# An Evaluation of the Street FireWise Community Education Program in the Blue Mountains, New South Wales.

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## Table of Contents

**Section One: Introduction** **3**
*Context* 3
*Methodology* 7

**Section Two: What is the existing SFW program logic?** **8**
*Hierarchy of Outcomes* 8
*Factors Affecting Outcomes* 11

**Section Three: A Program Theory Approach** **13**
*Examining The Intended Outcomes and Related Factors* 13
*Program Adaptation* 29
*The Community Education Group* 31
*A Broad-Based Approach* 32

**Section Four: Conclusion** **34**

**Bibliography** **36**

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## Section One – Introduction.

### Context

An approach from the Blue Mountains Rural Fire Service (RFS) for an evaluation of their Street FireWise community education program prompted its inclusion in Project C7 of the Bushfire CRC: Development of an Evaluation Framework for Community Safety Policy and Programs for Bushfire. The work is of mutual benefit to both parties, with the evaluation serving as a useful case study of a community education program in a high-risk area for the C7 team, whilst helping to assess whether Street FireWise has been achieving its intended outcomes over the past five years in the Blue Mountains. It is anticipated that the findings will help to shape the program over the next five years in line with the review of the Bushfire Risk Management Plan, which is currently taking place.

Studies of existing community education programs related to the risk from bushfires are vital in increasing the understanding of how various types of community education initiatives work in order to deliver more effective programs with desirable outcomes. There are several examples within the Australian context of assessments of specific programs, such as an evaluation of Victoria's Bushfire Blitz (Country Fire Authority, 2001). These studies have helped to highlight some of the ways in which key information can be imparted to residents in high bushfire risk areas that encourages them to become more prepared. They have also drawn attention to some of the many challenges faced by fire agencies in attempting to achieve their desired outcomes. This project offered the opportunity to add to this body of understanding and apply a particular approach to the evaluation which has been used widely in other spheres and which is an important component of the overall evaluation framework that Project C7 is developing.

*The Blue Mountains*

The City of the Blue Mountains is located to the west of Sydney and comprises of twenty-six settlements along the Great Western Highway and its hinterland, with a population of about seventy-seven thousand people. It

is an area of great diversity, not only in terms of its geography but also socially and demographically. The settlements range from isolated dwellings in a rural setting to established towns with a suburban design and function. Its proximity to Sydney means that there are a large percentage of city commuters residing in the region as well as less transient populations. A large amount of the properties have a bush interface with the national park and the topography contributes to the vulnerability of the area in the event of a bushfire. The fire history of the area has seen regular major fires affecting parts of the Blue Mountains. Most recently, in 2002, the Mt Hall Fire affected the central part of the district. It is estimated by the Blue Mountains RFS that about a quarter of the region's population live in high-risk areas.

*Street FireWise*

Given the vulnerability of a large section of the population to the risk of bushfires it is vital that communities have the necessary knowledge and awareness of the bushfire risk in the context of their region. Street FireWise is a community education program developed by the Blue Mountains Rural Fire Service (RFS) that seeks to address such issues through running meetings and delivering key messages about bushfires and bushfire safety. The program was piloted in 2000 and has run every fire season since. Initially it was called Bushfire Wise but was re-branded in 2004 as Street FireWise (SFW). For the purposes of this paper it is referred to as SFW throughout. A total of one hundred and two SFW meetings have taken place in the past five years and attendance records indicate that over one thousand residents have attended. Although it is worth bearing in mind that this figure is likely to be distorted by people who have been to more than one meeting either in a single year or over successive years.

The initial concept for SFW originated from the Bushfire Blitz street meeting program that had been developed by the Country Fire Authority (CFA) in Victoria. The format and content of the meetings have been considerably revised over the past five years in an attempt to make the program work more effectively in the context of the Blue Mountains. However, the basic premise of SFW remains similar. It involves local brigades targeting high-

risk communities at a very local level (e.g. one or two streets) and delivering a flexible scripted presentation to the residents with the opportunity for questions and interaction. The content is intended to be locally relevant and cover a range of issues and options available to people in order to help them deal with the bushfire risk more effectively.

*Background*

The SFW program is part of a broader suite of community education programs and activities run by the Blue Mountains RFS, both at a macro and micro level. Other initiatives include awareness campaigns through the media and talks at schools. These all come under the New South Wales RFS banner of FireWise. Much of the information, for example bushfire information brochures and leaflets, is developed at the state level and used accordingly in the Blue Mountains. There are also inter-agency initiatives, such as Community Fire Units, which add still further to the melting pot of programs under the community education banner. Clearly there are benefits and disadvantages with each of the various programs. For instance, whilst a media campaign helps to get key information to a wide audience, evidence suggests that in the context of increasing people's preparedness for bushfire such methods are ineffective (Robinson, 2003). Other far more intensive education formats such as the CFA's Community Fire Guard have been found to be much more successful in leading to appropriate behavioural change amongst participants (Boura, 1998). The drawback is that the program gets to a far smaller number of people and is resource intensive. Therefore, decisions had to be made by the Community Education Group of the Blue Mountains RFS[1] about how they could most effectively reach the appropriate audience and achieve the necessary intended outcomes.

The Community Education Group saw SFW as a way of bridging the macro and micro divides by bringing a very localised initiative to more of a 'mass' audience. In doing so it enables the local RFS brigades in the Blue Mountains to get the key messages about bushfire safety and preparedness to a relatively large number of residents but in a contextually appropriate

[1] A group comprising of volunteer representatives from many of the Blue Mountains RFS brigades who decide on the direction and policy of community education strategies in the region.

manner. Resource constraints and the disappointing take up of Community Fire Guard in the first couple of years of SFW meant that the Blue Mountains RFS did not persist with it. They determined that the local street meeting format was the best option in the Blue Mountains, given the resources available and the experiences of the first couple of years. It was also realised that the geographic enormity of some more remote parts of the region necessitated that not all meetings could be carried out on street corners. In these cases the Community Education Group adopted Community Meetings, which followed the same format and script as the Street Meetings but took place at a convenient local meeting point (such as the village hall or local brigade hall).

Therefore, SFW over time developed its own specific *modus operandi* and set of priorities. This is mainly focused on raising individual awareness of the bushfire risk and helping people to understand the value in greater self-reliance. The program is still very much evolving with variations of the program being devised by presenters and local brigade captains to better suit the specific contextual needs of their area. Yet a fundamental program logic does exist that underpins SFW and is central to the success or otherwise of the program.

