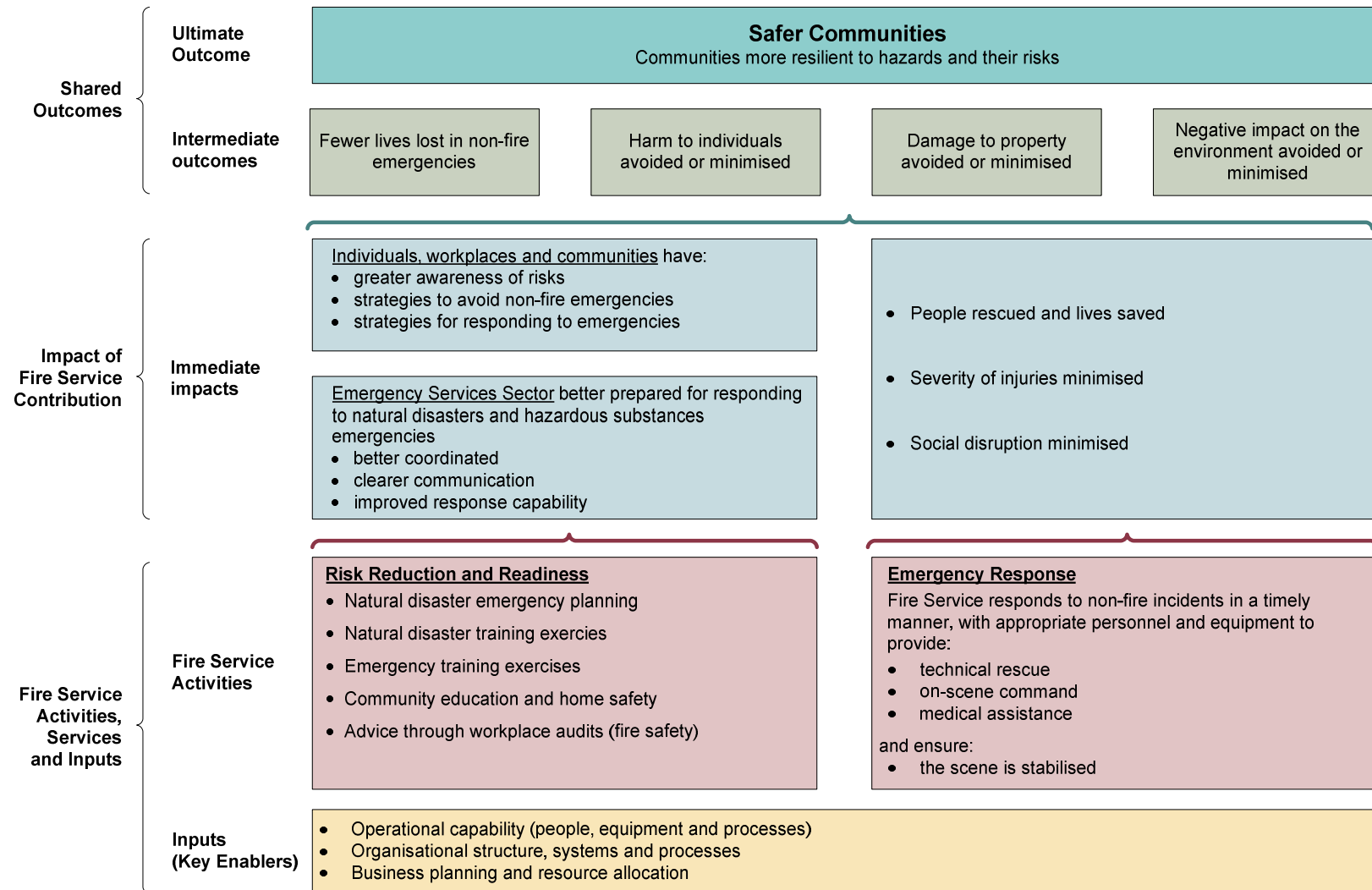


Figure 5 places the Fire Service's activities, services and inputs at the base as these act as critical enablers or set the parameters for the operation and scope of the Fire Service's work in relation to non-fire activities. Effective and efficient delivery of these services and activities is a key contributing factor to achieving short, medium and longer term outcomes.

Figure 5 is a synthesis of more detailed descriptions of the Fire Service's role and contribution that we have prepared by incident type (see Appendix 1). We have used this framework to guide the formulation of the evaluation questions and, following consultation with the Fire Service and key stakeholders, identified four areas of focus. These focus areas are summarised in Table 2: Overarching evaluation questions.

The set of questions in Table 2 is intended to be comprehensive and are those that would be answered in an ideal world. Depending on the resources available, decisions will have to be made to narrow the breadth and/or depth of the inquiry in each of the areas. A set of criteria for prioritising evaluation activity is provided at the end of this section.



