Community Risk Reduction Planning

A GUIDE FOR DEVELOPING A COMMUNITY RISK REDUCTION PLAN

Version 4

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Introduction

This document has been developed as a companion guide to *Community Risk Assessment, A Guide for Conducting a Community Risk Assessment.* The risk assessment guide has outlined methods for obtaining the data and information necessary to conduct a community risk assessment, along with the process for prioritizing identified risks. It addressed the first two planning components used to develop a *Community Risk Reduction* (CRR) plan: Step 1—Identify Risks, and Step 2—Prioritize Risks.

This guide will address the other four steps used develop and complete a final CRR plan. Although this guide will go into detail on CRR planning, it must be emphasized that a CRR plan need not be extremely complex or difficult to develop. The extent to which a fire department develops their plan will depend upon a variety of factors and available resources. For some departments, it may be starting with a simple plan that addresses the most common or obvious risks within a community. For others with access to more resources, a comprehensive plan may be developed.

Fire departments seeking accreditation through the *Center for Public Safety Excellence (CPSE), Commission on Fire Accreditation International (CFAI)*, will need to conduct a risk assessment or analysis that goes beyond what will be presented here. The CFAI requires a comprehensive risk analysis as part of the process for developing a *Standards of Cover* (SOC). The CFAI's *Fire & Emergency Service Self-Assessment Manual*[1] describes an inclusive 8-step process for assessment, and addresses planning elements such as defining an effective response force (ERF), fire station distribution, staffing, and apparatus to name a few. However, this guide can be used as a basis for beginning this process.

This guide will focus primarily on community risk, which is but one aspect of a complete SOC. Fire departments intending to develop an SOC should consult the CFAI manual as well as the National Fire Protection Association's (NFPA) standard, *NFPA 551: Guide for the Evaluation of Fire Risk Assessments*. Although targeted towards individual organizations and businesses, the *International Organization for Standardization* (ISO) has published a guide entitled, *Risk Management—Principles and Guidelines*,[2] which has some useful principles that can be applied to the process.

Community Risk Reduction

The *Vision 20/20 Project* defines CRR as *a process to identify and prioritize local risks, followed by the integrated and strategic investment of resources (emergency response and prevention) to reduce their occurrence and impact.*

When properly applied, CRR coordinates emergency operations with prevention and mitigation efforts throughout both the community and at the fire-station level. Involvement of operations personnel at the company level is critical for both gathering local risk data and performing activities necessary to implement the CRR plan.

CRR Benefits & Rationale

Aside from the obvious benefits to the community, a CRR plan can contribute positive impacts on the fire department. Foremost is improving firefighter and emergency responder safety and occupational health, along with reducing line-of-duty deaths (LODD). In addition, CRR enables fire departments to become more involved with the community, can contribute to improving their ISO rating, and help with those seeking accreditation.

In addition to firefighter safety, there are a number of other reasons why departments should begin the process of developing a CRR plan:

- The presence of new and emerging hazards.
- Declining budgets among fire departments and local governments.
- Community demographics are changing rapidly.
- High-risk residents tend to remain underserved.
- May avoid the potential ramifications of hazards that were ignored or not fully addressed.

In the United States, the fire service must begin to change its culture—particularly among the firefighters and officers assigned to emergency operations. CRR is not just fire prevention, nor solely the responsibility of prevention or life-safety division personnel within the fire department. Instead, all members have a role in community risk reduction. Changes in attitude and culture should start during the initial training of new personnel, and continue throughout their careers.

CRR Terminology

Community Risk Reduction utilizes specific terms and concepts of which many firefighters are not exposed, or are often misunderstood. It is important to understand these terms when developing a CRR plan.

- **CERT:** *Community Emergency Response Team*. A FEMA program that educates civilians about disaster preparedness for hazards that may affect their area, and trains them in basic disaster response skills.
- **ERF**: *Effective Response Force*. Minimum number of firefighters and equipment that must reach a specific emergency incident location within a maximum prescribed travel time.[1]
- **Hazard:** A natural or manmade source or cause of harm or difficulty. A hazard can be actual or potential. Known physical features that have the potential to cause negative impacts to life, property, and/or natural resources.
- **ISO:** Insurance Services Office. A source of information about property casualty insurance risk. The *ISO Public Protection Classification* program is designed to help establish fire insurance premiums for residential and commercial properties based in part on a community's fire protection services.
- **Loss:** Death, injury, property damage, or other adverse or unwelcome circumstance.
- **Mitigation:** An effort to reduce the impact and/or loss of something.
- **Prevention:** An action that stops something from happening.
- **Risk:** The potential that a chosen action, activity, or inactivity will lead to an undesirable outcome or loss.
- **Risk Management:** Coordinated activities to direct and control an organization or community with regard to risk.
- **Stakeholder:** Person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or activity.

Components of a CRR Plan

As described previously in the Risk Assessment Guide, CRR planning typically consists of a six-step approach. The final four steps in the planning continuum will be presented in this text. Current literature and CRR training materials promote this approach, but other organizations have developed alternative methods.

Figure 1: Six Steps of the CRR Planning Process

Identification & Prioritization

Once the assessment has been completed and the various community risks identified, and the priorities determined, the results should all have been documented for use in the remaining planning process. Such a document does not necessarily need to be complicated, but in a clear and concise format that enables the reader to understand the risks and those that should have the highest priority.

Develop Mitigation Strategies & Tactics

This part of the process requires brainstorming with a variety of individuals involved, including those most affected by the risk. Essentially, it will require difficult decisions to determine what tactics and strategies will be necessary to prevent and/or mitigate those risks with the highest priority.

Prepare the CRR Plan

Once the risks have been identified and prioritized, and strategies and tactics determined for prevention and mitigation, it will be necessary to develop a written plan. Ideally, the plan will consist of a several elements (discussed in detail later), but it need not be complicated if resources are limited.

Implement the CRR Plan

Implementing the plan usually involves several steps. The process should include timelines, which can be quick and focused or slow and methodical. Plan implementation may rely on the fire department, community partners or a combination of both.

Monitor, Evaluate & Modify the CRR Plan

The final step in the process involves monitoring and evaluating the effectiveness of the plan, and making adjustments as necessary. This enables the organization to determine if they are achieving their desired goals and/or if the plan is or is not having an impact. Ongoing monitoring allows for plan modifications in a timely manner.

Alternative CRR Planning Model

In its strategic plan for fiscal years 2014–2018, the *U.S. Fire Administration* (USFA) describes Goal 1 as: "*Reduce fire and life safety risk through preparedness, prevention and mitigation*."[3] In some of their Community Risk Reduction training courses, the *National Fire Academy* (NFA) uses a slightly different planning model than is shown in Figure 1. In this model, the process is comprised of five primary phases, with specific details described within each.

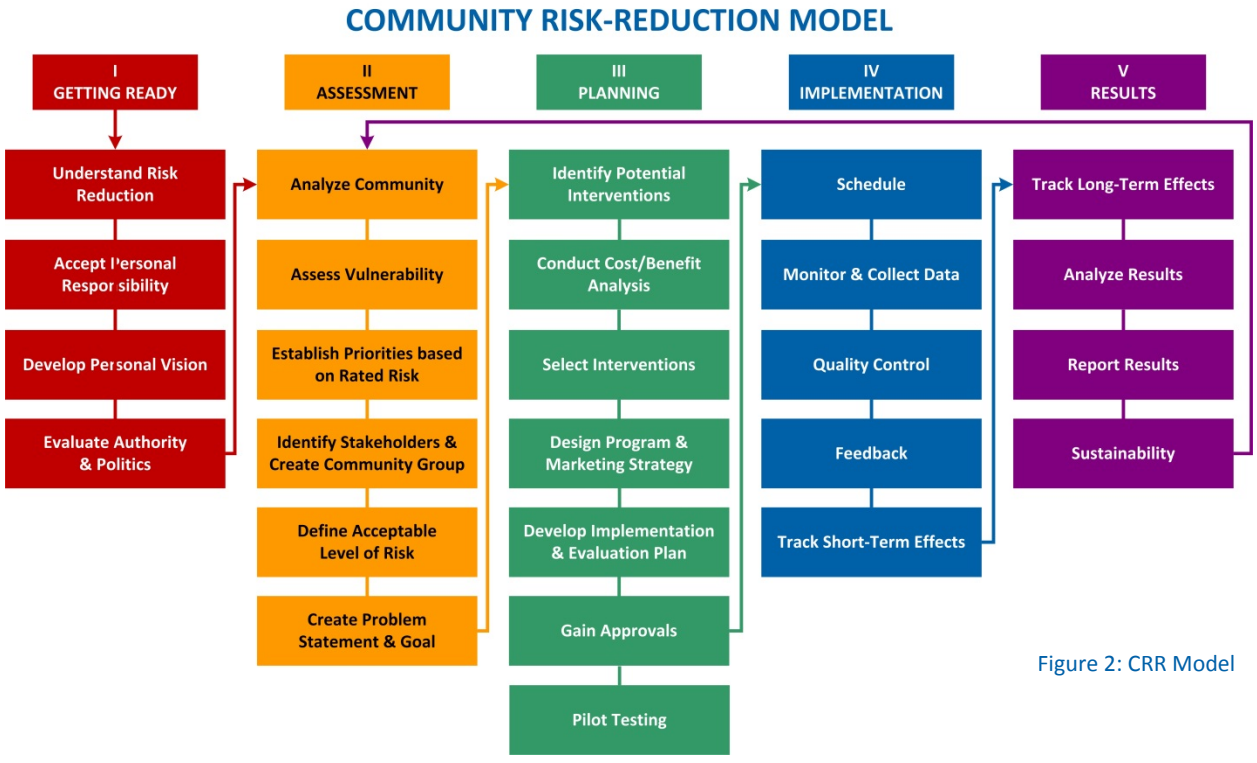


Figure 2: CRR Model

When compared to the process illustrated in Figure 1, the NFA model combines the "Develop Strategies & Tactics to Mitigate Risks" and the "Prepare the Community Risk Reduction Plan" phases into one process: "Planning" (see Appendix G for a complete version of the model).

The NFA model also lists anticipated outcomes for each of the five phases of the planning process. Figure 3 lists each of these in relation to their associated planning phase:

Figure 3: Anticipated Outcomes in Developing a CRR Plan

Planning Phase	Outcome
Phase I: Getting Ready	Champion of risk reduction
Phase II: Assessment	Community partnerships
Phase III: Planning	Strategic programs
Phase IV: Implementation	Engaged community
Phase V: Results	Improved quality of life

Fire departments and public safety agencies can decide which planning model, or combination of models, would work most effectively for their organization. Regardless of which model is used in the planning process, the results should ultimately be the same.

