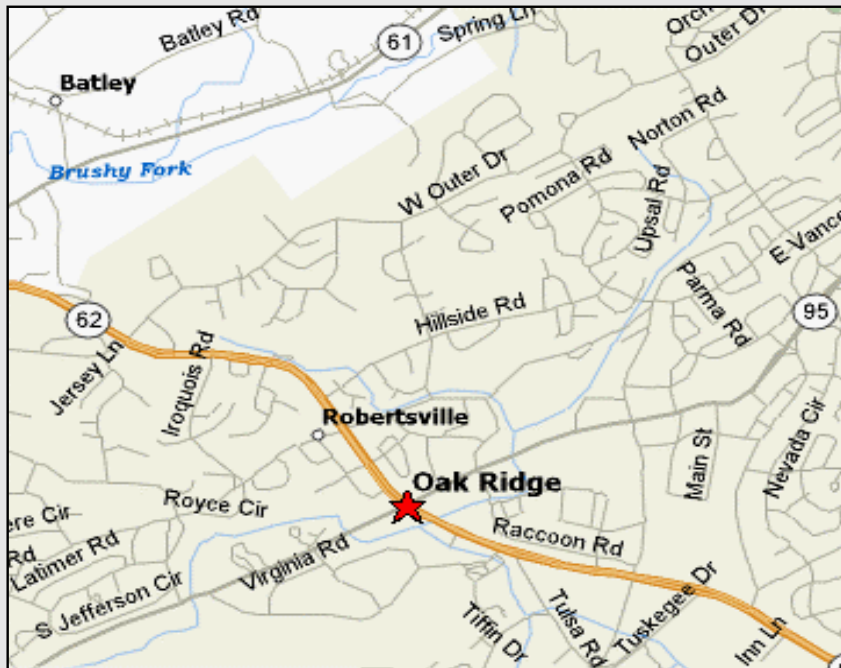


OAK RIDGE, TENNESSEE INDIVIDUAL MITIGATION ACTION PLAN



ANDERSON COUNTY, TN. MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN 2011 UPDATE

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SECTION 1 OAK RIDGE

1.1 Description

Immediately northeast of Oak Ridge, the southwestward-flowing Clinch River bends sharply to the southeast for roughly 6 miles (9.7 km) toward Solway, where it turns again to the southwest. After flowing for approximately 17 miles (27 km), the river bends sharply to the northwest at Copper Ridge, and continues in this direction for nearly 7 miles (11 km). At the K-25 plant, the Clinch turns southwest again and flows for another 11 miles (18 km) to its mouth on the Tennessee River at Kingston. This series of bends creates a half-rectangle formation—surrounded by water on the northeast, east, and southwest—in which Oak Ridge is situated.

Five elongate ridges that run roughly parallel to one another in a northeast-to-southwest direction striate the Oak Ridge area. In order from west to east, the five ridges are Black Oak Ridge (which connects the Elza and K-25 bends of the Clinch and thus "walls off" the half-rectangle), East Fork Ridge, Pine Ridge, Chestnut Ridge, and Haw Ridge. The five ridges are divided by four valleys—East Fork Valley (between Black Oak and East Fork Ridge), Gamble Valley (between East Fork and Pine Ridge), Bear Creek Valley (between Pine and Chestnut Ridge), and Bethel Valley (between Chestnut and Haw Ridge). These ridges and valleys are part of the Appalachian Ridge-and-Valley Physiographic Province. The main section of the city is located in the northeast, where East Fork and Pine Ridge give way to low, scattered hills. Many of the city's residences are located along northeastern slope of Black Oak Ridge.

The completion of Melton Hill Dam in 1963 created Melton Hill Lake, which borders the city on the northeast and east. The lakefront on the east side of the city is a popular recreation area with bicycling trails and picnic areas lining the shore. The lake is also well known as a venue for rowing competitions. Watts Bar Lake—an impoundment of the Tennessee River, which covers the lower 23 miles (37 km) of the Clinch, borders Oak Ridge to the south and southwest.

According to the United States Census Bureau, the city has a total area of 89.9 square miles (232.9 km), of which, 85.6 square miles (221.6 km) are land and 4.4 square miles (11.3 km) (4.86%) are water.

1.2 History

The earliest substantial occupation of the Oak Ridge area occurred during the Woodland period (c. 1000 B.C.–1000 A.D.), although artifacts dating to the Paleo-Indian period have been found throughout the Clinch Valley. Two Woodland mound sites—the Crawford Farm Mounds and the Freels Farm Mounds—were uncovered in the 1930s as part of the Norris Basin salvage excavations. Both sites were located just southeast of the former Scarboro community. The Bull Bluff site, which was occupied during both the Woodland and Mississippian (c. 1000–1600 A.D.) periods, was uncovered in the 1960s in anticipation of the construction of Melton Hill Dam. Bull Bluff is a cliff located immediately southeast of Haw Ridge, opposite Melton Hill Park. The Oak Ridge area was largely uninhabited by the time Euro-American explorers and settlers arrived in the late 18th century, although the Cherokee claimed the land as part of their hunting grounds. In the 19th century, the Oak Ridge area saw the development of several rural farming communities, namely Edgemoor and Elza in the northeast, East Fork and Wheat in the



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southwest, Robertsville in the west, and Bethel and Scarboro in the southeast. The settlers who founded these communities first arrived in the late 1790s, when the Cherokee signed the Treaty of Holston, ceding what is now Anderson County to the United States.