Table 2: Overarching evaluation questions

At each level of the framework	Overarching evaluation questions
High level outcomes	<ul style="list-style-type: none"> <li>• How and in what ways should emergency response agencies be organised to ensure efficient use of government resources and optimal outcomes for individuals, communities and the country?</li> <li>• How well are partnership arrangements between agencies working to achieve shared outcomes?</li> <li>• Are there gaps in the government's overall emergency management for certain types of incident?</li> <li>• Is the Fire Service's balance of effort over the emergency management framework appropriate?</li> </ul>
Immediate Impacts	<p data-bbox="712 726 842 753"><u>Risk reduction</u></p> <ul style="list-style-type: none"> <li>• To what extent do the risk reduction and readiness activities undertaken by the Fire Service:               <ul style="list-style-type: none"> <li>– raise public awareness of the hazards and their risks</li> <li>– improve sector and community readiness to respond to emergencies</li> <li>– enhance individuals and workplaces capability to avoid or minimise the impact of non-fire emergencies?</li> </ul> </li> </ul> <p data-bbox="712 989 907 1016"><u>Emergency response</u></p> <ul style="list-style-type: none"> <li>• At an incident level, what contribution is the Fire Service making to saving lives, minimising the severity of injuries and containing/stabilising the scene?</li> <li>• What opportunities exist for the Fire Service to improve its impact on the outcomes of non-fire emergencies?</li> <li>• Are the roles and responsibilities between the Fire Service and partner agencies, including other emergency services providers, sufficiently clear at local, regional and national levels?</li> </ul>
Fire Service's activities and outputs	<ul style="list-style-type: none"> <li>• In what ways can the Fire Service improve its:               <ul style="list-style-type: none"> <li>– responsiveness to non-fire emergencies?</li> <li>– effectiveness on-scene at non-fire emergencies?</li> </ul> </li> <li>• What is the scale and intensity of the Fire Service's response to non-fire emergencies and how has this changed over time?</li> </ul>
Inputs	<ul style="list-style-type: none"> <li>• To what extent does the strategic and operational planning of the Fire Service take into account both fire and non-fire roles?</li> <li>• Does strategic and operational planning consider the best mix of risk reduction and emergency response activities?</li> <li>• How can the Fire Service use and allocate its resources better improve outcomes of non-fire emergencies?</li> </ul>

## Issues in evaluation design

In order for the Fire Service to be clear about how it contributes to non-fire outcomes there are a number of challenges which need to be addressed, both within the Fire Service and in the wider emergency management sector.

- Significant gaps in data and performance measures across the sector, particularly regarding the 'quality' of interventions on-scene and contributions of key agencies. Information is not available and/or sufficient to support a picture of the Fire Service's contribution, relative to other agencies, at an outcome level.
- Almost no data sharing agreements or agreed protocols exist with partner agencies in relation to what is measured on-scene at an emergency. There is a need to work with emergency response agencies (Police and Ambulance Services) to define common terminology to describe activities they jointly undertake. The Fire Service has a data sharing agreement with ERMA for hazardous substances incidents (fire and non-fire) but this is predominantly limited to an outflow of SMS data from the Fire Service to ERMA at present.
- There is also a need for SMS enhancements to support correct classification of 'type of incident' and the nature of activities undertaken. Clearer business rules are needed for defining incident types (i.e. hazardous substances and motor vehicle accidents). This is discussed in more detail in a separate MartinJenkins report, *Enhancing data collection and its use*, December 2009.
- There is also a need to simplify incident reporting to assist in identifying trends in responsiveness and capability across fire and non-fire activities for certain types of incidents. For example, in areas such as motor vehicle incidents and hazardous substances, there may be value in analysing incident trends as a whole, regardless of the presence of fire.

In order to tell a compelling story of the Fire Service's contribution to non-fire outcomes, the questions and data issues outlined above point to the need for a mixed methods evaluation approach. The following section presents the main types of evaluative activity that ideally need to be combined to answer the questions posed in Table 3.

## Evaluation design

The framework identifies three key strands of work that are necessary to systematically capture the Fire Service's contribution to non-fire activities and we anticipate these strands of work to be undertaken on a sequential basis over a period of time (i.e. over 3 years).

## Strand 1: Routine performance monitoring

The intervention logic diagram at Figure 1 illustrates the pathway through which Fire Service's activities and outputs are expected to contribute to desired non-fire outcomes. Routine performance monitoring offers a way of allowing Fire Service to monitor and track how well the agency is doing against these expectations. Performance monitoring provides valuable information to stakeholders and decision-makers:

- about the nature of demand for Fire Service intervention in non-fire activities and in what ways this may be changing
- about whether investment, on the part of the Fire Service, in more or different training, new equipment, and new processes or procedures is contributing to improved impact and outcomes
- about areas where the Fire Service could improve functioning, either in terms of contribution to risk reduction and community preparedness or in its operational readiness, responsiveness or impact with regard to specific types of non-fire incidents
- that identifies areas for further exploration or problematic issues.

This requires the Fire Service to develop an effective monitoring framework that identifies indicators or performance measures at different levels within the logic model (e.g. activities, impacts, outcomes). Ideally the monitoring activities should draw upon the range of data that is already available to the Fire Service through existing sources (both internally and externally). However, this will not be possible in all areas and decisions will need to be made about how (and whether) to best fill existing data gaps.

Bearing in mind the limitations to performance monitoring already discussed, the Fire Service may wish to develop an independent set of indicators to measure their outputs and impact. However, we suggest that more value would come from developing and piloting a set of more in-depth indicators in partnership with the New Zealand Police and other lead agencies to develop common terminology and, where possible, measures. As a starting point, we recommend the Fire Service seek agreement to carry out a joint exercise with partner agencies to develop and pilot a set of common impact and outcome measures for one type of non-fire incidents (e.g. motor vehicle accidents or hazardous substances incidents).

Without reference to the data issues outlined previously in this report, we have developed a generic set of indicators which map to different levels of the outcomes framework for your consideration. These are shown below in Table 3: Performance indicators. In practice, some of these measures would ideally be tailored to suit a particular type of incident in partnership with other agencies.