Planning Group Development

There are a number of benefits to developing a planning group or coalition. By establishing partnerships with key stakeholders, risk issues go beyond just a fire department problem, and ultimately involve the whole community. A good planning group brings in additional ideas, people, and resources that can contribute substantially to the process. The various tasks of developing a plan and implementing the solutions can be shared among the members of the group.

There are a couple of options to be considered when deciding to develop a coalition. After your community risk assessment has been completed, and the problems identified, you will need to determine which of the following options should be applied:

1. The planning group or coalition is invited to assist the fire department in determining the community risk priorities that should be addressed in the CRR plan, and then participates in the remaining processes.

2. Alternatively, after the fire department has identified and prioritized the community risks, the planning group is responsible for developing the mitigation strategies and tactics, as well as the plan implementation.

Whichever option you decide, will need to be determined by local resources and conditions.

Recruitment of CRR Coalition Members

When soliciting or recruiting for members of the coalition, the success of your program will depend on engaging the right mix of people and organizations, which have a genuine interest and desire to participate. Typically, there are two types of stakeholders:

1. Those involved in developing and implementing the CRR plan (e.g., sponsors, partners, community organizations, fire department staff, etc.).

2. Stakeholders served or affected by the CRR program (e.g., community residents, advocacy groups, elected or appointed officials, neighborhood associations, etc.).

Stakeholders served or affected by the program should reflect an accurate demographic representation of the community by:

- Gender
- Age
- Race/ethnicity
- Income
- Language
- Education
- Employment
- Sexual orientation

Including the right individuals and organizations in your coalition enables them to present their unique perspectives. This can also help to minimize or eliminate potential criticism or resistance to the program, which can occur when community members are not adequately represented in the process.

If you have identified the risks and priorities to present to potential group members, it will be important to have documented these, and to have created a clearly defined set of goals and objectives for the coalition (unless you have decided to have the group determine these). This is best put in writing, and should include at least:

- A prioritized description of the problems identified in the risk assessment.
- A list of the goals and objectives of the CRR coalition.
- Expectations and level of commitment desired from the members (e.g., frequency of meetings, etc.).

Appendix A, *"CRR Coalition Membership Prioritization Tool"* is a form designed to help prioritize which stakeholders should be included in a planning group. Not all of organizations and individuals listed need to be included in a CRR coalition. It is meant as a guide, and you may want to include representatives from other groups that may not be listed.

Barriers to Developing an Effective CRR Coalition

There can be common barriers and pitfalls in the development of a community risk reduction coalition. These may include, but are not necessarily limited to the following:

- Lack of leadership or a lead agency (schedules meetings, collects data, runs meetings, etc.).
- No defined time frames for achieving goals and objectives.
- Too many members (should be 10–12 or less).
- Lack of adequate meeting facilities, locations, and times.
- Inadequate support of members from their parent organizations.
- Lack of clearly defined goals and objectives.
- Inappropriate membership representation.
- Inadequate financial resources.
- No defined level of commitment of the participants.

Creating a CRR coalition is certainly not mandatory in the process of developing a CRR plan. Local resources may vary. However, involving community stakeholders may provide you with valuable resources and produce buy-in and support from influential community leaders and organizations.

The Lead Agency

Determining who will be the lead agency in the CRR planning process will be critical element of a successful program. Often, the fire department or some other public safety agency familiar with the community risks will take this responsibility. However, this does not necessarily have to be the case. Fire departments with limited staff and resources may want to approach another agency to take the lead, while they participate in a technical advisor or other capacity. The lead agency will also likely be the organization that prepares the plan.

Regardless of who the lead agency is, they must have sufficient capacity to accomplish the tasks required. The lead agency must have resources adequate to establish a time and location for meetings; staff capable of data collection and dissemination; and staff with the ability to maintain records of the group's meetings, actions, and other information.[4] Finally, consider appointing one individual as the "CRR Coordinator." This individual should be responsible for coordinating all the activities associated with implementing the plan.

STEP 3 Develop Mitigation Strategies & Tactics

At this point, you should have completed your risk assessment and determined the priorities in your community (Steps 1 and 2). So now, it is time to begin developing strategies and tactics that can prevent and/or mitigate the various risks.

Strategies & Tactics

The most effective risk-reduction strategies are those that apply a broad-based approach utilizing a combination of prevention and mitigation strategies. Multiple strategies can be applied to prevent or mitigate community risks.

For each risk identified, consider *who, what, when,* and *where*.

- Who is the audience of focus?
- What is happening when events occur?
- When are the events occurring?
- Where are the events occurring?

The *National Fire Academy* (NFA) promotes the use of the "Five E's," in which intervention strategies are listed in one of five different categories. Using multiple interventions can prevent incidents from occurring, and when prevention fails, can reduce or mitigate the impact of an event. Using a combination of the Five E's can produce a synergistic effect that is more effective than applying any one individual tactic. Ultimately, they can contribute to the development of comprehensive and effective solutions.

The "Five E's" of Prevention & Mitigation

Education

Education can influence behavior by increasing awareness, and providing information and knowledge with the intention of producing a desired behavior. Education is only effective if individuals apply this knowledge appropriately. Examples of educational interventions include:

- School curricula
- Fire station tours
- Lectures and slide presentations
- Door-to-door ; home visits
- Flyers and/or brochures
- Traditional advertisements/articles
- Assorted media (TV, social media)
- Websites (content and web tools)

There is a wide variety of different prevention programs and materials available for use in prevention education.

Engineering

Engineering applies to changes in the physical environment. Modifying a product or environment to prevent or mitigate injury, death, or destruction of property is an engineering tactic. Changes are often the result of advances in technology. Examples may include:

- Fire sprinklers
- Automobile air bags
- Helmets (bicycle & sport)
- Double-wall chimney flues
- Child car seats
- Fire sprinkler systems
- Smoke alarms
- Ground Fault Circuit Interrupter (GFCI)

Enforcement

Enforcement applies to reducing risks (hazards) through the legislative process of strengthening and adoption of applicable laws. This includes enforcing those laws through various inspection programs or methods, and, in some cases, imposing penalties for non-compliance. Examples of enforcement are fire and life-safety codes; requirements for fire sprinklers; and mandatory smoke alarm installation.

Economic Incentives

Economic incentives are offered to encourage or influence individuals and organizations to make certain choices or behave in specific ways. Incentives can influence behavior either negatively or positively. Negative economic incentives result in monetary punishment for "inappropriate" behavior or making certain choices. Fines, citations, and tickets are examples of negative incentives intended to discourage people from choosing unsafe behaviors.

Positive economic incentives reward people for behaving in a certain manner or making certain choices. Free smoke alarms are one example. Sales, coupons, and discounts are examples used to persuade people to do business. In one U.S. community, local government uses positive incentives by offering a one-time reduction in property taxes for retrofitting a home with a fire sprinkler system.

Emergency Response

Fire departments, EMS providers, and law enforcement agencies apply their emergency response capabilities to mitigate risk. A community's ability to provide adequate emergency services must be considered when developing a CRR plan. Simply, some risks can only be mitigated by enhancing current capabilities, or by adding new emergency response resources.

An effective emergency response can mitigate sudden injury and illness, save lives, and reduce or prevent property loss. An effective emergency response system will have sufficient personnel; sufficient equipment; adequate response times; and trained responders, to name a few. Scientific evidence indicates if fire department resources are deployed to match the risk levels, the community becomes less vulnerable to firefighter and civilian injuries and deaths, and property loss.

The appendix at the end of this guide contains a response-capability worksheet that can be used to assist in determining the personnel, equipment, and resources needed for a fire in a particular occupancy.

In disasters or other significant incidents, emergency services organizations may be overwhelmed by demands. In these instances, a well-organized and managed Community Emergency Response Team can be an effective resource.

Determining Effective Options

After you have identified and prioritized the risks to your community, organized a planning group or coalition, and understand the various strategies and tactics that can be applied, it will be necessary to determine which of these will be the most effective. Specific steps may be taken and considered in the process of developing which strategies and tactics will be utilized in your CRR plan.

1. Begin by brainstorming the various strategies that could potentially be applied towards risk reduction.
2. Develop a list of pros and cons, or some type of criteria to assess the various options.
3. Consider the feasibility and implications of each option. These should include:
    A. Political
    B. Financial
    C. Logistical
    D. Organizational
    E. Cultural.
4. Rank each of the strategies by order of importance and feasibility.
    A. Top-ranking strategies should have the highest degree of probable success, feasibility, and impact.
    B. Those with greater levels of agreement and enthusiasm among the planners should be ranked higher, as this can contribute to their success.

Essentially, you must select strategies and tactics that are not only feasible, but also effective in preventing or mitigating risks and hazards within the community. The following figure is an example of you might list those risks you have identified, and the mitigation strategies you will employ.

Figure 4: Example of Identified Risks & Mitigation Strategies

Identified Risks	Description of Strategies
Fires caused by smokers	• Effective Emergency Response Capabilities • A media and/or public education campaign designed to raise awareness for careful smoking habits and to change behaviors • Placement of proper smoking containers in apartment complexes to avoid disposal of smoking materials in planting material (containing cellulose) • Partner with community programs such as meals on wheels or public health visiting nurses to identify smokers for targeted outreach efforts • Legislation requiring distribution and/or use of proper smoking containers in multi-family housing • "Fire safe cigarettes" required by law
False alarms (generating excessive responses)	• Legislative requirements for alarm contractor competence and reporting • Enforcement of the legislative requirements • Education of contractors and businesses on how to reduce false alarms • New technologies designed to prevent false fire alarms • Relocate detectors
Elderly ground-level falls	• Education of target audiences to reduce falls hazards in their homes • Partnership with organizations to install fall protection devices (rails, stair lighting, etc.) in target audience homes

Home Safety Visits

Some or all of the Five E's can be applied within specific strategies. For example, home safety visits are a common strategy utilized by fire departments throughout the United States. How some of the Five E's might be applied in a home safety visit are:

- *Education:* Talk with residents about fire safety; develop and practice a home fire escape plan; discuss smoke alarm testing and maintenance; provide flyers and brochures; teach residents the proper way to extinguish a kitchen fire.
- *Engineering:* Test and install smoke alarms.
- *Enforcement:* Require smoke alarm legislation.
- *Economic Incentives:* Provide free smoke alarms; provide coupons and discounts from local merchants for safety related products.
- *Emergency Response:* Collect vital pre-plan information.