According to local tradition, John Hendrix (1865–1915), an eccentric local resident regarded as a mystic, prophesied the establishment of Oak Ridge some 40 years before construction began. Upset by the death of his young daughter and the subsequent departure of his wife and remaining family, he became religious and told his neighbors he was seeing visions. When he described his visions, people thought he was insane; for this reason, he was institutionalized for a time. According to several published accounts, one vision that he described repeatedly was an uncannily accurate description of the city and production facilities that were built 28 years after his death. The version recalled by neighbors and relatives has been reported as follows:

"In the woods, as I lay on the ground and looked up into the sky, there came to me a voice as loud and as sharp as thunder. The voice told me to sleep with my head on the ground for 40 nights and I would be shown visions of what the future holds for this land.... and I tell you, Bear Creek Valley someday will be filled with great buildings and factories, and they will help toward winning the greatest war that ever will be. And there will be a city on Black Oak Ridge and the center of authority will be on a spot middle-way between Sevier Tadlock's farm and Joe Pyatt's place. A railroad spur will branch off the main L&N line, run down toward Robertsville and then branch off and turn toward Scarborough. Big engines will dig big ditches, and thousands of people will be running to and fro. They will be building things, and there will be great noise and confusion and the earth will shake. I've seen it. It's coming."

In September of 1942, 60,000 acres of ridges and valleys along Black Oak Ridge met military requirements needed for the Manhattan Project – isolation, electric power, water, labor, and accessibility to towns and roadways. The 3,000 persons residing in approximately 1,000 homes throughout the rural communities of Scarboro, Wheat, and Robertsville were given a matter of weeks to remove their possessions and relocate, as their property was needed to develop the world's first atomic weapons to bring an end to World War II. Under the auspices of the Corps of Engineers, 80,000 construction workers raced against time to build three mystery plants to be known as K-25, X-10, and Y-12. Begun in June 1943, and completed in early 1945, the K-25 building was the largest building in the world under one roof, the distinctive "U" shape one-half mile long and 1,000 feet wide, the site covering 1,500 acres. Because of the wartime shortage of copper, Y-12 had the distinction of using \$300 million worth of silver, borrowed from the U.S. Treasury, for electromagnetic windings and associated electrical conductors.

Houses were built at a rate of two per hour. Over 300 miles of roads were built or improved, and 55 miles of rail line constructed. Originally planned for a population of 13,000, the city became the fifth largest city in Tennessee when population peaked at 75,000 in three years as scientists and workers from all over the world arrived to build two atomic bombs. The bus transportation system was the fourth largest in the U.S. The project cost \$1.65 billion in 1945. At one time in 1945, Oak Ridge used one-seventh of all the electricity produced in the U.S.

Oak Ridge was originally called Clinton Engineering Works. For seven years, the city existed as a "secret city." It was not shown on any maps, did not allow visitors other than by special approval, had guards with machine guns posted at every entrance to the area, and required all residents to wear badges at all times when outside their homes.

On June 1, 1947, two years after World War II ended, Oak Ridge was transferred to the authority of the U.S. Atomic Energy Commission (AEC), and in 1949, the city was opened to the public.



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The Roane-Anderson Company administered most community functions under a government contract. During 1955-1959, government-owned houses and land were sold to the residents. In 1959, the town was incorporated and a city manager and City Council form of government was adopted by the community. Today, Oak Ridge is often called “The Secret City,” “The Atomic City,” “The City Behind the Fence,” or simply, “The Ridge.”

Three of the four major facilities created for the wartime bomb production are still standing today:

- K-25, where uranium was enriched by the gaseous diffusion process until 1985, is now being decommissioned and decontaminated.
- Y-12, originally used for electromagnetic separation of uranium, is still in use for nuclear weapons processing and materials storage.
- X-10, site of a test graphite reactor, is now the site of Oak Ridge National Laboratory.

The S-50 liquid thermal diffusion plant was demolished soon after the war.

In 1983, the Department of Energy declassified a report showing that significant amounts of mercury had been released from the Oak Ridge Reservation into East Fork Poplar Creek between 1950 and 1977. A federal court ordered the DOE to bring the Oak Ridge Reservation into compliance with federal and state environmental regulations.

Currently, the Department of Energy runs a nuclear and high-tech research establishment at the site and performs national security work. Jaguar, a supercomputer at Oak Ridge National Laboratory, was the world's fastest computer until October 2010, when it was surpassed by China's Tianhe-I.

1.3 Significant Characteristics

Approximately 60% of the city's 90 square mile land area is owned by the Department of Energy. Within the city are 4.4 square miles of water area, 1,282 acres of parkland, and 1,336 acres of greenbelt.

An 800-acre recreation area at Haw Ridge has been set aside as an undeveloped recreational area for biking. In conjunction with a private group, the city is considering plans to establish more soccer fields throughout the city.

The American Museum of Science and Energy showcases the history of Oak Ridge and some of the newest scientific advancements. Science and energy tend to be fascinating subjects, and in 1949, the American Museum of Atomic Energy was opened in an old wartime cafeteria facility in Oak Ridge to educate visitors about the science behind atomic energy, as well as to show the peaceful uses of that type of energy. In 1975, a new, spacious facility was built, and three year later, the museum was renamed the American Museum of Science and Energy (AMSE).

The AMSE has five different exhibits that teach visitors about science and energy. The exhibits begin with the Story of Oak Ridge, with displays of historical photographs, documents, and artifacts regarding the Manhattan Project. At the Exploration Station, visitors are able to take part in a number of different activities involving problem solving, static electricity, robotics, vision, light and color, and sound. The Y-12 and National Defense exhibit has models of various weapons, clothing, and tools used at the Y-12 plant over the years. Earth's Energy Resources provides maps, tools, models, and audiovisual materials to explore energy resources -- coal, oil, geothermal hydropower, and natural gas -- that are a part of the earth. The last exhibit is the



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World of the Atom, the tiniest particle found on the earth. A cross-section of a nuclear reactor is provided, along with a simulation of an underground nuclear waste storage area. Information covers the pioneering of atomic scientists, natural radiation, fusion, and nuclear energy in space.

