

Tax Working Group Public Submissions Information Release

Release Document

February 2019

taxworkinggroup.govt.nz/key-documents

Key to sections of the Official Information Act 1982 under which information has been withheld.

Certain information in this document has been withheld under one or more of the following sections of the Official Information Act, as applicable:

- [1] 9(2)(a) - to protect the privacy of natural persons, including deceased people;
- [2] 9(2)(k) - to prevent the disclosure of official information for improper gain or improper advantage.

Where information has been withheld, a numbered reference to the applicable section of the Official Information Act has been made, as listed above. For example, a [1] appearing where information has been withheld in a release document refers to section 9(2)(a).

In preparing this Information Release, the Treasury has considered the public interest considerations in section 9(1) of the Official Information Act.

From: Andrew Saunders [1]
Sent: Monday, 8 October 2018 4:49 PM
To: TWG Submissions
Cc: Tim Grafton
Subject: Insurance Council feedback on the Tax Working Group 'Future of Tax: Interim Report'
Attachments: ICNZ submission to Tax Working Group - October 2018.pdf; NZIER - Better ways of funding fire services in New Zealand Alternatives to the present insurance levy.pdf

Good afternoon

Please find attached the Insurance Council of New Zealand's feedback to the Tax Working Group's (TWG) 'Future of Tax: Interim Report'. It is in the form of a submission on two specific issues:

- the distortions and unfairness created by the continuing imposition of the Fire and Emergency New Zealand (FENZ) levy on insurance, and why FENZ should be funded through general taxation; and
- the tax treatment of earthquake strengthening of buildings.

Also **attached** is the NZIER report "Better ways of funding fire services in New Zealand Alternatives to the present insurance levy" (April 2013), which is referenced in our submission in relation to the FENZ levy.

Kind regards

Andrew Saunders

Andrew Saunders
Regulatory Affairs Manager
Insurance Council of New Zealand

[1]



Disclaimer: This email message (along with any attachments) is intended only for the addressee(s) named above. The information contained in this email is confidential to the Insurance Council of New Zealand and must not be used, reproduced or passed on without our consent. If you have received this email in error, informing us by return email or by calling (04) 472 5230 should ensure the error is not repeated. Please delete this email if you are not the intended addressee.

8 October 2018

Tax Working Group Secretariat
PO Box 3724
Wellington 6140
New Zealand

Emailed to: submissions@taxworkinggroup.govt.nz

Dear Tax Working Group Members,

ICNZ Submission: Future of Tax – Interim Report

ICNZ welcomes the opportunity to submit on Future of Tax – Interim Report (“Interim Report”), released by the Tax Working Group in September 2018. ICNZ represents general insurers that insure about 95 percent of the New Zealand general insurance market, including over half a trillion dollars’ worth of New Zealand property and liabilities.

We are writing to you in regard to two specific issues:

- A. the distortions and unfairness created by the continuing imposition of the Fire and Emergency New Zealand (FENZ) levy on insurance, and why FENZ should be funded through general taxation; and
- B. the tax treatment of earthquake strengthening of buildings.

Funding FENZ through general taxation

The earliest fire brigades were formed in the 18th century by insurance companies in order to reduce their companies’ losses from fire. Brigades were owned by each fire insurer who responded only to their customer’s fires. This practise was confined to large urban areas where it was practical to respond.

Over time, however, the insurance industry role was phased out as local government (initially) and then central government (in 1976) took over responsibility for the provision and funding of urban fire services. A levy on fire insurance in its current form to fund the then Fire Service, now FENZ, was introduced as a “temporary fix” in 1993.

A number of factors have contributed to the breakdown of the historical link between fire insurance and fire services, including the change in scope of fire services to include a full range of non-fire

emergency services and the increased focus of fire-fighters on preservation of life rather than preservation of property. We have identified twelve reports produced since 1993 and almost all recommend moving away from the current insurance-based levy to at least partial use of alternative bases, including greater use of general tax revenue funding.

There is no public policy rationale for continuing to involve the insurance industry in collecting money through levies on policy-holders to fund fire and emergency services. The insurance industry does not benefit directly from the provision of fire services to its clients, although it is acknowledged those services reduce costs that clients would face without the intervention of FENZ. That cost reduction is reflected in reduced insurance premiums.

On equity grounds, a leading consideration of the Tax Working Group, we submit that the funding of FENZ is fundamentally unfair. It imposes the cost of funding FENZ on those who insure themselves when FENZ provides a public good by responding to all those who call for assistance. The insurance-based regime imposes unjustified collection, administration and compliance costs on insurers and on FENZ, which must administer and audit the levy collection scheme.

Levying insurance makes insurance more expensive due to the imposition of the levy itself and the costs of collection. The impacts of this are regressive for households as the levy rate for residential property is capped. Reducing the affordability of insurance potentially contributes to under-insurance, exposing households, their communities and ultimately the government to greater costs in the event of major disasters.

Inland Revenue on the other hand already provides a very efficient revenue gathering service. Utilising this to fund FENZ would drastically reduce the direct and deadweight costs associated with the current approach of funding it by a levy collected on a complex product like insurance.

Using established public finance principles to evaluate the current insurance-based levy, analysis undertaken by NZIER¹ (**enclosed** with this submission) identified that the current insurance-based levy is the worst option for funding FENZ, and the first best option would be having it funded entirely from general taxation. This was the preferred option because the general tax system with its broad base and low rates provides the fairest and most efficient means to raise the revenue required and would recognise the wider public benefits associated with much of FENZ's activities. These reasons have led most relevant jurisdictions internationally to fund their fire and emergencies services through direct taxation and/or some form of property levy.

We draw this issue to the attention of the Working Group and recommend that in the interests of improving efficiency and fairness it considers the benefits that would result from funding FENZ through general taxation rather than through the current levy on insurance.

Earthquake strengthening

We note the Tax Working Group has identified the issue of the tax treatment of the seismic strengthening of buildings and that no deductions are allowed for this.² We agree the current approach results in a counterintuitive outcome: deductions may be claimed if a building collapses in an earthquake, but no deductions may be claimed on expenditure that will prevent the building from collapsing.

¹ Better ways of funding fire services in New Zealand Alternatives to the present insurance levy, NZIER report to the Insurance Council of New Zealand, April 2013.

² Refer to Box 14.1 on page 108 of the Interim Report.

Given the seismic risks prevailing in much of New Zealand it is important for buildings to be strengthened to reduce the potential loss of life from a major earthquake. Such strengthening can also contribute to improving the resilience of such buildings to earthquakes and therefore the communities they sit within. More resilient buildings will also generally be easier to insure.

The tax system should not disincentivise building owners from conducting earthquake strengthening and so we support the Working Group giving further consideration to how to ensure tax policy is supporting the Government's disaster risk management agenda, rather than working against it.

Conclusion

Thank you again for the opportunity to submit on the Interim Report. If you have any questions, please contact our Regulatory Affairs Manager on [1] or by emailing [1]

Yours sincerely,

[1]

[1]

Tim Grafton
Chief Executive

Andrew Saunders
Regulatory Affairs Manager



Better ways of funding fire services in New Zealand

Alternatives to the present insurance levy

NZIER report to the Insurance Council of New Zealand

Revised final report 18 April 2013

About NZIER

NZIER is a specialist consulting firm that uses applied economic research and analysis to provide a wide range of strategic advice to clients in the public and private sectors, throughout New Zealand and Australia, and further afield.

NZIER is also known for its long-established Quarterly Survey of Business Opinion and Quarterly Predictions.

Our aim is to be the premier centre of applied economic research in New Zealand. We pride ourselves on our reputation for independence and delivering quality analysis in the right form, and at the right time, for our clients. We ensure quality through teamwork on individual projects, critical review at internal seminars, and by peer review at various stages through a project by a senior staff member otherwise not involved in the project.

Each year NZIER devotes resources to undertake and make freely available economic research and thinking aimed at promoting a better understanding of New Zealand's important economic challenges.

NZIER was established in 1958.

Authorship

This paper was prepared at NZIER by Michael Dunn and Derek Gill, with the assistance of Alan Bristow.

It was quality approved by John Ballingall.

Your key contact for this report is:

Michael Dunn
Principal Economist
Tel 04 470 1801
Mob 021 396 700
michael.dunn@nzier.org.nz



L13 Grant Thornton House, 215 Lambton Quay | PO Box 3479, Wellington 6140
Tel +64 4 472 1880 | econ@nzier.org.nz

© NZ Institute of Economic Research (Inc.) 2012. Cover image © Dreamstime.com
NZIER's standard terms of engagement for contract research can be found at www.nzier.org.nz.

While NZIER will use all reasonable endeavours in undertaking contract research and producing reports to ensure the information is as accurate as practicable, the Institute, its contributors, employees, and Board shall not be liable (whether in contract, tort (including negligence), equity or on any other basis) for any loss or damage sustained by any person relying on such work whatever the cause of such loss or damage.

Key points

What this report is about

The Insurance Council of New Zealand (ICNZ) commissioned NZIER to identify alternatives to the current levy on insurance to fund the fire services in New Zealand and to evaluate the impact of moving to alternative funding bases.

We have used established public finance principles to evaluate the current insurance-based Fire Services Levy and contrast this with the alternative approaches of funding through several forms of property-based levy (collected along with Territorial Authority property rates) and a fixed levy as part of vehicle licence fees (or a variable levy through fuel taxes and Road User Charges) for light motor vehicles. We also compare the alternative of funding through general taxation.

In the second part of the review we compare the winners and losers and develop charts to illustrate the incidence of benefits and costs that result from moving from an insurance-based to various alternatives in the property-based levy.

What we found

The historical link between fire insurance and fire services has long since broken down – the fire service levy based on fire insurance is a relic of a bygone age

The earliest fire brigades in New Zealand were formed by insurance companies in order to reduce their exposure to risk. Over time, however, the insurance industry role was phased out as local government (initially) and then central government (in 1976) took over responsibility for the provision and funding of urban fire services. The Fire Services Levy in its current form was introduced as a “temporary fix” in 1993. A number of factors have contributed to the breakdown of the historical link between fire insurance and fire services, including the change in scope of fire services to include a full range of non-fire emergency services and the increased focus of fire-fighters on preservation of life rather than preservation of property.

Starting from scratch, an insurance-based Fire Service Levy is the worst option for funding fire services – the best approach is general taxation

Using established public finance principles to evaluate the current insurance-based Fire Services Levy (FSL), our analysis has identified that the first best option is having the New Zealand Fire Service (NZFS) funded entirely from general taxation. The timing may not be right for this option given the government’s commitment to fiscal deficit reduction. However, this is the most efficient and least distortionary option.

The next best option is to apply a mixed model that includes some general taxation combined with levies on rateable values of property

If that option is not considered acceptable, then as a second best we recommend a mixed funding model. This would involve a move from a fire insurance base to a property base (at least for commercial buildings and household dwellings, and ideally for domestic contents) with levies collected through local authority rates, and to an

equivalent base for light motor vehicles with levies collected through vehicle registration, including:

- flat fees on domestic property collected through rates (with a possible extension to cover household domestic contents by proxy)
- variable levies on the full rateable value of commercial property collected through rates
- a flat levy on light motor vehicles collected as part of motor vehicle registration
- an increasing share of public funding provided over time to cover non-fire and non-vehicle related emergency services and the Crown share of costs for the protection of state property.

These changes could be phased in over time.

In addition to these changes the report explores a range of next best options.

Review after review has concluded that the existing fire service levy is deeply flawed and unsustainable

The current arrangements for funding the fire services were introduced as a 'temporary fix' in 1993. We have identified twelve reports produced since 1993 and almost all recommend moving away from the current levy to at least partial use of alternative bases, including greater use of general tax revenue funding. Based on advice from officials and private sector advisors, both of the previous administrations have agreed to move away from a fire insurance based levy. What has been lacking has been the political will to introduce the amending legislation.

What services are being funded?

There are two distinct but overlapping fire management systems in New Zealand which are funded quite differently. The national 'urban' service is provided by the NZFS and largely funded by the FSL. The 'rural' system is a collection of services under the control of Rural Fire Authorities (RFAs) that use a mixed funding model including local authority rates and contributions from the levy. The RFAs provide a working example of a mixed funding model in operation. Amending legislation is required to address the need to better integrate the two fire services and their systems, and to move them onto a common funding basis. That will include changing the role of local authorities from part funder to revenue collector.

Comparison with the Australian situation

Fire services in Australia, which are funded at the State level, have moved away from insurance-based funding. Funding was changed from insurance-based to property-based levies in Queensland (1985), SA (1999) and WA (2003), while Tasmania has a hybrid of property and insurance levies. Victoria will transition from an insurance-based levy to a property-based levy collected through rates on 1 July, 2013. Only New South Wales still has a system that relies heavily on insurance-based levies (73.7%) for funding its fire services, along with local authority (11.7%) and state government revenue (14.6%). Much of this is summarised in a report by Deloitte that recommends a shift to a property-based levy system (Report for the Insurance Council of Australia, Property-based funding options for the NSW Fire Services Levy, Deloitte Touche Tohmatsu, June 2011).

What is to be done?

There are at least two possible approaches to reform of fire service funding. Changes could be introduced as one comprehensive package, once the fiscal position allows, or could be phased in over time. The advantage of one comprehensive reform is that the fiscal position is projected to improve rapidly so delay until after 2015/16 would permit the move to general tax funding (the first best option). The risk with this option is that the history of stalled reforms in the last two decades does not give any confidence that a comprehensive package would proceed. In the meantime the levy base will continue to be eroded and evaded. The second-best option would be to phase in changes, creating a mixed system, as outlined below.