Many fire departments now carry smoke-alarm tool kits on each of their apparatus, so that firefighters can install them in residences or other locations as necessary.

Figure 5: Smoke Alarm Tool Kit

Courtesy Gwinnett Fire & Emergency Services

Home Safety Visit Referrals

Firefighters or other personnel can be trained to observe certain conditions during home safety visits, or on incident-responses to residents (depending on the nature of the call). They can provide information and referrals for specific circumstances. Examples might be:

- Aging services programs
- Fall prevention programs
- Transportation assistance
- Weatherization/energy assistance programs
- Disability programs
- Environmental health services
- Public health referral

The NFPA publishes a guide—*NFPA 1452: Guide for Training Fire Service Personnel to Conduct Community Risk Reduction*—that may be helpful for home-visit programs. Its purpose is to help fire departments design and implement of a CRR program for residential occupancies, as part of a community wide all hazards risk reduction program.

Other Strategies

There are numerous options for addressing community risks beyond home safety visits. They are only limited to your imagination and ability to implement them effectively. Strategies often utilized by many fire departments may include:

- Free services at fire stations or other locations
  - Blood pressure checks
  - Child car-seat installation assistance
  - Fire extinguisher training
  - Custom-fitted bicycle (or other) helmets by firefighters
- Development of pre-plans for all commercial structures
- Annual fire hydrant inspection program
- Self-inspection program for businesses

Example: The Merseyside Fire & Rescue Service CRR Strategy

Because of the substantial number of fire deaths and injuries in their community, Merseyside Fire & Rescue Service (MF&RS) in the United Kingdom made a commitment in 1999 to take steps to address this problem. MF&RS realized they needed to develop strategies to prevent and mitigate fires in their community, and that they had to go out and talk to the residents. A major aspect of their program was conducting home visits, with a goal of visiting every home in their community. The strategies included:

- Home visits conducted by fire service (firefighters) or advocates
- Installing free smoke alarms
- Completion of home-safety surveys
- Referring residents to needed health & social services
- The use of community advocates for special populations

CRR

Community Partner/Strategy Example:

Owner of a local pizza franchise allows a volunteer firefighter to accompany pizza delivery person, and offer customers to schedule a home safety inspection, install free smoke alarms, and/or replace existing smoke alarm batteries. Efforts are focused primarily on high-risk neighborhoods identified in the CRR assessment.

MF&RS went beyond home visits and employed a number of other strategies, including visiting schools. By 2009, the program had produced substantial benefits. There was a *33% decline in accidental fires* and a *60% decrease in accidental fire deaths*![5]

STEP 4 Prepare the CRR Plan

At this point, the first three primary steps should have been completed: Step 1—Identify Risks (risk assessment); Step 2—Prioritize Risks; and Step 3—Develop Strategies & Tactics to Mitigate Risks. During the process, this should have including the creation of planning coalition with key stakeholders and other individuals.

It should be emphasized that your CRR plan need not be a complex and comprehensive document. Depending on the risks and mitigation strategies you have identified, as well as available resources, the plan can be straightforward and relatively minimal. For example, the Longview (WA) Fire Department identified and prioritized five community risks. From this, they developed an effective five-page plan that also included a requirement for each engine company to develop a station-based plan for their respective service area.

Plan Preparation

Typically, the lead agency will prepare the written plan. This is certainly not a requirement, but whoever is assigned must have the necessary skills and resources to gather the previous planning results and place them in an understandable and functional format. Ideally, a CRR plan should include:

- An outline of the vision, mission, values, and priorities.
- Description of the community and/or service area.
- Identification of the fire and/or EMS risks, and a ranking of their priority.
- The goals and expectations of the program.
- A list and description of the prevention and mitigation strategies that will be employed.
- Detailed steps and descriptions for implementation.
  - Should include identification of the resources required, and how they will be allocated.
  - A timeline with identified milestones, including the date the plan will be implemented.
  - A list of program responsibilities, and who will assigned to them.
- A description of the measures that will be used for monitoring and evaluation of the program.

Figure 6: Common Elements in a CRR Plan

Factors found in Successful Plans & Programs

There are some common factors typically found in successful CRR programs. These include, but are not limited to:

- The CRR plan makes sense and is feasible.
- Management at all levels support the effort
- Adequate resources have been allocated, which include staff, funding, time, and community partners.
- Assignment of a capable and motivated project manager.
- Establishment of clear goals and expectations.
- Provides ownership at the station level for the plan and program, including training and coaching as needed.
- The CRR program is monitored and adjusted as needed. An ongoing evaluation strategy has been incorporated in to the CRR plan.
- Good performance is recognized and rewarded.

Community risk reduction plans will look different at every fire department and each station, depending on the risks for that particular community. It is a process and approach versus an outcome that can be copied and duplicated.

Essentially, the CRR plan should be a "road map" written in clear and concise language that enables anyone to understand how each of the various aspects of the program are to function. The plan should be simple to execute with measurable steps. It should clearly state: *what you will do, how it will be done,* and *who will do it*.

STEP 5 Implement the CRR Plan

Now that you have completed your written plan, you should be ready to begin implementation. Ensure that all stakeholders and others are in agreement and ready to fulfill their role in the program.

Not surprisingly, there can be obstacles to initiating implementation of the plan. Preferably, many of these should have been anticipated during the planning process. Some common barriers to implementation include:

- Fire department culture
- Lack of confidence
- Lack of interest on the part of personnel
- Time constraints
- Budgetary constraints
- Lack of upper management support
- Lack of trust with community members
- No community; lack of stakeholders (e.g., industrial areas, wildland areas)
- Lack of training in doing home visits, along with liability concerns
- Volunteer organizations with time constraints and limited personnel
- Union vs. non-union departments

Building CRR Acceptance

In some departments, the culture within the fire service can be a significant barrier to a CRR program and its implementation. This is not intended as criticism of the fire service. The focus of many fire departments is on emergency operations, and firefighter training typically does not include CRR. Firefighter training programs have often failed to associate "prevention" programs and activities with improving firefighter safety.

CRR

What is Culture?

May be defined as "*as a process that occurs in the individual, based upon learned behaviors that are influenced by a group and the group's history.*"[6]

Up until the early 1970s, little attention was directed towards firefighter safety. The inherent dangers of firefighting were simply accepted as unavoidable occupational hazards. Serious efforts to address firefighter safety began during the 1970s and accelerated rapidly in the 1980s and 1990s.

Organizational Responsibility for CRR

Cultural changes within an organization do not occur quickly. Emergency response will always be a part of the job, and fire department personnel must recognize that CRR does not threaten that aspect of the job. There are some basic steps to consider that can begin the process of building acceptance of community risk reduction within fire and emergency services:

1. Develop a personal vision for community risk reduction and a safer community.
2. Convince others that rates of death and injury are unacceptable, and operating with a higher regard for personal and civilian safety would not compromise the mission of controlling fires and saving lives.

CRR

"...you needn't worry—emergency response will always be part of the job. Still, we can do better at improving public safety, because we know other industrialized nations are doing so."

Jim Crawford
FireRescue Magazine, December 2014

3. Discuss the benefits of the CRR approach.
4. Promote a change in assumptions, attitudes and beliefs at all levels (fire chief, company officers, training staff, supervisors, etc.) that occur overtime through a behavior change model:
   a. Changes in attitudes and beliefs gradually leads to a change in values.
   b. Attitude changes must be shared within the organization, so that personal safety and preventing or mitigating incidents is given equal weight to being effective in controlling fires, providing emergency medical care, and saving lives.
   c. Ultimately, this can promote changes in behavior and acceptance throughout the organization.
5. Establish supportive leadership that is able to communicate the vision and strategy for change, training, and a strong leadership team.
6. Once value is established by convincing firefighters at every level that change is both desirable and necessary, involve them in identifying solutions to get their buy-in.
7. Obtain program approval internally. This includes legal counsel, elected officials, and other departments that may comprise municipal and private organizations.

8. Address and remove obstacles to the vision and strategies for change.
9. Start at a level that is feasible and realistic. Create short-term successes, and build on what works to reduce resistance and develop sustainability. In other words, it may be better to take "baby steps" to accomplish the necessary cultural change.

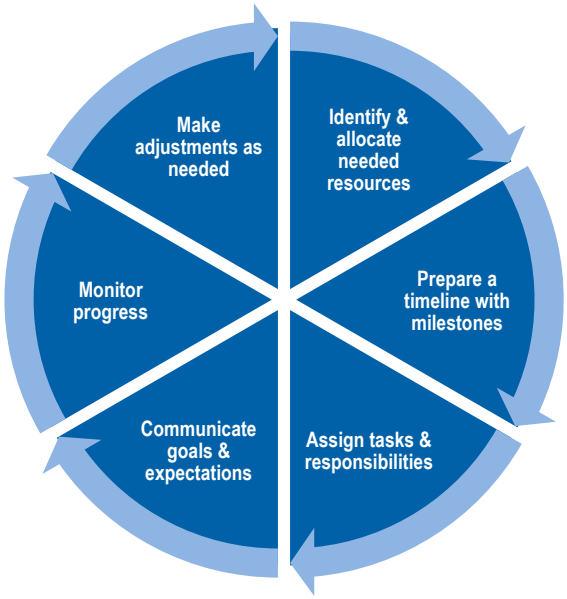
There are indications that CRR is becoming more prevalent within the fire service. In a 2015 survey of 374 public education managers in U.S. fire departments, about 51% of the respondents indicated they had some type of CRR program, while only 10% were doing systematic home safety visits *(National Survey of Public Fire Education Managers—Attitudes Toward Prevention Materials and Home Safety Visits*; Vision 20/20, July 2015).

The process of changing the culture should have begun long before the implementation of your CRR program. As mentioned, changes in attitude may take a long time, and you should not become discouraged if you do not see an immediate change. What is important is that fire departments begin to shift their thinking and start on the path, because expectations for local government—the fire service—included, have already begun to change.

CRR Program Implementation Steps

Figure 7 illustrates basic implementation steps followed by that part of the program that includes monitoring and making adjustments accordingly. This process is flexible so it can accommodate the size and complexity of your program. The essential aspect of this is that your organization has a clear and systematic approach that this process demonstrates.

Figure 7: Implementation Steps



Communication

All participants, as well as members of your department, must understand their role in the CRR program. Even those within your organization who will not participate directly in the program should have a basic knowledge of the plan. Take the time necessary to provide all members of your department and other key stakeholders—not directly involved in the program—a basic overview of the CRR plan. If approached by members of the community, they should be able to provide a simple explanation of the program.

