

FIRE RESCUE VICTORIA FEEDBACK
Fire District Review Panel Proposed Risk Assessment Methodology
Discussion Paper

STRENGTHS

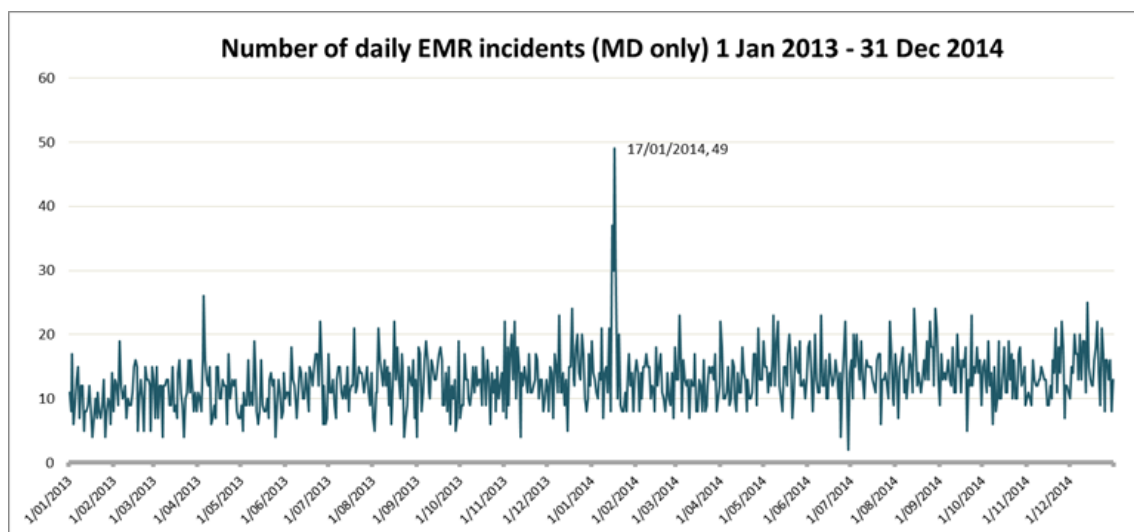
1. The discussion paper successfully conveys the complexity of undertaking reviews of the Fire Rescue Victoria fire district boundaries and the considerable resources that will be required.
2. The proposed methodology includes a comprehensive list of overarching themes (section 4.1 on page 7).
3. The discussion paper highlights the importance of incident data to inform the risk assessment, particularly the type of incident, location, time and frequency.

FURTHER OPPORTUNITIES

4. Section 2(a) of the *Fire Rescue Victoria Act 1958* states that one of the main purposes of the Act is “to provide for fire safety, fire suppression and fire prevention services and emergency response services in the Fire Rescue Victoria fire district”. Fire Rescue Victoria, therefore, recommends that the Fire District Review Panel consider expanding the risk assessment to include other emergency response services such as but not limited to rescue, emergency medical response (EMR) and technical operations. This will ensure that the broad scope of Fire Rescue Victoria services and activities are captured and reflected, acknowledging that the majority of Fire Rescue Victoria calls are not fire-related. For instance, the number of structure fires is decreasing, while demand for EMR is increasing.
5. Section 32A of the *Fire Rescue Victoria Act 1958* provides the meaning of ‘alarm of fire’ as “any call for assistance at a fire, accident, explosion or other emergency”. Fire Rescue Victoria believes that this wide-ranging definition enables a broader consideration to the services provided to the community that should be considered as part of any analysis of current fire service boundaries.
6. Fire Rescue Victoria proposes that response to unwanted false alarms be included in the modelling, as these demonstrate where a significant proportion of Fire Rescue Victoria services and resources are directed due to the need to respond to these calls on the assumption it is an actual incident. These calls often result in significant opportunities to engage with the community and are focused on education, resilience building, and mitigating or preventing fire risk.
7. Other incidents that present a different type of risk for consideration include civil unrest/hostile acts and multiple casualty events, which directly affect Fire Rescue Victoria attendance (ingress/egress) and firefighter safety.
8. Fire Rescue Victoria supports the examination of capacity and capability data in addition to historical incident data (type of incident) in order to account for the resources involved in mitigating risk. The assessment could generate useful findings in relation to how risk is treated (for example, resources required to safely respond to a house fire in 2010 in contrast to 2019). Additionally, the number of attendances of appliances arriving on scene at an incident is a good indicator of activity, safe systems of work, and demand for services. The number of incidents per 100,000 population may also be used to monitor the impact of population size on the number of incidents. Population mobility risk can also vary during time of the day, days of the week, and seasons (e.g. movement of people from metro areas to coastal areas during summer or long weekends; people attending major events).
9. Fire Rescue Victoria supports climate change (section 4.3.3 on page 9) being included as an element of the risk assessment. The evolving green economy has seen alternative energy sources changing the way buildings are constructed, utilising lightweight building materials to create airtight indoor open spaces, which changes fire dynamics and safety issues. Fire Rescue Victoria, therefore, recommends that climate change is viewed