Take the first step into the modern age – focus on light motor vehicles

Phase 1 – Replacement of the levy on light motor vehicle insurance with a flat per vehicle charge collected as part of the motor vehicle registration (to come into effect as soon as a practical legislative vehicle becomes available).

A second phase should focus on residential dwellings (and contents)

Phase 2 – Replacement of the levy on domestic insurance with a flat fee on dwellings. The role of local authorities would change from part funder to levy collector. Domestic household contents could be eliminated as a separate category for the levy, with the present contribution being collected as part of the flat fee on dwellings. Amending legislation will need to address these changes and the integration of the two fire systems, and move them onto a common funding system. A redraft of the Fire Service Act would provide a suitable legislative vehicle for all of these changes, and there may also need to be amendments to Acts governing rating powers of local authorities.

A third phase should focus on commercial property

Phase 3 – The existing levy should be replaced by a variable levy on the full rateable value of commercial property. Our initial analysis has identified a number of issues that need to be resolved including better identification of the Fire Service's costs associated with providing protection for commercial buildings and assets and the scope for risk rating based on risk amelioration measures (sprinklers etc.) that are employed by the owners. This area requires further analysis to design the reform.

A fourth phase should focus on greater government funding

Phase 4 – Greater public funding should be provided over time to cover non-fire, non-vehicle emergency services and the Crown share of costs for protection of state property phased in as the fiscal balance returns to surplus after 2015/16.

How would this impact upon property owners?

The result would be fairer as all property owners would contribute to funding the fire services, not just those who currently have insurance policies on their property. The broadening of the revenue base would reduce the average cost per property owner.

For residential real property we have used a model to compare the status-quo fire insurance based levy with alternative forms of levy on the underlying property base (for household dwellings and contents) using collection through rates, and a shift for light motor vehicles from a levy on fire insurance to one based on registration.

Our analysis shows that the property base is a viable alternative to an insurance value base for residential property. Starting from a replication of the current capped value fire insurance levy against a property value database, we have determined the relative impact of benefits and costs across alternative funding mechanisms. These include two alternative value caps, an uncapped levy and a fixed-rate levy.

Up to a million property owners would pay less as the burden is spread

The results show that moving to an uncapped levy or a fixed-rate levy would each generate net savings in cost for around 1 million of the current 1.6 million residential property owners, relative to the cost of the current form of capped levy. However, the adverse impact from a variable levy is loaded on higher value properties, while the adverse impact of a fixed rate levy falls on lower value properties. In either case, and with other property-based funding options, owners of properties that are not currently insured would face the full cost of the new property-based levy.

The application of a fixed annual levy of \$70.70 per property would yield the same revenue as a capped levy on the value of improvements with a maximum rate of \$76.00 (the current FSL maximum) applied over the residential property value base.

The current fire-insurance levy on household domestic contents could be replaced by a capped variable levy on the property value, as a proxy for the value of the contents. A fixed annual levy of \$12.78 per property could alternatively be applied to yield the same amount of revenue as is presently derived from the fire insurance-based levy.

A combined fixed levy on residential properties of \$83.48 per year would yield as much revenue as a levy on current capped values (\$ 100 K for property and \$ 20 K for contents) that has a maximum cost of \$91.60 per year. Increasing the combined fixed levy to \$ 90 per year would generate additional revenue of \$17 million while still producing small savings for the majority of currently insured households.

The fixed levy is favoured as a higher value capped levy would lead to some currently insured property owners paying more under a property levy system, although with a value cap of \$ 300 K the additional cost would be capped at less than \$ 43 per year.

The existing rates relief provisions could be amended to cover the additional cost for those who would be unable to pay them, and the cost could be recovered through a small increase in the rates-based levy. A change from an insurance-based levy to a property-based charge using the existing collection agencies would also reduce the costs of administration and compliance verification.

Vehicle based funding would be spread over an additional 100,000 owners, reducing costs for the 2.3 million current contributors

For light motor vehicles (under 3.5 tonnes), a move from the current levy based on fire insurance contracts to a flat fee per vehicle collected as part of registration fees would result in a cost reduction for owners of the estimated 2.3 million vehicles with fire insurance. Owners of approximately 100,000 additional vehicles would begin to contribute to funding the emergency response capability of the fire service.

Commercial property changes require more information for analysis

We were not able to perform similar analysis for commercial property, as that would have required detailed information on current insurance arrangements which are much more varied in their construction than what we have assumed for comparison with the property-value based model we have used for residential property.

Contents

1.	What we have done.....	1
2.	The context for fire services	2
2.1.	Fire services in New Zealand	2
2.2.	Linkage between insurance and fire services.....	3
2.3.	Erosion of the link between taking fire cover insurance and the provision of fire services.....	4
3.	Policy analysis	7
3.1.	Policy framework.....	7
3.2.	Applying the policy analysis framework.....	8
3.3.	Comparison with previous reviews	14
3.4.	Policy recommendations	16
4.	Quantitative analysis	17
4.1.	Review of residential property data.....	18
4.2.	Our quantitative modelling approach	20
4.3.	Comment on recommendations of the Fire Review Panel on changes to the Levy.....	31
5.	Summary of results.....	33
6.	Recommendations.....	35
7.	References	36

Appendices

Appendix A – Data analysis methods, tables and charts	37
---	----

Figures

Figure 1 Tax design and administration principles	7
Figure 2 Comparison of status quo and four policy options.....	9

Tables

Table 1 Revenue design and administration principles.....	8
Table 3 Value of rateable improvements by value band and FSL yield.....	19
Table 4 Average levies payable for properties by property value band.....	22
Table 5 Average property levy changes relative to the status quo	23
Table 6 Numbers of winners and losers among property owners from moving to other options relative to the status quo	24
Table 7 Average levies for property and for contents, current capped value levies compared with fixed rate levies.....	26

Table 8	Comparing levy bases for Light Motor Vehicles	27
Table 9	Household A – Family with \$ 400 K house, \$ 50 K contents, 2 motor vehicles (all insured).....	28
Table 10	Household B – Family with \$ 200 K house (insured), \$ 25 K contents (not insured), 2 motor vehicles (not insured)	28
Table 11	Household C – Young family with \$ 150 K apartment, \$ 15 K contents (both insured), 2 motor vehicles (one insured).....	28
Table 12	Household D – Young people, renting house valued at \$ 300 K, \$ 20 K contents owned by landlord (both insured), \$ 10 K personal property (not insured), 3 cars (1 insured).....	29
Table 13	Landlord X – Owns two rental flats, together valued at \$ 400 K, on one rateable title, each with contents \$ 20 K (all insured)	29
Table 14	Landlord Y – Owns three apartments, valued at \$ 300 K, with contents at \$ 20 K each, on separate rateable titles (all insured)	29

1. What we have done

The Insurance Council of New Zealand (ICNZ) commissioned NZIER to identify alternatives to the current levy on insurance to fund the fire services in New Zealand and to evaluate the impact of moving to alternative funding bases. We have drawn on NZIER's 2007 report to the ICNZ which established the public policy rationale for the role of government in the provision of fire services. We have taken that analysis and the existing role and function of the NZ Fire Service and Rural Fire Authorities as a given and focused on the funding of those functions.

In brief, we have used established public finance principles to evaluate the current insurance-based Fire Services Levy and contrast this with a property-based levy and general tax funding. Our conclusions as to which options are preferred are compared with the findings from a suite of earlier reviews. We have also used a quantitative model to determine the levies required to match current revenue under different options, and to estimate the number of winners and losers from moving from an insurance-based to a property-based levy.

We have:

- reviewed and taken note of prior work and reports relevant to the funding of the New Zealand Fire Service (NZFS), and in particular, the use of the Fire Service Levy collected by insurers, and the policy objectives that this approach is intended to address
- developed a range of feasible alternatives to the use of the current insurance-based levy as a means of part-funding the NZFS, including those that you have identified in your letter
- developed a set of well-recognised principles for the good design of tax and revenue measures, including economic and administrative dimensions, and applied these to score and rank the current and alternative funding measures
- developed narrative arguments based upon the preceding analysis and ranking exercises to support the preference for the adoption of funding measures other than an insurance-based levy.

We have also:

- for residential real property (and household domestic contents) and light motor vehicles, used available data to perform quantitative analysis and comparison of the current fire insurance levy system against a range of alternatives, each designed to produce the same revenue yield
- developed tables of winners and losers for the residential property (including contents) and light motor vehicles groups that show the incidence of benefits and costs, for changes from the present arrangements to alternative funding arrangements
- illustrated the gains and costs from implementing a number of the proposed options for a range of typical households and landlords.

2. The context for fire services

2.1. Fire services in New Zealand

There are two distinct but overlapping fire management systems in New Zealand which are funded quite differently. The national 'urban' service is provided by the NZFS while the 'rural' system is a collection of services under the control of Rural Fire Authorities (RFAs)¹. The urban and rural fire systems are governed by two different pieces of legislation:

- The Fire Services Act (1975) (FSA) covers urban fire services
- Forest and Rural Fires Act 1977 (FRFA) covers rural fire services.

There is considerable overlap between the two systems. For example, the urban fire service provides a first response to approximately 80 percent of rural fires because of its ability to respond promptly to emergency calls.² These cross overs result in complex financial transactions as the NZFS is required to recover response costs in rural areas from other payers.

Urban fire services are almost exclusively levy funded. The Fire Services Levy (FSL) is collected on the value of property (buildings, their contents, other commercial assets and motor vehicles) insured for fire risk. In 2011/12, the levy funding was \$325.9m and total spending by the New Zealand Fire Services Commission was \$317.5m. By contrast, total annual spending by all rural fire authorities combined has ranged historically between \$20 and 25m³.

RFAs operate on a mixed funding model. Funding is collected from a variety of sources: local authority rates, contributions from the Department of Conservation and the NZ Defence Force, fees paid by private forestry companies and grants from the Rural Fire Fund that is financed from the Fire Services Levy.

Fire-fighters, whether paid or volunteers, are responsible for the delivery of fire suppression services and other emergency interventions, including extrications of people from motor vehicle accidents and hazardous substance incidents.

The NZFS, including these volunteers, represents one component of a national approach to risk management in the context of fire hazard, including:

- Prevention i.e. reducing the incidence of fires, through public education, inspection and testing of fire safety equipment, and related activities
- Mitigation – e.g. through use of sprinklers, and application of building standards that reduce the severity of fires and their consequences
- Suppression – fire-fighter action to contain and extinguish fires that do occur.

¹ There were 76 RFAs at 30 June 2012 and the NZFSC's goal is reduce the number to 60 by 2013. In addition, there are a number of specialised private brigades covering major commercial installations such as airports, the Marsden Point Oil Refinery, and the Tiwai Point Aluminium Smelter.

² While urban districts cover only 2% of the land area, they cover 98% of New Zealand's population and 80% of the population is within 7 minutes travel of a fire station.

³ These figures do not include the unpaid inputs of 8,000 volunteer fire-fighters in urban districts and another 3000 in rural districts.

As well as emergency responses, professional and volunteer fire-fighters provide fire safety public education and other advisory or monitoring services intended to reduce the incidence and consequences of fire.

The NZFS is headed by the New Zealand Fire Service Commission (NZFSC), a Crown Entity agent under the Crown Entities Act. Under the FSA, the Commission is directly responsible for urban fire services, working through a regional command structure. It also oversees the National Rural Fire Authority, the body responsible for co-ordinating RFAs under the FRFA.

The legislative basis for the Fire Service Levy is contained in Part 4 of the FSA along with all of the rules, procedures and processes that are needed to ensure that it is collected on the required basis from policies that include fire insurance and paid in a timely manner to the Fire Service Commission. There are provisions for the auditing of insurance agencies responsible for collecting the Levy and for penalties for under declaration and late payment. In these respects the FSA reads very like a tax act.

2.2. Linkage between insurance and fire services

Fire services in England and subsequently in New Zealand were created by the insurance industry. The earliest fire brigades in New Zealand were formed by insurance companies in order to reduce their exposure to risk of loss by fire. Over time, however, the insurance industry role was phased out of fire service provision, as local government (initially) and then central government (in 1976) took over greater responsibility for the provision and funding of urban fire services.

The FSL in its current form was introduced as a “temporary fix” in 1993. Some details of this action are provided in the recent Report of the Fire Review Panel (2012) at p67:

“The present arrangements for funding fire services were introduced in some haste following the 1993 decision by Government to discontinue earthquake cover for non-residential properties..... The provisions inserted into the Fire Service Act in 1993 were intended to be revisited when the final report of the Fire Service Levy Working Party was completed. ...The recommendations of the Working Party were never implemented due, in part, to more pressing concerns about NZFS performance and in part to the emergence of new levy minimisation mechanisms..... In the relatively short time since 1994 when the present funding arrangements came into force there have been no fewer than 16 reports addressed at improving the Commission’s funding arrangements. Those reports were generally critical of the present funding arrangements.... ...Much of the criticism contained in the 16 reports flowed from the failure to revisit what was acknowledged at the time as a temporary fix.”

We provide a summary analysis of the contents of many previous reports about the Fire Service Levy in New Zealand (Table 2 within section 3.3 below).

We also note that most of the Australian States have changed from insurance-based levies to property-based levies for funding their fire services. Tasmania has a hybrid system, Victoria is about to make the change on 1 July 2013, and New South Wales has yet to make such a move. These developments are summarised in a report by Deloitte to the Insurance Council of Australia (Property based funding options for the NSW Fire Service Levy), which modelled options using insurance data from the ICA.