Courtesy Fort Wayne (IN) Fire Department

Inform the Community

To the extent possible, keep the community informed of the plan, and when you intend on implementing it. The success of your program will likely have a lot to do with positive public support. Community concerns can often be overcome by the act of firefighters engaging citizens. Not only can this contribute to the success of the CRR program, it can lead to the added benefit of increased rapport between the fire department and the community.

STEP 6 Monitor, Evaluate, & Modify the Plan

The importance of effectively and accurately monitoring and evaluating your community risk reduction program cannot be overemphasized. This enables you to determine if you are achieving the goals of the plan, and to make modifications if indicated.

Monitoring the Plan

It will be critical that you collect sufficient data to determine whether your efforts are having the intended effect. If you have collected measurable information from your risk assessment, ongoing data collection should enable you to compare the results from before and after implementation of the CRR program.

The primary reasons for monitoring and evaluating your CRR plan include:

- It allows for timely adjustments through an ongoing review of the program progress.
- Assists in the decision-making process.
- It helps to assess if the program goals and objectives are being achieved.
- It may uncover unexpected benefits and problems.
- Provides data and/or other information to demonstrate value and success.
- Results can be shared with the community, within your organization, key stakeholders, and others.

Evaluation Stages

There are four stages of evaluation used in CRR programs. In simple terms, they can be defined as follows:

Formative Stages—Identification of problems, needs, or a risk assessment and/or research. Associated with the problem identification phase (i.e., risk assessment step).

Process Stages—Implementation, workload, efficiency, and program satisfaction.

Impact Stages— Measures knowledge gain, risk-reduction behaviors, and adoption of laws and policies. Short-term analysis used to measure results.

Outcome Stages—Changes or reductions in loss data for deaths, injuries, property loss, or responses. Long-term analysis used to measure results. May take years to see reductions.

Impact Evaluation Measures

Impact evaluation can be applied to the four primary disciplines within fire prevention: public education, code enforcement, plan review, and fire investigation. As mentioned, this stage measures short-term results. Methods for conducting an impact evaluation may include:

- Surveys
- Questionnaires
- Direct observation
- Group discussions
- Focus groups

Impact evaluation will tend to be different among each of the four disciplines. For example, a public education program may evaluate:

- Improvements in safety knowledge, attitudes, and beliefs of the participants.
- Observed and documented changes in behavior (hazard reduced or safety increased).
- Introduction and/or adoption of fire-safety legislation.

Examples of an impact evaluation in code enforcement may include:

- Number of code violations noted and abated.
- Percentage of fires in which pending, uncorrected violations were present at the time of the fire.
- Enforcement of fire safety legislation and regulation.

Outcome Evaluation Measures

Outcome evaluation is the final step in the process. This is where everything comes together. While an impact evaluation looks for changes, the outcome evaluation looks for reductions resulting from those changes. Examples of outcome measures among the four prevention disciplines might include:

Public Education

- Reduction in fire incidents per 1,000 residents in the target population.
- Reduction in fire deaths per 1,000 residents in the target population.
- Reduction in medical costs per 1,000 residents in the target population.

Code Enforcement

- Reduction in percent of total fire losses occurring in inspectable occupancies.
- Reduction in fire deaths per 1,000 residents of inspectable occupancies.
- Reduction in number of structural fires per 1,000 residents of inspectable occupancies.
- Reduction in inspectable property structure fires with at least $25,000 in loss.

Plan Review Program

- Reduction in fire incidents in reviewed occupancies.
- Reduction in property damage costs from fire in reviewed occupancies.

Fire Investigation Program

- Increase in percentage of fires where cause is determined.

Figure 8: How the Planning Process Connects to Evaluation

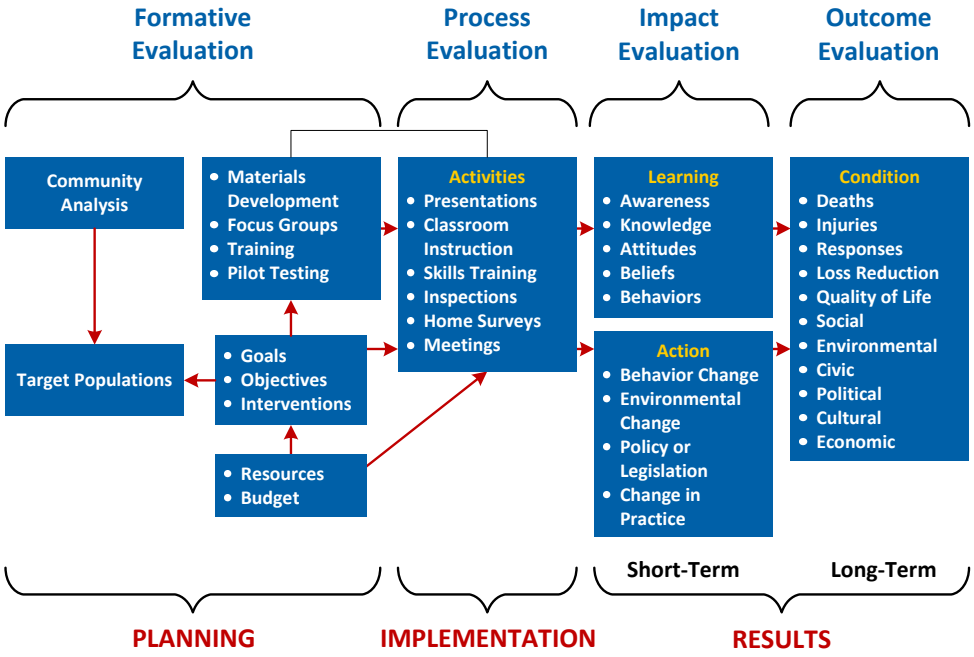


Figure 8 illustrates how evaluation can be used throughout the life of a program. Often in the fire service, the formative stage is not considered, and the program begins with implementation. A strategic CRR programs looks at all four stages of evaluation.

As mentioned previously, outcomes take time to recognize. They may be seen as a reduction in losses through number of incidents, deaths, injuries or per capita losses. Alternatively, the result may not show a reduction, but instead demonstrate an increase—indicating the need for a modification of the CRR program.

Data Collection & Statistical Analysis

A critical element of your CRR plan will be the collection of data and information subsequent to program implementation. If you have conducted a thorough risk assessment, you should be able to compare previous statistics with the results found following implementation of your CRR program.

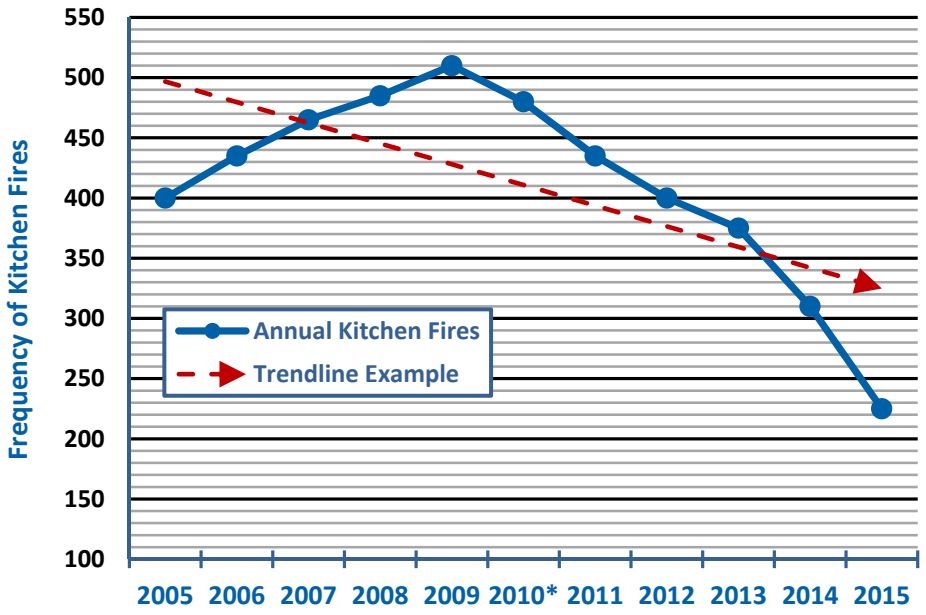
Statistical analysis is used to make assumptions about a population or data source, and can illustrate significant differences in averages or changes over time. Statistical analysis is a higher level of evaluation, and is more meaningful from a scientific perspective when it is statistically significant. For example, if a community had two fire fatalities in the first year, and then one fire fatality in the second year, the result would be a 50% reduction. Although, technically this is accurate, this is not statistically valid, and misleading.

Statistical analysis does not necessarily provide *proof* that the program is effective, but instead provides *evidence* that it may be working. Be cautious about making claims that may not be valid or significant.

Trend Analysis

In statistics, a trend analysis—or trending—typically refers to techniques for extracting an underlying pattern of behavior in a time series. Trending illustrates the fluctuation and changes in outcomes and outputs over time. It is an important outcome measure, as over time, it can indicate changes not due to random chance or normal variances.

Figure 9: Trending Chart Example



**Year CRR program began*

The preceding figure is an example of a chart illustrating a 10-year trend in kitchen fires. The chart shows that the frequency of kitchen fires started to decline in the years following the implementation of a CRR program targeted towards kitchen fires.

CRR

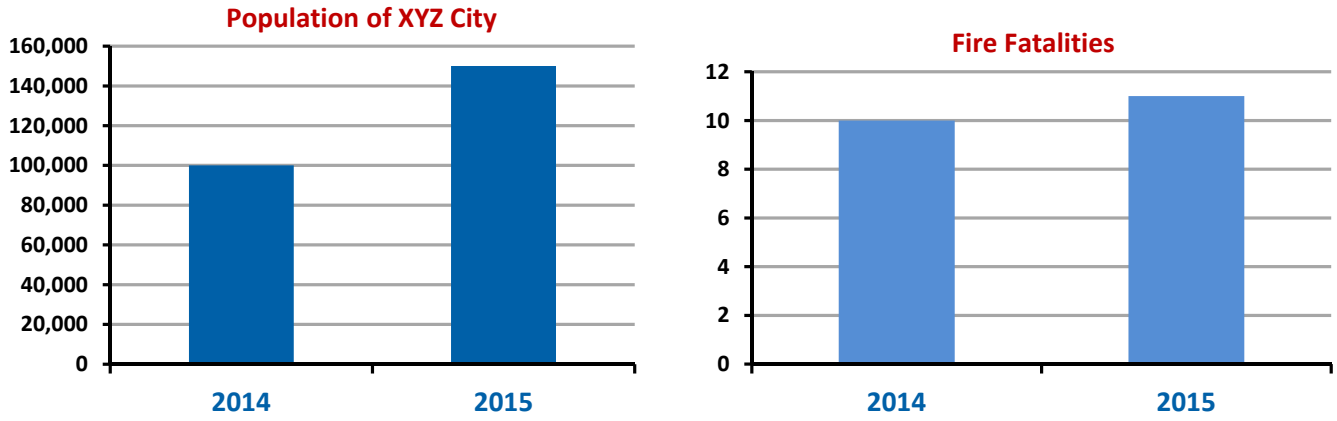
Types of Data used in Evaluation

- Incident & inspection records
- Testing
- Surveys
- Anecdotal reports

Although there may be specific changes seen in the impact evaluation, it does not necessarily mean there will be reductions in the outcome evaluation. A number of factors can affect outcomes, which is one reason to measure some outcomes on a per-capita basis.