Table 3: Performance indicators

Outcomes hierarchy	Suggested indicators
High-level outcomes (sector-wide indicators)	<ul style="list-style-type: none"> <li>• Lives lost by type of incident</li> <li>• Serious injury rates by type of incident</li> <li>• Estimated cost of negative environmental impact by type of incident</li> <li>• Estimated cost of damage to property by type of incident</li> </ul>
Immediate impacts	<p><u>Emergency response</u></p> <ul style="list-style-type: none"> <li>• Number of people rescued by the Fire Service by type of incident (lives saved and injury minimised proxy)</li> <li>• Containment of incident indicator (develop incident-specific indicators of this)</li> </ul> <p><u>Risk reduction and readiness</u> (develop specific measures in partnership with MCDEM and ERMA/DOL)</p> <ul style="list-style-type: none"> <li>• Percentage of people in the community who demonstrate awareness of potential natural hazards and hazardous substances and their risks</li> <li>• Percentage of people prepared to respond in natural hazards or hazardous substances emergencies</li> <li>• Percentage of workplaces which display recognition of risks relating to hazardous substances in Fire Safety Audits</li> </ul>
Outputs (activities and services)	<p><u>Volume</u></p> <ul style="list-style-type: none"> <li>• Number attended by type of incident and seriousness of incident</li> <li>• Proportion of total number of incidents nationally attended by the Fire Service</li> <li>• Total time spent by type of incident (disaggregated)</li> <li>• Number of staff attending by type of incident (disaggregated)</li> </ul> <p><u>Quality</u></p> <ul style="list-style-type: none"> <li>• Response time from call out to arrival</li> <li>• Specialist equipment or skills used</li> <li>• Equipment failure or unavailable</li> <li>• Needed specialist skills not on scene</li> <li>• 'Near miss' reporting</li> </ul>
Inputs	<ul style="list-style-type: none"> <li>• Capability and readiness of people, equipment and processes by type of emergency.</li> <li>• The organisational context and strategy are clear and well communicated to staff</li> <li>• Expectations of staff are clear and well understood</li> <li>• Systems are in place to capture key results across the organisation</li> <li>• Use of performance information is demonstrated</li> </ul>

## Next steps

As noted, the indicators in Table 3 were developed without taking into account the data issues we have described in this report. This approach was deliberate and taken in discussion with the Fire Service to shape aspirations for a robust evaluation framework.

To carry forward the use of indicators in practice, we suggest developing a focused monitoring framework starting on a pilot basis for one type of non-fire incident initially. Steps may include:

- Validate and consider the feasibility of adopting the suggested indicators at different levels of the outcomes framework, with a focus on how this translates for different types of non-fire incidents. Performance indicators for the Fire Service's emergency response activity are likely to be primarily concerned with three main areas:
  - 1 operational readiness
  - 2 responsiveness
  - 3 impact on-scene.
- Make changes or improvements to the existing SMS incident data system, including categorisation of incidents and the nature of on-scene information collected.
- Work with partner agencies to create data sharing agreements where data is already being collected or develop joint approaches to generate and gather other necessary intelligence about non-fire incidents in their entirety, including the role of the Fire Service at incidents.
- To the extent possible, establish a baseline of data against which to measure progress over time in relation to impact and outcome indicators.
- Plan an approach to monitoring progress on the indicators and reporting on progress to stakeholders (including internal stakeholders) at appropriate intervals.

## Strand 2: Targeted on-going evaluation projects

The purpose of carrying out targeted evaluation projects is to enrich the Fire Service's understanding of their performance and contribution to outcomes in particular parts of the business. This reflects the fact that performance indicators will only offer limited intelligence about the Fire Service's performance and other evaluative methods are needed to gain insight. As routine monitoring becomes established, data can be used to generate questions about why trends are occurring and identify emerging or problematic issues which require further investigation. This may be only related to internal performance or could concern the wider emergency services sector in order to improve emergency management in a particular area. This type of evaluation activity will help the Fire Service to develop strategies for dealing with particular issues as they arise and lead to improved impact and outcomes. Examples of targeted evaluations may be:

- target a particular category of incident, where there may be particular concerns, high cost or high risk to identify areas for improvement/improved outcomes, for example:

- assess the impact on quality of response and immediate outcomes of hazardous substances non-fire incidents resulting from investment in new specialised equipment, improved process and guidelines (operations manual) and introduction of specific hazardous substances training module for operational staff
- comparative performance between local areas or regions to identify effective practice – for example, investigating the quality of coordination and communication with partner emergency service providers on-scene and how this relates to immediate impacts
- investigate fire-fighters attitudes to non-fire response work and implications for recruitment.

### Strand 3: Summative evaluation of the Fire Service response to non-fire emergencies

#### Purpose and focus

The purpose of a summative evaluation of the Fire Service's role in non-fire activities would be to evaluate and assess how the Fire Service is performing across all non-fire emergency response work and inform strategic planning and prioritisation by identifying areas, systematic or targeted, where there is a critical need for the Fire Service to improve and adjust its efforts. This would draw on findings from previous evaluations and routine monitoring activity, as well as carrying out a more comprehensive qualitative process, through staff surveys and interviews with internal and external stakeholders, to develop an overall picture of the perceptions and satisfaction with elements of operational readiness, responsiveness and on-scene impact of the Fire Service's emergency response services for non-fire incidents.

#### Evaluation Questions

Key evaluation questions may include, but should not be limited to:

- How effectively does the Fire Service respond to non-fire incidents and improve outcomes for people, property and the environment?
- Is the Fire Service adequately equipped and prepared for responding to a wide range of non-fire emergencies? Where do improvements need to be made?
- How well does the Fire Service work with partner agencies in responding to non-fire emergencies?
- To what extent are the issues identified systemic across all emergency response work, including fires, or particular to non-fire emergency work?