2.3. Erosion of the link between taking fire cover insurance and the provision of fire services

While there are historical links between taking fire cover insurance and the provision of fire services, over time these links have broken down. A number of factors have contributed to the decoupling of fire insurance from fire services. These include the increasing diversity of roles performed by modern fire services, and the shift in emphasis from fighting fires to the preservation of life as a primary responsibility.

2.3.1. Broadening of the scope of fire services

The Fire Service has a number of capabilities that enable it to act as a first responder organisation with broad responsibilities:

- a distributed national network of around 440 fire stations with vehicles and personnel available for immediate dispatch
- a robust integrated national communications system
- a 24-7-365 response capacity available in all major urban areas and in a number of minor centres
- the inclusion of cutting tools, resuscitators, and other rescue equipment in the standard set of gear carried by fire appliances
- a staff of experienced and multi-skilled first-response personnel
- access to a reserve cadre of skilled volunteers.

Over the last decade there has been a 20% drop in the number of fires per head of population (NZFSC Annual Report 2011/12, Figure 6 p21) while the number of non-fire incidents per head has grown by 25% (ibid Figure 9 p25). Taking into account population growth of 12% for the decade (Statistics NZ), the number of fire incidents attended (other than false alarms) has trended down over time.

Instead the urban fire service has increasingly become involved in a range of roles other than fire-fighting incidents. The Fire Service has statutory responsibilities under the Hazardous Substances and New Organisms Act 1996 and the Civil Defence Emergency Management Act 2002. Additionally, it has become increasingly involved in using its capabilities to respond to non-fire incidents. As a result, non-fire incidents have grown from 5,969 or 15% of total incidents in 1976 to 16,096 or 25% in 2003 (DIA 2003 p13) and around 20,000 or 30% in 2011/2012 (NZFSC Annual Report 2012).

Examples of these non-fire services include:

- Floods and storms: The Fire Service is often called to attend weather emergencies. Fire-fighters help pump out flooded buildings, secure roofing and other building material battered by storms, and cover areas of buildings damaged by storms
- Evacuations: When a hazardous substance is spilled, released, or found to be present during an emergency, fire-fighters are often the ones who ensure that people evacuate the scene. This is in addition to their role in cleaning up spills and decontaminating areas where spills have occurred

- Accidents and medical emergencies: Fire-fighters play a major role at the scene of motor vehicle accidents, attending around 12,000 motor vehicle accidents a year. In some areas fire-fighters receive training to back up the ambulance service by providing a first response for medical emergencies, such as cardiac arrest
- Rescues: Fire-fighters also help people who are trapped, such as in lifts or after accidents on building sites, and some personnel are specially trained as members of urban search and rescue teams for use at the scene of building collapses following an earthquake or other disaster.

2.3.2. Focus of fire services

One of the features of modern fire services is the emphasis on saving life and limb. Undertaking this function has the elements of a public good in the technical sense that exclusion from the service is not only difficult, but also undesirable. The original fire brigades (developed by the insurance companies in England) would attend a fire but only would fight that fire if the plaque on the front of the house confirmed that the house was covered. Their concern was to protect property rather than people.

In a modern fire service with a mixture of volunteers and professional fire fighters the primary focus is on the rescue of people rather than the preservation of property. Excluding people from being able to access fire services because they (or the building owner) had failed to pay the fire services levy would put fire-fighters in an intolerable position. As exclusion is not possible, there is a strong public policy rationale for recovering the costs of such a good (whether or not it is considered purely a public good) from the community as a whole, either through general taxation, or (where the benefits are localised) from local government revenue.

The insurance companies are not the ultimate beneficiaries, as they pass on costs savings from having fire protection provided by other parties to their clients, in the form of lower premiums. Those premiums reflect many factors in addition to fire risk.

2.3.3. The Australian experience

Fire services in Australia are funded at the State level. In the Australian Capital Territory and the Northern Territory, all funding is from consolidated revenue. Funding has been changed from insurance-based to property-based levies in Queensland (1985), South Australia (1999) and Western Australia (2003), while Tasmania has a hybrid of property and insurance levies. The State of Victoria will transition from an insurance-based levy to a property-based levy collected through rates on 1 July, 2013. The new system will comprise a fixed rate levy plus a variable levy applied to the capital improved value of properties. There will be differences in the rates applied to residential and to commercial properties, and between urban and rural rating authorities. The new levies will be collected by the City and Shire rating authorities, along with other property-based rates and charges.

Only New South Wales still has a system that still relies heavily on insurance-based levies (73.7%) for funding their fire services, along with local authority (11.7%) and state government revenue (14.6%). Those arrangements are summarised in a report by prepared Deloitte Australia's economics and infrastructure advisory service) that recommended a shift to a property-based levy system (Insurance Council of Australia, Property based funding options for the Fire Services Levy, June 2011).

2.3.4. Summary

By the early 21st century the FSL remains the only vestigial remnant of the otherwise vanished historical relationship between fire services and fire insurance. There is no public policy rationale for continuing to involve the insurance industry in collecting money through levies on policy-holders to fund fire services. The insurance industry does not benefit directly from the provision of fire services to its clients, although those services reduce costs that clients would face without the intervention of the fire services. That cost reduction is reflected in reduced insurance premiums.

Further, the application of the FSL has the ability to distort the market for asset risk insurance, with owners of major assets able to arrange their affairs in complex ways that minimise their liability to pay the Levy, while still protecting their risks. In this respect, the simplistic assumption that the insurance process is able to determine a fair and equitable basis for pricing the fire risk associated with commercial property, and to apply a commensurate fire service levy, is largely nullified. Changing the basis of the FSL from “indemnity value” to some other measure of value would not solve this problem, given the complexity of commercial insurance arrangements.

The insurance-based regime imposes unjustified collection, administration and compliance costs on members of the New Zealand Insurance Council, other insurers, and on the staff of the Fire Service Commission who must administer and audit the levy collection scheme.

2.3.5. Analysing the funding alternatives

The next section analyses the funding of fire services in New Zealand using established economic principles. We take the functions of the Fire Services Commission and the organisation of the NZFS and RFAs as a given and focus on the key issue “how should the fire services be funded if we were starting from scratch without a fire services levy on insurance?” Various options are considered and evaluated according to established economic principles.

The section after that provides quantitative comparisons between the status quo and some alternative options for funding the residential property and private vehicle related components of the Fire Service Levy. This answers the questions of who stands to benefit from changes to the system, and can there be more winners than losers from making changes?

3. Policy analysis

3.1. Policy framework

This section analyses alternative ways of funding of fire services in New Zealand using established economic principles. We take the functions of the Fire Services Commission and the organisation of the NZFS and RFAs as a given and focus on the key issue “how should the fire services be funded if we were starting from scratch without a fire services levy on insurance?” The Public Finance literature on taxation revenue provides some useful principles that have been applied in assessing the relative merits of the design and means of implementation of several alternative funding mechanisms.

The American Institute of Certified Public Accountants suggest 10 “Guiding Principles of Good Tax Policy”. In Figure 1, we have grouped these principles under two subheadings: tax design and tax administration. Similar statements of principles can be found in New Zealand Treasury and Office of the Auditor General publications⁴.

Figure 1 Tax design and administration principles

Tax design principles are:

- Equity and Fairness. Similarly situated taxpayers should be taxed similarly
- Economic Growth and Efficiency. The tax system should not impede or reduce the productive capacity of the economy
- Transparency and Visibility. Taxpayers should know that a tax exists and how and when it is imposed upon them and others
- Minimum Tax Gap. A tax should be structured to minimize noncompliance
- Simplicity. The tax law should be simple so that taxpayers understand the rules and can comply with them correctly and in a cost-efficient manner
- Neutrality. The effect of the tax law on a taxpayer’s decisions as to how to carry out a particular transaction or whether to engage in a transaction should be kept to a minimum
- Appropriate Government Revenues. The tax system should enable the government to determine how much tax revenue will likely be collected and when.

Tax administration principles are:

- Certainty. The tax rules should clearly specify when the tax is to be paid, how it is to be paid, and how the amount to be paid is to be determined
- Convenience of Payment. A tax should be due at a time or in a manner that is most likely to be convenient for the taxpayer
- Economy in Collection. The costs to collect a tax should be kept to a minimum for both the government and taxpayers.

Source: American Institute of Certified Public Accountants

⁴ Treasury (2002) Guidelines for Setting Charges in the Public Sector, and Controller and Auditor General (2008) Charging fees for public sector goods and services – a good practice guide.

We have expanded that list, particularly in the fairness category. The framework for our analysis is shown in Table 1, which provides an elaboration of the principles shown in Figure 1, grouped under the four key dimensions of equity, efficiency, legitimacy and cost effectiveness. We have used this framework to analyse and compare the different funding options, and identify the preferred options.

Table 1 Revenue design and administration principles

Category	Principle	Explanation
Equity / fairness	Horizontal equity	Entities with similar risks are treated the same
	Comparability	Entities have a common basis for fair assessment
	Vertical equity	Entities with different risks treated differently
	Ability to pay	Entities can be assessed according to some proxy for wealth
Efficiency	Minimal distortion	Imposition does not lead to undesirable changes in behaviour
	Breadth of base	Revenue base includes all entities with common risk
Legitimacy	Transparency and visibility	Liable parties are aware of charges and means of collection
	Certainty and clarity of rules	Basis of assessment is widely known and understood
	Convenience of payment	Liable entities can make payment with minimal effort
Cost effectiveness	Simplicity of application	Calculation of payment for liable entities is easy
	Certainty of revenue yield	Revenue can be calculated readily using known stable base
	Minimal scope for avoidance	Avoidance is difficult and enforcement of payment is easy
	Ease and cost of collection	Revenue can be collected with minimal administrative effort

Source: NZIER, based upon public finance literature

3.2. Applying the policy analysis framework

Based on the prior reviews we considered a range of policy alternative policy settings which we combined into coherent alternative packages or options. We compared the status quo funding arrangements for fixed property, light motor vehicles and commercial assets with four alternative funding options:

- Option 1 – General tax revenue
- Option 2 – Fixed levy on property and registrations - a flat dollar amount of levy on dwellings (and their contents) and a variable levy on the rateable value of commercial buildings collected through the rating system, together with a flat levy on light motor vehicles collected through the registration system
- Option 3 – Variable levies on dwelling and vehicle use - variable levies collected on dwellings up to a revised cap (up to \$300,000), or on full

value, collected through the rating system, on light and heavy motor vehicles through the fuel tax and the Road User Charge systems, and on the full value of commercial property through the rating system

- Option 4 - A mixed model – with some general tax revenue funding combined with flat levies on dwellings (and their contents) and light motor vehicles and a variable levy on commercial property and vehicles.

Options 1 and 4 were each assessed as a whole. Options 2 and 3 and the status quo each have several components. We scored the components for each option and for the status quo on a numerical scale ranging from 1 (low) to 10 (high) and then averaged the components for each option to get a single number. For each option, we computed the average scores across all 13 criteria listed in Table 1 on a simple un-weighted basis, and then ranked the options according to their average scores.

We also computed the average scores for each of the four summary categories of the individual criteria, on a simple un-weighted basis, and ranked the options according to their average scores in each category.

The results are shown in the following figure.

Figure 2 Comparison of status quo and four policy options

		Funding Options	Status Quo	Option 1	Option 2	Option 3	Option 4
Comparing alternatives to the Fire Service Levy on Insurance			Status Quo (FSL capped / fixed MV)	General Taxation	Fixed Rate Levy - Rates or MV Reg	Variable Rate Levy (with or without cap) and fuel levy / RUC	Mixed General Tax and Flat Levies
		Collection Agency	Insurance Cos	IRD	TLA / NZTA	TLA / NZTA	IRD/ others
Categories	Criteria						
Fairness		4.9	8.6	7.3	7.8	8.0	
	Horizontal Equity	6.0	9.0	9.0	8.0	9.0	
	Comparability	4.3	9.5	9.0	8.0	9.0	
	Vertical Equity	5.0	8.0	5.7	7.6	7.0	
	Ability to Pay	4.3	8.0	5.3	7.6	7.0	
Efficiency		6.2	9.0	8.0	7.9	8.5	
	Minimal distortion	6.3	8.0	8.0	7.9	8.0	
	Breadth of revenue base	6.0	9.9	8.0	8.0	9.0	
Legitimacy		7.1	8.5	8.2	7.0	8.0	
	Transparency and visibility	6.0	6.0	6.7	5.1	6.0	
	Certainty and clarity of rules	8.0	9.5	9.0	7.9	9.0	
	Simplicity	7.3	9.9	9.0	7.9	9.0	
Cost effectiveness		7.4	9.9	9.0	8.0	9.0	
	Convenience of payment	7.7	9.9	9.0	8.1	9.0	
	Certainty of revenue yield	6.7	9.9	9.0	7.7	9.0	
	Compliance - minimal non-compliance	7.3	9.9	9.0	8.1	9.0	
	Economy in collection	8.0	9.9	9.0	8.1	9.0	
	Overall average score (13 criteria)	6.4	9.0	8.1	7.7	8.4	

Rating scale applied to each category and to the average overall scores

Best Worst

Source: NZIER

Appendix A.1 includes details on the scoring methods and on the development of the set of rankings that resulted. In the following section we summarise the analysis by comparing the options in terms of the criteria used within the four main categories and then provide a summary comparison of the status quo and all of the options.

3.2.1. Comparing the options across categories

The criteria we used fall into four categories: fairness, efficiency, legitimacy and cost effectiveness. In the following we omit detailed consideration of Option 4 as it is a hybrid that combines the elements and characteristics of Options 1 and 2. Option 4 is at least as good as the poorer of Option 1 and Option 2 on each measure, and ranks between those options overall and in each of the categories except the last.