The following illustration demonstrates the difference between changes and reductions. In 2014, the city had a population of 100,000 persons, with 10 fire fatalities. That represented a per capita rate of fire fatalities of 1/10,000 population. In 2015, the population had risen to 150,000 persons with 11 fire fatalities—or a per-capita rate of 1/13,326 persons.

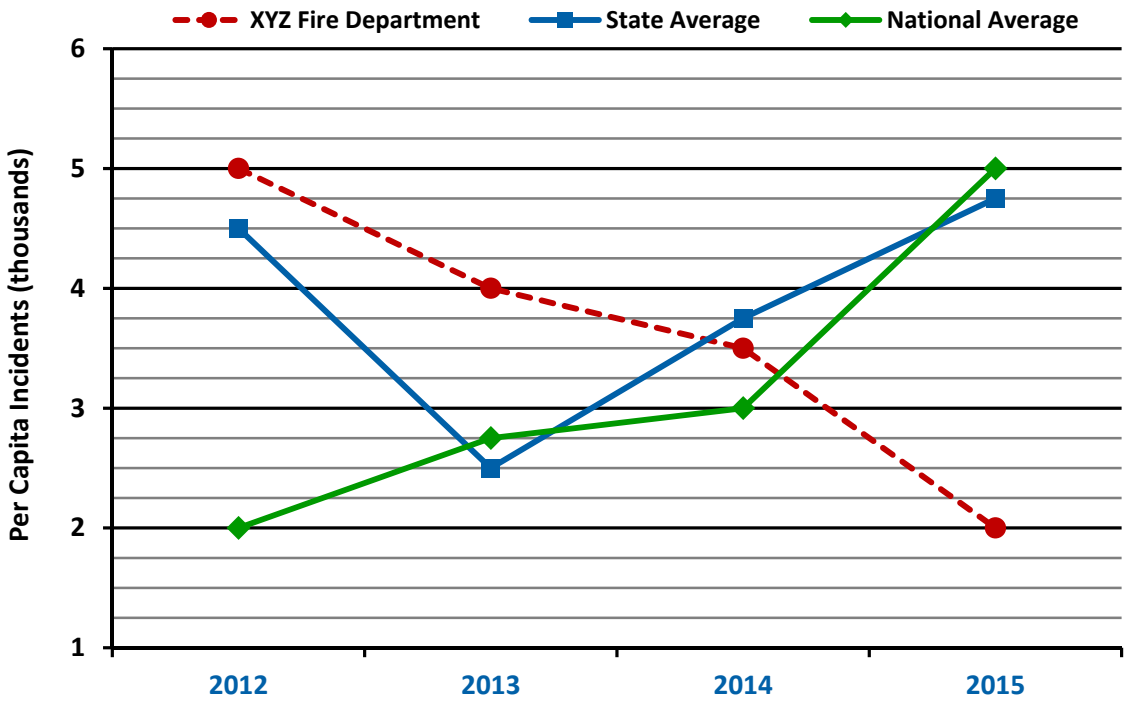
Figure 10: Example of Changes versus Reductions



Although the total number of fire fatalities had risen by 10%, the per capita rate of fire fatalities had actually decreased by nearly 27%.

The following illustration is another example of trending, but represents a comparison of local, state, and national averages (also represents and is linked to benchmarking; see "Benchmarking" below).

Figure 11: Example of Trending Comparison to State & National Averages



Benchmarking

Benchmarking is a process by which one organization (i.e., fire department) compares its results or performance against another organization. Usually, this focuses on a specific performance or evaluation metric, and compares one organization's results to other's best practices. The figure above is an example of benchmarking linked to trending.

Caution must be used when comparisons are made among agencies. You must ensure that the same parameters are be used between each organization. A good example is the measurement of cardiac arrest survival outcomes. Not all organizations use the same parameters when determining the percentage of patients that they successfully resuscitate.

The table on the following page demonstrates the difference in cardiac arrest survival between two communities. When viewing the survival rates between the two fire departments, it appears that Fire Department A has a significantly better rate of survival than Fire Department B.

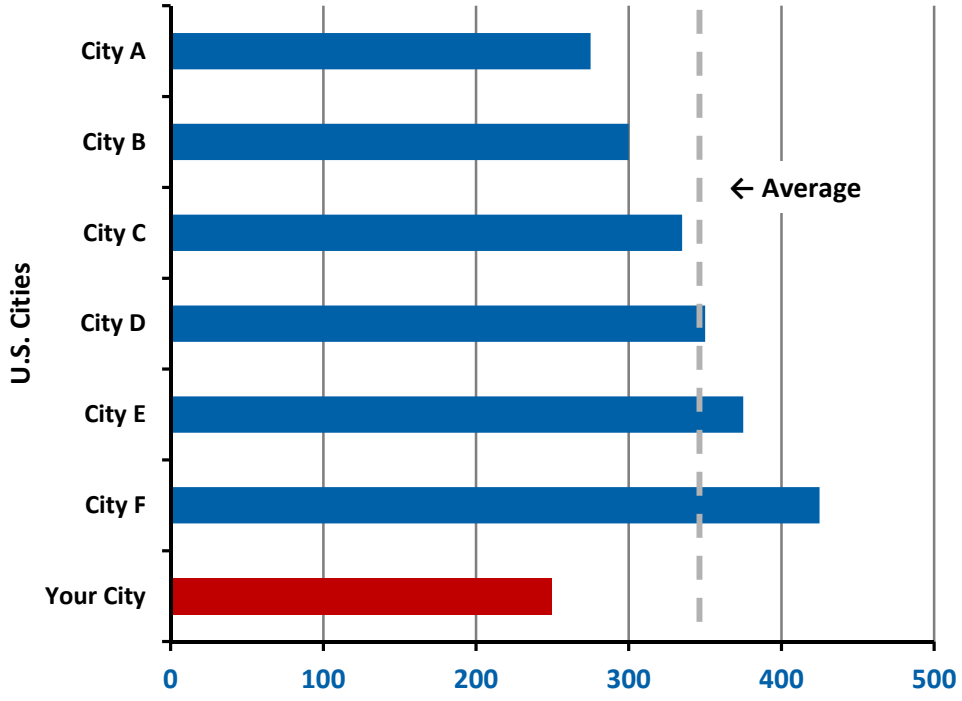
Comparison of Survival Rates from Cardiac Arrest

FIRE DEPARTMENT A	FIRE DEPARTMENT B
Percent Survived to Discharge: 28%	**Percent Survived to Discharge: 12%**
Measurement Components:	***Measurement Components:***
• Patients found in VF • Witnessed cardiac arrests • Bystander CPR performed	• All cardiac arrest patients

However, this is not an accurate comparison, as Fire Department A only measures the percentage patients who survived that were found in ventricular fibrillation (VF); had a witnessed event; and in whom bystander CPR was performed. In contrast, Fire Department B measured its results on *all* cardiac arrest patients.

The following illustration is an example of benchmarking fire incident-rates per capita among various fictitious cities throughout the United States.

Figure 12: Benchmark Example of Fire Incident-Rates per Capita



Performance Measures

Performance standards are utilized consistently throughout fire and emergency services. The *National Fire Protection Association* (NFPA), *Commission on Fire Accreditation International* (CFAI), *Insurance Services Office* (ISO), *Commission on Accreditation of Ambulance Services* (CAAS), and *Governmental Accounting Standards Board* (GASB) have each developed recommended performance standards related to fire protection, prevention, and other emergency services.

For example, NFPA Standard 1710 describes travel-time standards for the arrival of the first engine at a fire suppression incident.[7] The CFAI defines recommendations for a community risk analysis, as well as for fire prevention and life safety programs. The ISO includes recommended distances of fire stations to commercial properties.

CRR

A Note about EMS Records…

HIPPA is a federal privacy law that restricts the dissemination of certain patient information. Avoid publishing data that can result in patient identification.

While most of these performance criteria represent consensus standards, they are usually not mandatory, but do provide guidance on potential goals that can be utilized by your department. However, your organization must determine reasonable performance goals based on the characteristics of your community.

The table below is an example of performance measures, which can overlap with evaluation types (process, impact, and outcome).

Figure 13: Performance Measure Example

Performance Measures & Outcomes	Current Goal	2013	2014	2015	Trend
Incident Response					
Total Calls for Service	Decrease FPY	21,203	21,326	23,184	Improving
Urban Response ≤ 5 minutes	90%	57%	59%	61%	
Suburban Response ≤ 6 minutes	90%	55%	54%	52%	
Rural Response ≤ 8 minutes	90%	71%	69%	73%	
False Alarms as Percent of Total Calls	< 5%	3.8%	3.4%	4.7%	
Emergency Medical Services					
Cardiac Arrest Survival (witnessed & VF)	Increase FPY	13.6%	26.5%	57%	Improving
ALS: Percent calls to nursing & other facilities	Decrease FPY	14.3%	8.3%	7.9%	
ALS Average On-Scene Time	Decrease FPY	17:06	18:00	16:03	Worse

FPY = From previous year **Green**: Goal met **Yellow:** Missed goal, but close **Red:** Missed goal totally, or bad trend

Process measures are related to outputs and inputs, but usually not outcomes. However, often there are times when there is overlap. The figure below illustrates an example of performance reporting and the types for each.