#### Suggested methodology

In order to usefully inform business planning and strategic decision-making, this evaluation would rely on a solid evidence base of performance over time and intelligence across a wide range of business units and types of incidents. As such, this evaluation would be useful once Strands 1 and 2, outlined above, were well implemented and generating clear insights into the

efficiency and effectiveness of non-fire emergency response activity across the Fire Service. A range of information will be useful to inform an evaluation of the Fire Service response to non-fire emergencies. Suggested sources of data and methodology include:

- analysis of incident data and monitoring indicators to identify trends or relationships between operational readiness, responsiveness and immediate impacts and outcomes where possible
- internal staff survey of perceptions and areas for improvement related to operational readiness (training, equipment, and capacity), responsiveness and on-scene impact at non-fire emergencies, including relationships with other agencies at regional and local levels
- developing a stakeholder survey of perceptions and satisfaction with the Fire Service's performance in responding to non-fire emergencies with a particular emphasis on perceptions of the Fire Service's value-add in this area. An existing survey run by the New Zealand Transport Agency on police performance could possibly serve as a guide for this type of approach
- conduct qualitative interviews, or at the very least allow for regular conversations with external stakeholders, to tease out key issues from their perspective that may contribute to patterns or trends identified through monitoring data. Ideally, feedback from external stakeholders would be collected at national, regional and local levels.

## Prioritising evaluative activity

Given its cost, it is important to prioritise evaluative activity carefully and target areas for evaluation that are likely to provide the greatest opportunities to inform strategy and refine activities to improve outcomes. There is also a need for the Fire Service to ensure best value for money and alignment with wider evaluation and monitoring activities within the Fire Service. An assessment of where to focus evaluative effort needs to balance the following factors:

- The expected relative impact of different activities on the desired outcomes. The evaluation plan should focus more on activities which are likely to have a sizeable impact on organisational performance and success in achieving strategic goals.
- Other things being equal evaluative activity should be directed at areas of expected high impact for the organisation about which there is significant uncertainty.
- The feasibility and cost of carrying out monitoring and evaluation (e.g. data availability and ability to attribute impact to particular activities).
- The expected benefit of evaluation is significant to the development or refinement of business planning and strategic direction. For example, priority setting and decision-making about where to invest resources or new opportunities in the sector.

## A sector wide approach to emergency incident monitoring and evaluation

We have made a number of references in this report to the desirability of working with other agencies on emergency incident monitoring. To summarise the reasons for this:

- ascribing contribution to individual agencies is highly problematic.
- the overall aim of improving outcomes is as likely to turn on interagency integration and role congruence as the performance of an individual agency.
- some of the practical data problems are best resolved using a cooperative approach.

This is underscored by the increasing importance of non-fire incidents as a proportion of all emergency incidents within New Zealand.

In order to develop a complete picture of how effectively the Fire Service contributes to non-fire outcomes, the evaluation strategy will need to draw on data and the evaluative findings of other agencies.

We suggest there is a need for a sector wide reconsideration of how information is collected and analysed for emergency incidents. This would ensure that the right information is being collected by the right agency and shared in an effective manner.



## Appendix 1: Roles and Contributions by incident type

To understand how the Fire Service contributes to non-fire outcomes, it is necessary to first determine:

- the role of the Fire Service, relative to other agencies, in the nationally accepted emergency management framework for each area of non-fire work (Hazardous Substances, Natural Hazards and special services, Motor vehicle accidents, Medical Emergencies)
- internal intervention logics for the Fire Service which better link activities, outputs and immediate impacts to outcomes for its non-fire role overall and for specific categories of incidents.

### The role of the Fire Service in non-fire emergency management

The contribution of the Fire Service to the wider sector emergency management process and the mix of partner agencies concerned differ according to the type of non-fire incident. As such, it is important to ensure we understand the full nature, and similarities and differences, in the contribution and unique added-value of the Fire Service for each of the main categories of non-fire incidents. This section sets out the role of the Fire Service relative to other government agencies delivering emergency management services and identifies the main partner agencies for each of the four major categories of non-fire emergency to which the Fire Service responds. This includes motor vehicle accidents, medical emergencies, hazardous substances emergencies and natural disasters.

Given the emphasis of this project on contributions to wider government outcomes we chose to use these four main categories to better understand how the Fire Service contributes to wider national emergency management outcomes. However, it should be noted that 30% of non-fire incidents fall outside these main categories. While the Fire Service provides specialist emergency response services, most of these other emergency call-outs fall under the jurisdiction of the Police.

## Motor Vehicle Incidents

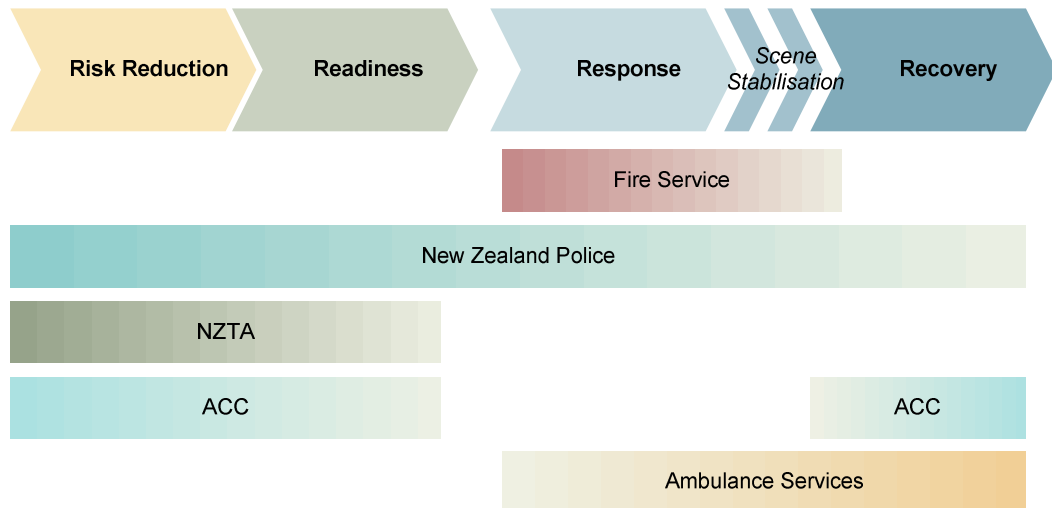
Statutory responsibility for reducing the incidence of motor vehicle accidents and their impact on the community is shared by NZTA and Police. ACC, Ambulance Services and Health Providers also contribute to improved outcomes.

