

WILDLAND/URBAN FIRE SIZEUP CONSIDERATIONS

Wildland/urban fire sizeup considerations differ somewhat from wildland fire. The paramount consideration, however, is the same in both, *rescue/life safety*. This consideration applies to firefighters as well as to structure occupants. *Operations necessary to protect life, such as search and rescue in a burning structure, should only be undertaken by trained and experienced firefighters equipped with full turnout gear and self-contained breathing apparatus.* Smoke and toxic gases are the greatest hazards in structural firefighting.

The following are considerations for a wildland/urban fire sizeup:

A. Structures and improvements.

1. Number, arrangement, and kinds of exposures.

Look at the placement of improvements and anticipate fire behavior.

2. Note clearance around structure(s) (defensible space).

3. Size, height, and occupancy type.

4. Construction features: roof coverings, wood shake or shingle roofs (probably the greatest single hazard), wood siding, decks, eaves (exposed vs. covered), attic vents, rain gutters (empty or full of debris).

5. Safety and rescue.

Evacuation could involve both people and animals. Note safe refuge areas (outside and inside or behind structures). Consider other hazards, some hidden (septic tanks - which can collapse when subjected to heavy weight, insecticide storage), and some obvious (power lines, liquified petroleum gas [LPG] and fuel tanks).

6. Water supplies. Note location, availability, and reliability.

7. Combustibles located near structures (wood piles, vehicles, vegetation, etc.). Can they be removed?

B. Access. Note ingress and egress and one-way or narrow roads. Can firefighting equipment get into the area to protect structures. Consider the width of bridges and their load limits.

C. Fuel

1. Type of fuel (grass, brush, timber, ornamentals). Note the size and arrangement and continuity of fuels, and their proximity to structures and improvements.
2. Age of fuel. Observe the amount of dead material in fuel.
3. Consider structure fuels. These can be high volume fuel that produces large amounts of radiated and convective heat. Wood shake and shingle fires are difficult to extinguish and may cause spot fires.

D. Weather. Observe site specific weather.

1. Wind—note windspeed and direction (probably the key element of wildland fire behavior). Local winds may be quite different from general winds. They will be influenced by topography, fuels, structures, and in major fire incidents, by the fire itself.
2. Temperature—affects fire behavior as it affects your fuels (solar heating and drying).
3. Humidity—dryer air is better able to pick up moisture from the fuel. The result is that less time is required for heat buildup and combustion.
4. Stable vs. unstable atmosphere—are you experiencing major wind shifts and firewhirls? Both are indicators of unstable weather conditions.

E. Topography. Observe the following and anticipate their effects on fire behavior.

1. Canyons—wide vs. narrow, box, or chute.
2. Ridges—saddles and chimneys.
3. Slope—steep vs. flat terrain.
4. Physical barriers—both natural and artificial; roads, rivers, green belts, fuel breaks, cliffs, or large bodies of water.

F. Fire behavior—observe local fire behavior.

1. Fire location, speed, and direction. The basic determination of how far away it is and how fast it is moving. This will give you approximately how much time you have before structures may be involved.
2. Firewhirls.
3. Spotting—can you anticipate spot fires prior to the fire front reaching you? This could affect your attack plan and the safety of firefighters.

G. Resources

Are there enough resources on hand or do you have time to order and receive additional resources? Consider the following:

1. Other entity and/or agency involvement such as law enforcement for road closures and evacuation. Structural fire departments.
2. A last minute fuel clearance effort. Evaluate the terrain. Is it suitable for dozers, engines, or hand crews?
3. Structural protection and workforce. Consider firing out around structures. Do you have the necessary resources?
4. Air support (fixed wing and helicopters). They both have limitations.
5. Terrain for access. It may be suited only for smaller, more versatile equipment.
6. Water needs and sources. Water tenders may be needed.
7. Need and availability of special equipment.

STRUCTURE TRIAGE

Structure triage is the sorting and prioritizing of structures requiring protection from wildland fire.

Triage can be required of anyone at any time on a wildland/urban fire incident; from the incident commander doing reconnaissance to an engine crew moving into position.

The goal of triage is to do the most good with what you have and to not waste limited resources or time. It requires categorization of threatened structures as:

- Needing little or no attention for now.
- Needing protection, but savable.
- Indefensible.

There are no absolute answers, but five factors to help make a triage decision are:

- Firefighter safety
- The structure itself
- Surrounding fuels
- Fire behavior
- Available resources

Consider the following:

A. Firefighter safety

1. Ingress/egress routes
 - One way/two way
 - Slope and steepness of road
 - Bridges
2. Power lines
3. Smoke/visibility
4. Hazardous materials
5. LPG and overhead fuel storage

B. Structure construction features, condition, and exposure.

1. Roof

- Combustible—wood shakes, tar paper, etc.
- Non combustible—tile, metal, or fiberglass, etc.
- Pitch—debris on roof or in gutters

2. Siding

- Combustible—wood.
- Non combustible—metal, brick, etc.

3. Heat traps

- Open gable
- Vents without screens or non fire resistant screens
- Overhanging decks

4. Windows

5. Size of building

6. Shape of building

7. Position on slope

C. Surrounding fuels

1. Size and arrangement

2. Age

3. Proximity to structure

4. Loading

5. Types

- Resistant or flammable
- Landscape/ornamental
- Grass, brush, timber, exotic (palmetto, etc.)
- Wood piles

6. Landscaping—railroad ties, wood fences
7. Defensible space, access
8. Yard accumulation
9. Flame or heat duration
10. Explosive—liquified petroleum gas (LPG) tanks, diesel or gas storage tanks

D. Fire Behavior

1. Rate of spread and direction
2. Topographic influence
3. Weather influence
4. Flame length
5. Spotting
6. Natural or other barriers

E. Available resources

1. Kind and type equipment available
 - On site resources (water, equipment, ladders)
 - Location
 - When available—response time
2. Capabilities and limitations
 - Mobility
 - Water/foam
 - Retardant