beyond the natural environment/bushfire lens to better understand its impact on the urban/built environment and the population (e.g. move to outskirts of regional towns and impact of heatwaves on people).

10. The negative impact on human health due to extreme heat days and heatwaves, particularly among the elderly, is well established. For instance, a study on the Victorian heatwave during 14-17 January 2014* showed a 44 per cent increase in Code 1 dispatches for Ambulance Victoria during and immediately after the heatwave, and almost a doubling of Priority '0' dispatches (an emergency ambulance response to a cardiac case), peaking on the last day of the extreme heat. The Coroners Court of Australia also reported double the anticipated number of deaths during this period.
11. These research findings are corroborated by a review of EMR calls attended by the former MFB within the Metropolitan District (MD) over this period. In the year before the January 2014 heatwave, the average number of EMR attended calls was 11.9 per day. These calls more than doubled over the heatwave period (25.7 calls per day), peaking at 49 calls on 17 January 2014.



12. In addition to the relevant datasets for risk assessment presented by [REDACTED], Fire Rescue Victoria suggests the use of data held by ESTA to better inform the analysis as what is reported and reflected in our data does not necessarily contain the additional/different information which is at times reported in the ESTA data. This dataset could shed light on resourcing levels and address data gaps impacted by industrial action or work bans.
13. Appendix A (page 11) of the Proposed Risk Assessment Methodology Discussion Paper defines risk as "the likelihood of damage/loss from the hazard". A structured session between Fire Rescue Victoria Executive Leadership Team and members of the Fire District Review Panel on 21 October 2021 included a discussion on the possibility of exploring risk from the perspective of savings generated by the successful or effective prevention and suppression of fire and associated economic loss. A field within AIRS contains information on dollar loss and the extent of property damage to reflect the consequence of fire. Additionally, the insurance industry may hold information on actual dollar loss although this is understood to reflect the extent of property damage and/or the cost to rebuild.
14. The Project Plan and Final Report of the *Economic Impact Assessment for Edmonton Fire Rescue Services* was provided to the Fire District Review Panel on 27 October 2021. The modelling used in this economic impact assessment provides an alternative approach to the "dollar lost perspective" by conducting a cost-benefit analysis focused on value saved or protected.

