

5. FIRE SAFE LAND USE PLANNING BUSINESS PROCESS

Fire safe land use planning should be developed and implemented for large cohesive units under the guidance of the general plan safety element, and in conjunction with the planning for drainage, soil erosion, flood control and sanitation. Planning for fire prevention and protection is necessary for full and safe development of watershed areas. To illustrate this planning concept and the basic relationship of fire prevention to the development of the wildland, local planning and fire authorities should develop examples of how planning could be applied to an actual problem area. Such examples, or area models, would encourage mutual understanding of fire planning principles between planners, land developers, builders and regulatory agencies. For specific information on the CDF California Fire Plan, visit the Internet site http://frap.cdf.ca.gov/fire_plan/.

5.1 Elements of a Fire Safe Land Use Plan

There are three parts to the planning process: the technical process, legal requirements and political acceptance. The technical process defines the needs for adequate protection complying with and supporting state planning laws. Meeting legal requirements is also relatively easy, if the technical work has been done correctly. The political process is the most difficult, because it depends heavily on the attitudes and perceptions of people. This chapter touches very briefly on that process because every jurisdiction will have some differences in the way they understand and accept strategic fire prevention and protection planning. Dealing with those differences requires approaches that fit actual local situations, not just written guidelines. There are, however, some key actions that can facilitate political acceptance in any jurisdiction. Those actions are promoting an informed public, involving key government personnel, and implementing a professionally presented product.

Achieving protection of life, property and resources becomes more difficult as people and structures enter wildland areas at an ever-increasing rate. Existing policies and procedures indicate that the inherent problems in protecting wildland as well as life and property will be compounded in the decades ahead.

For example, Nevada County's 49er fire in 1988 exhibited all of the problems common to wildland-structural fire suppression that can be expected in the future. Initial attack and reinforcement engines were immediately forced into structure protection rather than perimeter control. Water was in short supply. Inaccessible roads and driveways hindered the defense of some structures, and accumulation of fuels adjacent to other buildings made their defense impossible. A dozer was trapped and burned in heavy fuels while trying to pioneer a control line. Air tankers had to drop as much retardant on and around structures as they did on the fire front, thus reducing perimeter control effectiveness. Major evacuations jammed roads and slowed suppression efforts. This fire destroyed 312 structures and burned 33,700 acres. In terms of structures lost, 10 out of the 20 largest wildfires in California's history, have occurred since 1990.

These losses could have been reduced or prevented with long-term planning, enabling suppression forces to do more than just react to the fire's spread on a spontaneous and tactical basis. Strategic initiative was lost before the fire started, and during the first several hours the tactical reaction was characterized more by crisis than by planned suppression. Given the current status of development in most of California's wildlands, this loss of initiative and crisis reaction will be typical of fires in the future unless some significant changes are made. Fire prevention planning can help make these changes. It can address all of the root causes of suppression problems and be a major actor in regaining the initiative in fire protection.

5.2 Fire Safe Land Use Planning Defined

Fire safe land use planning is a combination of fire behavior knowledge, several decades of suppression experience and the practical application of planning law. It can be a way to infuse wildland fire and resource protection requirements into general plans and all the subsequent planning of a local jurisdiction. It is designed to provide area-wide protection systems to watersheds, localized communities and entire counties.

There are three goals for fire safe land use planning:

- (1) *To provide professional wildland suppression advice to local governments;*
- (2) *To reduce or eliminate the urban bias, and thereby bring a more balanced approach to wildland planning and development, and*
- (3) *To provide suppression forces with the best and safest chances for stopping wildfires.*

5.3 Fire Safe Land Use Planning Process

One important key to successful fire safe land use planning is to understand (and believe) that planning is a legitimate exercise within the fire service's mission. It may not have been done before, and local government may not accept it eagerly, but it is a proper and worthwhile activity. From a people-oriented perspective, the process will be more effective if extra effort is expended to educate, inform and involve citizens and officials about every step of planning. Here are the technical steps involved in strategic fire prevention and protection planning.

Step 1. Preparation

Local and state fire protection agencies and local government(s) should be a part of the process. Inform and involve them before work actually starts. Develop a working relationship with the jurisdiction's planning director and staff, and learn their process of planning and amending general plans, since counties vary in the ways they perform these tasks. Identify and contact others who may become involved. Seek their participation in all of the activities. If some kind of multidisciplinary team can be formed, it will bring about a better final product and feelings of joint cooperation about the plan. Think about long-term strategy. Obtain State Department of Finance (DOF) population projections for the next twenty years and consider how and where these people will be integrated into the jurisdiction.

Step 2. Define the Fire Environment(s)

The objective of this step is to provide a comprehensive description of the local fire challenge in ways that comply with planning law and can be clearly explained to the public and elected officials.