The Children's Museum of Oak Ridge has many play centers for children to discover, solve problems, and experience new and different things – hands-on.

The museum houses a variety of exhibits. The Rainforest is a simulated Amazon experience with sound effects, a waterfall, walkway, murals, and observation deck above the canopy of faux trees, flowers, and wild animals. The World of Trains is a collection of models donated by Milton Lloyd, a prominent citizen and model train railroader in Knoxville. The exhibit has a hands-on play room with a mock up of a diesel engine and HO scale, a club room, caboose, and garden railroad. The Appalachian Heritage display has a recreated homestead with artifacts from the 1850s to the 1880s. The Knoxville 1910s exhibit shows city and country life during that time. The International Hall offers a place for children to learn about different countries with music from Africa or Japanese Kokeshi dolls. Other displays include Waterworks, The Bird Room, The Dollhouse, The Arctic, Native Americans, Life in the 30s, and a nature walk.

Oak Ridge hosts several national and international rowing regattas each year, drawing competitors and visitors from the eastern half of the U.S.

1.4 Population and Demographics

It should be noted that although this Plan is a 2011 Plan, the city level 2010 census data was not available prior to the completion of this Plan.

As of the census of 2000, there were 27,387 people, 12,062 households, and 7,695 families residing in the city. The population density was 320.1 people per square mile (123.6/km). There were 13,417 housing units at an average density of 156.8/sq mi (60.6/km). The racial makeup of the city was 86.96% White, 8.18% African American, 0.30% Native American, 2.10% Asian, 0.02% Pacific Islander, 0.76% from other races, and 1.68% from two or more races. Hispanic or Latino of any race was 1.93% of the population.

There were 12,062 households, of which 26.8% had children under the age of 18 living with them, 49.7% were married couples living together, 11.1% had a female householder with no husband present, and 36.2% were non-families. 32.7% of all households were made up of individuals and 15.0% had someone living alone who was 65 years of age or older. The average household size was 2.24 and the average family size was 2.83.

In the city the population was spread out with 22.4% under the age of 18, 6.6% from 18 to 24, 23.6% from 25 to 44, 26.3% from 45 to 64, and 21.1% who were 65 years of age or older. The median age was 43 years. For every 100 females there were 88.1 males. For every 100 females age 18 and over, there were 83.4 males.

2010 Census

Population: 29,330

2009 Estimates:

Males: 12,996 (46.8%)

Females: 14,755 (53.2%)

Median resident age: 43.4 years; Tennessee median age: 35.9 years

1.5 Economy

The 2000 census reported the median income for a household in the city was \$41,950, and the median income for a family was \$57,087. Males had a median income of \$45,149 versus \$27,500 for females. The per capita income for the city was \$24,793. About 8.0% of families and 10.9% of the population were below the poverty line, including 17.5% of those under age 18 and 5.5% of those age 65 or over.

Estimates for 2009:

Median household income: \$48,776 (\$41,950 in 2000); Tennessee: \$41,725

Per capita income: \$27,629

Median house/condo value: \$136,628 (\$97,100 in 2000); Tennessee: \$137,300

Year	Permits	Average Cost
2000	56	\$146,700
2001	57	\$146,800
2002	46	\$156,500
2003	47	\$181,100
2004	55	\$156,600
2005	62	\$156,600
2006	62	\$156,600
2007	47	\$156,600
2008	31	\$156,600
2009	24	\$156,600

The federal government projects at Oak Ridge are reduced in size and scope, but are still the city's principal economic activity and one of the biggest employers in the Knoxville metropolitan area. The Department of Energy (DOE) owns the federal sites and maintains a major office in the city. Oak Ridge National Laboratory is the largest multipurpose lab in DOE's national laboratory system, and is home to the Spallation Neutron Source, a 1.4 billion dollar project completed in 2006, and "Jaguar," the world's second-most powerful scientific supercomputer that has peak performance of more than one quadrillion operations per second. The Y-12 National Nuclear Security Complex is a component of the U.S. nuclear weapons complex. Bechtel Jacobs serves as DOE's primary contractor, conducting an extensive program of decontamination and decommissioning, environmental cleanup, and waste management that aims to remove or stabilize the residues remaining from decades of government production and research activities.

The DOE Office of Scientific and Technical Information, which disseminates government research and development information and operates the Science.gov web site, is located in the city. The Oak Ridge Institute for Science and Education, operated by Oak Ridge Associated Universities, conducts research and education programs for the Department of Energy, Department of Homeland Security, and other federal agencies. The Atmospheric Turbulence and Diffusion Division (ATDD), one of several field divisions of the National Oceanic and Atmospheric Administration (NOAA) Air Resources Laboratory, is also located in the city. ATDD began under the Atomic Energy Commission (AEC) sponsorship in 1948 as a Weather Bureau research office providing meteorological information and expertise for the AEC.



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Currently, its main function is to perform air quality-related research directed toward issues of national and global importance.

IPIX, Remotec (now a subsidiary of Northrop Grumman), and several other technology-based companies have been founded in Oak Ridge. Wackenhut provides security services for DOE's local facilities, employing about 900 people. Several radioactive waste processing companies, including Energy Solutions, have operations in Oak Ridge.