The Fire Service is a critical partner in the group of agencies with responsibility for responding to emergencies and managing the risk and impact of motor vehicle accidents on-scene. While the Fire Service may not be involved in preventative activities, their role on-scene is crucial to saving lives, minimising the impact of injuries and damage to property, protecting others from injury, as well as helping to ensure minimum disruption to traffic flow and a rapid return to normal.

The Fire Service predominantly ‘responds’ to emergencies and in this capacity may also contribute to scene stabilisation and ‘return to post-incident normal’ at the incident by assisting with clean-up and scene management, etc. However, the on-going investigation, care of victims and damaged property/vehicles is largely undertaken by other agencies as shown below.

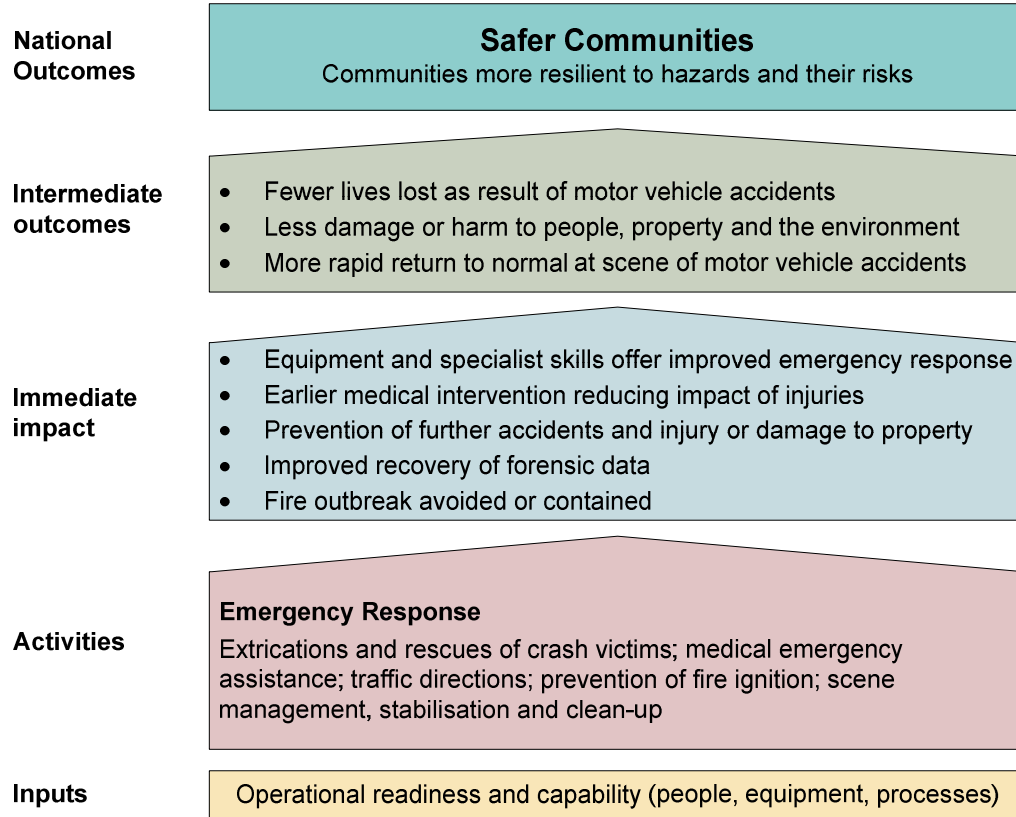
The Fire Service also adds value through their specialist expertise in extrications and possession of specialist equipment (hydraulic cutters) for this purpose. Although hydraulic cutters are used in a range of emergencies, they are most commonly used at motor vehicle accidents.

### Positioning Fire Service contribution to motor vehicle incident emergency management



This work contributes to wider national outcomes as follows:

**Intervention logic for Motor Vehicle Accidents**



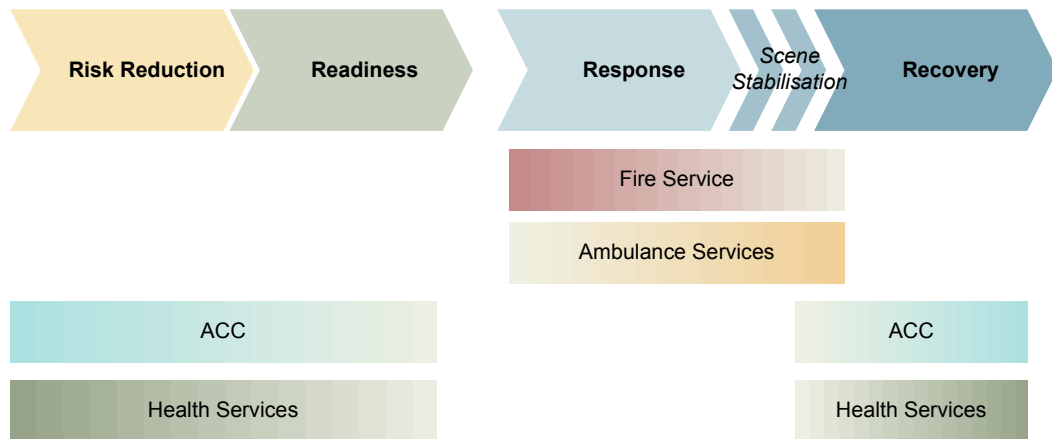
## Medical Emergencies

For medical emergencies, statutory accountability for medical emergencies is shared according to phases of the process. ACC and MoH are responsible for prevention activities and readiness before an incident, Ambulance Services have primary responsibility for responding to medical emergencies, and ACC and/or health providers are generally responsible for the recovery stage after a medical emergency occurs.

The Fire Service is exclusively involved in ‘responding’ to medical emergencies and only in a limited set of circumstances where ambulance services seek the assistance of the Fire Service to provide early medical intervention until Ambulance Services can arrive. This will occur where the Fire Service has a physical presence, or a more rapid response capability, for example, in a geographical area that is hard to reach for Ambulance Services. Assistance from the Fire Service may also be requested where Ambulance services do not have enough capacity to respond, or specialist equipment may be required to effectuate a rescue. The Fire Service’s breadth of geographic coverage and ‘standing force’ of medically trained fire fighters (professional and volunteer) represents a valuable contribution to wider emergency management.

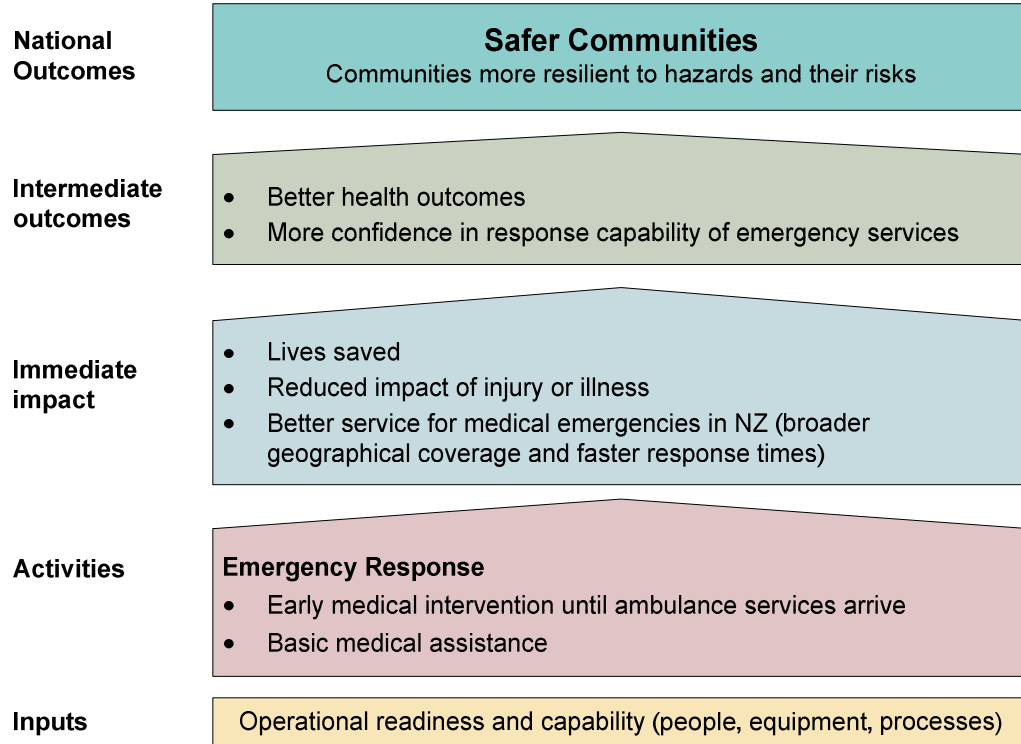
In fulfilling its response role at medical emergencies, the Fire Service is one of several agencies responsible for managing the risk and impact of medical emergencies. While the Fire Service may not be involved in preventative activities, their role on-scene is crucial to saving lives and reducing the impact of injury or illness which contributes to better health outcomes.

### Positioning Fire Service contribution to medical emergency management



The Fire Service contributes to the wider national outcomes as follows:

**Intervention logic for Medical Emergencies**

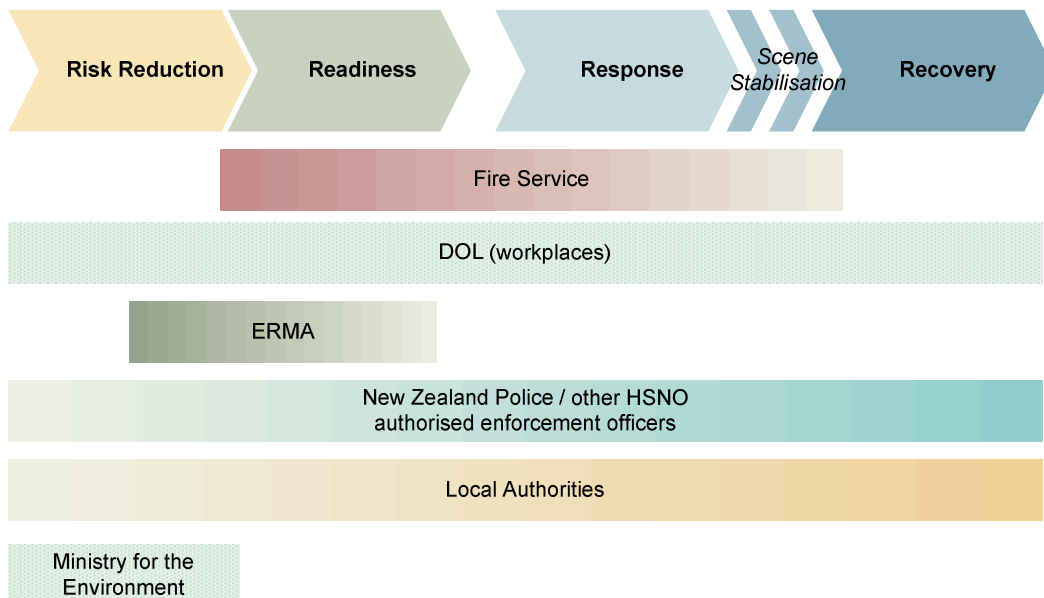


## Non-Fire Hazardous Emergencies

Overall legislative accountability for administering and ensuring compliance with regulation contained in the Hazardous Substances and New Organisms Act 1996 (HSNO Act) lies with ERMA and the Department of Labour. This Act conferred 'enforcement officer' status on the Fire Service, along with a wide range of other agencies including the Police, Land Transport New Zealand, Civil Aviation Authority, Ministry of Health and others. Territorial Authorities also have enforcement responsibilities and play an important role in hazardous substances emergency management.

The Fire Service adds value and makes a unique contribution to national outcomes through their specialist expertise and equipment for dealing with hazardous substances. No other agency is equipped or trained to respond to serious hazardous substance emergencies. The Fire Service has recognised the gap in this area, including the need to upskill and invest in new technology. Significant work has been undertaken in this area in the past few years and includes the development of a comprehensive technical manual covering all hazardous substances emergencies in one document for the first time and the purchase of new technical equipment. The Fire Service has also been involved in extensive research and trials into decontamination methods. The Fire Service is also looking to develop a more formalised training programme, with internal 'qualification', for hazardous substances emergency management. Although some training occurs, a formalised training programme with recognition of acquired skills for hazardous substances emergency response does not currently exist.

### Positioning Fire Service contribution to Hazardous Substances Emergency Management

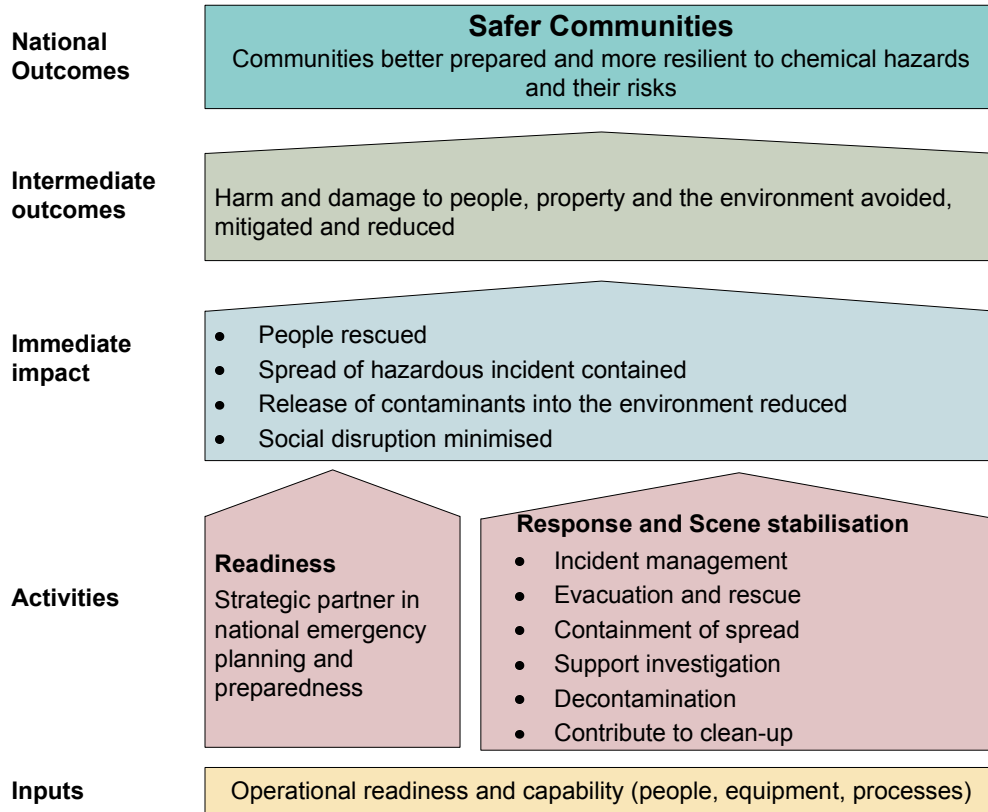


The Fire Service’s principle responsibility is to respond to hazardous substances emergencies. For incident reporting purposes, the Fire Service distinguishes between hazardous substances emergencies with or without fire. In this report we are focused on the later. Activities include managing the incident until the arrival of the lead agency, evacuation and rescue, containment of the spread of hazardous substances, and prevention of fire ignition. The Fire Service may also be involved in the initial recovery stages, including clean-up, decontamination and assisting the investigation process, depending on the nature of the incident.