*Program Logic / Program Theory*

The program logic details the hierarchy of outcomes for the SFW program ranging from the initial program outputs through to the ultimate outcome of sustainable preparedness in the form of a matrix. It also identifies assumptions corresponding to the outcomes that may affect their successful attainment (Funnell, 1997). It is a vital component in developing the program theory for this project as it can then be compared with the actual delivery of SFW as treatment to determine how effectively the program is being implemented and where any weaknesses in the program lie. Furthermore, it can then be used as the basis for exploring the causal processes that lead to the successful working of the program and identify the mechanisms that help to trigger the desired behavioural changes in the appropriate context (Rhodes and Odgers, 2003). A theory-based approach to evaluations has become increasingly popular as it provides a method that

helps people to "understand how and why a program works or fails to work" (Weiss, 1997). This realistic evaluation approach to the research can therefore help to determine which outcomes work, how and in what circumstances (Pawson and Tilley, 1997). The evaluation aims to achieve this by answering three main questions:

- What is the existing program logic?
- How is the program being implemented as a treatment?
- Has the program worked as planned and achieved the intended outcomes?

**Methodology**

A large amount of qualitative data was collected using semi-structured, face-to-face interviews with a range of people in the Blue Mountains. An interview schedule was used to guide the conversation but where interesting and useful points emerged these were pursued further. Brigade captains, SFW presenters and residents from a cross-spectrum of the twenty-six townships and villages that make up the Blue Mountains were interviewed. In addition, discussions took place with key members of the Blue Mountains RFS Community Education Group to further elucidate aspects of the program. A range of resources provided by the Blue Mountains RFS were also utilised, such as the findings of the report into the pilot program, to add additional insights and rigour to the research. Qualitative data analysis techniques were then utilised to identify the key themes in the responses. The data was reduced to a series of matrices and summaries and then combined to provide an analysis incorporating various perspectives on key aspects of the evaluation questions.

## Section Two – What is the existing SFW program logic?

### Hierarchy of Outcomes

As has already been alluded to in the introduction, SFW evolved out of a gradual refinement of the CFA's Bushfire Blitz program into a contextually specific treatment for residents in high-risk areas of the Blue Mountains. In examining the program theory that has developed out of this process, the key outcomes of the program need to be determined. These outcomes range from the initial outputs, without which any of the proceeding targets can be reached, through to the ultimate objectives of the program. Through discussions with the Blue Mountains RFS, eight main outcomes were identified as being the essence of the program divided into three sub-groups: initial outcomes, intermediate outcomes, and ultimate outcomes.

*Initial Outcomes*

The initial outcomes are those that are prerequisite to the program treatment successfully leading to the desired behavioural change. Therefore, in order for residents to be able to participate, the local brigades must be willing to run the program and understand the benefit in doing so. Further, they must be able to target the high-risk communities in order to deliver the meetings in the appropriate context. Once this outcome is achieved then it is vital that residents are made aware that a meeting is taking place in their street/locality and that they are sufficiently motivated to attend. Once this is achieved the local brigade has a captive audience to whom the key messages can be delivered. The third and final outcome in the initial sub-group is that the presentation is delivered in a manner that the residents react positively to. In other words, a positive learning environment needs to be achieved.

*Intermediate Outcomes*

The three elements that constitute the intermediate outcomes build on the successful delivery of the preceding outcomes. Thus, for residents to gain an increased awareness and understanding of the bushfire risk in their particular context they need to have gained a positive experience from the meeting. Whilst to some degree this outcome can be achieved within the

context of the meeting, it is only the start of the process. Attendees then need to go away from the meeting and think hard about how it applies to their particular situation. Preparedness is not a simple concept of either being prepared or not and neither is it a continuum of gradually increasing preparedness. What is right for one family in one particular place is likely to be very different to what is right for another family. Therefore, the SFW meeting needs to provide the attendees with the information they need to go away and prepare in a manner, which is suitable to them. This leads to the second of the intermediate outcomes, using the information gained and contextualised to their specific requirements to then develop an appropriate bushfire plan, decide whether to stay or go in the event of a bushfire, and to adopt appropriate preparedness activities. In short, people are empowered to become more self-reliant in the event of a bushfire. Attendees of SFW meetings will be at different stages of this process so the presentation needs to trigger the appropriate mechanisms in different people. For instance, a family may already have a bushfire plan in place, but in light of their new level of understanding they may need to reconsider their plan.

Thirdly, as people use their improved knowledge and understanding to adopt a more appropriate strategy they may see the value in some collective action by forming neighbourhood networks. While Community Fire Guard has not worked in the Blue Mountains per se, it is still recognised that groups of people working together in less formal groups has its benefits in terms of achieving a higher level of preparedness.

*Ultimate Outcomes*

Sustainable preparedness and community self-reliance are higher order outcomes, which certainly have a longer-term focus. By building on the successful achievement of the intermediate outcomes it may be possible to develop a culture of preparedness amongst high-risk communities, which would see communities working in partnership with the local brigades to achieve the ultimate desired outcome, a reduced impact from bushfires on communities in the Blue Mountains. Essentially this comes down to fewer people losing their lives and livelihoods as a result of bushfires. These

ultimate outcomes may also need other interventions and treatments to be activated in order for them to be successfully achieved. SFW can realistically be expected to achieve the initial and intermediate outcomes but by itself would be ineffective at leading to the ultimate goals. However, given time and the right environment, the SFW program could be an important aspect of the move towards these higher-level outcomes. There would even be some conjecture about the likelihood of SFW in itself being able to achieve the desired formation of neighbourhood networks. Thus, in many cases this could also be viewed as a longer term outcome that is encouraged in conjunction with other community education initiatives and wider social change.

Of course, there is a considerable amount of blurring of the boundaries between the three sub-groups with elements of outcomes crossing over from initial to intermediate and from intermediate to ultimate and vice versa. Table 1, shows the three groups of outcomes and attempts to demonstrate this blurring of one group into another by overlapping one group of outcomes into the next. Note that, as appears to be the norm with representations of outcomes hierarchies, the information needs to be read from the bottom upwards.

**Table 1: Hierarchy of Outcomes for SFW**

| | | |
|---|---|---|
| Ultimate Outcomes | *A reduced impact from bushfires on communities in the Blue Mountains (fewer houses and lives lost).*<br><br>*[Formation of neighbourhood networks.]* | *Longer* |
| Intermediate Outcomes | *Residents use awareness and understanding to develop a realistic survival plan, decide whether to stay and actively defend or leave early, and adopt appropriate preparations around their property. i.e. they become more self-reliant.*<br><br>*Residents gain an increased awareness and understanding of bushfire risk and how it applies to their own specific context.* | |
| Initial Outcomes | *SFW meetings are positively received by residents.*<br><br>*Targeted residents hear about meeting, are motivated to attend and do so.* | *Short Term* |
| | *Brigades must actively participate in SFW by targeting high-risk communities and running meetings.* | |

Outcome six (formation of neighbourhood networks) is in brackets as this was originally a formalised part of the intended outcomes with Community Fireguard groups. It is no longer an aim of the program for the reasons outlined in Section One. However, in a more informal way, this is still identified by some as being a desirable outcome that can be developed through SFW and hence its inclusion in the matrix.