Figure 14: Process, Impact, & Outcome Performance Reporting Examples

Minimize the Effect of Fires	**2013**	**2014**	**2015**	**Type**
Percent of fires confined to room of origin	49%	50%	40%	Outcome
Average dollar loss from structure fires	$15,523	$12,585	$41,462	Outcome
Average total fire-response on-scene time	44:53 min.	55:11 min.	47:11 min.	Output
Fire Prevention				
Determine cause of fires	78%	90%	89%	Outcome
Conduct safety presentations	241	186	183	Output
Number of *effective* fire inspections	5,669	5,780	6,006	Output
Average percent knowledge gain	35%	37%	42%	Impact

Finally, your evaluation does not require complex, sophisticated charts and graphs. Good data is imperative to monitoring your program accurately, and lends credibility to your organization. Depending on your capabilities and resources, it will be up to your organization to determine what measures to utilize. Consider asking for assistance from individuals outside your organization, who may have expertise (e.g., statisticians, industry consultants, etc.) that may help with your CRR program evaluation.

Modifying the Plan

It will very important to consistently monitor the progress and effectiveness of the strategies you have employed within your plan. You must be ready to modify your plan, even discontinue a strategy, and consider other options if the strategies have not had an effect on the risk problem. This must be an honest evaluation to identify trends—either positive or negative.

If changes appear necessary, and different strategies are considered, consensus among the planning group should be obtained. When backed by data and an honest analysis, a change in course can minimize wasting time and resources. Changes in the program should be shared with both the members of the fire department and the public. A willingness to admit that a strategy is not working tends to indicate credibility in the eyes of the public.

Appendices

Appendix A: Coalition Membership Prioritization Tool

Figure 15: CRR Coalition Membership Prioritization Tool

Local Government Stakeholders	1	2	3	4	5
Fire Department					
Life Safety/Prevention Division					
Emergency Operations Division					
EMS Division					
Other Division/Representative:					
Other Division/Representative:					
Law Enforcement					
Social Services Department					
Community Development Department					
Parks & Recreation Department					
Public Works Department					
Code Enforcement					
Utilities Department					
Economic Development					
Elected Officials					
Other:					
Other:					
Community Stakeholders	**1**	**2**	**3**	**4**	**5**
Service Organizations					
Hospital(s)					
Ambulance Service Provider					
Senior Citizen Groups & Clubs					
Homeowners Associations					
PTA and/or School Representatives					
Chamber of Commerce					
Local Business:					
Other:					
Other:					
Other:					

1 = Lowest Priority 5 = Highest Priority

CRR Home Safety Visit Questionnaire

FEMA Assistance to Firefighters Grant Program

☐←**REVISIT?** Check box if this is a revisit to a home for which a form was previously submitted (e.g., when no one was home at first).

Date of visit: _____ Time home safety visit starts: _____

Name of occupant: _____ Home phone: _____

Street address: _____ Apt. #: _____

City and state: _____ ZIP: _____

*** LEASE DO NOT LEAVE ANY QUESTIONS BLANK ***
IF THE ANSWER TO A QUESTION IS "0" OR "NONE," ENTER "0"

1. Type of home

☐ Detached house ☐ Mobile home ☐ Duplex/townhouse
☐ Multifamily ☐ Other _____

2. If entry to residence was not possible, why not? (check primary reason only)

☐ No one home ☐ Occupant refused entry (Why? Fill in.)
☐ Minor only _____
☐ Language barrier ☐ Other _____
☐ Vacant home/lot

3. Names of fire department representatives making the visit:

_____

4. Positions of fire department representatives making the visit (check all that apply)

☐ Firefighter ☐ Social worker ☐ Health care worker
☐ Prevention Bureau ☐ Community volunteer
☐ Other _____

SITUATION FOUND

5. # of *working* smoke alarms (excluding private fire alarm system) _____

6. # of *non-working* smoke alarms (excluding private fire alarm system) _____

7. Was a private fire alarm system present? **(do not test)** ☐ Yes ☐ No

If Yes:

7a. # of smoke alarms in the private fire alarm system _____

7b. Did the private fire alarm system appear to be working? ☐ Yes ☐ No

INSTALLATIONS MADE

8. Type and quantity of alarm(s) installed (fill in the quantity)

First Alert Photoelectric Smoke Alarm _____
Kidde Ionization Smoke Alarms _____
Gentex Smoke Alarm and Strobe _____
LifeTone Bedside Alarm/Clock/Bedshaker _____
Other (specify) _____ _____

9. Total number of alarms installed _____

9a. If zero alarms were installed, why? _____

10. # of working smoke alarms replaced due to age _____

11. # of *non-working* smoke alarms whose batteries were replaced (if any) _____

12. # of *working* smoke alarms whose batteries were replaced (if any) _____

13. Total number of working smoke alarms at the end of the visit _____

CRR Home Safety Visit Questionnaire

FEMA Assistance to Firefighters Grant Program

14. Did the home end up with the number of working smoke alarms required by code? ☐ Yes ☐ No

If No:

14a. Why not?

☐ Not enough time during visit

☐ Not enough smoke alarms

☐ Occupant refused (Why? Fill in.)_____

14b. Was the occupant advised of the number of smoke alarms required to meet code? ☐ Yes ☐ No

EDUCATION PROVIDED

15. Occupant instructed on (check all that apply):

☐ No instruction provided ☐ Heating safety ☐ Candle safety

☐ Residential sprinklers ☐ CO safety ☐ Smoke alarms

☐ Cooking safety ☐ Smoking safety ☐ Escape planning

☐ Other _____

16. Ask occupant: Do you have a fire escape plan? ☐ Yes ☐ No

If Yes:

16a. Was the fire escape plan practiced in the last year? ☐ Yes ☐ No

16b. Where is your meeting place? ☐ Credible site ☐ Not credible site

17. Occupant given written materials on:

☐ No written materials left ☐ Heating safety ☐ Candle safety

☐ Residential sprinklers ☐ CO safety ☐ Smoke alarms

☐ Cooking safety ☐ Smoking safety ☐ Escape planning

☐ Other _____

DEMOGRAPHICS (ask resident)

18. Do you own or rent your home? ☐ Own ☐ Rent

19. How many people live in your home? _____

20. How many children living in your home are under age 5? _____

21. How many people living in your home are over age 65? _____

22. How many people living in your home are physically or mentally challenged, e.g., deaf, hard of hearing, blind, vision impaired, mobility impaired, or other physical or mental challenges not listed? _____

23. How many people living in your home are smokers? _____

24. What is the race or ethnic group of the people in this household? (can check more than one: e.g., White and Hispanic)

☐ African American ☐ Native American ☐ Asian Pacific Islander

☐ Hispanic/Latino ☐ White ☐ Other _____

Time home safety visit ended: _____

Signed: _____

Date: _____

Program representative/witness: _____

Appendix C: Example Station-Based CRR Plan

XYZ Fire Department

Station 10
Pacific Park Firehouse
1501 NE 15th Street

Station-Based
Community Risk Management Plan

Overview

As the newest fire station in the X Fire Department, Station 10 is yet to produce a tradition or reputation that we are known by to the rest of the fire department or the citizens who reside within the stations boundaries. I feel this reputation is important on many different levels. First of all, the station must be viewed in a positive manner by the rest of the organization. This fire station must not be viewed in a negative manner by people who choose to work here by station bidding or by skating crews who must work here on an occasional shift. This will be an energetic station that is involved in training and involved in the community we serve. The order of priorities for this station are as follows:

Emergency Response—it is the responsibility of all officers to ensure that the firefighters and apparatus are trained and maintained for effective emergency response. This station will have a reputation as an effective emergency response company.

Community Risk Management—This station will involve the community that it serves in the development of proactive risk management strategies that are designed to improve the overall fire protection for the citizens we serve. All station members will be involved in these activities and may be assigned projects to assist in the development of or management and implementation of strategies set forth by the fire chief, the Battalion Chief and the Station Captain of the X Fire Department.

Training—Training will be a major focus of this station. Officers will ensure that all firefighters assigned to this station will be trained in all fire and EMS requirements set by the training division. This station will have a reputation as a company that trains on a daily basis for top performance at emergency incidents.

Station Maintenance—All crews will take an active part in the maintenance of the station and keep it in a clean and presentable condition. This station will have a reputation as a clean and well cared for firehouse.

These four goals will guide the crews working at this firehouse. This station will not have a reputation as a "retirement" facility. It will be known as an active and effective company that is involved in the community.

Align Your Organization

X Fire Department Vision

"From each fire station, the X Fire Department is actively engaged with our community to solve problems, reduce emergency demand, and mitigate risk in a fiscally responsible manner."

Service Area Description

Geographic Boundaries: Pacific Park Firehouse is located in the Eastern section of X.

The station boundaries for fire station 10 are 138th Avenue to the West. This boundary is shared with Burton/Orchards Firehouse #6.

- The Northern boundary is Poplar Street, which is shared with Sifton Firehouse #4.
- The Southern boundary is SE 1st Street, which is shared with Fisher's Landing Firehouse #9.
- The Eastern boundary is Ingle/Goodwin Road, which is the boundary of the City of Camas.

Demographics: The following was found in the 2000 Census: According to the X County Assessor's office, the Station 10 service area includes 24,903 residents in 2009. By reviewing several Year 2000 census-block groups that are wholly contained in the Station 10 area, we can hypothesize the following:

1. A Caucasian population of 90.6%, with the largest minority groups self-selected as “Asian alone” and “two or more races.”
2. Children (under age 18) comprise 33 percent of the total population. (Includes natural born, adopted and step children)
3. Population age 65 years and older is 9.6 percent.
4. Family type (by presence of children under 18 years) shows and average of 80% living in married-couple families. Of the remainder, 16% live in “female householder, no husband present” family homes, with 1.6% in “male householder, no wife present” homes.
5. Household income (in 1999): Under $30K, 21%; $30-$50K, 26%; $50-$100K, 46%.
6. Household income (in 1999) below poverty level, 9.5%.
7. While large tracts of housing have been built in various decades, the median year structures were built is 1985.

Community Character: (ratio of residential to business buildings, average age of buildings, condition of critical infrastructure, declining/stable/gentrifying, percent in urban/suburban/rural zones, number of organized neighborhood/business associations)

Fire station 10 is largely a residential area. The residential units in the west end of the station area are older homes built in the 60’s, and 70’s around Evergreen High School. This is a suburban area with areas of open land sprinkled throughout.

The north end of the station area consists of newer homes of various sizes, from small single-family to very large single-family homes in excess of 3,000 to 4,000 square feet. This is a suburban area with a rural mix.

The east end of the station area has mostly new construction of moderate sized homes. Many homes in this area are in heavily forested areas that may pose an urban interface problem to the fire department. Large areas of rural property are found here.