While the Fire Service operates primarily in a response and early recovery role, the Fire Service is also involved in contributing to national, regional and local committees which are focused on risk reduction and readiness. Nature of the role of these committees is changing at present, moving to greater ‘national security’ focus to better prepare for and minimise potential for a large national security threat. The Fire Service is part of this process and brings to the table important expertise and specialist training in dealing with the human, property and environmental threats which may occur in the event of a hazardous substance event.

This work contributes to wider national outcomes as follows:

**Intervention Logic for Hazardous Substances Emergency Management**



## Natural Disasters (Civil Defence Emergencies)

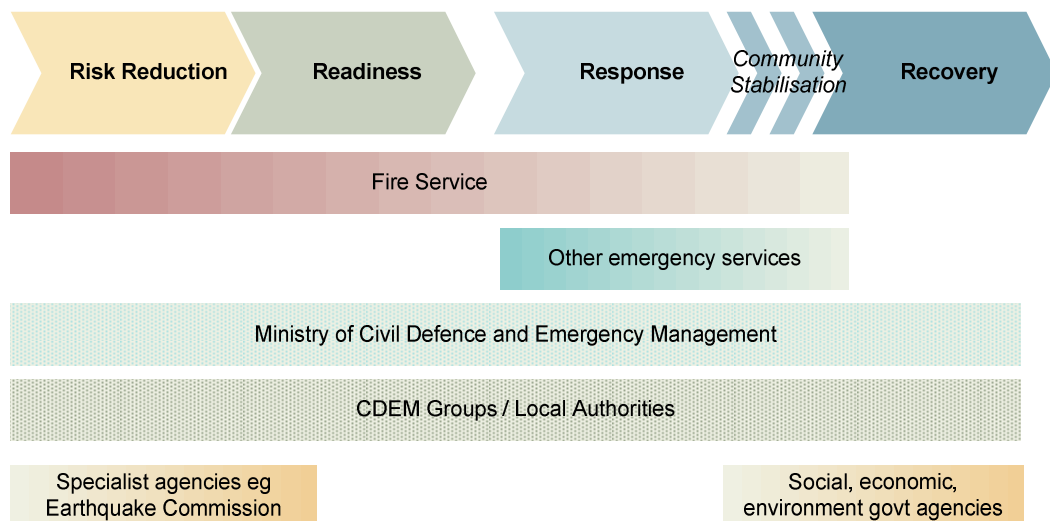
The Ministry of Civil Defence has overall legislative accountability for managing all stages of the emergency management process where civil defence emergencies (natural disasters) are concerned. There are a wide range of agencies who contribute to emergency management. The Civil Defence and Emergency Management Act 2002 (CDEM Act) outlines the duties of emergency services as:

Emergency services must:

- (a) participate in the development of the national civil defence emergency management strategy and civil defence emergency management plans:
- (b) provide an active member for each of the Civil Defence Emergency Management Co-ordinating Executive Groups, as required by section 20.

In accordance with this, the Fire Service contributes to all stages of the emergency management process and these activities are outlined in more detail below. However, the most important role of the Fire Service is in providing emergency services in response to natural disasters. In practice, this mostly involves responding to Level 2 local emergencies.

### Positioning Fire Service contribution to Civil Defence Emergency Management



### Risk Reduction and readiness

In fulfilling its obligations, the Fire Service acts as a strategic partner to the Ministry of Civil Defence in emergency management planning. At regional and local levels, this also involves pre-planning with Territorial Authorities and Emergency Management Groups (EMGs) and Urban Search and Rescue preparation and planning.



An important component of this work is about verifying the Fire Service's own state of readiness but the Fire Service also works with and supports the operation of emergency management groups through planning meetings and multi-agency training exercises. These activities serve to improve the connectivity of the wider group of emergency management services and ensure that appropriate systems and processes are in place to help reduce the impact and consequences of incidents. In terms of 'readiness' capability, the Fire Service has made a large investment in urban search and rescue capability over the last three years. Three International Search and Rescue Advisory Groups (INSARAG) are now in place, one in each of Auckland, Palmerston North and Christchurch.

### ***Response***

During a civil defence emergency, the Fire Service plays a critical role in responding to the emergency. This occurs in partnership with other emergency agencies, with the Ministry of Civil Defence or Territorial Authority retaining the overall command of the emergency response, depending on the scale of the incident. Although the exact nature of the activities carried out by the Fire Service will vary considerably dependent on the incident, emergency services will work collectively to minimise damage or harm to people, property and the environment. Alongside the Fire Service's unique role in suppressing fires to ensure the safety of people and property during natural disasters, the Fire Service also provides an expertise in a number of search and rescue techniques and uses specialised equipment not used by other emergency services. Examples of this include urban search and rescue including extrications from structural collapses or confined spaces, urban rope rescues, emergency roof repair and water control.

The role of the Fire Service will often extend into the transition phase between response and recovery. As part of their response role, the Fire Service aims to ensure scene security and 'community stabilisation' before withdrawing from an incident. The time and resources invested in this, and the extent of services provided, will vary depending on the nature and scale of the disaster.

### ***Early recovery***

The contribution of the Fire Service to the recovery effort post-natural disaster is limited but may be provided on a case-by-case basis, subject to need and available resource. An example of this provided to us was the extensive recovery contribution to the Manawatu flooding in 2003. However, we understand that while this work occurs, this is not seen as a core role or deliverable for the Fire Service and, perhaps reflecting this, is not regularly monitored or reported on.

This work contributes to wider national outcomes as follows:

**Intervention Logic for Natural Disasters**