**Factors Affecting Outcomes**

For each of the outcomes in the hierarchy to be achieved there are a range of factors that must come in to play. These factors affect the degree to which the outcomes can be successfully achieved. Many of the factors are within the control of the program, whilst others fall outside the control of the program. The extent to which the factors impact on the outcomes also varies, some are absolutely imperative whilst others are not as critical but do make the overall attainment easier. In effect they are a series of logical underlying assumptions that, when combined, facilitate the effective delivery of the SFW program. Table 2 shows the hierarchy of outcomes with their corresponding influencing factors. It soon becomes apparent that a complex range of factors impact on the ability to achieve the desired outcomes at the various stages of the program.

Following on from Table 2, Section Three begins to explore each of these intended outcomes in more depth by breaking each of them down into their associated factors. In doing so it helps to assess the extent to which the outcomes are being achieved within the context of the Blue Mountains and the precise ways in which this is occurring.

## Table 2: Factors Affecting Hierarchy of Outcomes

| | | |
|---|---|---|
| Intermediate Outcomes | *Formation of neighbourhood networks.* | ➢ Availability of CFG in local brigade area.<br>➢ Sense of community.<br>➢ Level of community interaction. |
| | *Residents use awareness and understanding to develop a realistic survival plan, decide whether to stay and actively defend or leave early, and adopt appropriate preparations around their property. i.e. they become more self-reliant.* | ➢ Time, money and resources available to residents to undertake work.<br>➢ Ability to carry out necessary work.<br>➢ Motivational factors (e.g. peer influence, past experience, inspiration of new ideas).<br>➢ Support network.<br>➢ The triggering of mechanisms that enable people to reassess their decisions and capacity to respond to risk and that overcome mechanisms that limit capacity. |
| | *Residents gain an increased awareness and understanding of bushfire risk and how it applies to their own specific context.* | ➢ The ability of the presenter to convey the relevant information (in an interactive rather than didactic manner).<br>➢ The ability of the resident to take on board the information.<br>➢ The ability of the presenter to utilise local features. |
| Initial Outcomes | *SFW meetings are positively received by residents.* | ➢ Atmosphere is conducive to learning.<br>➢ Quality of presentation.<br>➢ Content of meeting and quality of the script followed.<br>➢ Presenter provides positive and clear messages.<br>➢ Messages strike a chord with residents. |
| | *Targeted residents hear about meeting, are motivated to attend and do so.* | ➢ Adequate provision of information about meetings.<br>➢ Timing of meeting convenient to the majority of residents.<br>➢ Credibility of the local brigades.<br>➢ People have a basic appreciation that there is a bushfire risk in the area. |
| | *Brigades must actively participate in SFW by targeting high-risk communities and running meetings.* | ➢ Local brigade is willing and/or able to participate.<br>➢ Volunteers understand and recognise the benefit of SFW treatment.<br>➢ The capacity of brigades to identify clearly the high-risk areas.<br>➢ Availability of appropriately skilled presenters. |

## Section Three – A program theory approach.

### Examining the Intended Outcomes and Related Factors.

### Brigades must actively participate in SFW by targeting high-risk communities and running meetings.

*Local brigade is willing and/or able to participate.*

Levels of participation in SFW amongst the twenty-one brigades in the Blue Mountains district do vary considerably. Some brigades are heavily involved, and have been since its inception in 2000. These brigades are normally characterised by having personnel who are heavily involved with the Community Education Group. There tends to be a fairly strong community education ethos within the brigade and someone who is willing to facilitate SFW taking place. Whereas, there are some brigades who have very little involvement in the program at all. Most of the less active areas have had at least one meeting in the past five years but nothing since. These brigades tend to be characterised by not having an individual who is involved in community education and therefore there is less drive in that direction. Therefore, a situation has emerged where about half the brigades are "active" deliverers of SFW whilst nearly all brigade areas have been exposed to SFW once. Given the relatively limited budget and resources available to the Community Education Group it is natural that the main focus should be on those brigades who are willing to participate fully.

The uptake of SFW by local brigades in the Blue Mountains can be put into four main categories:

1. Brigades that have adopted the program and stick to it closely.
2. Brigades that have adopted the program but have added elements to it.
3. Brigades that have not adopted the program but still have community education initiatives.
4. Brigades that have not adopted the program and have minimal involvement with community education.

There also appears to be a fairly clear geographic distinction between areas where SFW has become established and areas where it has had less success. In general terms, small/medium sized settlements in the middle region of the Blue Mountains have had the biggest uptake. The upper and lower Blue Mountains regions have had greater difficulties with implementing SFW. The challenges in the upper Blue Mountains have been the isolated and spread out rural communities, which make a street meeting format unsuitable. Meanwhile in the lower Blue Mountains, the settlements are considerably larger in size and much more suburban, and once again SFW has not had a great deal of delivery in these areas. Therefore, it appears that geography is a major contextual factor in the success of SFW in the Blue Mountains.

*Volunteers understand and recognise the benefit of SFW.*

Levels of understanding and recognition of the efficacy of SFW tends to correlate with the willingness of a brigade to participate. Brigade captains and presenters spoken to both indicated that they had, in general, good support from their local brigade. They acknowledged that not every brigade member got behind it but that the majority were acceptant of its importance and would be present at meetings if required. Some noted that due to the high workload, SFW was not always a high priority. However, there also tended to be the opinion that there are sufficient committed volunteers not to have to force those who are less interested into doing so. There was also the general impression that SFW in active brigades was gradually seeping into the culture and being more widely accepted. Wider issues of decline in volunteerism were mentioned which were related to a dissipating sense of community and the effect this is having on volunteers seeing the benefit in the SFW program. In addition, it was suggested that more direction at the district level could help to get the right personnel in place.

*The capacity of brigades to identify clearly the high-risk areas.*

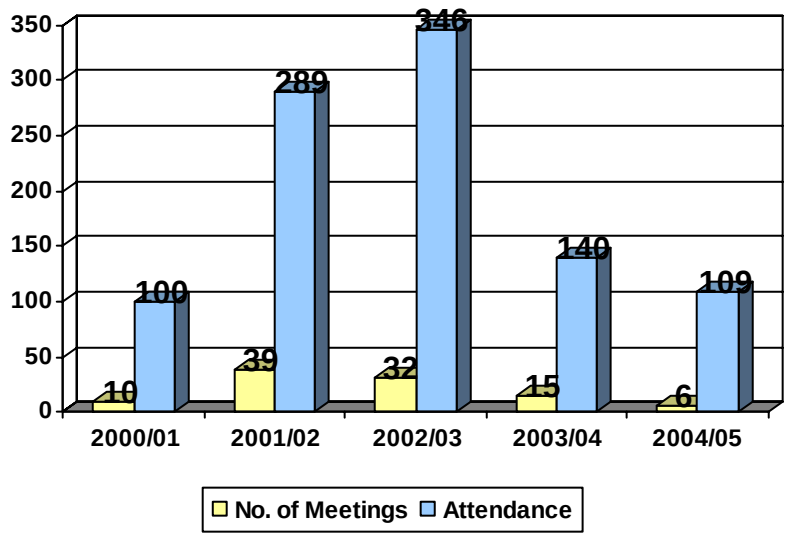
There is a very large population exposed to a high-level of risk from bushfires in the Blue Mountains. The ability to target those areas which are most vulnerable and in need of the SFW program is vital given the limited