Fairness

In terms of *fairness* Option 1 (general tax revenue funding) came out the highest, because the broad base of taxation enables horizontal equity (treating similar cases the same) and vertical equity (treating differently cases differently). The status quo (levies tied to fire insurance) came out lowest. This ranking is consistent with the consensus from earlier reviews that the insurance-based levy treats the insured unfairly relative to the uninsured or the lightly insured (e.g. third party cover for light vehicles does not incur FSL).

Option 2 ranks behind general tax funding because a flat levy does not take into account ability to pay but is well ahead of the status quo. Option 3 is fairer than Option 2 because a levy applied on a capped or uncapped property value recognises that those with more expensive properties should be able to afford to pay more than those with cheaper properties, but is no better than Option 1 as it does not recognise that some people are asset rich but income poor.

Efficiency

On *economic efficiency grounds* Option 1 (general tax revenue funding) is superior to all other options because the breadth of the tax base and the collection mechanism lead to minimal distortions. Option 2 also ranks highly as fixed-rate levies lead to minimal avoidance, with Option 3 less attractive as variable levies encourage some avoidance behaviour, while the status quo is again the least preferred option.

A particular concern with the status quo is that it encourages the avoidance of liability for the levy by owners of commercial property, who are able to exploit the availability of insurance arrangements that minimize the levy payment while achieving adequate insurance coverage, in some cases reducing their liability by tens of thousands of dollars.

Further, for light motor vehicles, the ready availability of policies that exclude fire cover makes it possible to avoid the relatively modest levy. Motor vehicle accidents impose a significant demand upon the fire services. Uninsured households benefit from the protection of the fire services at the expense of insured households. These avoidable costs cause economic distortions.

Legitimacy

On *legitimacy* all options have some drawbacks. The status quo is inadequate in terms of certainty and clarity of rules. For example, during 2011/12 the Insurance Brokers Association commenced proceedings to get a declaratory judgement on the calculation of the levy. Option 1 is marked down in this category as general taxation is less transparent than an explicit FSL, although the Statement of Intent and Annual Report of the New Zealand Fire Service Commission will continue to provide information on how the funding is used. Option 2 (Levy on vehicle registrations and on property collected through rates) raises a concern that the territorial

accountability of Local Authorities may be distorted. The recent Fire Review Panel rejected the proposal to move to property-based funding because it would require Local Authorities to act as revenue collectors on behalf of central government (Report of the Fire Review Panel, Department of Internal Affairs, December 2012).

We suggest that these concerns are overstated. Firstly the GST and income tax system already requires central and non-central government organisations to collect and remit taxes on behalf of the State. Secondly a number of Territorial Local Authorities are already collecting Regional Government levies on behalf of another layer of government. We also note that local government is a part funder of many Rural Fire Authorities. Moving to one unified funding system with a specific fire service levy on property will improve the transparency for local authorities in their use of rates to fund fire services.

Option 1 is favoured overall, ranking marginally ahead of Option 2 where the fixed levy on property and vehicles is judged to be more visible, with its rules and simplicity contributing to its superior rating. Option 3 scores lower on all criteria, as the variable levy and collection of light vehicle contributions through fuel taxes and the RUC are less transparent and more complex than the flat rate levies of Option 2. The status quo is a little more transparent than option 1 but scores much lower on simplicity and certainty of the rules, leading to it being the least preferred case in this category.

Cost effectiveness

On *Cost effectiveness* Option 1 (general tax revenue funding) is superior to all other options, as no other revenue collection agencies are required, followed closely by Option 2 (fixed levies on vehicle registrations and on property collected through rates) which should be simple to administer. Option 3 with variable rate levies and a need to tweak both fuel levies and RUCs is less attractive as it is more complex administratively. The status quo with the need for a complex system of levy calculation, collection and remittance by members of the insurance industry, combined with the need for a separate audit function within the Fire Service Commission, is the least preferred option. The Commission advise that these administrative and audit costs amount to around \$500,000 per year. In addition, there are substantial compliance and collection costs imposed on the insurance industry. None of these costs would be incurred if the current levy were replaced with general taxation. Some costs would be removed by adopting a property-based and vehicle-based levy system, while retaining an insurance base for commercial assets.

The status quo also lacks revenue certainty relative to all other options as it is more prone to avoidance and to base erosion. Announced changes in the basis for insurance contracts are also likely to impact on the insurance values of residential property, leading to greater volatility in the insurance value base and consequently greater revenue uncertainty over the next year or two.

3.2.2. Evaluating the options

Looking across the status quo and the four broad options for change, we note the following.

The status quo – the current levy system - scores the worst of any option. There are a number of critical drawbacks that have been identified above - it is relatively unfair, it encourages distortionary behaviour, and it is not cost effective to administer.

In economists' jargon it is a 'dominated' option as we were unable to identify any advantages for the status quo relative to any of the other options. Starting from scratch, an insurance-based Fire Service Levy is the worst funding option.

General tax revenue (option 1) scores highly on every dimension other than a marginal loss of transparency. This option dominates all others:

- The key advantage of this option is its ability to leverage an existing well-run broad-based low-rate tax system.
- A potential disadvantage is the inability to build in incentives to take preventive measures (such as sprinkler systems) that reduce the cost and risk of fires
- A short-term disadvantage is that that tax system is currently unable to generate enough revenue to meet existing expenditure demands, meaning that its full implementation would need to be delayed.

The latter point is an argument for introducing another reform option and then phasing in greater general tax revenue funding as the overall fiscal position improves.

A flat-rate levy on property and registrations (option 2) is the second best option. The key advantages are:

- the relative lack of distortions due to the difficulty of evasion compared to the status quo and other inferior options
- the cost effectiveness of administration by collecting the fee through agencies that already collect revenue from property and vehicle owners.

The key disadvantages are:

- some reduction in transparency and blurring of accountability in the Local Authority rates assessment
- a minor lack of certainty of the ability to pay (relative to the option of general tax revenue) as reflected in the existing need for rates relief provisions.

A variable levy on property and vehicle use (option 3) is another dominated option (although it is a significant improvement on the status quo). It has the advantage of being somewhat fairer than option 2, but is marginally more complex to administer, and less certain in its revenue yield. Overall, it ranks behind option 2 across the set of all evaluation criteria.

The *mixed funding model* (option 4) is essentially an amalgam of the first best and second best options, 1 and 2. It rates between those options in its ranking. Given the fiscal constraints that may limit the ability of the Government to accept option 1, this may be the pragmatic policy approach. It could be achieved by initiating the steps towards implementation of option 2, while continuing to seek recognition of the arguments for funding the public good activities of the NZFS and RFAs through taxes.

There are a number of examples of mixed funding models that operate successfully in New Zealand. Funding of rural fire services provides one example, while another example is ACC levies which operate along with general tax funding to provide separate funding cover for the different accident risk groups. The main advantage of this option over option 2 (flat levies on property and registrations) is its adaptability:

- retention of the ability to build in incentives to use preventive measures (such as sprinkler systems) that reduce the cost and risk of fires
- the ability to seek increased general tax funding over time as the link between property and fire services progressively reduces.

Its key disadvantage is the current potential difficulty of securing any general tax revenue funding to cover non-fire, non-vehicle emergency services and the Crown share of costs for protection of state property. These may need to be deferred.

Comparing these options with the recommendations of the Fire Review Panel

Although they recommended the retention of insurance-based levies for real property and commercial assets, the Fire Review Panel recommended a number of refinements including:

- Moving away from vehicle insurance to an unspecified funding mechanism for the transport sector (Recommendation 52)
- Shifting the levy base for non-residential property from property that is insured to a levy on premiums and using all contracts of material damage not just fire insurance as the base (Recommendation 53)
- Adjusting the caps on the present levy for residential and personal insurance to reflect inflation since they were last set in 1993 (Recommendation 53).

The Panel's recommendations are a variant that mixes elements of Option 2 and Option 3 discussed in this report.

In essence adopting the Fire Review Panel's recommendation would represent a marginal improvement on the status quo and on Option 3, but offers less improvement than Option 2 (flat rate) or Option 4 (a mixed funding model). The Panel's recommendation represent a small improvement on the status quo by moving away from motor vehicle insurance and moving to a broader property insurance base (which may be less subject to avoidance). However the panel's recommendations are inferior to a move to general tax revenue (first best), a mixed funding model (second best) or a system with fixed rate levies and levies on property, all of which sever the link with insurance altogether.

More analysis of the Panel's recommendations, including quantitative aspects, is included in section 4.2.4 below.

Summary

In summary, funding fire services from general tax revenue is the preferred option because the general tax system with its broad base and low rates provides the fairest and most efficient means to raise revenue. If general tax revenue is not an immediate starter then there are second and third best options that achieve many of

the benefits of general taxation without the many draw-backs of the current levy system. The introduction of a flat levy into the vehicle registration system provides an excellent example of a measure that would be easy to execute and would reduce current significant market distortions and administrative costs to virtually zero.

The move to use the rating system as a base for collection of levies in respect of residential property is slightly more complex. The most effective approach would be to introduce a flat levy per dwelling unit, to replace the current levies on policies that include fire insurance cover for residential property and for household contents.

In addition to the options discussed above, we have explored other possible approaches that replicate elements of the current levies with value-related charges on residential property, with or without a cap on the assessable value (that value cap could be set at a higher level than the current insured value cap). However, it may be difficult to justify including anything other than a flat charge for the fire risk related to household contents through property-based charges. Implicitly, the fire risk associated with domestic household contents could be subsumed into the fire risk of the dwelling. Moving from an insurance-based model would allow for just one flat charge to be applied. That is much simpler, and also fairer.

3.3. Comparison with previous reviews

The current arrangements for funding the fire services were introduced as a 'temporary fix' in 1993. We have identified twelve reports written since 1993 that review aspects of these funding arrangements, and eight others that touch upon the funding issue in the context of discussing reforms of the fire services. Of the twelve, we have reviewed nine in detail, and almost all recommended moving away from the current levy on insurance.

One review that recommended retention of insurance-based levy was the recent Report of the Fire Review Panel (2012). However, its terms of reference required a focus "primarily on a levy on insurance contracts" and specifically precluded consideration of general tax funding. The Review Panel recommended a move away from the levy on automotive insurance towards another 'mechanism' to be identified by the transport sector.

The Review Panel recommended retention of an insurance-based levy for residential property and for non-residential property (with the latter based on insurance premiums rather than the sum insured). The retention of an insurance base was argued on the grounds that the move to a rates base would attenuate the accountability of Local Authorities. This somewhat tenuous argument has been addressed above in section 3.2.1. The Panel also identified that Crown property, church properties and some other classes of property are exempt from rates. The contribution to protection of these properties could be funded from general taxation.

With the notable exception of this one review that was constrained by its narrow terms of reference, every other review we have been able to locate has recommended a move away from a fire levy based on insurance. These reviews include official discussion documents of the Department of Internal Affairs and Select Committee reports, as well as advice from leading economic and other consultancies. Table 2 below contains a summary of the conclusions from the reviews we have been able to locate and analyse.

All the reports summarised in the table support the move from the current levy based on insurance (when their terms of reference allowed it). With the exception of the NZ Business Roundtable which favours user charges, the unconstrained papers reached a conclusion that favoured either a property rates and car registration based system or a mixed system that includes greater tax funding as well. Both previous government administrations have agreed to move away from a fire insurance based levy. What has been lacking has been the political will to introduce the amending legislation. In short the lack of progress on reform to funding fire services is not a problem of lack of analytical clarity and partisan policy disagreement; this is a problem of political will.

Table 2 Selected previous reviews of fire service funding

Author (date)	Method/focus	Funding conclusion	Recommendations
NZ Business Roundtable (1995)	Public policy analysis of competition choice & funding	Current funding system is inefficient	Competing providers and user pays
Coopers Lybrand (1996)	Consultant's analysis of problems with insurance-based funding system	Move from insurance-based to property-based funding	Use motor vehicle registration and rating system (with discount for prevention)
Parliamentary Select Committee (1998)	Select Committee hearing on strategic direction of NZFSC	"there is a need for a new funding system" (p33)	Reviews required of the way NZFS is funded and of the funding of Rural Fire Authorities
DIA (2004)	Discussion paper on the structure & funding of NZFSC	Separate rural and urban systems create distortions & inequities	Signalled move from insurance base but no specific recommendations
Martin Jenkins (2006)	Workshop summary with leaders of fire services on funding and structure	Current funding approach is not sustainable	No recommendation but developed mixed option based on motor vehicles register and rateable value of property
NZIER (2007)	Economic analysis of how the Fire Service should be funded	Move away from current insurance levy	Mixed funding including general taxation and levy collection through rates and motor vehicle registration
DIA (2007)	Issues and Options paper on mandate and funding	Moving from insurance is preferred but out of scope	Move to use car registration, change base from indemnity value to replacement value, include exempt assets
Castalia (2012)	Economic assessment of funding model for Fire-fighter's union	Current funding system does not achieve key policy objectives	The funding system should move from an insurance-based model to a property rates and car registration based system
Fire Review Panel (2012)	Reviewed mandate, structure and improvements in existing insurance levy funding	Reform to current insurance levy funding required	Move to new transport 'mechanism.' Retention of insurance-based levy for residential property and for non-residential property (based on insurance premium rather than the sum insured)

Source: NZIER

3.4. Policy recommendations

Our analysis identified that the first best option is to have the NZFS funded entirely from general taxation. The timing may not be right for this option given the government's commitment to fiscal deficit reduction. If this option is not considered acceptable to other parties, then as a second best we recommend a mixed funding model that includes:

- direct government funding,
- levies on the full value of commercial property,
- flat or variable fees on domestic property collected through rates
- flat fees on light motor vehicles collected as part of motor vehicle registration
- variable fees on heavy motor vehicles collected through the Road User Charge.