Document the fire information in the same manner as required by OPR for other issues of concern in the data and analysis section of a general plan element. This would include both maps and a narrative on fire history and fire potential. Show how current and future development is, or may be, located in fire-prone areas. Document significant historical fires, estimating the fuel loadings and rates-of-spread, noting the locations of fire perimeters. Document historical fire numbers in relation to population and bring the data up to date. Show how population increases compare with fire incidence. Describe current fuel loadings in each fuel type in the jurisdiction and predict current rates-of-spread under average to worst conditions. Compare these with the historical information.

Much of this data is already available through CDF and local fire departments from work done on fire

management analysis and in development of other fire protection issues. However, it is probable that the data will have to be rearranged or reformatted to fit the local planning process.

Step 3. Illustrate Potential Fire Problems

The objectives of this step are to describe what can happen under present conditions and to suggest specific ways that future fire damage can be reduced or prevented.

Use fire modeling, "gaming" and/or personal knowledge to determine and map fire potential in problem areas. Consider the average to worst fire situations in calculating the potentials. Recognize that recent fires in other jurisdictions may be a clue to potentials in your area. The number and frequency of disaster fires are growing, and they each indicate an increasing possibility that they can happen anywhere in California. Estimate potential economic and other losses associated with predicted fire problems.

The logical next step is to correlate the determined fire potentials with elements in the general plan. Here are examples of items to consider:

- A. **The land use element...**What are the current and planned areas for residential, commercial and industrial uses? Are there conflicts between land use plans and the documented fire potential? If so, how could they be resolved?
- B. **The circulation element...**How do the transportation routes relate to fire potential and suppression needs? Are evacuation potentials considered? Are helibases and helispots considered as part of the transportation system and access for fire equipment as called for in PRC 4290? Can improvements be made to reduce potentials and/or increase suppression effectiveness?
- C. **The conservation element...**Are natural resources on SRA lands threatened? How might they be better protected?
- D. **The open space element...**How does this element fit with the conservation element? Can there be a stronger relationship to enhance both? Where are the best chances for fuel breaks? How can complete networks of fuel breaks be linked together as authorized by the Government Code?
- E. **The safety element...**Are all areas of significant fire risk identified? Is the fire hazard severity scale incorporated into the element? Are there increasing levels of design and improvement requirements for the higher hazard levels? If not, what should be added?

Step 4. Designing Fire Protection Measures

The objective of this step is to show what is needed to improve suppression effectiveness. It is the place to define how and where initiatives can be incorporated in future planning and development.

This step requires the unlearning of two old but powerful concepts. First, disregard existing planning, zoning and development. Imagine that the entire jurisdiction is undeveloped, and that the strategic plan is being prepared for undeveloped wildlands. The existing patterns of development probably will change over time. Thus, the idea here is to design protection based on actual wildland fire potential, not on the current character of development. Do not get trapped into poor protection in the future because the jurisdiction has made poor planning decisions in the past.



Photograph 5.1.
Community Firebreaks are Needed in Subdivisions

Second, disregard funding mechanisms for the improvements. While all of the defined improvements must be realistic, efficient and justifiable, do not base decisions on the type, size or amount of strategic defense systems on the premise that CDF will have to fund the work. The designed improvements will be funded by various means as development goes forth.

The specific design tasks include:

- A. Design a complete fuel break system focused on the shelter-in-place concept. This design should be an ideal version, showing the very best possible system. Show major fuel breaks (200-300' wide) on key ridges, secondary fuel breaks (100-200') on secondary ridges, and tertiary breaks (50-100') to interconnect with other improvements. Use fire behavior and suppression knowledge in these designs and relate them to the fire hazard assessment. Divide the identified "High" and "Very High" hazards within the jurisdictions into manageable suppression areas of 30 to 300 acres, depending on slope, aspect, fuel types and fuel loading. "Low" and "Moderate" hazard areas may also need fuel breaks, depending on the overall conditions of the area.



Photograph 5.2.
Fuel Break

- B. Add "Fuel Reduction Areas" to the fuel break design. These would be areas where fuel breaks are not feasible, but where current or future fuel loading will create suppression problems. The reduction areas might be in steep canyons, along roadsides or adjacent to secondary and tertiary fuel breaks. They could also be areas suitable for greenbelt types of improvements such as pastures, golf courses, playing fields, etc. Objectives are to: 1) plan fuel reduction to widen or strengthen fuel breaks, or 2) to interconnect fuel breaks and other strategic improvements. The actual work of reducing fuels, by whatever means, may only have to be done once, or once every ten years. However, the strategic plan should delineate the areas for zoning and development requirements into the future.