capacity to deliver the treatment. The utilisation of the Risk Management Plan and local maps are the stock methods of identifying the streets to target. However, there was also an emphasis on using local knowledge to influence where the meetings are held. This might be based on event history, for example, concentrating efforts at streets on the side of the highway that has not experienced a fire for several years and where there has been a large build up of ground fuel. Some of the most active brigades have now covered the majority of the vulnerable streets they have targeted and are therefore beginning to return for second meetings. This is an interesting and important stage of the program. The experiences of street meeting programs run by the CFA in Victoria appear to suggest that people, who have attended street meetings on more than one occasion over a few years, tend to be more likely to be better prepared. It is worth considering that the Blue Mountains region, particularly the larger suburban towns, have a fairly transient population with a large number of new residents moving into established streets and new developments. This has implications for new high-risk areas being created, especially as newcomers may be more vulnerable to the risk posed by bushfires. The net result of this is the need to constantly re-evaluate where the vulnerable communities are located.

A target for the number of meetings to be delivered was originally set but has been done away with in recent years. Meetings are now delivered at the local brigade captain's discretion. Several factors influence the decision of when and how many meetings will be delivered. In addition, the severity of the fire season and involvement of brigade personnel in the Blue Mountains and elsewhere in the state influences the level of delivery possible. This highlights one issue with a reliance on presenters who are active bush fire-fighters. Although it can be overcome by holding meetings earlier on in the year, prior to the main fire season. This has been an increasing trend with SFW in the past few years suggesting that the Community Education Group is being able to identify particular issues that affect the successful delivery of the SFW treatment and respond accordingly. However, in actual meeting numbers this is not entirely reflected. A further trend noted by several presenters and brigade captains was a move towards trying to provide

meetings on-demand from a street in their area. This demonstrates that positive feedback on meetings is getting out to the wider community from residents who have attended SFW which is encouraging. It also shows pleasing levels of community/agency interaction in some areas of the Blue Mountains. It was also evident that whilst district targets were no longer in place the local brigades had their own yearly target which they aimed for. Although actual delivery was in most cases somewhat lower. In fact overall delivery of meetings does appear to be a concern as Figure 1 demonstrates.

**Figure 1: Attendance and Meeting Delivery of SFW**




*The availability of appropriately skilled presenters.*

There are currently about twenty SFW presenters but quite a few of these do not actually deliver meetings with any regularity. A small core group of presenters has been developed from within the Community Education Group. Recruitment and retention are two areas that were identified as problematic. Recruitment has been described as ad hoc whilst there appears to be a fairly high turnover of presenters. It is also the case that it is not just about finding volunteers who are willing to be presenters, but finding ones with the appropriate skills and abilities. Nurturing and encouraging those who express an interest can prove successful but is not always as effective as more judicious selection of presenters.

There has not been a major focus on training and consequently most of the successful presenters draw heavily from professional expertise and skills gained from other facets of their lives. These presenters largely fall into two categories, those who are active operational RFS members and can draw extensively on their first-hand knowledge and experience. Secondly, those from the non-operational side of RFS but with a major interest in community education. The former makes up the majority of SFW presenters. All presenters are drawn from within the folds of the RFS and take part in a purely voluntary capacity. This is an interesting contrast to the CFA in Victoria, who has employed trained, summer personnel to present street meetings as part of the Fire Ready Victoria summer campaign. As touched upon already, delivery of SFW has been affected by several bad fire seasons that have seen brigades priorities shift to their operational duties. Whilst this is completely understandable and necessary, it does raise some important issues about the sustainability of treatments such as SFW when juggled with other aspects of RFS activity.

A couple of presenters noted that the burden of delivering too many meetings in a particular year was detrimental to the overall meeting experience, as a lot of time and energy has to be invested in order to make it successful. Therefore, this highlights both an important issue in relying too heavily on a small pool of presenters and also the question of what the optimum number of meetings to hold in a year is. Further, it emphasises the challenges faced with the small presenter base that exists currently. Identifying people from inside local brigades with the appropriate skills and interests to pursue aspects of community education is essential for the long-term viability of such programs. It can also help to develop a change in brigade culture, where it has not already, in terms of making brigades more accepting of the importance of community education as major component of bushfire prevention.

**Targeted residents hear about meeting, are motivated to attend and do so.**

*Adequate provision of information about meetings.*

The marketing of the meetings to the general public is vital in getting residents to attend in the first place. Flyers, notices and word-of-mouth have all been employed for the SFW program. Brigades provide details of the meeting to the district office that then provide flyers which are delivered by the relevant brigade to the residents of the particular street. Many of the presenters and brigade captains found hand delivering the flyer to the resident as a far more effective strategy than simply leaving the flyer in the notice box. However, it was also noted that in close-knit communities where neighbours regularly spoke to each other, word-of-mouth was effective at gaining a good attendance at the meeting. This highlights the importance of notions such as peer influence as a trigger for getting people to attend SFW in the first place. The district office newsletter 'Heatbeat', which is also downloadable from their website, has also been used to advertise meetings. Therefore, a suite of methods for advertising and marketing of meetings has been adopted which is likely to provide maximum coverage to the public. Further work is also being done at the moment to make adjustments to the flyer which will help to make it more user-friendly and hopefully encourage more people to attend. It is widely felt that the more proactive brigades can be in encouraging residents to attend the meeting the more successful it will be.

*Timing of meeting convenient to the majority of residents.*

Meetings, by and large, are held at weekends with Saturday the preferred day. Brigade captains did mention the difficulty of fitting the meetings in with other commitments such as hazard reduction burns and other operational matters. Other restrictions also mentioned were the availability of presenters and the community education trailers, which are utilised at each meeting.

Many of the presenters and brigade captains reported that a major challenge was getting people to attend in the first place. Here, perhaps there is a greater need to explore a wider range of methods. For instance, utilising existing opportunities when groups do engage with each other to promote and deliver such treatments or advertise for them (i.e. targeting specific events, social groups etc.)