The south end of the station area is again mostly newer construction. Small to moderately sized homes are found here. A large trailer park is also located in this area. This area is also somewhat commercial with a mixture of urban and suburban densities.

Overall, infrastructure is good in the area. Some roads are still country type with a lack of hydrants. Multiple addresses off 192 Avenue, north of SE First Street are some distance from the nearest hydrant. This is also a problem north of 18th Street east of 172nd Ave.

Organized neighborhood associations in the area are as follows:

- First Place Neighborhood
- Country Side Woods Neighborhood
- Burton/Evergreen Neighborhood
- Parkside Neighborhood
- Parkway East Neighborhood
- Burnt Bridge Creek Neighborhood
- Cimarron Neighborhood

Pacific Park Firehouse opened on January 19, 2010

Service Delivery Factors

Current Service Delivery Model: Pacific Park Firehouse is deployed in a similar manner as other firehouses in the X Fire Department:

The firehouse is staffed by an engine company with a Captain, Paramedic, and a Firefighter. These firefighters rotate on a three shift system where each crew works a shift every third day. Nine total firefighters are assigned to the firehouse. The firehouse also is assigned a brush unit, which is not staffed. This apparatus responds with the engine company on grass and brush fires.

The firehouse is located in a residential neighborhood with Pacific Park nearby. This area has a lot of foot traffic and the firehouse has been well received by citizens in the area. The small museum housing an antique fire engine has been a popular feature with walkers in the park. The firefighters strive to be good neighbors in the area.

Current Demand/Trend: (call distribution/concentration, call volume by type, percentage of total station calls, percent of total VFD calls, calls per FF, FF per 1,000 population, calls per 1,000 population, 3 year trend)

Engine 10 has been open for 18 shifts to this point. The average daily call load has been 5 per shift. A rough estimate of alarms for the year at this time is 1,825. This would put Station 10 at an estimate of 8% of the overall total alarms for the department based on 2009 response numbers. The vast majority of the alarms to this point have been medical in nature. Fire responses have been hindered due to the inability to tap out E10 on the CRESA response cards for fire alarms outside of the stations first due area.

CERT Team: (distribution, concentration, activity level, coordinators, etc.)
Fire Station 10 will actively seek out CERT members in our area to form a team of individuals who can assist the X Fire Department in an emergency incident, including non-emergent programs within Station 10's area.

Community Identified Concerns: (feedback from interest groups, focus groups, citizen steering committees, neighborhood/business associations or partnerships with schools due to no active neighborhood associations, whether fire-service related or not)

1. Traffic safety
2. Safety in Pacific Park
3. Known drug activity

Community Risk Priorities

(Top five risks, numbered in rank order – should be a descriptive paragraph of the risk accompanying each risk)

1. **Response Guides**—Currently, 25 commercial properties are without a Response Guide in Station 10's area. Another group of schools have RG's but are very outdated. Engine 10 must have reliable Response Guides to protect lives and property in our area.

2. **Area smoke alarm program**—Once opened, Station 10 crews must identify high risk areas and target them with a station smoke detector program. No home in Station 10's area will be without a working smoke detector. Updated information: The Great Western Mobile Home Park at 16812 SE 1st Street has been targeted for a smoke detector focus program. The managers of the park have been contacted and have approved Station 10 personnel to contact residents in the park to see if they have a working smoke detector. If they do not, we will install one for them. This program will begin in the Fall.

3. **Relationship with area schools**—Working with the Evergreen School District with a focus of making safe schools through relationship building and planning for safe schools in Station 10's area. A close relationship with each schools administration will assist in planning for drills and training for administration staff.

4. **Wild-land Urban Interface**—Station 10 crews will identify areas in danger of the wild-land urban interface and notify homeowners in the area of ways to improve their properties from wildfire.

5. **Develop a response plan for injuries in the skate park next door to Fire Station 10**—station crews must have a working plan for treating and extricating individuals injured in the skate park. An earlier injury that resulted in a fatality was viewed critically by some in the community. A plan will increase the capabilities of crews at Station 10 and result in a professional response to the park.

Critical Partners/Stakeholders

(External people connected to your community; i.e. community liaisons, neighborhood association liaisons, CERT team coordinators, business association liaisons, community activists, etc. who you could work with to identify and resolve problems)

Unknown at this time

Personnel Resource skills

(Internal personnel who have skills that may be applied to boost your effort. For example, IT skills, organizational skills, leadership skills, public speaking skills, writing skills, etc.)

Position/Name	Contact Number	Task
Fire Medics:	487-7310	Station 10 Web page development & maintenance, including station Facebook page
Fire Medics:	487-7310	Station 10 EMS equipment ordering and maintenance
Firefighter:	487-7310	Station 10 Cleaning supplies ordering and maintenance
Station Captain:	487-7270	Engine 10 Maintenance of equipment and appearance of apparatus
Station Captain:	487-7270	Station 10 Maintenance of fire station and appearance
Station Captain: & Fire Medics:	487-7310	Station 10 Response guide manager for area businesses
Fire Medics:	487-7310	Station 10 grounds maintenance
Station Captain:	487-7270	Station 10 Smoke Alarm program manager
Captain:	487-7270	Building Maintenance schedule
Captain:	487-7270	Station LEED coordinator
Firefighter:	487-7310	Rig Check sheets, Gas Power tools, Chainsaw chain, Map Page updates
Firefighter:	487-7310	Station tool room, Rig maintenance
Captain:	487-7270	Station Disaster Plan organizer
Fire Medics:	487-7310	School Liaison

Problem Mitigation Strategies

(List detailed strategies to address risks and concerns identified in "Community Risk" and "Community Identified Concerns" sections above)

1. **Response Guides**—The second quarter of 2010 will be focused on the identification of buildings in station 10's area that do not have response guides completed. Once identified, the RG coordinator will assign response guides to be completed on a monthly basis until completed.

   Resources Needed: The resource needed to complete this task is time. E10 crews will focus the afternoon scheduling around response guide completion. The amount of time spent on response guide activity will be based on call load and outside factors including training.

2. **Relationships with area schools**—Station 10 crews will foster a relationship with area school administrations to enhance emergency response to these schools to protect our largest exposure target hazards.

   Resources Needed: This process has already begun with the teaching and training of area schools in triage and incident command basics by Captain xxxxxx. The next step is time spent by the remaining crews with these same administrations to build a relationship between all the crews and the schools we serve.

3. **Wildland Urban Interface**—Station 10 crews must identify areas within the station boundaries that are threatened by wildland fires.

   Resources Needed: We will not re-invent the wheel here. The work of Captain xxxxxxx at Westside Firehouse will be used to face the same problem he experienced in Station 2's area. Wildland fliers will be used within Station 10's area to inform the public on wildland safety for their homes.

4. **Emergency Response Plan for Pacific Park Skate Park**—Station 10 will partner with Station 6 to formulate a plan to handle injured persons at the skate park.

   Resources Needed: Time spent with Truck 6 to formulate the plan. The use of the gator apparatus for these rescues will be looked at.

5. **Smoke detector program**—Station 10 will work with prevention on the implementation of a smoke detector program for Great Western Mobile Home Park.

   Resources Needed: This program will be handled by on duty crews, Deputy Fire Marshals, Community Emergency Response Team member and Combat Volunteers.

Move from Strategy to Implementation

Results (after implementation, what worked and what did not)

Process	What Works	What Doesn't Work

Station Goals: (set by Station Captain and clearly articulated to crews an all 3 shifts, aligned with vision)

Station Goals
1. Communicate with the public in an effective manner. Through personal, technical, and written applications.
2. Maintain the fire station through daily, weekly, and monthly cleaning of all areas.
3. Maintain the fire engine through daily, weekly, and monthly cleaning of the apparatus.
4. Develop and implement response guides, wildland urban interface, skate park emergency plans.
5. Develop relationships with area schools.

Shift Goals: (set by Shift Captain, aligned with station goals)

A-Shift Goals
1. Draft a station disaster plan including a windshield survey for the area.
2. Participate in smoke detector installations at Great Western Mobile, RG development

B-Shift Goals
1. Participate in smoke alarm installations at Great Western Mobile, RG development
2. Determine outside grounds maintenance needs and implement plan for grounds care.

C-Shift Goals
1. Design and implement smoke alarm program for Great Western Mobile.
2. Coordinate station RG program.

Fiscal Management

Include station budget here

Appendix D: Template for CRR Station-Based Plan

(insert name of organization)

(insert fire station name or geographic area of focus)

(Insert station address)

Community Risk Reduction Plan

(insert date of report)

Vision, Mission, Values & Priorities

In the spaces below, provide your organization's Vision, Mission, Values and Priorities/goals. List your priorities in order of importance. An example of some common fire service priorities are presented.

Vision Statement

What is your organization's (fire department) vision?

Mission Statement

What is your organization's (fire department) mission?

Values

What are your organization's (station's) values?

Priorities

What are your priorities?

Description of Community/Service Area

Add pages as needed.

Geographic Boundaries

Describe the geographic boundaries of your service area: North, South, East and West

Fire/EMS Data

Provide information on fire and EMS calls and incidents in your area. Try to get as much information as you can as to where, why, who, when, etc.

Current Demand/Trend: *How many calls does the station handle? (e.g., call distribution/concentration, call volume by type, percentage of total station calls, percent of total calls, calls per firefighter, firefighters per 1,000 population, calls per 1,000 population, 3-year trend)*

Station Infrastructure

Current Service Delivery Model: *How is this the local fire station staffed and how are staff assigned duties? What does citizen foot traffic look like in the station? What apparatus are available?*

Demographics

Give a description of who lives and works in this geographic area. Most information can be obtained through national census data. It is useful to include comparison data as well, such as that from the whole jurisdiction of a fire department, the county, a region, state or the nation. Fill in the blank rows with any other demographic data you would like to record/present.

Description	Local Area % (specify here)	Comparison % (specify here)	Difference
Age			
Age < 5			
Age > 64			
Race/Ethnicity			
White			
African American			
Asian			
Native Am			
Hispanic			
Other			
Education			
<= HS Education			
Income			
FPL			
Disability			

Land Use:

Describe the physical/manmade "nature" of your community. Is your area mostly residential, commercial, industrial a mix? What is the average age of buildings? What is the condition of critical infrastructure (declining/stable/gentrifying)? What is the percent in urban/suburban/rural zones?

Description	Local Area Description
Residential, commercial, industrial, mixed	
Average age of buildings	
Condition of Infrastructure	
Urban/suburban/rural	

Other Land Use Information

Enter other pertinent information

Community Assets

List the schools, universities, hospitals, community centers, recreation centers, neighborhood centers, senior centers, assisted living institutions/homes, parks, main businesses, etc. that are in your area.