Direct public funding should be provided to cover non-fire non-vehicle emergency services and the Crown share of costs for protection of state property. This line of reasoning is consistent with the thrust of the consensus view from the unconstrained previous reports.

Changes could be introduced as one comprehensive package, once the fiscal position allows, or could be phased in over time. The suggested phasing would be:

Phase 1 - Replacement of the levy on car insurance policies that have fire cover with a flat per vehicle charge collected as part of the motor vehicle registration fee (to be given effect as soon as a practical legislative vehicle becomes available).

Phase 2 - Replacement of the levy on domestic dwelling insurance and contents insurance with a flat fee collected by Local Authorities as part of property rates (a redraft of the Fire Service Act would provide a suitable legislative vehicle including the required amendment to the Rating Act).

Phase 3 – The existing levy should be replaced by variable levies on the full rateable value of commercial property. There are a number of issues that need to be resolved including better identification of the Fire Service's costs associated with providing protection for commercial buildings and assets and the scope for risk rating based on risk amelioration measures (sprinklers etc.) that are employed by the building owners. This area requires further analysis to identify and compare a range of options for reform.

Phase 4 - Greater public funding through general taxation to be provided over time to cover the increasing proportion of non-fire, non-vehicle emergency services and the Crown share of costs for protection of state property (phased in from 2015/16 when the Crown is projecting a return to fiscal surplus). Note that general tax revenue should be used to cover the Crown's share of protection costs for state property that is not subject to rating by Territorial Local Authorities, which would no longer be subject to insurance levies as part of the phase 2 reforms.

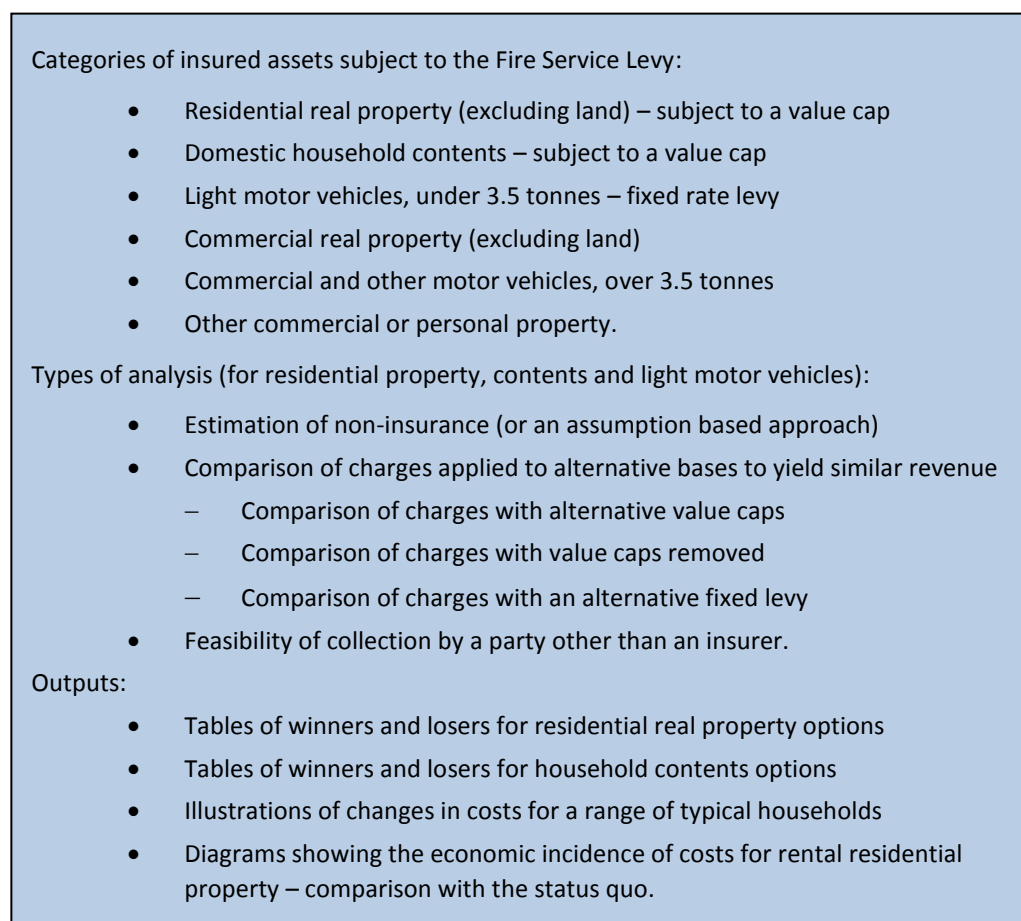
4. Quantitative analysis

Our analysis shows that the property base is a viable alternative to an insurance value base for residential property. Starting from a replication of the current capped value fire insurance levy against a property value database, we have determined the relative impact of benefits and costs across alternative funding mechanisms.

This section provides information on how the various alternative options for funding the Fire Service would impact upon the ultimate payers of the present levy. In brief, the results show that moving to an uncapped levy or a fixed-rate levy would each generate net savings in cost for around 1 million of the current 1.6 million residential property owners, relative to the cost of the current form of capped levy. Vehicle registration based funding would be spread over an additional 100,000 owners, reducing costs for the 2.3 million current contributors.

Our analysis follows the scheme of Figure 4 below.

Figure 4 The quantitative analysis approach



Source: NZIER

As previously indicated our quantitative analysis focuses on the rates-based options for replacing the present levy on the insurance of residential property and domestic household contents. We also look at a registration-levy option for light motor vehicles. The analysis does not cover other options, and it does not extend to the levy

on insurance of commercial assets, where the insurance arrangements are more complex, and the necessary data would need to be gathered from industry sources.

Initially we develop a model for the replacement of the insurance-based FSL on residential property with a property-based rates levy applied to the closest match for the current levy base, the value of property improvements, capped at \$ 100,000. We explore the effects of varying the cap, removing the cap, and applying a fixed levy. We then extend this model to include the value of household contents by proxy.

For light motor vehicles, we apply a model using records of the number of cars, motorcycles and mopeds registered as the base for a registration-based levy in lieu of the current fire-insurance based levy for motor vehicles with GVM under 3 tonnes. We develop tables showing the number of winners and losers from moving from a rates-based levy that matches the current configuration of the insurance-based levy for residential real property and domestic household contents to a number of alternative forms of rates-based levies. We also estimate the number of winners and losers in shifting from vehicle insurance-based levy to a registration-based levy.

Finally, we look at the potential gains and losses for some typical households and rental property owners from the proposed changes from insurance-based levies to selected combinations of the rates-based and vehicle registration-based levies.

4.1. Review of residential property data

In this section we:

- Develop and calibrate a model for estimating revenue for a property-based levy similar to the current insurance-based levy system
- Use that model to compare a range of alternative options for levy collection to the base case, keeping the revenue yield constant
- Show where the gains and losses occur, within ranges of property values, for moving from the current to alternative options
- Show the numbers of winners and losers among residential property owners, for moving from the current to the alternative options.

We have obtained data on residential property values throughout New Zealand from PropertyIQ. This is in the form of summary data for the land value, the value of improvements and the total capital value, for all residential properties in bands of \$100K of the value of improvements, from \$ 1 up to \$ 1 million, plus data for properties with zero value of improvements and for values of over \$ 1 million. This data is compiled for all rateable residential properties, some of which have multiple dwelling units, and includes both residential and lifestyle block properties, but excludes farm properties. In total, it covers 1.65 million rateable residential properties, of which 1.56 million include improvements.

4.1.1. Estimation of revenue from applying a property-based levy at the current FSL rate

We analysed the property improvement values (IV) to determine the total and average IV in each non-zero value band. We then estimated the revenue yield that would be obtained by applying the current FSL rate of \$ 0.76 per \$ 100 of value (with a cap of \$ 100 K) to the property IVs.

The results are shown in the following table:

Table 3 Value of rateable improvements by value band and FSL yield

Current FSL equivalent applied at \$0.076 per \$100 of IV with \$100K IV cap applied (max levy \$76.00)

Value Band (Improvements)	Number of Properties	Total Dollar Value of Improvements	Revenue Yield if the current FSL insurance-based rate is applied
No Improvements	85,432	Nil	Nil
0 - 100k	292,865	18,391,405,710	13,977,468
100 - 200k	678,693	97,878,946,590	51,580,668
200 - 300k	336,769	81,343,469,250	25,594,444
300 - 400k	142,741	48,474,108,950	10,848,316
400 - 500k	56,771	24,932,151,600	4,314,596
500 - 600k	23,833	12,859,708,250	1,811,308
600 - 700k	11,959	7,665,667,450	908,884
700 - 800k	6,614	4,899,516,000	502,664
800 - 900k	3,929	3,302,808,000	298,604
900 - 1m	2,496	2,346,320,000	189,696
1m +	7,711	12,525,768,000	586,036
All properties	1,649,813	314,619,869,800	110,612,684
Improved only	1,564,381	314,619,869,800	110,612,684

Source: PropertyIQ, NZIER calculations of revenue yield

4.1.2. Sources of difference from current revenue

Somewhat surprisingly, the estimated revenue yield from applying a levy at the current rate of the FSL, with the same value cap of \$ 100K, would yield just \$ 110.6 million, short of the \$ 118.5 million reported by the FSC as proceeds of the levy on insured residential property for 2011/12. There are several possible explanations for this difference.

Firstly, a proportion of the properties included in the above data includes multiple dwellings, for which we have applied the levy on their capped combined value, whereas the FSL would be applied to each of these dwellings individually, with each unit most likely to be above the levy cap in value. These are properties that have multiple dwelling units held on a common title, rather than separate titles, and include blocks of flats and apartments that have a common owner, as well as home and income properties. The total number of rateable residential properties with improvements, at 1.564 million, is 10.4% less than 1.745 million, the estimated number of dwellings in New Zealand as at the end of June 2012 (Statistics New Zealand, Population Statistics, Private Dwelling Estimates by Tenure, January 2013).

Secondly, some property owners currently insure their properties for more than the rateable value, using either private valuations or values based upon estimates of rebuilding costs for insurance purposes. Offsetting that factor, there is a need to recognise that about 5% of properties are likely to be uninsured currently, and are therefore not contributing to the FSL at present.

Thirdly, the Fire Service Commission note that revenue for 2011/12 was \$ 17 million higher than expected, owing to increased uptake of insurance, the use of increased insurance values and advances in the timing of payments by some insurers (DIA, Annual Report of the Fire Service Commission, 2011/2012, page 4). There is no breakdown provided to identify the relative contribution of these factors, or to relate the increase to any specific category of insurance.

4.1.3. Our analysis is indicative rather than exact, given the data limitations

As we are unable to measure the effect of these factors, we have used the available property data without adjustment, determined the effective yield of the current levy as in Table 3 above, and calibrated our modelling to yield a similar amount of revenue for each option. The overall revenue can be scaled up or down without altering the comparability of the options. With more comprehensive data on the multiple dwelling properties, and access to information about the number and value of insured residential properties, we would be able to do more extensive modelling.

4.2. Our quantitative modelling approach

We note that the base for a property-based levy could be land value, value of improvements or the improved capital value. Territorial Authorities in New Zealand determine their rates on different bases, with the improved capital value being the most common. On the grounds that fire protection and fire risk is generally associated with structures (at least in urban areas), we have used the value of improvements (IV) in our modelling. That corresponds most closely to the base for the current fire insurance based levy, which is applied to the value of insured assets.

In our analysis and modelling, when comparing with an insurance-based levy, we attempted to allow for an expected 5% non-insurance, biasing this towards lower-value properties. However, that simply reduced the revenue yield to around \$ 105 million. This suggests that many of the insured properties are currently insured for significantly more than their rating improvement value, around 12.5% on average

We do not have sufficient information to be able to apply specific adjustments for these effects or to take account of the effect of multiple-dwelling properties that are listed and valued as one improvement. Instead, we accept the property data as given as being representative of the preferred revenue base, and calculate the resultant levies on property values that would be required to match the targeted revenue.

We consider the comparison of the levies for different options (current capped value, increased value caps, and flat rate levies on improvements and also on contents) to be more important than the absolute level of levy calculations. With more detailed information on the value of individual dwellings in grouped assessments, we would be able to improve the analysis of all options in comparison with the present levy.

Target revenue levels for our comparative analysis

For our comparative analysis, we have worked to a common revenue target of \$ 110.6 million for the levy on residential real property, and \$ 20 million for the levy on domestic household contents. As explained above, these targets differ from the \$ 118.5 million raised by the FSL on policies of insurance on residential property in

2011/12, and of \$ 19.9 million raised by the FSL on policies of insurance on domestic household contents (DIA, Report of the Fire Review Panel, December 2012, page 72).

For light motor vehicles, we have used the \$ 13.8 million reported in the same report for the levy collected in 2011/12 as our revenue target. We have used figures from NZTA for the numbers of light motor vehicles (cars, motorcycles and mopeds, excluding rental cars and taxis) registered in New Zealand as at 30 June 2012 as our alternative base (New Zealand Transport Agency, NZ Motor Vehicle Registration Statistics 2012, page 54). That total is less than the total for non-exempt vehicle fleet numbers for those categories of vehicles also listed by NZTA (ibid, p62). Our choice is influenced by the use of vehicle registration as the base for the alternative charge.