*Credibility of local brigades.*

Given the array of demands and pressures on the time of the general public it must be recognised that people have to feel motivated to attend a SFW meeting. In order for this to be the case there needs to be some level of recognition of the importance of the bushfire risk and how it impacts upon their life. It has already been mentioned that peer influence may play an important role here, but increasing numbers of people are less and less connected with their community. Therefore, this cannot be relied on solely as the method to secure people's attendance. Most likely a combination of factors will come into play that may also include the credibility of the local brigade. Local brigades have traditionally played a very big role in their community and continue to do so to some degree. Here a big distinction can be drawn between some brigade areas in the Blue Mountains where brigades still have a very central part in community life and other more suburban areas where different priorities have possibly superseded this. However, residents in general commented on the importance of the information coming from a credible source in order for them to be motivated to attend SFW meetings. This credibility appears in most cases to stem from first hand experience of the local brigade.

*People have a basic appreciation that there is a bushfire risk in the area.*

Different people view the bushfire risk in the area through varying perceptual filters. As the assessment forms collected from the attendees of meetings in 2003/04 and 2004/05 indicated, the vast majority (90%) perceived the fire risk as very high. If they had not perceived the risk to be this great then they would have been less likely to attend the meeting in the first place. A basic awareness of the surroundings one lives in seems to be fairly evident but it not always apparent. As previously mentioned there

is a large turnover in the population, especially in the more populous areas of the Blue Mountains. Some of the more established towns have a very suburban feel to them, even in areas that would be classified as high-risk. Consequently, there may be some residents who are not switched on to the potential threat posed by fire or who may have misconceptions about what can be done to mitigate the danger. For instance, people may have the fatalistic opinion that there's nothing one can do about it and therefore why attend a meeting when they have other pressing matters to deal with? This could stem from certain media portrayals of bushfires which engender such attitudes. Furthermore, on a day-to-day basis bushfires are fairly low on someone's risk radar. Therefore, the recognition that bushfires are a threat in the Blue Mountains to a large percentage of the population and that there are positive steps that can be taken to alleviate some of the danger are, in effect, precursors to someone deciding to attend a SFW meeting in the first place.

**SFW meetings are positively received by residents.**

*Atmosphere is conducive to learning.*

The ideal learning environment for SFW meetings is one which is very much a two-way process. This is far more effective than meetings where the information flow is very much one-way and there is limited or no interaction. There is always the danger that meetings fall into the trap of being didactic and this seriously undermines the likely attainment of the desired outcomes. Above all it goes contrary to the grain of engaging with the participants in reassessing their understanding of the bushfire risk and who they will respond to it. It was noted that several brigade captains were more comfortable with a more lecturing style of meeting, arguing that with the limited time available and the volume of information to relay it is simply not practical. However, it was widely acknowledges by presenters that there was a need to engage with the participants and involve them as much as possible.

*Quality of presentation.*

The way in which the information is disseminated to the audience and the manner in which this is done are both vital in ensuring the meeting is both interactive and effective at encouraging people to reassess their decisions vis a vis bushfires. This is where it is vital that presenters can deliver in a succinct and professional manner the information and at the same time get the audience interacting and participating. Residents who had attended SFW meetings indicated that presenters who managed to stimulate a lot of discussion of the issues both at the meeting and subsequent to it were clearly engaging the participants in the appropriate way. Quality of the presentation also goes some way to adding to the credibility of the source. It was noted that the utilisation of the community education trailers helped to enhance the learning environment for participants and assisted the presenters in delivering their presentation.

*Content of meeting and quality of the script followed.*

The script used has been evolving over the first five years of SFW in the Blue Mountains. As mentioned in the introduction, it was originally a modified version of the CFA's Bushfire Blitz script. However, since then it has changed considerably to become much more relevant to the local area. This process has very much involved the active presenters amending discussing issues at the Community Education Group meetings and deciding on how to improve it. Therefore, a lot of first hand experience of the particular communities in the Blue Mountains has gone into it. This is vitally important in making the content of the script as locally relevant as possible. All presenters use script that cover the same major components but is locally relevant where applicable, which ensures a good level of consistency in the messages being delivered. However, this is provided all the key messages in the script are covered.

An interesting point to note is that there has not been much in the way of monitoring of the meetings in terms of how they are being delivered and whether the key messages of the script are being stuck to or deviations

being made. Therefore, without such quality control it is harder to assess just how effectively the meeting is being delivered.

*Presenter provides positive and clear messages.*

Positive reinforcement is another important mechanism that triggers an appropriate response from some sections of the public. There is a clear logic here that by encouraging people and helping them to understand that they can do something about the safety of their property and family in the event of a bushfire, they will feel more empowered to do so. On the other hand negative messages and general scare tactics are less likely to encourage people to make the necessary preparations and changes. It is also very important that messages are clear and not too complicated with excessive detail. People's capacity to take in and utilise a large amount of information varies, particularly for residents who are not very aware of the bushfire risk. Consequently the focus needs to be very much on the key pieces of information that lead a fuller understanding of the bushfire risk.

**Residents gain an increased awareness and understanding of bushfire risk and how it applies to their own specific context.**

*The ability of the presenter to convey the relevant information, the ability of the resident to take on board the information, and the ability of the presenter to utilise local features.*

All three of the factors related to this outcome build on the previous one. The SFW meeting is designed to be a major drive towards an increased awareness and understanding of the bushfire risk for participants. It needs to build upon the existing knowledge that residents have, changing misconceptions where they arise. It should also help to contextualise the issues in the local framework and give participants a broader understanding of how they can make a difference in bushfire risk mitigation. A clearer understanding of the role and priority of the local brigade should also be an outcome, as well as how communities and agencies can work more closely.

The level to which this is all achieved is very much related to the context the meeting is delivered in and the mechanism at work. Some of these have already been alluded to and include: sense of responsibility, positive reinforcement, recent experience, credibility of source, peer influence and inspiration of new ideas. Each of these can help to trigger the relevant actions by participants. In this case assessing the new information they have received and how it applies to their specific situation. For instance, consider a family who prior to the meeting had planned to leave if a fire threatened. This decision had largely been based on the misconception that they could not save their property. However, the new information they received at the meeting resulted in them gaining a better understanding of bushfire behaviour and realising that it is possible, given the right preparation, to defend their property. Therefore, staying was now a possibility open to them.

**Residents use awareness and understanding to develop a realistic survival plan, decide whether to stay and actively defend or leave early, and adopt appropriate preparations around their property. i.e. they start to become more self-reliant.**

The SFW treatment should not be regarded as a one-stop-shop. In many ways, it is a starting point for reassessment or refinement of individuals' existing bushfire plans and preparations. Even when an individual does not have an explicit plan in place, most have some idea in their head of what they might do. Likewise with planning most people do prior to attending a SFW have some measures in place that equate to a level of preparedness, whether these are incidental or deliberate. The SFW treatment therefore enables people to re-examine what they are already doing and what they need to do in the future to develop a more realistic survival plan, to make a more informed decision about staying or going, and to determine what other preparedness measures need be adopted. This is not all decided upon in the space of a ninety-minute meeting. People, given the correct information, need to go away and think about what is best for them to do. They may need to discuss the ideas with their families, neighbours and/or members of the local brigade in order to come to an informed decision. It

therefore helps to empower the local residents with the information they need to be more self-reliant. However, there are a range of factors that impact on the ability of individuals to move towards this outcome.