Table 1.5.2 Oak Ridge Most Common Industries			
Industry	All	Males	Females
Professional, scientific, and technical services	22.0% (2,647)	28.4% (1,793)	14.9% (854)
Health care	11.2% (1,348)	6.4% (406)	16.4% (942)
Educational services	9.2% (1,105)	3.9% (244)	15.0% (861)
Accommodation and food services	6.0% (718)	5.2% (328)	6.8% (390)
Construction	5.2% (621)	8.2% (518)	1.8% (103)
Administrative and support and waste management services	4.7% (565)	5.1% (324)	4.2% (241)
Public administration	3.9% (468)	3.5% (221)	4.3% (247)
Finance and insurance	3.2% (388)	2.0% (129)	4.5% (259)
Department and other general merchandise stores	2.3% (278)	1.6% (104)	3.0% (174)
Social assistance	2.1% (259)	0.7% (47)	3.7% (212)
Utilities	1.8% (216)	2.3% (144)	1.3% (72)
Religious, grant making, civic, professional, and similar organizations	1.8% (212)	1.4% (86)	2.2% (126)
Real estate and rental and leasing	1.7% (211)	1.9% (117)	1.6% (94)
Transportation equipment	1.7% (207)	2.4% (152)	1.0% (55)
Motor vehicle and parts dealers	1.5% (179)	2.4% (149)	0.5% (30)
Food and beverage stores	1.4% (173)	1.5% (97)	1.3% (76)
Metal and metal products	1.3% (154)	1.4% (90)	1.1% (64)
Repair and maintenance	1.0% (121)	1.4% (86)	0.6% (35)
Personal and laundry services	1.0% (117)	0.6% (41)	1.3% (76)
Publishing, and motion picture and sound recording industries	1.0% (115)	0.8% (51)	1.1% (64)
Miscellaneous manufacturing	0.9% (113)	1.1% (69)	0.8% (44)
Arts, entertainment, and recreation	0.9% (109)	0.5% (32)	1.3% (77)
Plastics and rubber products	0.9% (109)	1.6% (104)	0.1% (5)
Clothing and accessories, including shoe, stores	0.7% (89)	0.3% (17)	1.3% (72)
Sporting goods, camera, and hobby and toy stores	0.6% (72)	0.3% (21)	0.9% (51)
Broadcasting and telecommunications	0.6% (70)	0.9% (56)	0.2% (14)
Computer and electronic products	0.6% (69)	0.8% (48)	0.4% (21)
Truck transportation	0.6% (68)	1.1% (68)	0.0% (0)
Machinery	0.6% (68)	0.9% (60)	0.1% (8)
Nonmetallic mineral products	0.5% (57)	0.8% (52)	0.1% (5)
Used merchandise, gift, novelty, and souvenir, and other stores	0.5% (56)	0.1% (8)	0.8% (48)
Other transportation, and support activities, and couriers	0.4% (53)	0.7% (47)	0.1% (6)
Chemicals	0.4% (51)	0.5% (31)	0.3% (20)



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Table 1.5.2 Oak Ridge Most Common Industries			
Industry	All	Males	Females
Other direct selling establishments	0.4% (49)	0.5% (33)	0.3% (16)
Electronic shopping and mail-order houses	0.4% (49)	0.5% (30)	0.3% (19)
Furniture and home furnishings, and household appliance stores	0.4% (48)	0.6% (36)	0.2% (12)
Printing and related support activities	0.4% (45)	0.5% (32)	0.2% (13)
Data processing, libraries, and other information services	0.4% (45)	0.3% (19)	0.5% (26)
Building material and garden equipment and supplies dealers	0.4% (43)	0.6% (41)	0.0% (2)
Pharmacies and drug stores	0.4% (43)	0.3% (19)	0.4% (24)
Office supplies and stationery stores	0.4% (43)	0.6% (37)	0.1% (6)
Radio, TV, and computer stores	0.3% (41)	0.5% (33)	0.1% (8)
Miscellaneous nondurable goods merchant wholesalers	0.3% (40)	0.2% (15)	0.4% (25)
Machinery, equipment, and supplies merchant wholesalers	0.3% (38)	0.3% (21)	0.3% (17)
Food	0.3% (37)	0.2% (11)	0.5% (26)
Apparel	0.3% (34)	0.1% (7)	0.5% (27)
Metals and minerals, except petroleum, merchant wholesalers	0.3% (34)	0.5% (34)	0.0% (0)
Recyclable material merchant wholesalers	0.2% (29)	0.1% (7)	0.4% (22)
U. S. Postal Service	0.2% (29)	0.3% (22)	0.1% (7)
Health and personal care, except drug stores	0.2% (27)	0.0% (0)	0.5% (27)
Professional and commercial equipment and supplies wholesalers	0.2% (26)	0.4% (26)	0.0% (0)
Air transportation	0.2% (21)	0.2% (14)	0.1% (7)
Furniture and related product manufacturing	0.2% (21)	0.3% (21)	0.0% (0)
Electrical equipment, appliances, and components	0.1% (18)	0.1% (7)	0.2% (11)
Groceries and related products merchant wholesalers	0.1% (17)	0.2% (11)	0.1% (6)
Agriculture, forestry, fishing and hunting	0.1% (17)	0.2% (15)	0.0% (2)
Private households	0.1% (16)	0.0% (0)	0.3% (16)
Mining, quarrying, and oil and gas extraction	0.1% (15)	0.2% (15)	0.0% (0)
Retail florists	0.1% (15)	0.2% (10)	0.1% (5)
Electrical and electronic goods merchant wholesalers	0.1% (15)	0.2% (15)	0.0% (0)
Jewelry, luggage, and leather goods stores	0.1% (14)	0.0% (0)	0.2% (14)
Vending machine operators	0.1% (9)	0.1% (9)	0.0% (0)
Fuel dealers	0.1% (7)	0.1% (7)	0.0% (0)
Hardware, plumbing and heating equipment, and supplies merchant wholesalers	0.1% (7)	0.1% (7)	0.0% (0)

1.6 Infrastructure

Oak Ridge is governed by a seven-member city council that includes a Mayor. The city has its own Police, Fire, Public Works, and Parks and Recreation Departments.