4.2.1. Comparison of status quo and property value based options for residential real property

In this section we analyse the economic impact for owners of residential real property in moving from the current insurance-based Fire Service Levy to alternative funding schemes. The first step involves a shift from the fire insurance levy to an alternative that matches the characteristics of that levy as closely as possible. We then explore variations in the funding parameters, including increasing the cap on the value of residential property for which the charge is pro-rated, a no-cap option, and a fixed charge option.

Moving from an insured value based to a property value based levy

As identified in section 4.1, applying the equivalent of the current FSL on insured values to real property values would yield less revenue, amounting to \$ 110.6 million as against the \$ 118.5 million reported for the FSL for 2011/12. To produce the full \$ 118.5 million revenue would require a fee of \$ 0.814 per \$ 100 of property value up to a cap of \$ 100,000, with a fixed charge above that level, analogous to the current FSL mechanism. The maximum charge would be \$ 81.40, against \$ 76.00 at present.

Clearly the impact for the owner of a property valued above \$ 100,000 that is currently insured would be an increase in charges of \$ 5.40, while the owner of an equivalent property that is not currently insured would be required to pay \$ 81.40. This is a “worst case” result. If the multiple dwelling properties on common rating titles can be identified and separately charged, the maximum charge will reduce, and it is likely that those currently insured will pay a little less than they do at present. That would require an increase of at least 8% in the number of assessable properties.

For the analysis that follows, we assume a common revenue target of \$ 110.6 million.

Effect of variation in the value cap

One recommendation from the Fire Review Panel was that it would be desirable to estimate the effect of increasing the cap on the value of domestic property used for the calculation of the Fire Service Levy. While that recommendation was tied to an insurance-based levy, it can be applied equally well to any property value based levy.

The present ceiling was set in 1993, when provisions were inserted into the Fire Service Act, replicating the previous basis for assessing and collecting the earthquake premium and fire levies as a single charge. At that time, about 75% of residential properties were valued at less than the \$ 100,000 ceiling to which both the earthquake and fire levies applied. On today’s values, the ceiling would need to be

raised to between \$ 200,000 and \$ 300,000 to include a comparable percentage of dwellings. Increasing the value cap would reduce the levy rate per \$ 100 of property value, leading to a reduction in the levy payable by owners of lower-value properties. At one extreme, an uncapped value for the levy would lead to the lowest cost for owners of cheaper properties, but would lead to owners of more expensive properties paying a lot more. The opposite effect would result from a flat and fixed levy, where owners of cheaper properties would pay more than at present, while owners of most properties would pay less.

In our analysis, we have modelled the effect of increasing the value cap from the fire insurance levy property value equivalent of \$ 100,000 to \$ 200, 000 and \$ 300,000. We have also modelled the effect of changing to an uncapped levy, and to a fixed rate levy. All of these are related to the residential property value of improvements.

Modelling results - average levies by property value band

The following table summarises the average levy payable within each value band, obtained from our modelling of the alternative forms of property-based levy.

Table 4 Average levies payable for properties by property value band

Value Band \$000	Current Value Cap \$100K	Higher Value Cap \$200K	Higher Value Cap \$300K	No Cap on Value	Fixed Rate Levy
Levy per \$ 100	\$ 0.076	\$ 0.0471	\$ 0.0403	\$ 0.0352	\$ 0.0707
0 - 100	\$ 47.73	\$ 29.58	\$ 25.31	\$ 22.10	\$ 70.70
100 - 200	\$ 76.00	\$ 67.93	\$ 58.12	\$ 50.76	\$ 70.70
200 - 300	\$ 76.00	\$ 94.20	\$ 97.34	\$ 85.02	\$ 70.70
300 - 400	\$ 76.00	\$ 94.20	\$ 120.90	\$ 119.54	\$ 70.70
400 – 500	\$ 76.00	\$ 94.20	\$ 120.90	\$ 154.59	\$ 70.70
500 - 600	\$ 76.00	\$ 94.20	\$ 120.90	\$ 189.93	\$ 70.70
600 – 700	\$ 76.00	\$ 94.20	\$ 120.90	\$ 225.63	\$ 70.70
700 – 800	\$ 76.00	\$ 94.20	\$ 120.90	\$ 260.75	\$ 70.70
800 – 900	\$ 76.00	\$ 94.20	\$ 120.90	\$ 295.90	\$ 70.70
900 – 1,000	\$ 76.00	\$ 94.20	\$ 120.90	\$ 330.89	\$ 70.70
Over 1,000	\$ 76.00	\$ 94.20	\$ 120.90	\$ 571.79	\$ 70.70

Source: PropertyIQ data, NZIER analysis

Note that the mean value of properties within each band is not at the mid-point of the band. The actual means have been used in our calculations of the required levies. In each case, the total revenue raised by the levy is close to \$ 110.6 million.

We have not included mixed strategies, such as a proportion of revenue being collected as a fixed-rate levy and a proportion as a capped or uncapped variable rate levy. Such an option would reduce result in levies intermediate between those for the components from which it is constructed. We note that a composite levy approach involving both fixed and variable components has been adopted by the

Australian State of Victoria for its property rates based fire service levy to be introduced from 1 July 2013.

Gains and losses from changes in the levy structure

In assessing policy options, it is more informative to consider the change in the levy payable, relative to the current levy, rather than the absolute level of levy. The following table show the average gain or loss for the average value property within each value band for the different options, relative to the current \$ 100,000 value cap.

Table 5 Average property levy changes relative to the status quo

Negative values indicate a levy reduction and positive values an increase in the levy

Value Band \$000	Current Value Cap \$ 100 K	Higher Value Cap \$ 200 K	Higher Value Cap \$ 300 K	No Cap on Value	Fixed Rate Levy
0 - 100	\$ 0.00	-\$ 18.15	-\$ 22.42	-\$ 25.62	\$ 22.97
100 - 200	\$ 0.00	-\$ 8.07	-\$ 17.88	-\$ 25.24	-\$ 5.30
200 - 300	\$ 0.00	\$ 18.20	\$ 21.34	\$ 9.02	-\$ 5.30
300 - 400	\$ 0.00	\$ 18.20	\$ 44.90	\$ 43.54	-\$ 5.30
400 - 500	\$ 0.00	\$ 18.20	\$ 44.90	\$ 78.59	-\$ 5.30
500 - 600	\$ 0.00	\$ 18.20	\$ 44.90	\$ 113.93	-\$ 5.30
600 - 700	\$ 0.00	\$ 18.20	\$ 44.90	\$ 149.63	-\$ 5.30
700 - 800	\$ 0.00	\$ 18.20	\$ 44.90	\$ 184.75	-\$ 5.30
800 - 900	\$ 0.00	\$ 18.20	\$ 44.90	\$ 219.90	-\$ 5.30
900 - 1,000	\$ 0.00	\$ 18.20	\$ 44.90	\$ 254.89	-\$ 5.30
Over 1,000	\$ 0.00	\$ 18.20	\$ 44.90	\$ 495.79	-\$ 5.30

Source: PropertyIQ data, NZIER analysis

Again, note that if mixed strategies are included, the gains and losses may be differently distributed. For instance, a 50% fixed rate and 50% variable rate levy would result in a small average gain (\$ 1.33) for the lowest value band property owners, and halve the potential added cost for owners of high value properties.

Numbers of winners and losers from changes in the levy structure

In order to gain public acceptance, a policy change should desirably create more “winners” who benefit from the change than “losers” who are adversely impacted. Desirably, there should be significantly more winners than losers if the new policy is adopted. At the same time, the costs for the worst losers need to be affordable.

The analysis to produce tables of winners and losers is a little more complex than might be expected, as there are some losers in value bands that have an average gain, and some winners in bands that have an average loss, for some of the options. Where there are both winners and losers in some property value bands, we have calculated the net number of winners or losers.

The following table shows the net numbers of winners and losers among property owners by value band and overall.

Table 6 Numbers of winners and losers among property owners from moving to other options relative to the status quo

Positive numbers are net winners; negative numbers (shown in red) are net losers within each band

Value Band \$000	Current Value Cap \$ 100 K	Higher Value Cap \$ 200 K	Higher Value Cap \$ 300 K	No Cap on Value	Fixed Rate Levy
0 - 100	0	292,865	292,865	292,865	-252,018
100 - 200	0	154,183	523,756	678,693	678,693
200 - 300	0	-336,769	-336,769	229,615	336,769
300 - 400	0	-142,741	-142,741	-142,741	142,741
400 - 500	0	-56,771	-56,771	-56,771	56,771
500 - 600	0	-23,833	-23,833	-23,833	23,833
600 - 700	0	-11,959	-11,959	-11,959	11,959
700 - 800	0	-6,614	-6,614	-6,614	6,614
800 - 900	0	-3,929	-3,929	-3,929	3,929
900 - 1,000	0	-2,496	-2,496	-2,496	2,496
Over 1,000	0	-7,711	-7,711	-7,711	7,711
Overall net total	0	-145,775	223,798	945,119	1,019,498

Source: PropertyIQ data, NZIER analysis

Based upon the above analysis, an increase in the value cap to at least \$ 240K would be needed to guarantee a net positive number of winners, while a greater number of winners would be created through an uncapped levy, although for some owners the costs would be quite high (see table 5). The greatest net number of winners would result from applying a fixed-rate levy, although the adverse impact under that option falls entirely on owners of lower-value properties (valued at up to \$ 93,000).

Again, note that adopting a mixed strategy would change the distribution of winners and losers. It may or may not be possible to devise a mixed strategy that increases the number of net winners relative to the pure options. A half fixed-rate and half uncapped levy strategy would produce fewer net winners than either option alone.

There may be concerns about the ability of some property owners to pay these charges. We note that the Victorian Government plans to allow holders of concession cards a deduction of \$ 50 from the cost of the new property-based fire levies, for their primary residence. A similar approach could be applied in New Zealand.

Alternatively, the thresholds for the existing rates rebate scheme could be adjusted to protect low income households by compensating them for any increase in their fire service levies. If their properties are currently insured, the costs should be minimal, unless an uncapped levy were to be introduced, when some impecunious owners of expensive properties would struggle to pay the increased amount. That is one reason to be cautious about adopting any uncapped-value rates-based levy.

The cost of any concession on the property-based fire service levy could be recovered by a small increase in the levy rate applied. As identified in the following section, there is sufficient margin between the required minimum value of a fixed

levy and that of the current levy to allow for the levy to be set at an intermediate rate that would both generate additional revenue and cover the cost of concessions.

We note that the Victorian Government reforms will apply the levy to the capital value of residential property, including both land value and value of improvements. Following such an approach would expand the levy base and reduce the levy rate, but to the extent that higher-value houses and apartments tend to be built on more expensive land, the incidence of the levy will not shift. One exception will be for undeveloped land, and for properties where development is progressing in stages, where a capital value based levy would cost more than an improvement value based levy.

4.2.2. Comparison of status quo and feasible options for household domestic contents

For household contents, we use the residential property values as a proxy base, and model the application of the existing value cap on contents as a parallel to that. We also model a fixed charge for domestic contents.

Our modelling of the value of household contents assumes that the value of contents varies with the value of the property, at least over the lower value range. Given the current \$ 20,000 cap on the value for applying the fire service levy to insured contents, and the \$ 100,000 value cap for applying the levy to insured residential properties, we have assumed a proportional relationship between the value of contents and the value of the property up to those cap limits. Thus, we assume that a property valued at \$60,000 will have contents valued at \$ 12,000, and one valued at \$120,000 will have contents valued at above \$ 20,000.

We use this relationship to compare the status quo (a levy of \$ 0.076 per \$ 100 of value up to a cap of \$ 20,000, resulting in a maximum levy of \$ 15.20) with the application of a flat rate levy that would raise the same \$ 20 million from 1.56 million residential properties with improvements. That results in a fixed levy of \$ 12.78 per property.

We do not have confidence that the proportionality between the value of residential property and value of contents would be valid of an extended range, particularly as there are multiple dwelling properties included in the higher value ranges. Therefore, we have not analysed the alternative of applying a higher value cap to contents.

Given that the object of this analysis is to determine a feasible basis for replacing the fire insurance levy with a residential property based levy, and that the rating value base does not include information about the value of contents, we are modelling the simplest approach, which is the application of a fixed levy, to be collected along with (essentially as part of) the levy on residential property.

In the specific case where a fixed levy is adopted for residential property, the levy could simply be increased to cover the contribution in respect of household contents.

The following table shows the distribution by value band of the fixed levy for contents, and how it would compare to the fixed levy on property:

Table 7 Average levies for property and for contents, current capped value levies compared with fixed rate levies

Value Band \$000 Combined Assets	Current Value Cap Property \$ 100 K	Current Value Cap Contents \$ 20 K	Fixed Rate Levy Property	Fixed Rate Levy Contents
Levy (per \$100)	\$ 0.076	\$ 0.076	Fixed \$ 70.70	Fixed \$ 12.78
0 - 120	\$ 47.73	\$ 9.50	\$ 70.70	\$ 12.78
Over 120	\$ 76.00	\$ 15.20	\$ 70.70	\$ 12.78

Source: PropertyIQ statistics, NZIER analysis

For the majority of properties, a combined fixed rate levy would amount to \$ 83.48, compared to the combined capped rate levy of \$ 91.20 that is equivalent to the present fire insurance based levies. The saving of \$ 7.72 is small, in both absolute and relative terms.

For properties valued below \$ 100,000, the results are less favourable. Initially, the net benefit of moving to fixed levies reduces as the property and contents value decrease. For properties valued at under \$ 91,500 (with contents valued at less than \$ 18,300), there would be a net cost if a fixed levy were adopted. At the mean value, that would be \$ 36.25. However, a significant proportion of such properties are unlikely to be making any contribution through an insurance-based levy at present.