*Time, money and resources available to residents to undertake work.*

People's capacity to utilise their new level of knowledge and understanding of bushfire risk may be restricted by a lack of time, money and resources. Whilst hopefully most people can spend the time preparing a suitable bushfire plan and making an informed decision about 'stay or go', the time, money and resources available to residents for preparedness activities varies considerably. In the context of the Blue Mountains capacity issues do seem to relate to the different areas of the region, with varying socio-economic levels and demographics playing a part.

*Ability to carry out the necessary work.*

It is not just time and financial constraints that might impact on the ability to carry out the necessary preparedness activities. Elderly or single occupants may not be able to cope with all the work that needs to be done on a bush property. It was also mentioned that the Blue Mountains had a high number of 'weekenders' who do not live on their properties the whole time, this can further complicate preparing a property and engaging in the SFW program in the first place. Several residents and brigade members mentioned it as a cause for concern.

*Motivational factors (e.g. peer influence, past experience, inspiration of new ideas).*

Here, once again, the importance of motivational triggers in particular contexts is demonstrated. Preparedness does not only consist of reassessing existing strategies and seeing how the can be improved, it also involves adopting totally new ideas. Inspiration of ideas is therefore another important mechanism that appears to be most influential in the context of people who are keen to know more but are currently at a fairly low level of preparedness. In these cases, ideas such as developing a written bushfire plan are often taken on board and adopted. Peer influence is yet another mechanism that may be triggered especially in relatively active

communities. One of the major advantages of street meetings as a program treatment is that it brings together neighbours, who may or may not have strong ties and networks, into a forum of discussion about bushfire risk. In some cases the enthusiasm or level of preparedness of some may have a positive effect on encouraging others to follow suit.

Clearly those who have experienced a recent bushfire, either directly or indirectly, could be more inclined to want to become better prepared and to develop a more detailed bushfire survival plan. Their understanding of the value of such measures is likely to be heightened and consequently people in this context are more likely to take an increased understanding of bushfire risk, reappraise their situation, and actively do something about it.

*Support network.*

This factor links in with several others in that where a support network does exist it makes achieving the necessary preparedness measures more viable. Support network may be at a very micro-level, for instance within a family, or they may be in the local neighbourhood. Such support can encourage discussion and reassessment of bushfire risk and actions taken to mitigate it. It can also trigger mechanisms such as peer influence whereby several neighbours get together and help each other to prepare their properties. It can therefore help to increase the capacity of the individual to undertake the necessary planning and preparation and overcome some of the resource, time and money restrictions.

*The triggering of mechanisms that enable people to reassess their decisions and capacity to respond to risk, and that overcome mechanisms that limit capacity.*

There are mechanisms that SFW is designed to trigger that help to enable people to re-examine their decision making process. These have already been covered in some detail whilst examining several of the other antecedent factors. However, there are also a series of mechanisms that may sustain the problem and undermine the likelihood of intermediate outcomes in the hierarchy being achieved satisfactorily. Such mechanisms include denial, media, social norms, apathy and limited capacity. The way in

which these appear to be overcome is by activating alternative mechanisms that enable people to reassess their decisions and ability to respond appropriately. Therefore, in varying contexts it may be more or less straightforward to trigger the appropriate mechanisms through the use of the SFW program.

**Formation of neighbourhood networks.**

*Availability of CFG in local brigade area.*

Whilst originally an intended outcome of the SFW program, referral to more intensive community education treatments such as Community Fireguard (CFG) was removed from the script after the first couple of years. It had not proved successful in the Blue Mountains either in terms of the initial take-up or sustainment of the groups which did emerge. Even in Woodford, where CFG had its greatest success, the program has moved away from the formalised structure and design to a more needs based, informalised approach. However, whilst encouraging the development of formalised CFG groups by the local brigades is no longer an intended outcome of the SFW program, there is evidence to suggest that less formal groups have been developing and in some cases had some facilitation from SFW presenters.

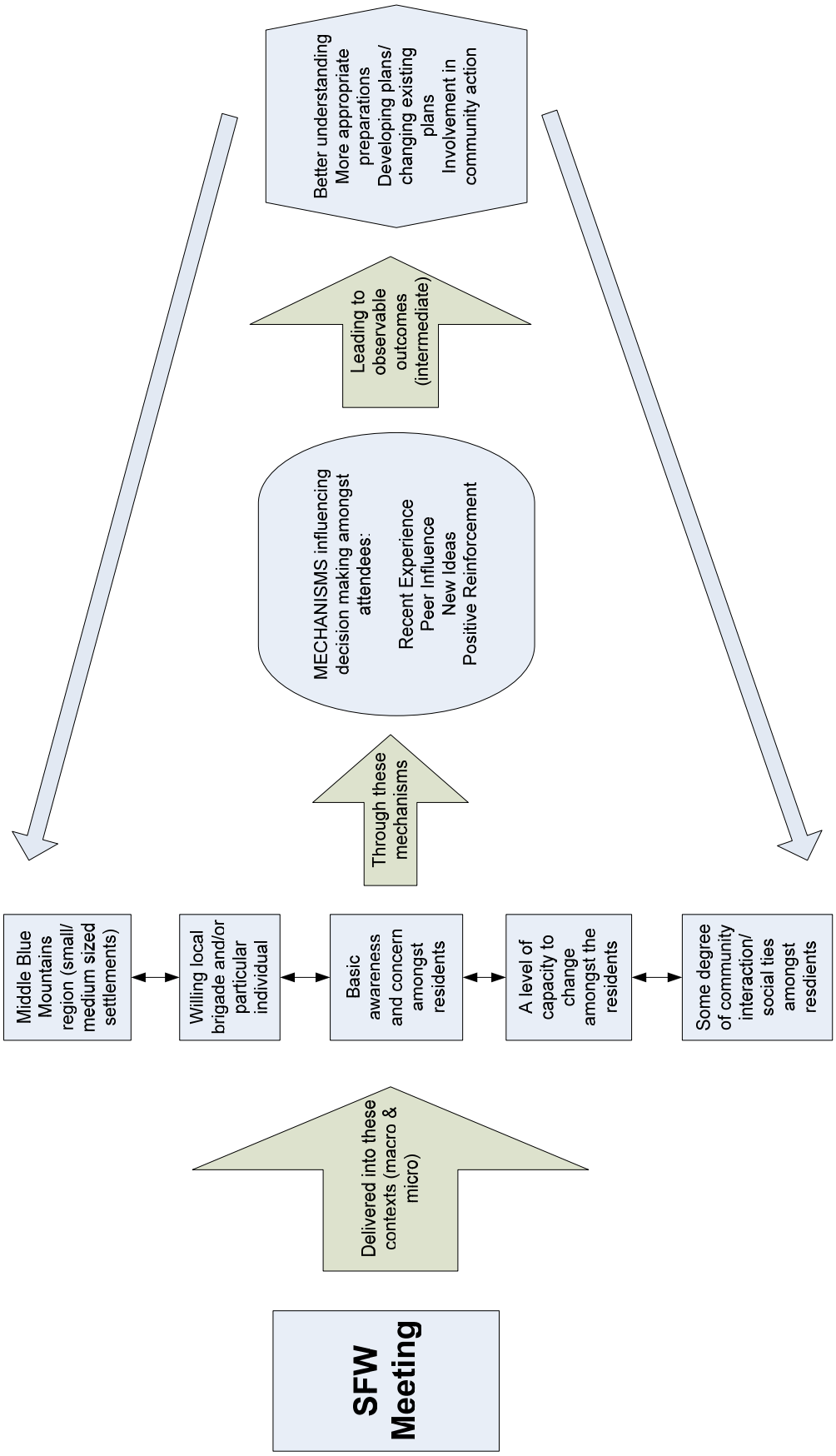
*Sense of community and level of community interaction.*