Department	FT/PT Employees
Finance Administration	45/2
Law Enforcement	70/1
Fire Service	41/0



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Streets	53/0
Utilities	63/0
Parks/Recreation	22/26
Housing/Community	11/0
Education	637/219
Library/Other	16/13

Colleges/Universities Nearest to Oak Ridge:

- The University Of Tennessee (25 miles; Knoxville, TN; Enrollment: 23,333)
- Pellissippi Technical Community College (7 miles; Knoxville, TN; Enrollment: 5,196)
- Roane State Community College (21 miles; Harriman, TN; Enrollment: 3,490)
- Roane State Community College (0 miles; Oak Ridge, TN; Enrollment 4,350)
- Maryville College (30 miles; Maryville, TN; Enrollment 1,103)
- Lincoln Memorial University (67 miles; Harrogate, TN; Enrollment 4,445)
- Carson-Newman College (72 miles; Jefferson City, TN; Enrollment: 2,073)
- Walters State Community College (72 miles; Morristown, TN; Enrollment: 3,893)

Public High Schools in Oak Ridge:

- Oak Ridge High School (Students: 1,542; Location: 1450 Oak Ridge Turnpike; Grades: 9-12)

Public Elementary/Middle Schools in Oak Ridge:

- Woodland Elementary (Students: 444; Location: 168 Manhattan Avenue; Grades: K-4)
- Linden Elementary (Students: 433; Location: 700 Robertsville Road; Grades: K-4)
- Willow Brook Elementary (Students: 420; Location: 298 Robertsville Road; Grades: K-4)
- Glenwood Elementary (Students: 315; Location: 125 Audubon Road; Grades: K-4)
- Oak Ridge Preschool (Students 270; 304 New York Avenue; Grades: PK)
- Jefferson Middle School (Students: 710; Location: 200 Fairbanks Road; Grades: 5-8)
- Robertsville Middle School (Students: 701; Location: 245 Robertsville Road; Grades: 5-8)

Private Elementary/Middle Schools in Oak Ridge:

- St. Mary’s School (Students: 225; 323 Vermont Ave; Grades: PK - 8)
- Montessori Center of Oak Ridge (Students: 30; 728 Emory Valley Rd #24; Grades: PK - K)
- Christian Outreach Academy (Students: 17; 535 Oak Ridge Turnpike; Grades: K - 8)

Library in Oak Ridge:

Oak Ridge Public Library (Operating Income: \$980,273; Location: 1401 Oak Ridge Turnpike; 111,564 Books; 7,053 Audio Materials; 4,104 Video Materials; 231 Serial Subscriptions)

Oak Ridge has five industrial parks - Oak Ridge Summit, Heritage Center, Horizon Center, Bethel Valley, and Commerce Park - totaling approximately 6,500 acres. Space remains available for new construction within these parks. A 1,200 acre site has been set aside and may be developed as the Clinch River Industrial Park. A strategic goal is to promote joint industrial park development with surrounding communities.

The city’s strategic goals include encouraging DOE to release 200 acres near Wisconsin Avenue in the far west end for new housing, and increasing new housing starts by 25% in the next three



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years. Despite the downturn in the housing market, numerous residential developments have been completed by private developers in the past five years. In east Oak Ridge, two developments sharing a golf course -- the 278 acre Centennial Village, and Park Meade Place, a 13 acre development of town homes and private executive homes -- have been completed. In west Oak Ridge, Rarity Ridge, a 1,200 acre tract, is underway with a traditional neighborhood development of 2,800 residential units and a town center with retail, commerce, and office space. In central Oak Ridge, Willow Place -- a good example of infill redevelopment -- is completed with 75 mostly single-resident homes. With a population growth of seven percent, these developments are planned to attract a portion of the many workers who are employed in, but live outside, Anderson County.

Within the city of Oak Ridge are 55 square miles of federal land under the control of DOE. Recent changes in land use in this area include construction of the \$1.4 billion Spallation Neutron Source completed in 2006, and completion of a \$10 million haul road to curtail transportation of hazardous cleanup materials on public roadways. Extensive environmental studies were conducted for both projects.

In October 2006, DOE contracted with Oak Ridge to provide fire protection to East Tennessee Technology Park. An additional city fire station has been established at this location and will dramatically improve response time to the large Rarity Ridge subdivision and other homes and businesses in the far western portion of Oak Ridge.



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1.7 Capabilities

The Legal and Regulatory Capabilities survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities. If the jurisdiction does not have this capability or authority, another entity/jurisdiction may have this authority at a higher level of government (county, parish, or regional political entity), or the state may prohibit the local jurisdictions from having this authority.