Potential Community Partners

Who are you currently working with? What other organizations can help your station be proactive?

(External people connected to your community; i.e., community liaisons, neighborhood association liaisons, Community Emergency Response Team, business association liaisons, community activists, etc., who you could work with to identify and resolve problems)

Community Risks

List and describe your top five risks, numbered in rank order. The description should be about a paragraph long. Include the data, experience, and/or notions that led you to prioritize this risk.

Prevention/Mitigation Strategies

After you have brainstormed strategies using the five E's (Enforcement, Engineering, Education, Economic Incentives & Emergency Response), assessed the options and ones to implement, list those strategies below in order of the prioritized risk they address. Then in the space below the Strategy name, briefly describe each strategy.

1. **Strategy:** *Enter name of strategy and description below*
2. **Strategy:** *Enter name of strategy and description below*
3. **Strategy:** *Enter name of strategy and description below*
4. **Strategy:** *Enter name of strategy and description below*
5. **Strategy:** *Enter name of strategy and description below*

Implementation

Below, briefly identify the resources needed to implement each of the selected strategies.

1. **Strategy:** *Enter name of strategy and resources required*
2. **Strategy:** *Enter name of strategy and resources required*
3. **Strategy:** *Enter name of strategy and resources required*
4. **Strategy:** *Enter name of strategy and resources required*

Staff Skills Needed and Proposed Personnel

Identify the tasks required for these strategies. Think about the skills necessary to complete each task and who is best suited to execute each task. Identify the position and name of the individual that will be asked to complete that task and provide their contact information.

Common Task Areas	Name/Position/Organization	Contact Number/E-Mail
Program manager		
Marketing/communications–data collection forms, educational materials, marketing flyers, posters, surveys, etc.		
Website/Facebook development & maintenance		
Training		
Public spokesperson for program		
Presenters/educators		
School liaison		
Business liaison		
Home visit staff		
Identification & purchasing of supplies		
Inventory & distribution control		
Quality assurance		
Data collection, storage of data		
Monitoring, reporting of data & progress, & evaluation		

Monitoring & Evaluation

Lessons Learned

Can be tracked while implementing and/or solicited from participants after completion of program. Find out what worked and what did not, and what you would do differently next time.

Do not try to track in the tables below. Create your own separate tables or documents for this work.

Appendix E: Example Logic Model Template

The following is an example of a "Logic Model" template. It is used as a road map to explain the intervention plan. This template/tool can be included within the CRR plan to assist in clearly outlining each program and/or strategy.

Program Name: Public Education

Problem Statement:
Fire-related deaths and injuries are occurring more frequently in three areas of our community (accounting for 63% of all calls).

Program Goal:
Provide safety education and home visits to prevent future instances. Reduce the risk by conducting 1,000 home safety inspections.

Resources Required:

0.5 FTE of public educator's time	Smoke alarms
Assorted materials	Volunteers
Installation equipment	

Activities	**Outputs** *(tangible products of activities)*	**Short-Term Impacts** *(expected to see)*	**Intermediate Impacts** *(want to see)*	**Long-Term Outcomes** *(hope to see)*
• Conduct home visits • Distribute alarms • Do follow-up visits	*No. of site visits* *No. of alarms out* *No. of follow-ups*	*On follow-up visit, how many homes have smoke alarms installed (or changed batteries*	*Community changed their behaviors, including conducting own home inspections*	*Significant reduction in fire rates in the target area of community*

Rationale: *(explanation of how change occurs & program rationale)*	**Assumptions:** *(factors or conditions assumed to be true)*
The calls for service and resources expended on the target population are higher than expected. We expect that building relationships and teaching prevention skills to the target population will reduce risk and injury.	The community is open to site visits. We will continue to have funds available to conduct follow-up visits.

External Factors:

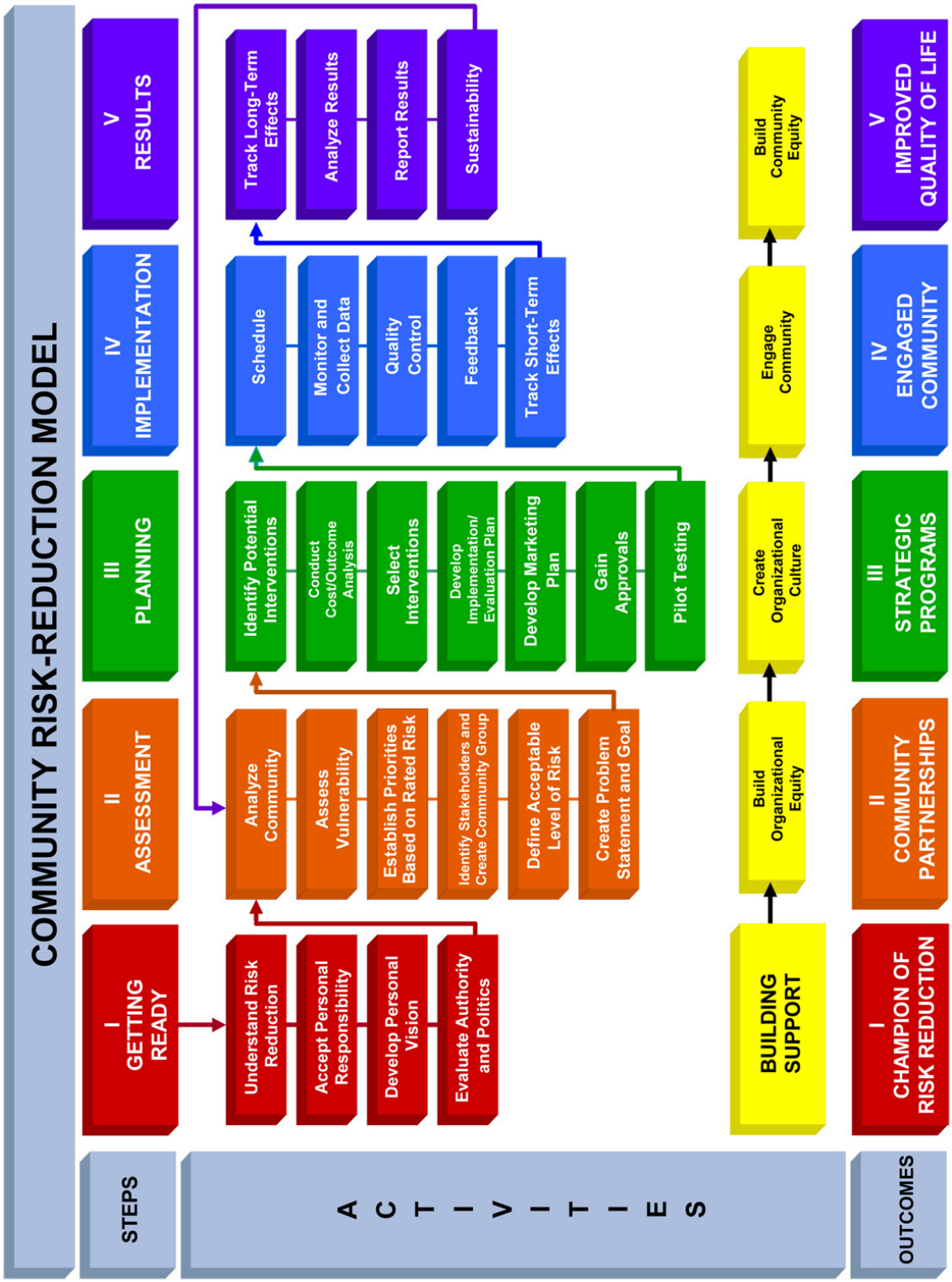
Community expectations
Political implications

Appendix F: Community Planning Tool for Wildfires

Wildfire Emergency Planning

In the Neighborhood	
☐	Develop a neighborhood emergency plan that includes a notification and alert system, a carpool plan, and the identification of neighbors with special needs.
☐	Practice at least two escape routes from your home/neighborhood by car and by foot (remember that evacuation by foot can be extremely hazardous).
☐	Identify zones in your neighborhood, such as schoolyards, which are safe from wildfire. These open areas can serve as a default evacuation center if roads are blocked and escape from the neighborhood is not possible.
☐	Prune street trees to allow passage of emergency vehicles.
In Your Home	
☐	Develop a family evacuation plan.
☐	Prepare a small “grab and go” kit of essentials that you may need, such as cash, personal items, and medicines—plus items you may need for the care and transportation of pets.
☐	Use non-combustible siding and roofing materials.
☐	Enclose eaves with non-combustible materials.
☐	Do not place attic vents under the eaves or overhangs.
☐	Wrap decks with non-combustible siding.
☐	Screen foundation vents and locate them as close to grade as practical.
☐	Keep gutters & roof free of leaves, fir needles or debris (firebrands can travel on air currents for up to a half-mile).
☐	Store firewood, picnic tables, recreational vehicles, and other burnable items away from buildings.
☐	Be mindful when cooking outdoors.
☐	Avoid using fireworks near vegetated areas. Do not purchase or use illegal fireworks!
After a Fire Starts	
☐	Implement your family evacuation plan.
☐	Implement your neighborhood emergency plan.
☐	Keep roads clear for emergency vehicle access.
☐	If you are positive you have enough time:
	• Close all windows and doors. • Remove lightweight curtains and drapes from your windows; they may catch fi re from the radiant heat of an approaching wildfire. • Shut off natural gas at the home meter.

Appendix G: Community Risk Reduction Model



Appendix H: Table of Figures

Appendix I: Bibliography

[1]*Fire & Emergency Service Self-Assessment Manual, 8th Edition*; copyright © 2011, Center for Public Safety Excellence, Commission on Fire Accreditation International

[2]*Risk Management—Principles and Guidelines, First Edition* (2009); International Organization for Standardization

[3]*Strategic Plan, Fiscal Years 2014–2018*; U.S. Fire Administration

[4]DeShong, R: *Identifying the Components of a Community Risk Reduction Coalition for the City of Miramar* (Florida); (2014) United States Fire Administration, National Fire Academy

[5]Merseyside Fire & Rescue Services: *1999–2009, A Decade of Change—The Promise* (video); (www.youtube.com/watch?v=gxNAmEwSQVs)

[6]*National Safety Culture Change Initiative* (FA-342/April 2015); U.S. Fire Administration, Federal Emergency Management Agency

[7]NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations & Special Operations to the Public by Career Fire Departments*