These two underlying factors are very much interrelated. A sense of community is very much determined by the level of interaction between individuals in the community. Where levels of community interaction are found there is likely to be more willingness and motivation for groups in the community to get together and undertake in preparedness activities collectively. In some instances, this appears to be in very informal ways such as organising a work bee prior to the bushfire season in order to clear fuel on their properties and bushfire trails. Whilst for others it may manifest itself in getting together to discuss preparedness issues at a neighbours home, which in some areas may be attended by a SFW presenter. Therefore, such community activities are far more likely to be made possible where a strong community ethos already exists. SFW, in the

appropriate contexts, can stimulate interest in the formation of such neighbourhood networks by providing the impetus and triggering mechanisms that encourage group activity. However, this can be seen as more of an unintended, albeit extremely positive, outcome of SFW in the Blue Mountains.

Therefore, having examined each of the outcomes and factors related to them, a picture of whether SFW is achieving its intended outcomes starts to become clear. In particular this process has helped to identify the contexts in which SFW operates successfully and some of the mechanisms that need to be triggered for the specific outcomes to be achieved. Where the treatment is being delivered, in the appropriate context, there is clear evidence from the interviews that it is having success. However, this is satisfying the community education needs (related to bushfire) of a relatively small area of the Blue Mountains. Figure 1, demonstrates that meeting numbers have dropped off as the uptake of the program has narrowed to a smaller number of brigades, predominantly in the 'middle' region of the Blue Mountains. At the same time the SFW program has been evolving in this district and can now be considered as more than simply street (or community) meetings. This is summarised in Figure 2 below.

**Figure 2: A summary of where and how SFW is working.**



The following final part of this section examines some of the wider outcomes of SFW, in terms of developing community education for bushfires in the Blue Mountains as a whole.

**Program Adaptation**

Adaptation of the SFW program by local brigades has occurred to varying extents where the street meeting format has been found to be unsuitable or where particular ways have been found to extend community education further. A question mark remains as to whether this is desirable or whether it undermines the program logic and prevents the treatment from working effectively. The answer appears to be a qualified yes and no. Adaptations from the program, especially in the contexts as highlighted in Figure 2 are detrimental to the successful attainment of the desired outcomes. However, there are also contexts in which SFW has been identified as not working properly. In these areas, there may be a need to change components of the program. Ultimately it depends on the type of adaptation that takes place, how it is done and what motivates the alteration. There are three main ways in which the delivery of the SFW program has been altered in the Blue Mountains.

1. Contextual change
2. Individual change
3. Program re-invention

Contextual change has occurred when the SFW program has been used with a slightly different emphasis, such as combining the street meeting format with hazard reduction, as has been utilised in Faulconbridge in the past couple of years. Individual change can be seen in places such as Woodford where a far greater emphasis on developing informal networks and groups has developed. Whilst program re-invention describes how community education has been transformed in the Mount Wilson/Mount Irvine area. Here the Firewise banner has remained but the format and content of the meeting considerably altered to be a more appropriate treatment for the residents of the area.

All three of the adaptations have taken place in proactive community education areas where individuals, or small groups within a brigade, have identified a way to enhance community involvement in bushfire preparedness and understanding in some way. Therefore, rather than detracting from the overall logic of SFW, the adaptations have sought to drive the program further forward. In the context of Faulconbridge and Woodford these adaptations run, to an extent, in parallel with SFW, often targeting residents who are already at a fairly high level of preparedness. They are also designed to help to bridge the gap towards the more ultimate outcomes, focused on great community involvement, sustainability and partnerships with brigades. These are two of the more successful areas in terms of delivery and achievement of SFW and its outcomes. Whereas in Mt. Wilson/Mt. Irvine the brigade found the concept of a street meeting impractical due to the remote nature of the settlements. However, they also had issues related to being such a small community but with about half the residents being 'weekenders'. In order to successfully introduce community education programs into this environment the brigade has targeted a variety of social events in the community and emphasised the value of joining the brigade with impressive results. Therefore, fostering community involvement has been at the heart of this approach and has worked in this remote part of the 'upper' Blue Mountains.

A concern emanating from program adaptation is that of the longer-term sustainability of the program. This can be particularly relevant when very specialised or individual changes are made which may rely heavily on a particular individual or set of experiences for the treatment to work. In this case the essence of the treatment has been tailored to the strengths and skills of a particular individual or small group who deliver a fairy unique program. There is always a danger that if this group or individual left the viability of the program may be jeopardised. Therefore, there are clearly issues related to succession planning that need to be addressed in order for the transition of adapted programs to be possible. Similar issues to do with succession also materialise for brigades following the SFW program more closely. However, by adapting the program and making it more specialised

the pool of people who could maintain it in the longer term is reduced. Interviews with the program adaptors were illuminating as the highlighted this particular concern of succession planning. One individual in particular freely admitted that they would be more than willing to let someone else take over the responsibility if such a person existed. Therefore, this is clearly a challenge for SFW and any modified community education programs in the Blue Mountains to address.

Despite the concerns about longer-term sustainability of adapted programs, overall the changes appear to be having fairly positive results. This is particularly the case amongst the more enlightened sectors of the general public. Those who already have an understanding about the bushfire risk but want to participate more. As such the adaptations do not run into conflict with the traditional street meetings but rather co-exist with SFW for a slightly different audience. The adaptations have also benefited from being able to utilise local expertise amongst the brigades and communities. This has had the result of leading to a greater partnership approach to community education in these areas.

Therefore, whilst the adaptations do pose some succession issues they have responded well to the specific needs of particular communities. This has either been through finding a better way to engage with a community on an ongoing basis (Mt Wilson/Mt Irvine), or being able to add a more empowering element (higher level outcome) to the approach by leading to the formation of local neighbourhood networks (Woodford), or being able to foster more of a partnership approach between the brigade and the community (Faulconbridge).