Table 1.7.1 Oak Ridge Legal And Regulatory Capabilities

Regulatory Tools/Plans	Regulatory Type: Ordinance, Resolution, Codes, Plans Etc.	Date Adopted	Local Authority	State Prohibited	Higher Authority	Electronic copy included
Building Codes	International Building Code	2007	Y			
Capital Improvements Plan	Ordinance 14/107	04/2010	Y			Y
Comprehensive Plan	Resolution 5-64-88	1988	Y	N	N	Y
Continuity of Operations Plan						
Community Rating System (Flood)						
Economic Development Plan	Oak Ridge Economic Development Board		Y			
Emergency Management Accredited						
Emergency Response Plan	County Basic Emergency Operations Plan	05/31/10	Y		Y	Y
Flood Management Plan	Ordinance 14-402	2007	Y	N	N	Y
Growth Control Ordinance	Anderson County Urban Growth Plan	03/23/01	Y	N	N	N
Hazard Mitigation Plan	Anderson County Multi-Jurisdictional HMP	09/2005	Y	N	Y	Y
Hazard Setback Regulations	Ordinance 14-301	04/1969	Y	N	N	Y
Hillside Ordinance	Ordinance 14-504	02/1998	Y	N	N	Y
Historic Ordinance						
NFIP Participant	#475441	10/27/72	Y	N	Y	N
Post-disaster Ordinance						
Post-disaster Recovery Plan	County Basic Emergency Operations Plan	05/31/10	Y	N	Y	Y
Real Estate Disclosure	Tennessee Real Estate Commission			N	N	Y
Shoreline Ordinance						
Site Plan Requirements	Ordinance 14-505	02/2004	Y	N	N	Y
Storm Water/Pollution Plan						
Subdivision Regulations	Ordinance 14-201	02/2004	Y	N	N	Y
Wildfire Ordinance	SBCCI Fire Code	2007	Y	N	Y	Y
Zoning Ordinances	Ordinance 14-301	Annually	Y	N	N	Y



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The Administrative and Technical Capabilities survey documents personnel employed by the jurisdiction and the public and private sector resources that may be accessed to mitigate hazards in the community. For smaller jurisdictions with limited capacities, no local staff resources may be available for many of the categories, and public resources at the next higher level of government may be able to provide technical assistance to the community.

For some hazard mitigation actions, federal agencies may provide technical assistance, such as the U.S. Department of Agriculture (USDA) Cooperative Extension Service, which has offices in most counties. The planning team in rural communities must be creative in identifying outside resources to augment limited local capabilities. This information will be used when evaluating alternative mitigation actions.

Table 1.7.2 Oak Ridge Administrative And Technical Capabilities					
C=County Provides #, S=State Provides #, F=Federal Provides #					
Position	Staff/Personnel Resources	Department/Agency	Number Fully Trained	Number Fully Equipped	Total Personnel
Agriculture Resource	Agent	State/County Extension Svc.	S3	S3	S3
Building Inspector	Professional	Zoning and Inspections	4	4	4
Emergency Communications	911 specialists	E-911	9	9	9
Emergency Manager	Certified Professional	Emergency Management	C1	C1	C1
Emergency Staff	Professional(s)	Emergency Management	C1	C1	C1
EMS	Certified	Fire Department	70	70	70
EMT/Paramedic	Certified	Fire/Rescue Service	16	16	16
Fire Personnel	Professional(s)	Fire Department	73	73	73
Floodplain Manager	Engineer(s)	Engineering/Public Works	1	1	1
GIS Specialist	Professional(s)	Property Assessor/IT	1	1	1
Government Elected	Elected Officials	Mayor/Council	7	7	7
Government Administration	Employees	Jurisdiction Total	40	40	40
Grant writer	Professional(s)	Jurisdiction	1	1	1
Hazards Analysis Mgr.	Certified	Emergency Management	1	1	1
Hazmat Team	Certified	Fire/Sheriff Department	50	50	50
Information Systems	Professional	Information Systems Department	10	10	10
Land Use/Management	Engineer(s)/Planners	State/Local Planning	7	7	7
Law Enforcement	Sheriff, Police, Trooper	Sheriff/Police Department	75	75	75
Medical Practioners	Doctor(s)/Nurse(s)	Medical Facilities	300	300	300
Public Health	Professionals	Department of Public Health	C12	C12	C12
Public Works	Engineers/Staff	Public Works	70	70	70
Public Utilities	Professionals	Public Utilities	120	120	120
Search & Rescue	Volunteers	Rescue Squad	70	70	70
Surveyor	Professional	Contracted	1	1	1
Total Jurisdiction Employees					368



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The Fiscal Capabilities survey identifies whether the jurisdiction has access to or is eligible to use certain financial resources for hazard mitigation.

Table 1.7.3 Oak Ridge Fiscal Capabilities

Financial Resources	Description	Status			
		Yes	No	TBD	Used
Community Grants	Community Development Block Grants (CDBG)	Y			Y
	Hazard Mitigation Planning Grants (HMPG) – disaster related	Y			Y
	PDM for Disaster Resistant Universities		N		
	PDM Grants for Communities	Y			Y
	Department of Health Grants	Y			
	Department of Justice Grants	Y			Y
	Department of Agriculture Grants			X	
	Department of Energy Grants	Y			Y
	Department of Education Grants	Y			Y
	Fire Department Grants	Y			Y
	Flood Management Grants (FMA)	Y			
	Homeland Security Grant Program (HSGP)	Y			Y
	Repetitive Flood Claims Grants (RFC)	Y			
	Severe Repetitive Loss Grants (SRL)	Y			
	Private foundation grants	Y			Y
	Private business/industry grants	Y			Y
Debt Procurement	Incur debt based on special tax/revenue bonds	Y			Y
Debt Procurement	Incur debt through private activity bonds (private/jurisdiction bonds)	Y			
Impact Fees	Charge developer fees for new developments (impact fees)	Y		X	
Jurisdiction Bonds	Incur debt via general obligation bonds (no guaranteed repayment source)	Y			
Project Funding	Capital improvement budget	Y			Y
Spending Restrictions	Able to withhold spending in hazard-prone areas (permits)	Y			Y
Special Taxes	Authority to levy taxes for specific purposes (i.e. sales tax)	Y			Y
Utility Fees	Collect fees for water, sewer, gas, cable or electric service	Y			Y
Annual Revenue	173,490,940	Annual Budget	179,474,429	Sales Tax Revenue	8,400,000
Public Structures	Number 29	Total Value	591,500,000	Total Sq. Ft.	1,9981,123
Private Facilities	Number of Business	655	Number of Industries		57

