

# HAZARD IDENTIFICATION AND VULNERABILITY ANALYSIS (HIVA)

## Walla Walla County, Washington

### URBAN CONFLAGRATION

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#### Hazard Overview

Conflagration is a fire occurring primarily in cities or towns with the potential to rapidly spread to adjoining structures. These fires have the potential to damage and destroy homes, schools, commercial buildings and vehicles.<sup>1</sup> Conflagrations are rare in modern developed cities, but could happen after an earthquake or during civil unrest. Ignitions could occur throughout the city simultaneously. One study estimates that 80-100 fires could follow a large earthquake in the Seattle area. Such a large number of fires would easily overwhelm the capabilities of the Fire Department. Fires in the city's power distribution network can create large power outages.<sup>2</sup>

#### History and Probability of Occurrence

Walla Walla County does not have a considerable history of urban conflagration. Fires within urban areas have for the most part been quickly contained.

The most significant fire of this type occurred in the Denny Building downtown Walla Walla on February 11, 2001. About 80 people regularly worked in the building, but it was empty the night it burned. The fire was first reported at 5:03 PM and heavily damaged the 1906 structure. Inside were countless documents and records relating to thousands of clients in the dozen professional offices located there. The fire was largely confined to the third and fourth floors but there was substantial water and smoke damage to all the floors. The fire is believed to have been the result of the failure of a surge protection device in an office on the third floor. A Spokane firm restored the 28,800-square-foot building in the months following the fire. The restoration cost was approximately \$4.5 million. With the contents included, the total cost of the fire was estimated to be about \$5 million.<sup>3</sup>



Thirty-eight percent of structure fires in Washington State occur in places where people live. The leading cause of these fires is heat from electrical equipment, matches and lighters, electrical short-circuit or arc, and heat from wood or paper fueled equipment.<sup>4</sup> Such equipment includes electric stoves, portable space heaters and electric heaters. Chimneys are also a leading area of fire origin. Since there is not a significant amount of wood or paper fueled equipment, chimneys, or heaters that do not conform to safety codes in the downtown area of Walla Walla, the probability of a fire starting in a downtown building is lowered.

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<sup>1</sup> Washington State Urban Conflagration HIVA

<sup>2</sup> City of Seattle HIVA

<sup>3</sup> Walla Walla Union-Bulletin, Denny Building Fire Picture from [http://www.scm\\_ae.com/ap/denny.htm](http://www.scm_ae.com/ap/denny.htm)

<sup>4</sup> Washington State HIVA

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Most cities in Walla Walla County have hotels, businesses and educational buildings, the second leading type of buildings in which fires occur. In the core of downtown Walla Walla, buildings are situated closely together. Fire separation walls have been modified in such a way that fire walls have been breached, so the spread of fire due to the lack of firewalls could be a problem. In other areas of Walla Walla buildings are generally distributed far enough apart that the spread of fire between them is unlikely. Walla Walla's downtown area consists of multiple office buildings, small businesses and restaurants, but since other parts of the city is so spread out that the chances of a large structural fire traveling from one building to another, or to multiple other buildings is relatively low.

A considerable number of buildings in downtown Walla Walla are relatively old. However, in an attempt to reduce the number of urban fires Washington State has adopted the Uniform Fire Code's international safety requirements which, among other things, insists upon sprinklers in certain industrial and business buildings, and encourages fire extinguishing and fire detection systems to be installed during construction. However, there is a clause in the code for grandfathering and because of this many of the buildings in downtown Walla Walla do not have sprinkler systems, and some only have sprinkler systems in the basement. There is not currently momentous amount of shrubbery downtown Walla Walla that would aid in the spread of fire between buildings, so even if a major fire was to occur in one of these facilities, it would most likely not spread into adjoining structures before it could be controlled. However, consideration should be given for trees that have been planted in recent years. As these trees start to mature and grow larger, there will be an increase in the susceptibility to fire spread.

Walla Walla County has potential in urban-wildland areas for conflagration similar to those experienced yearly in southern California, with dense undergrowth, and forested areas and population sprawl into more remote area's with less fire protection is continuing to increase our Vulnerability. See Walla Walla County Emergency Management's Wildfire HIVA for more information.

Residential areas are significantly more likely to experience a widespread fire. This is due to older housing structures and materials, a large number of trees and shrubbery surrounding houses, and dysfunctional or absent smoke detectors. In 2002, no alarms were present in 40% of the fatal fire incidents. Inoperable alarms combined with those with an unknown operation accounted for another 37%. The fatal fires reported in 2002 for Washington State indicate that 80% of the incidents occurred in places where people live.<sup>5</sup>

There is another trend that is impacting the probability for Urban Conflagration in Walla Walla County. The trend is directed by the Washington State growth management Act identifying needs to back filling properties that have large lots and to increase housing densities by decreasing lot sizes, in some area's as little as 6000 square feet is all that is needed to build a home and five feet from the property line. This does not take into

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<sup>5</sup> 2002 Fire In Washington, Washington State Patrol, Office of the State Fire Marshal

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account flammable foliage and flammable fencing that can be in the ten-foot building separation. These factors increase the probability.

The probability of a major fire developing into multiple structures and constituting a major disaster for Walla Walla County is LOW.

### **Vulnerability**

Walla Walla County is becoming more and more vulnerable because of increased building, living, and recreating in urban areas. Walla Walla's large population of elderly citizens increases the vulnerability of the area to deaths caused by urban fire. A limited area or segment of population, property, commerce, infrastructure or service is exposed to the effects of this hazard. In a worse case scenario there could be a disaster of minor to moderate proportions. The vulnerability for Walla Walla County is rated as LOW.

### **Risk Rating**

A comparison of the probability and vulnerability rates the overall risk rating as LOW. There is little potential for an urban conflagration disaster during the next 25 years. The threat is such as to warrant little special effort to prepare for, respond to, recover from, or mitigate against this hazard. This hazard need not be specifically addressed in the county's emergency management training and exercise program except as generally dealt with during hazard awareness training.

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