**The Community Education Group**

The introduction and development of the Community Education Group has been an important component in enabling SFW to evolve as a program. This is particularly evident in the context of program adaptation. It has enabled an increasingly bottom-up approach from local brigades who have seen the need to adapt the program to make community education more effective in

their area. It also appears to be a very useful forum for developing a broader community education strategy in the Blue Mountains by taking into consideration the various contexts and requirements found in the region. In the context of the program logic for SFW, the development of the Community Education Group could be seen as a very positive unintended outcome at a more macro level. It has certainly given a central focus to the issues of community education in the Blue Mountains but also enables the local brigade driven approach to the SFW program adopted of late to work more effectively.

At the same time, the Community Education Group has also managed to involve other agencies and stakeholders related to bushfire issues in their monthly discussions, thus emphasising a more holistic approach to the issues of bushfire risk education in the Blue Mountains. This is an encouraging development and is a positive step towards developing the sorts of processes that may lead to the higher-level outcomes being achieved. However, the development and on-going viability of this approach to community education has some drawbacks. That is, most notably, in terms of coordinating the various strategies and approaches to community education in an effective way.

**A Broad-Based Approach**

The delivery of a broad-based approach to community education in the Blue Mountains appears to be the most viable and successful in achieving the desired outcomes. Such an approach needs to comprise of both passive and active programs for a range of different contexts. It also needs to be carefully planned and targeted to utilise limited resources in the most effective manner and as such reach the widest possible audience. Whilst the programs, such as SFW, need to be specific and realistic in their focus, the overall delivery and composition of community education needs to be flexible in order to respond to changing and varying challenges that occur year on year. In this the Blue Mountains will be better prepared to react when if a context changes and this may open windows for more interactive approaches in previously apathetic areas. For example, being able to

respond with appropriate community education after a fire when awareness amongst locals is heightened. Or, after a series of passive approaches interest has been developed amongst residents to become more involved, and being able to harness this with appropriate interactive approaches.

## Section Four: Conclusion

Street FireWise has evolved considerably since its trial year five years ago, to the extent that it now encompasses much more than just street meetings. In terms of utilising the program theory/program logic approach in evaluating SFW it has been extremely useful in framing the project and identifying the intended outcomes of the program, the degree to which these outcomes are being achieved and the precise ways in which they occur. As such it is possible to conclude that within particular contexts SFW is achieving its intended outcomes, at least the initial and intermediate outcomes. Specifically within small and medium sized settlements (the 'middle' Blue Mountains), where some awareness is already present, a level of community interaction is evident, and participants have the necessary capacity (as Figure 2 illustrates). The mechanisms that are triggering the appropriate decision making processes and corresponding behavioural change amongst participants are varied but those that appear to be particularly strong include recent experience, peer influence, inspiration of new ideas and positive reinforcement. However, in the overall context of the Blue Mountains high-risk areas, this amounts to a fairly small niche success rather than widespread adoption, take-up and change.

In some areas where the context has varied, successful adaptations of the program are in evidence that, in part, build on SFW and also contribute to a move towards the higher-level outcomes being achieved in these areas (community networks etc.). However, SFW and successful adaptations appear to be a small but crucial part of a wider approach needed to achieve more pervasive success from community education programs in the Blue Mountains. As SFW has evolved over the past five years, individuals and the Community Education Group as a whole have started to realise the need for a more broad-based approach that is adaptable to the various needs of communities and towns in the Blue Mountains. Such a strategy offers a more bottom-up approach enabling local brigades and communities to have an input in formulating a community education approach that is suited to their particular environment. This may well be a street meeting treatment,

or it could be some other form of community education treatment that may then lead to more interactive approaches in the longer-term.

At the same time, this evaluation has shown that the SFW street meeting format does work in particular contexts within the Blue Mountains and efforts to enhance its use where it has been successful should be extremely beneficial. Most notably, utilising increasingly sophisticated risk assessment approaches to targeting vulnerable communities and returning to previously targeted streets for a second time. This latter point is particularly important in terms of assessing the context in which SFW appears to be most successful in leading to behavioural change. Especially in light of the perceived benefit of multiple attendances at street meetings and how this relates to preparedness levels (CFA, 2005). In a sense, SFW seems to be most effective at operating as a form of regular reassessment of bushfire risk and preparation amongst fairly active communities who might not want to commit to more intensive programs such as Community Fireguard.

Therefore, SFW is partially achieving its intended outcomes but a major additional aspect to emerge from the evaluation was the wider issue of community education in the Blue Mountains. From this assessment it is possible to conclude that SFW does have an important role to play in a broader-based approach but can only be expected to be successful in the contexts as emphasised in Figure 2. However, it certainly does have an important role to play in the future attainment of a more sustainable approach to bushfire community education in the Blue Mountains.

## Bibliography.

Blue Mountains Bushfire Management Committee (2000) *Bush Fire Risk Management Plan.* http://www.bluemountains.rfs.nsw.gov.au/secure/documents/BMRMP.pdf, accessed 14/02/2005.

Boura, J. (1998) *Community Fireguard: Creating Partnerships with the Community*. Australian Journal of Emergency Management, 13, pp. 59-64.

CFA (2001) Bushfire Blitz: An Evaluation of Program Implantation and Outcomes. Melbourne: Country Fire Authority. Unpublished.

CFA (2005) Fire Ready Victoria 2004/05: A Report on the Implementation of the Fire Ready Victoria Strategy. Melbourne: Country Fire Authority. Unpublished.

Cunningham, C. (1984) *Recurring Natural Fire Hazards: A Case Study of the Blue Mountains, New South Wales, Australia*. Applied Geography, 4, pp.5-27.

Cunningham, C. and Kelly, S. (2001) *Attrition of Community Knowledge of Bushfire Hazards: A Case Study of the Blue Mountains, New South Wales, Australia.* http://www.wsc.mass.edu/garp/faculty/sk/australia.htm, accessed 06/04/2005.

Funnell, S. (1997) *Program Logic: An Adaptable Tool for Designing and Evaluating Programs.* Evaluation News and Comment, July, pp. 5-17.

McClintock, C. (1990) *Evaluators as Applied Theorists.* Evaluation Practice, 11, 1, pp.1-12.

Pawson, R. and Tilley, N. (1997) Realistic Evaluation, London: Sage Publications.

Rhodes, A. and Odgers, P. (2003) Education for a Safer Community, Melbourne: Australasian Fire Authorities Council (AFAC).

Robinson, L. (2003) *Education for Resilience: A Community Safety Communication Model for Natural Hazards.* http://media.socialchange.net.au/people/les/Resilience_and_risk.pdf, accessed 06/04/2005.

Weiss, C. (1997) *Theory-Based Evaluation: Past, Present and Future. New Directions for Evaluation,* 76, pp. 41-55.