1.8 Mitigation Goals and Objectives

The Mitigation Committee believes that each of the following goals, objectives, and action items is necessary to begin to address hazard issues in the City of Oak Ridge. The following goal statements represent a broad target for the City of Oak Ridge to achieve through the implementation of its own specific Mitigation Action Plan before the next Plan update.

Table 1.8.1 Countywide Goals and Objectives	
Goals	Objectives
Goal 1: Improve the capability of Anderson County and participating jurisdictions to prepare for, respond to, and recover from all profiled hazards	Objective 1.1: Improve capabilities to evaluate and manage hazard incidents. Objective 1.2: Improve dissemination of all hazards awareness, preparedness, and training information to citizens. Objective 1.3: Improve warning, evacuation, and information capabilities. Objective 1.4: Improve multi-jurisdictional, multi-agency response to all hazards Objective 1.5: Improve capabilities to recover from all hazard incidents.
Goal 2: Minimize the impact of hazardous materials spills and releases.	Objective 2.1: Identify and establish requirements for fixed sites with reportable quantities of hazardous materials. Objective 2.2: Educate citizens on response to hazardous materials incidents. Objective 2.3 Improve responder safety and response to hazardous materials events. Objective 2.4: Reduce effects to the environment from hazardous materials spills. Objective 2.5: Reduce risk of citizen proximity to hazardous materials incidents.
Goal 3: Minimize the impact of severe weather incidents on citizens and property.	Objective 3.1: Reduce the impact of drought. Objective 3.2: Reduce the impact of extreme temperatures. Objective 3.3: Reduce loss of life and property from high wind, hail, and lightning incidents caused by tropical storms, thunderstorms, and tornados. Objective 3.4: Reduce the impact of ice and snow caused by severe winter storms. Objective 3.5: Minimize utility loss during all severe weather incidents.
Goal 4: Reduce the impact on citizens and property from flash and riverine flooding incidents caused by thunderstorms and tropical storms.	Objective 4.1: Continue participation in and improve citizen awareness of the NFIP. Objective 4.2: Apply for Community Rating System approval. Objective 4.3: Identify and restrict development in flood prone areas. Objective 4.4: Reduce flooding from streams and creeks. Objective 4.5: Reduce repetitive roadway flooding. Objective 4.6: Increase citizen awareness of flood hazard and safety. Objective 4.7: Improve emergency response to flood incidents.
Goal 5: Reduce loss of life and property from urban fires.	Objective 5.1: Increase citizen awareness of fire hazards, prevention, and safety. Objective 5.2: Reduce the incidence and severity of structure fires. Objective 5.3: Improve firefighter safety and urban fire response capabilities. Objective 5.4: Improve water supply in rural areas.
Goal 6: Minimize the impact of wildfires on citizens and property.	Objective 6.1: Increase citizen awareness of and preparedness for wildfire incidents. Objective 6.2: Enforce outdoor burn ban and permit requirements. Objective 6.3: Improve firefighter safety and effectiveness in fighting wild land fires. Objective 6.4: Reduce loss of structures in urban interface wildfire incidents.
Goal 7: Protect the county's citizens and assets from domestic and international terrorism.	Objective 7.1: Increase citizen awareness of and preparedness for terrorism incidents. Objective 7.2: Reduce any loss of life resulting from terrorism events. Objective 7.3: Improve terrorism response and emergency responder safety.
Goal 8: Reduce loss of life and property from meth labs.	Objective 8.1: Increase citizen awareness of meth lab hazards, recognition, and reporting. Objective 8.2: Improve emergency responder safety at clandestine labs.



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Goal 9: Minimize property damage and public risk from landslides.	Objective 9.1: Identify areas prone to landslide. Objective 9.2: Restrict development in areas prone to landslide. Objective 9.3: Increase citizen awareness of landslide hazards.
Goal 10: Minimize potential loss of life and economic impact from dam failure.	Objective 10.1: Reduce loss of life from Norris Dam failure. Objective 10.2: Reduce loss of life and property from failure of privately owned dams. Objective 10.3: Reduce threat of private dam failure.
Goal 11: Minimize damage to property from land subsidence.	Objective 11.1: Identify karst prone areas. Objective 11.2: Improve citizen awareness of land subsidence hazards.
Goal 12: Minimize damage and loss of life from earthquakes.	Objective 12.1: Evaluate the potential for a damaging earthquake in Anderson County. Objective 12.2: Increase citizen awareness of earthquake hazards and pre-disaster mitigation strategies.
Goal 13: Minimize the impact of bioterrorism and widespread health emergencies.	Objective 13.1: Increase citizen awareness of and preparedness for pandemics. Objective 13.2: Improve response to bioterrorism incidents and pandemic emergencies. Objective 13.3: Reduce the impact of pandemic health emergencies on business, agriculture, and emergency services agencies.