15. Figure B.1 (under Appendix B on page 12) depicts the role of risk and its derivatives in the changes to the Fire Rescue Victoria fire district boundaries. The flow chart commences with risk, but does not reflect the assessment of residual risk. It is not clear what the output of the process is intended to be. Should this flow chart be reversed so that risk is the main output? Alternatively, should Phase 4 be included to reflect the assessment of residual risk based on the effectiveness of risk reduction/mitigation actions in Phase 3?
16. Figure B.2 (under Appendix B on page 13) illustrates the proposed method for the quantitative assessment of risk profiles. Fire Rescue Victoria proposes changing the text within the brown box from “Suppression of hazard” to “Mitigation of hazard” to encompass non-fire risks.
17. Slide 7 of [REDACTED] presentation to the Fire Rescue Victoria Executive Leadership Team stated that “*risk models will be developed for each of the fire classifications.*” A collaborative approach to developing the risk models is preferred to ensure that the best available datasets and information are being utilised. For example, DELWP’s planning division produces Victoria in the future data, which is estimated population based on the latest ABS data and is used as a standard across Victorian Government and agencies. Fire Rescue Victoria and the Country Fire Authority partners with Environment Protection Authority to maintain a dataset of resource recovery sites that are involved in the transfer, recycling and disposal of waste.
18. For the purpose of aligning the Fire Rescue Victoria fire district review with the Commission on Fire Accreditation International (CFAI) accreditation process, Fire Rescue Victoria recommends the adoption of the following terminology and theoretical framework:
 - a. Risk is characterised or prioritised based on Consequence (x-axis) and Probability (y-axis) in order to categorise risk as Low, Medium, High, or Maximum Risk.
 - b. Use Consequence rather than Impact in the assessment of risk. The estimation of Consequence (Insignificant, Minor, Moderate, Major, or Catastrophic) could be based on factors such as life safety, property, economic impact, including environmental disruption/damage.
 - c. Impact may be more appropriate to be used in the context of understanding the impact of risks on the overall system of Fire Rescue Victoria’s capability and capacity to respond to the demand for our services. What decisions need to be made in relation to the placement (distribution and concentration) of our resources? How does this affect the reliability of our response performance?
19. Fire Rescue Victoria offers the following considerations for the risk assessment:
 - a. Fire Rescue Victoria’s role as a primary responder and an essential support responder for emergencies such as earthquake, storm damage, tsunami and flooding
 - b. The role of the State Emergency Management Plan in assigning responsibility for HazMat incidents across the state
 - c. How will the Fire District Review Panel assess the effectiveness of Fire Rescue Victoria’s current performance (in response time and outcome terms) in the context of available resources? Is there a gap in community risk and capacity to respond?
 - d. Will the Fire District Review Panel review response time data? If this is in scope, the granularity of data will need to be considered. For instance, when assessing the current service delivery of an area, Fire Rescue Victoria believes it is important to consider each agency individually as opposed to simply looking at overall customer service delivery. There are areas currently considered ‘Country Area of Victoria’ where the Country Fire Authority (CFA) is unable to meet the Service Delivery Standards yet they are met currently by Fire Rescue Victoria (FRV) from

existing locations. To simply assess overall customer service delivery will mask the areas where FRV already delivers the service either where the CFA is unable to or in a more timely manner than the CFA. Some examples are provided below to further illustrate this point:

- i. Former MFB appliance (PT26) arriving on scene first at an incident in CFA District 13, counting towards CFA response time data.
 - ii. Former CFA appliance (P88) arriving on scene first at an incident in CFA District 8, counting towards CFA response time data.
 - iii. Historical data of Traralgon Pumper (now P77) arriving on scene first at an incident in former CFA District 27 (now partly Fire Rescue Victoria area and partly CFA area), counting towards CFA response time data.
- e. How will the road network modelling consider future growth areas when they are currently not on the map?
- f. Which road modelling platform will be used? Which services modelling profile will be adopted to ensure consistency? (noting that FRV and CFA's current modelling are different in some key areas)
- g. Include vulnerable people in the integration of impact data in the modelling. A copy of the *Preventable Residential Fire Fatalities in Australia from July 2003 to June 2017* report was provided to the Fire District Review Panel on 26 October 2021. This report is drawn from 15 years of coronial records of preventable residential fire fatalities across Australia, and may assist in informing the Fire District Review Panel of vulnerabilities in the community related to residential fires.
- h. Include growth of multi-storey buildings in suburbia and major regional cities as a developing risk requiring more or different resources in the event of an emergency.
- i. Consider using the Index of Relative Socioeconomic Disadvantage (IRSD) as it is generally more robust than the Index of Relative Socioeconomic Advantage and Disadvantage (IRSAD) when modelling socioeconomic status.
- j. FRV suggests that in order to test or trial the proposed risk assessment methodology, a number of different environments should be utilised to ensure that the tools and methodology achieve a consistent outcome across different scenarios. FRV has classified these into five (5) categories, which provide the breadth of circumstances that the model may need to be applied to. FRV provides one or two examples of the locations that meet the description for the Fire District Review Panel's consideration and acknowledges that there may be other suitable areas that meet the same objective.
- i. New Growth (Urban growth areas that are rapidly expanding that stretch or overwhelm existing infrastructure and resources)
 - a. Armstrong Creek
 - b. Clyde North
 - ii. Old Growth (Urbanised areas that are well established and generally outer suburbs of Metropolitan Melbourne and generally include current CFA/FRV interface)
 - a. Lilydale / Mooroolbark / Chirnside Park area
 - b. Hampton Park / Lyndhurst / Dandenong South
 - iii. Islands (Islands of CFA area surrounded by FRV area)
 - a. Noble Park / Keysborough / Edithvale
 - b. Geelong West / Highton

- iv. Regional Areas (Parts of Regional centres which already have an FRV presence but also have urbanised areas that sit within CFA area)
 - a. Ballarat East / Mt Pleasant / Sebastapol
 - b. Kangaroo Flat / Eaglehawk / Maiden Gully
- v. Regional Areas (Major Regional centres where there is currently no FRV presence)
 - a. Bacchus Marsh
 - b. Wonthaggi

CHALLENGES

20. Following a recent review of FRV's incident data management, a proposed roadmap for systemic improvements is currently being drafted for the Executive Leadership Team to consider. The paper will include potential solutions and any additional resources that may be required to improve the accuracy and reliability of incident data to be used for the 2021-22 Annual Report, the fire district boundary review, accreditation, to name a few. Some of the issues identified included:
- a. Inadequate quality assurance processes
 - b. A siloed and reactive approach to data quality management
 - c. An absence of subject matter experts on end-to-end or life-cycle data management
 - d. Poor documentation of data systems and processes, including absence of data dictionaries and business rules
 - e. Incomplete or inaccurate reporting of FRV's incident data required under legislation, and poor data quality underpinning modelling of FRV's future needs
 - f. Inadequate analysis and reporting of FRV's incident data to inform prevention initiatives and risk assessments

STRATEGIC ADVISORY COMMITTEE

On 29 October 2021, FRV's Strategic Advisory Committee (SAC) provided its feedback and endorsement of the proposed risk assessment methodology via an email from [REDACTED] (then SAC Executive Support) to Fire District Review Panel Chair Valerie Callister PSM. A record of the email is provided below.

Following your email to the Chair of the FRV Strategic Advisory Committee (SAC) regarding the work of the Fire District Review Panel, the proposed risk methodology discussion paper has been forwarded to members of the SAC. The topic has also been added as an item on the next meeting agenda for the SAC at the end of November.

The SAC is supportive of the approach proposed in the discussion paper. Specifically, the SAC believes that regular timely (every 4 years) reviews of the district boundaries will ensure service provision matches future population growth, particularly across Peri-urban suburbs and Regional Victoria, and significant climate change impacts. COVID is a good example where we have seen unprecedented growth in population and planning applications for new residential and commercial investments that alter the supply and demand requirements.

The SAC identified that engagement with local government as well as DELWP is also important. To this end, SAC member [REDACTED], noted that you have also briefed local government CEOs.

The SAC looks forward to ongoing engagement with the work of the Fire District Review Panel.