For properties that are currently not insured, the imposition of a combined fixed-rate levy would cost the owners \$ 83.48 per year. That is not an unreasonable amount to pay for fire service protection, including having prompt assistance on call for fire and non-fire emergencies. At the moment, only those insured pay the \$ 91.20 per year.

There is potentially a case to be made for increasing the rate of a fixed-rate residential property levy to a rounded level of \$ 90 per year, or for extending it to include vacant residential land, where that land is currently subject to rating. The former would increase the fixed levy revenue by 7.8%, and the latter would bring an additional 85,000 properties into the levy base, increasing the yield of the fixed levy by 5.4%. Together, those changes would raise an additional \$ 17.7 million in revenue.

4.2.3. Comparison of status quo and options for light motor vehicle contributions to funding NZFS

For light motor vehicles, we have used the \$ 13.8 million reported by the NZFSC for the levy collected in 2011/12 as our revenue target (DIA, Annual Report of the New Zealand Fire Service Commission, 2011/12). We have used figures from NZTA for the numbers of light motor vehicles (cars, motorcycles and mopeds, excluding rental cars and taxis) registered in New Zealand as at 30 June 2012 as our alternative base (New Zealand Transport Agency, NZ Motor Vehicle Registration Statistics 2012, page 54). We have modelled a fixed charge as part of the registration fee, but have not modelled a variable charge based upon levies on vehicle fuel or Road User Charges.

The following table compares the current Fire Service Levy on insured light vehicles to the option of funding through a levy on annual vehicle registration:

Table 8 Comparing levy bases for Light Motor Vehicles

	Current Levy applied on Insured Vehicles	Proposed Levy applied on Registered Vehicles
Base number of vehicles (under 3.5 tonnes)	2,296,737 (calculated from levy data)	2,395,562 (cars, motorcycles, mopeds only)
Levy Rate, per vehicle	\$ 6.08	\$ 5.76
Revenue Yield, million	\$ 13.8	\$ 13.8

Source: NZFSC, NZTA data, NZIER calculations

Even without including light trucks and other types of vehicle that may be subject to this levy, in addition to those listed, the number of registered vehicles is greater than the apparent number of insured vehicles. That is not surprising, as the current levy is applied only to vehicles which have fire cover included in their insurance. While owners of 2.3 million vehicles will experience a reduction in their costs, owners of an estimated 100,000 vehicles that are not subject to the current levy will pay the new fee.

With a change to the registration base, the annual per vehicle levy will be reduced from the current \$ 6.08 to a maximum of \$ 5.76, or less if more vehicles (light trucks and vans that are privately used) are eligible for inclusion in this category.

4.2.4. Examples of the impact of changes to the levy base on households and on rental properties

Using some of the options identified above, we look at the expected annual financial impact of moving from the present fire-insurance based levy to property-based levies for a range of households, and also for owners and occupiers of domestic rental property.

The chosen options are the application of a property-based levy capped at \$ 100 K, the application of a levy capped at \$ 300 K, and the application of a fixed levy. For contents, we use the current \$ 20 K insured-value cap as a basis for comparison with a fixed levy included as part of the property-based levy.

For motor vehicles, a fixed registration-based levy is applied.

The tables that follow show the impact of these changes on four different households, three owning their properties and one renting, with differing values of properties and contents, and differing numbers of vehicles. It is assumed that the properties are all insured (the rental property being insured by the landlord, with costs recovered in the rent), but the insurance status of the contents and vehicles varies from case to case.

Two further tables cover different situations for landlords. One has two rental flats as part of a single rateable property, while the other owns three rental apartments on separate titles. The landlords are assumed to be seeking to recover costs in the rent.

Table 9 Household A – Family with \$ 400 K house, \$ 50 K contents, 2 motor vehicles (all insured)

Category	Current FSL	\$ 100 K cap	\$ 300 K cap	Fixed rate levy
Dwelling	\$ 76.00	\$ 76.00	\$ 120.90	\$ 70.70
Contents	\$ 15.20	\$ 12.78	\$ 12.78	\$ 12.78
Vehicles	\$ 12.16	\$ 11.52	\$ 11.52	\$ 11.52
Total	\$ 103.36	\$ 100.30	\$ 145.20	\$ 95.00
Saving / (Cost)		\$ 3.06	(\$ 41.48)	\$ 8.36

Source: PropertyIQ statistics, NZTA data, NZIER analysis

Table 10 Household B – Family with \$ 200 K house (insured), \$ 25 K contents (not insured), 2 motor vehicles (not insured)

Category	Current FSL	\$ 100 K cap	\$ 300 K cap	Fixed rate levy
Dwelling	\$ 76.00	\$ 76.00	\$ 94.20	\$ 70.70
Contents	\$ nil	\$ 12.78	\$ 12.78	\$ 12.78
Vehicles	\$ nil	\$ 11.52	\$ 11.52	\$ 11.52
Total	\$ 76.00	\$ 100.30	\$ 118.50	\$ 95.00
Saving / (Cost)		(\$ 24.30)	(\$ 42.50)	(\$ 19.00)

Source: PropertyIQ statistics, NZTA data, NZIER analysis

Table 11 Household C – Young family with \$ 150 K apartment, \$ 15 K contents (both insured), 2 motor vehicles (one insured)

Category	Current FSL	\$ 100 K cap	\$ 300 K cap	Fixed rate levy
Dwelling	\$ 76.00	\$ 76.00	\$ 60.45	\$ 70.70
Contents	\$ 11.40	\$ 12.78	\$ 12.78	\$ 12.78
Vehicles	\$ 6.08	\$ 11.52	\$ 11.52	\$ 11.52
Total	\$ 93.48	\$ 100.30	\$ 84.75	\$ 95.00
Saving / (Cost)		(\$ 6.82)	\$ 8.73	(\$ 1.52)

Source: PropertyIQ statistics, NZTA data, NZIER analysis

Table 12 Household D – Young people, renting house valued at \$ 300 K, \$ 20 K contents owned by landlord (both insured), \$ 10 K personal property (not insured), 3 cars (1 insured)

Category	Current FSL	\$ 100 K cap	\$ 300 K cap	Fixed rate levy
Dwelling (within rent)	\$ 76.00	\$ 76.00	\$ 120.90	\$ 70.70
Contents (within rent)	\$ 15.20	\$ 12.78	\$ 12.78	\$ 12.78
Vehicles	\$ 6.08	\$ 17.28	\$ 17.28	\$ 17.28
Total	\$ 97.28	\$ 106.06	\$ 150.96	\$ 100.76
Saving / (Cost)		(\$ 8.78)	(\$ 53.68)	(\$ 3.48)

Source: PropertyIQ statistics, NZTA data, NZIER analysis

Table 13 Landlord X – Owns two rental flats, together valued at \$ 400 K, on one rateable title, each with contents \$ 20 K (all insured)

Category	Current FSL	\$ 100 K cap	\$ 300 K cap	Fixed rate levy
Dwelling (rent needs to cover)	\$ 76.00	\$ 76.00	\$ 120.90	\$ 70.70
Contents (rent needs to cover)	\$ 30.40	\$ 12.78 one rateable property	\$ 12.78 one rateable property	\$ 12.78 one rateable property
Total	\$ 106.40	\$ 88.78	\$ 133.68	\$ 83.48
Saving / (Cost)		\$ 17.62	(\$27.28)	\$ 22.92

Source: PropertyIQ statistics, NZIER analysis

Table 14 Landlord Y – Owns three apartments, each valued at \$ 300 K, with contents at \$ 20 K, on separate titles (all insured)

Category	Current FSL	\$ 100 K cap	\$ 300 K cap	Fixed rate levy
Dwelling (rent needs to cover)	\$ 228.00	\$ 228.00	\$ 362.70	\$ 212.10
Contents (rent needs to cover)	\$ 45.60	\$ 38.34 three rateable properties	\$ 38.34 three rateable properties	\$ 38.34 three rateable properties
Total	\$ 273.60	\$ 266.34	\$ 401.04	\$ 250.44
Saving / (Cost)		\$ 7.26	(\$ 127.44)	\$ 23.16

Source: PropertyIQ statistics, NZIER analysis

Any increased costs are affordable, and the gains and losses vary across the three alternative property levy options

The first observation is that the highest additional cost is less than \$ 128 per annum (and that is for three rental apartments) and that there are savings in several other cases of up to \$ 25 per year.

The larger costs are associated with higher value properties with the \$ 300 K capped value option. Only the owners of the \$ 150 K apartment are better off under that option. However, the increased property-related costs under this option do not exceed \$ 43 per year or 83 cents per week per dwelling.

The results with the \$ 100 K value cap and with the fixed rate levy move in the same direction in all cases. The fixed rate levy produces smaller costs and larger savings than the \$ 100 K value cap option. That is why this is the preferred option.

The motor vehicle differences are small, but impose costs for owners of vehicles that are not currently insured, and provide modest savings for owners of insured vehicles.

4.3. Comment on recommendations of the Fire Review Panel on changes to the Levy

Although they recommended the retention of insurance-based levies for real property and commercial assets, the Fire Review Panel made a number of recommendations for changing aspects of the Fire Service Levy:

Recommendation 52

That appropriate agencies of central government, including those with policy responsibilities for the transport sector, be charged with the design of a mechanism to attract a contribution from the transport sector toward the costs of maintaining and operating New Zealand's fire services for their fire and rescue roles.

Recommendation 53

That the Fire Service levy provisions and other funding arrangements be amended to:

- shift the levy base for non-residential property from a levy on the amount for which property is insured to a levy on premiums;
- extend the levy base for non-residential property from contracts of fire insurance to all contracts of material damage;
- retain the present levy arrangements for residential and personal property but with the caps adjusted from their 1994 levels to the equivalent levels in the property market today;
- attract an appropriate contribution from the transport sector; and
- continue to have the discretion to charge for services delivered, with the exception of attendances at fires and other emergencies for which fire services are pre-funded under the new funding arrangements.

Assessing the feasibility of implementing the FRP recommendations

The evidence in this report leads to the following responses:

Recommendation 52

We note that the FSL contribution from insurance on light motor vehicles was \$ 13.8 million and from commercial motor vehicles \$ 13.0 million in 2011/12. These sums could more easily be raised by fixed charges on annual registration for light motor vehicles, and a component of Road User Charges for heavy motor vehicles. The provision of any further contribution would need to be justified by modelling of the benefits of fire and rescue services attributable to the road transport sector. We note that the costs of responding to and dealing with emergencies involving dangerous goods and other hazardous substances are recoverable from the parties concerned.

With 2.4 million light motor vehicles registered in 2011/12, a fee of \$5.76 per vehicle would suffice. This compares with the current \$6.08 per vehicle levy on light vehicles insured for fire.

With Road User Charges currently raising \$1,045 million in 2011/12, the collection of an additional \$13.0 million would require an element representing an addition of just 1.2%. That should not lead to any adverse reaction from the road transport industry.

Recommendation 53

Note the following:

- A move to a levy based on insurance premiums rather than property values for commercial insurance would tend to lock-in the present system for funding the FSL through insurances, and make it more difficult to shift to another base. Further, insurance premiums can be discounted when the insured accepts a share of the insurance risk, which may or may not reflect the fire risk.
- Actions to ameliorate fire risk may or may not be reflected in material damage insurance premiums. Different businesses will have different mixes of perils that need to be covered by insurance, and fire may be major or minor in the mix.
- We have modelled the effect of varying the caps on residential property, but in the context of a property-based levy rather than an insurance-based levy. The results can be translated to an insurance base, but any change would make it more difficult to move away from an insurance-based levy in future.
- The options involving a change in the levy cap (option 3) are inferior to other options, including that of applying a fixed levy (option 2), the mixed funding model (option 4), and funding through general taxation (option 1).
- As identified, there is potential to increase the transport contribution through a dedicated fee element within Road User Charges, which currently raise more than \$ 1 billion in revenue per year. However, that would require justification.
- Again as identified, there are specific categories of incident where the Fire Service can charge for provision of its services. The cost of the increasing proportion of non-fire non-vehicle call-outs should be funded through general taxation, as part of a mixed funding model, with such costs identified.

5. Summary of results

Our analysis identified that the first best option is to have the NZFS funded entirely from general taxation. The timing may not be right for this option to be adopted immediately given the government's commitment to fiscal deficit reduction. If this option is not considered acceptable by other parties, then as a second best we recommend a mixed funding model that includes:

- direct government funding
- flat or variable levies on the full value of commercial property
- flat or variable fees on domestic property collected through rates
- flat fees on light motor vehicles collected as part of motor vehicle registration
- variable fees on heavy motor vehicles collected through the Road User Charge.

Direct public funding should be provided to cover non-fire non-vehicle emergency services and the Crown share of costs for protection of state property. This line of reasoning is consistent with the thrust of the consensus view from previous reports.

Changes could be introduced as one comprehensive package, once the fiscal position allows, or could be phased in over time, as outlined in section 3.4 above.

Our quantitative analysis of options suggests that flat fees are feasible and preferable to variable fees on residential real property:

- Adopting either a flat fee or an uncapped variable fee would lead to around 1 million property owners paying less than under the current system (for those who are currently insured), while raising the same amount of revenue, or even up to 10% more revenue
- A flat fee would lead to owners of cheaper properties paying more than at present, while an uncapped variable fee would lead to owners of more expensive properties paying a lot more than at present
- If variable property-based fees are introduced, a value cap should be at \$ 300,000, to adjust for changes in relative property values since the current \$ 100,000 cap was set, and to achieve a favourable ratio of winners to losers, without over-burdening higher value properties.
- The rates rebate system could be extended to protect those on low incomes from the impact of the change, with costs covered by the fee.