Photograph 5.3.
Fuel Reduction Area

- B-1. Now go back and consider the constraints of existing development. Look at each place where the ideal design is hampered by the presence of structures. In each of those cases, design some kind of alternative that will give the best possible suppression effectiveness under the circumstances. The alternatives may be rerouting fuel breaks and relocating fuel reduction area boundaries, or it may be feasible to substitute additional water supply or access improvements. Whatever the situation, develop this step to provide strategic defense improvements that meet the best and safest objectives.
- C. Identify those general areas where adequate water sources are needed. If actual sources are known and available at the time of designation, they can be included. Otherwise indicate general areas only, because actual sources and future development cannot be predicted at the time of the update. Define flow and volume requirements for wildland suppression needs in each area. The strategic planning of water sources could show, for example, that individual water supplies would be less effective than fewer but larger sources in critical locations.
- D. Review the jurisdiction's current road and driveway standards for all types of development. Define the changes in these standards needed to provide adequate access, suppression effectiveness and public safety. Specify private and public culverts and bridges that need improvement to provide suppression access, now and in the future. Relate these substandard facilities to the California Environmental Quality Act (CEQA) requirements for evacuation and emergency plans and the circulation element standards in the Government Code.
 - D-1. Define air access requirements. Map locations where heliports and helispots are needed. Designate existing air tanker bases that need to be included in public safety and conservation elements to reduce or avoid future challenges from encroaching development. Relate this to water supply needs.

Step 5. Other Facilities.

Will additional fire stations be required? If so, identify general areas.

Step 6. Compile Data and Recommendations.

Prepare a draft proposal for changes in the jurisdiction's general plan. The proposal should include recommended policies, implementation measures, land use designations and zoning ordinance revisions that will support the strategic plan.

5.4 Implementing Fire Safe Land Use Plans

The technical planning steps that have just been outlined can be done in about 60-90 working days. That's the easy part. Actually implementing the plan involves two other processes or procedures that need to be accomplished concurrently, extending both the time and effort required. One of these procedures is legal review of the general plan amendment; the other is the political process of approval and adoption by the local government.

5.5 The Legal Aspects

The legal aspects are straightforward. Government Code, Section 65350 defines the process in detail. Some of the key conditions are:

- Anyone may propose amendment(s) to the existing general plan. With some exceptions, local government can conduct amendment procedures four times each year.
- Amendment procedures require notification of the public, other affected agencies and adjacent local jurisdictions. Time limits are specified for notification and replies.
- Amendments must be considered at public hearings before the local planning commission(s) and the legislative body.
- The local government as a result of public hearings and legislative prerogative may change initial contents of a proposed amendment. Amendments may be denied.
- Proposed amendments are subject to CEQA review and requirements. Title 14, California Code of Regulations Sections 15307 and 15308 provide exemptions for regulatory actions that will protect natural resources and the environment. An initial study that describes the protection values of a strategic plan is all that is necessary for CEQA compliance.

5.6 Time

One practical impact of the legal process is time. Notification of other agencies, scheduling of amendment proposals, public notification and public hearings all take pre-planning. At best, an amendment that has complete support from all concerned parties, requiring no revisions, could take as long as 14 weeks to become effective. Yet few amendments enjoy that kind of progress. Most encounter obstacles that require revision or rescheduling.

5.7 Adoption Alternatives

Another practical impact involves both time and procedural considerations. There are two alternatives for moving a strategic plan to adoption. One alternative is incremental, i.e. to propose one part of the plan at a time, gaining its adoption before proposing the next part. The other alternative is to move the entire

comprehensive plan through the process as a single amendment to the general plan. Each alternative has advantages and disadvantages. The incremental process will take significantly longer, but it may provide some fire prevention and protection improvements a little sooner. The comprehensive approach should take less time initially, but one strong objection to part of the plan could delay the whole thing until revisions are made and supported.

The local planning department(s) affected by any strategic plan proposal can be of aid in helping to move it through the legal process. This is further justification for involving them in the planning effort.

5.8 The Political Process

The political process is not as clear-cut as the legal procedure. Elected officials have tremendous powers, and they may "just say no" to a proposal regardless of its professional accuracy or protection necessity. It is almost certain that some of the decision-makers will have philosophical resistance to a fire safe land use plan. They may also misunderstand the issues of private property rights and taking land. Special interests in the jurisdiction may also have the same orientations and offer objections. These political obstacles can be formidable. Here are suggestions to overcome those obstacles:

- An informed public (including elected and appointed officials) can be a strong positive influence on the outcome of a strategic planning effort. A coordinated public information and education plan should be part of the planning process.
- Do not surprise the local leaders with a completed plan and amendment proposal that they did not know was coming. Inform and involve them from the outset, as noted in the preparation step outlined earlier. Throughout the process, information and involvement contacts should be made to expose potential resistance and to find legitimate ways to overcome it.
- Assure them that the strategic plan is solidly based on scientific and professional knowledge. Propose the amendment(s) in a format that includes reference to, and compliance with, planning law.

A good reference on this subject is *Citizens Involved, Handle with Care*, by Dr. Jean Mater.