The present levy on insurance of household domestic assets should be subsumed into the flat or variable property-based levy:

- The total impost with both of these collected as a flat fee would be less than the current levy paid by owners who insure their property for \$ 100,000 or more and contents for \$ 20,000 or more
- A combined flat fee of \$ 90 per year per dwelling would raise more revenue than the current levies on insurance of residential property and domestic contents.

For light motor vehicles, a flat charge included as part of the annual registration fee should be adopted to replace the current levy on vehicle fire insurance policies:

- A flat fee of \$ 5.76 per vehicle would raise as much revenue as the current flat levy of \$ 6.08 on fire insurance contracts for light motor vehicles.

Overall the results show that moving from the current system of insurance-based funding to a property-based fixed-rate levy would generate net savings in cost for around 1 million of the current 1.6 million residential property owners, relative to the cost of the current levy, while imposing only modest cost increases for other owners. Vehicle registration based funding would be spread over an additional 100,000 owners, compared to the present insurance-based system, reducing costs for the 2.3 million current contributors, with only nominal costs imposed on non-contributors.

6. Recommendations

The recommendations that flow from our analysis are as follows:

1. that the fire services should be funded entirely from general taxation, as a long term objective if not immediately feasible.
2. that as a minimum, the non-fire non-vehicle emergency services provided by the fire services should be funded from general taxation
3. that the present levies on fire insurance contracts for residential properties and household domestic contents should be replaced by a flat fee on each dwelling unit, to be collected by territorial authorities through the rating system
4. that if flat levies are not acceptable, then a single variable levy on the value of residential property with a value cap of \$ 300,000 be applied in lieu of current fire insurance levies on both residential property and household contents, and collected by territorial authorities through the rating system
5. that the present levy on contracts that include fire insurance for light motor vehicles be replaced by a flat fee to be collected by NZTA as part of the motor vehicle registration fee
6. that a strong selling point is that broadening of the revenue base through the above recommendations would reduce the average costs for around 1 million property owners and 2.3 million vehicle owners while those owners currently evading the FSL would face modest cost increases of less than three dollars per week (for one high-value property and three vehicles under the capped levy option, less with the flat levy option)
7. that the present levy on contracts that include fire insurance for heavy motor vehicles be replaced by a component of Road User Charges, with that change generating a minor (less than 1.3%) increase in the level of those charges
8. that the share of fire service funding attributable to commercial real and other property should be based on a set of standardised risk-adjusted property values, rather than avoidable valuation bases such as the present insurance value base
9. that further work is needed to determine a fair and appropriate basis for determining the fire service contributions relating to commercial property, both fixed and movable, and whether there is a better agent for collecting the contributions than the insurers of those assets.

7. References

- American Institute of Certified Public Accountants (2010) *Guiding Principles of Good Tax Policy: A Framework for Evaluating Tax Proposals*.
- Castalia Strategic Advisors (2012) *Review of the Fire Service Model*.
- Controller and Auditor General (1998) *Report on New Zealand Fire Service Commission: Adequacy of the Arrangements to Ensure that the Fire Service Levy Is Properly and Fully Paid*.
- Controller and Auditor General (2008) *Charging fees for public sector goods and services – a good practice guide*.
- Coopers and Lybrand (1996) *Property-Based Funding Scheme for the New Zealand Fire Service*.
- Department of Internal Affairs (2004) *New Zealand Fire Services – their current organisation, funding and issues arising, New Fire Legislation*.
- Department of Internal Affairs (2004) *The functions and structure of New Zealand's fire and rescue services*.
- Department of Internal Affairs (2007) *New Fire Legislation – A framework for New Zealand's fire and rescue services and their funding, Department of Internal Affairs*.
- Department of Internal Affairs (2012) *Report of the Fire Review Panel*.
- Internal Affairs and Local Government Committee (1998) *Report of the Inquiry into the New Zealand Fire Service Commission*.
- Martin Jenkins & Associates (2006) *Review of New Zealand Fire Services Leaders' Forum*.
- NZIER (2007) *Funding the Fire Service – a fresh look* - report to the Insurance Council of New Zealand.
- New Zealand Business Roundtable (1995) *The Provision and Funding of Fire Services – Some Broader Perspectives*.
- New Zealand Fire Service Commission (2012) *Annual Report to 30 June 2012*.
- Treasury (2002) *Guidelines for Setting Charges in the Public Sector*.

Appendix A – Data analysis methods, tables and charts

A.1 Evaluation and ranking of the selected options for replacement of the Fire Service Levy on residential real property, household domestic contents and motor vehicles

The chart on the following two pages shows the results of the evaluation and ranking exercise comparing the status quo and the four options for replacement of the Fire Service Levy on insurance of residential real property, household domestic contents and light motor vehicles. These are more fully explained in section 3.2 of the report. Options 2 and 3 each have sub-option components that are evaluated separately and these options are then assigned an overall score against each measure (criterion, category or overview) based on the average of the scores of those components.

The status quo and options

The alternatives that have been compared are:

The Status Quo	Indemnity value based levy on fire insurance policies
Option 1	General taxation as the only source of funding
Option 2	Fixed levies on dwellings, contents, and light motor vehicles
Option 3	Variable levies on dwellings, contents, light motor vehicles
Option 4	A mix of general taxation and flat levies (options 1 and 2)

Scoring method

The scoring is based upon our assessment of the relative merit of each alternative on each of the 13 criteria. In general, we awarded 10 points if we could not identify any significant limitation for a component or option, and reduced the score according to our assessment of departures from that ideal. Minor impairments led to a score in the range 7 – 9, more significant challenges to scores in the range 5 – 8, and severe challenges to scores in the range 1 – 4. The narrative in section 3.2.1 incorporates the thinking behind this scoring method in its discussion of the comparative results. We include a table summarising the factors applied in the scoring after the next chart.

Graphical presentation (next two pages)

The following chart compares the status quo with other options and sub-options. We use a colour scale ranging from red for the worst alternative to green for the best alternative to provide for a visual comparison of the sub-options and options for each category – fairness, efficiency, legitimacy and cost-effectiveness - and also for the comparison of the average scores for each sub-option and option on all 13 criteria.

The summary chart included as Figure 2 in section 3.2 above uses the same average scores and rankings as are included in this chart.

Comparing alternatives to the Fire Service Levy on Insurance		Funding Options				Option 1	Option 4	Option 2			
		Status Quo						Fixed Rate Levy - Rates or MV Reg			
		Status Quo (FSL capped / fixed MV)									
		Residential Real Property	Household Contents	Light Motor Vehicles	Average Scores	General Taxation	Mixed General Tax and Flat Levies	Residential Real Property	Household Contents	Light Motor Vehicles	Average Scores
		Collection Agency				IRD	IRD/ others	TLA	TLA (use property as proxy)	NZTA	
Categories	Criteria										
Fairness		4.5	4.8	5.5	4.9	8.6	8.0	7.5	7.3	7.0	7.3
	Horizontal Equity	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0	9.0
	Comparability	3.0	4.0	6.0	4.3	9.5	9.0	9.0	9.0	9.0	9.0
	Vertical Equity	5.0	5.0	5.0	5.0	8.0	7.0	6.0	6.0	5.0	5.7
	Ability to Pay	4.0	4.0	5.0	4.3	8.0	7.0	6.0	5.0	5.0	5.3
Efficiency		6.0	6.0	6.5	6.2	9.0	8.5	8.0	8.0	8.0	8.0
	Minimal distortion	6.0	6.0	7.0	6.3	8.0	8.0	8.0	8.0	8.0	8.0
	Breadth of revenue base	6.0	6.0	6.0	6.0	9.9	9.0	8.0	8.0	8.0	8.0
Legitimacy		7.0	7.0	7.3	7.1	8.5	8.0	8.3	8.0	8.3	8.2
	Transparency and visibility	6.0	6.0	6.0	6.0	6.0	6.0	7.0	6.0	7.0	6.7
	Certainty and clarity of rules	8.0	8.0	8.0	8.0	9.5	9.0	9.0	9.0	9.0	9.0
	Simplicity	7.0	7.0	8.0	7.3	9.9	9.0	9.0	9.0	9.0	9.0
Cost effectiveness		7.5	7.5	7.3	7.4	9.9	9.0	9.0	9.0	9.0	9.0
	Convenience of payment	8.0	7.0	8.0	7.7	9.9	9.0	9.0	9.0	9.0	9.0
	Certainty of revenue yield	6.0	7.0	7.0	6.7	9.9	9.0	9.0	9.0	9.0	9.0
	Compliance - minimal non-compliance	8.0	8.0	6.0	7.3	9.9	9.0	9.0	9.0	9.0	9.0
	Economy in collection	8.0	8.0	8.0	8.0	9.9	9.0	9.0	9.0	9.0	9.0
Overall average score (13 criteria)		6.2	6.3	6.6	6.4	9.0	8.4	8.2	8.1	8.1	8.1

Rating scale applied to each category and to the average overall scores



Comparing alternatives to the Fire Service Levy on Insurance		Funding Options		Option 3							Average Scores
		Rates Levy current caps		Rates levy higher cap A		Rates levy higher cap B		Levy with no cap		Fuel / RUC	
		Residential Real Property (\$100K cap)	Household Contents (\$20K cap)	Residential Real Property \$200K cap	Household Contents	Residential Real Property \$300K cap	Household Contents	Residential Real Property (rates)	Household Contents	Light Motor Vehicles	
Collection Agency		TLA	TLA (use property as proxy)	TLA	TLA (use property as proxy)	TLA	TLA (use property as proxy)	TLA	TLA (use property as proxy)	NZTA	
Categories	Criteria										
Fairness		7.0	7.0	7.5	7.5	8.0	8.0	8.5	8.5	8.0	7.8
	Horizontal Equity	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
	Comparability	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
	Vertical Equity	6.0	6.0	7.0	7.0	8.0	8.0	9.0	9.0	8.0	7.6
	Ability to Pay	6.0	6.0	7.0	7.0	8.0	8.0	9.0	9.0	8.0	7.6
Efficiency		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.5	7.9
	Minimal distortion	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	7.9
	Breadth of revenue base	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Legitimacy		7.3	6.7	7.3	6.7	7.3	6.7	7.3	7.3	6.0	7.0
	Transparency and visibility	6.0	4.0	6.0	4.0	6.0	4.0	6.0	6.0	4.0	5.1
	Certainty and clarity of rules	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	7.9
	Simplicity	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	7.9
Cost effectiveness		8.0	8.0	8.0	8.0	8.0	8.0	7.8	7.8	8.5	8.0
	Convenience of payment	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	9.0	8.1
	Certainty of revenue yield	8.0	8.0	8.0	8.0	8.0	8.0	7.0	7.0	7.0	7.7
	Compliance - minimal non-compliance	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	9.0	8.1
	Economy in collection	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	9.0	8.1
Overall average score (13 criteria)		7.5	7.4	7.7	7.5	7.8	7.7	7.9	7.9	7.6	7.7

Rating scale applied to each category and to the average overall scores



The scoring method in more detail

The following table outlines some of the factors applied in the scoring system. As explained above, these factors work to reduce the score from 10 for each criterion.

Table A.1 Outline of scoring system with examples of factors applied

Criteria (grouped by category)	Factors reducing score from maximum - in regard to the funding of NZFS
<i>Fairness</i>	<i>(similarities and differences in treatment for those with risks that receive cover)</i>
Horizontal equity	Service provided regardless of contribution to funding (significant), service still provided where payment is artificially reduced (significant) or evaded (severe)
Comparability	Some service recipients presenting similar levels of risk are charged differently, or those making similar contributions receive varying levels of service (varies)
Vertical equity	Service recipients with different levels of risk and potential benefit are not charged differently, lack of recognition for risk amelioration measures (varies)
Ability to pay	Some asset owners have an obligation to pay reduced (significant) or waived (severe) as a consequence of their financial circumstances, but are not poor
<i>Efficiency</i>	<i>(adverse impacts on the wider economy)</i>
Minimal distortion	Degree to which regime encourages artificial avoidance behaviour among potential service recipients, as distinct from measures to ameliorate risk
Breadth of base	Revenue base is progressively narrower: general tax > single tax > all property > insured property > insured property for which liability is artificially reducible
<i>Legitimacy</i>	<i>(from the perspective of the person who has to pay the charge)</i>
Transparency and visibility	Degree to which collection process disguises the cost of protection for those benefiting relative to a specific charge with documentary evidence of the same
Certainty and clarity of rules	Lack of certainty for payer or intermediate agency in how to determine and how and when to pay the fee (minor), use of mismatched or out-dated assessment concepts (significant), need for litigation to clarify rules (severe)
Convenience of payment	Service recipient has to make special effort to meet obligations, such as paying a fee to a specific agency that they would not otherwise need to deal with
<i>Cost effectiveness</i>	<i>(from the perspective of the revenue collection agency and any intermediaries)</i>
Simplicity of application	The collecting agency has to follow complex procedures, determination of liability or calculation of fee is not straightforward or differs from the basis of collection of other fees and charges by the agency, many agents involved
Certainty of revenue yield	Degree to which any of fluctuations in the revenue base, changes in applicable rates and calculation formulae, and changes in timing of payments lead to uncertainty or variability in revenue collection and /or timing of receipts
Minimal scope for avoidance	Avoidance and evasion mechanisms are known to exist and are widely applied, or the system is not responsive to efforts to reduce and eliminate avoidance
Ease and cost of collection	Significant compliance costs for collection agency, multiple handling and forwarding of revenue and / or information required, unfunded administrative and compliance burden, impact of compliance audits by regulatory agency

Source: NZIER