1.9 Multi-Jurisdictional Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted Mitigation Actions. In each Mitigation Action Plan, every proposed action is assigned to a specific local department or agency in order to delegate responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process.

The mitigation actions proposed by each of the Anderson County jurisdictions participating under this Plan are contained in individual Mitigation Action Plans (MAPs). Each MAP has been designed to address the specific hazard risk and unique needs of each jurisdiction.

1.10 Mitigation Actions

The actions listed in the Oak Ridge Mitigation Action Plan serve as an easily understood menu of mitigation policies and projects for local decision-makers who want to quickly review their jurisdiction's respective element of the countywide Plan. In preparing the individual MAPs, each jurisdiction considered its overall hazard risk and capability to mitigate identified hazards as recorded through the risk and capability assessment process and to meet the countywide mitigation goals and the unique needs of the community.

The Mitigation Action table contains the following information:

- Responsibility = the responsible department or agency.
- Funding Source = appropriate agency budget and private/public grants.
- Estimated Cost/Benefit = the dollar cost of implementing the action vs. the dollar benefit of having the action in place, i.e., Cost of \$1,000, Benefit of \$10,000 =(\$1,000/\$10,000). The cost/benefit estimates of action items are based on previous and/or expected expenditures and estimated cost avoidance or reduction in life or property loss.



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- The estimated completion date is an estimate of the completion year and may cross two budget years. In many cases the action item is completed annually or is ongoing.

The following Table shows the hazard and action item identifier for the Mitigation Action table.

Table 1.10.1 Mitigation Action Item Identifier Table																				
	All Hazards	Drought	Earthquake	Extreme Temp	Flooding	Hail	High Wind	Ice/Snow	Land/Mudslide	Land Subsidence	Lightning	Wildfire	Pandemic	HAZMAT	Illegal Drugs	Terrorism	Transportation	Urban Fire	Utility Power	Utility Water
Action Identifier and Application	AH	DR	EX	ET	FL	HA	HW	IS	LM	LS	LG	WF	PD	HM	IL	TR	TN	UF	UP	UW
	1				2				3				4				a-z			
	Public Populations				1 st Responder				Jurisdiction General				Jurisdiction Specific				Sequence Character			

Table 1.10.2 Oak Ridge Mitigation Action Items					
Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/Benefit Estimate	Date Complete Estimate
Goal 1: Improve the capability of Anderson County and participating jurisdictions to prepare for, respond to, and recover from all profiled hazard incidents.					
Objective 1.1: Improve capabilities to evaluate and manage hazard incidents.					
1.1a AH 3	Continue participation in annual Hazard Mitigation Planning Committee meetings to review progress and oversee implementation of the mitigation plan.	Planning Committee Members	Dept Budget	12,700/ 25,000	Ongoing
1.1d AH 3	Develop and annually update a list of vendor 24/7 contact information and pre-disaster MOUs.	Purchasing Agent	Dept Budget	12,500/ 100,000	FY 12-13
1.1e AH 4	Improve the city's Emergency Operations Center by providing adequate space, office, computer, and display equipment to enhance information sharing during activation.	City EMA Director	DOE Grant, City Budget	15,000/ 100,000	FY 13-14
1.1k AH 3	Develop a post-disaster ordinance.	City Council	City Budget	3,000/ 100,000	FY 13-14
1.1l AL 3	Complete requirements to attain NWS Storm Ready Community status.	Community Development	Dept Budget	12,500/ 100,000	FY 14-15
Objective 1.2: Improve dissemination of all hazards awareness, preparedness, and training information to citizens.					
1.2a AH1	Develop and maintain a city web page with citizen information to include shelter locations; shelter-in-place, safe room, and flood insurance information; FEMA on-line course listing; and links to disaster preparedness websites.	IT Director, Fire Chief	Dept Budget	10,000/ 100,000	FY 12-13
1.2b AH 1	Partner with volunteer and emergency response agencies to post on agency websites links to training available to citizens.	IT Director	Dept Budget	500/ 50,000	Ongoing

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Table 1.10.2 Oak Ridge Mitigation Action Items

Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
1.2c AH 1	Publish in area newspapers notice of citizen training opportunities and availability of citizen awareness training links on website.	Emergency Response Agencies	Dept Budget	500/ 50,000	Ongoing
Objective 1.3: Improve warning, evacuation, and information capabilities.					
1.3a AH 1	Seek grant funding to purchase and install warning sirens.	Grants Director	CDBG, City Budget	250,000/ 1,000,000	FY 14-15
1.3d AH 1	Seek grant funding to purchase and install an automated wide area rapid notification system.	Grants Director	CDBG, City Budget	20,000/ 100,000	FY 14-15
1.3e AH 1	Enact legislation to require NOAA weather radios in all schools, day care, industrial, and health care facilities.	City Council	State, Private Industry	3,000/ 100,000	FY 14-15
1.3f AH 1	Seek grant funding to provide NOAA weather radios to low-income residents.	Grants Director	Private Industry Contribution	25,000/ 1,000,000	FY 14-15
1.3g AH 3	Update evacuation routes and procedures.	Fire Chief	Dept Budget	5,000/ 100,000	FY 14-15
1.3h AH 4	Continue to support school phone system to notify parents of school emergencies.	Board of Education	School Budget	5,000/ 100,000	Ongoing
Objective 1.4: Improve multi-jurisdictional, multi-agency response to all hazard incidents.					
1.4a AH 3	Complete BEOP assigned mitigation and preparedness activities.	Response Agencies	Dept Budget	7,500/ 250,000	Ongoing
1.4b AH 2	Ensure all emergency response personnel are Incident Command System and National Incident Management System training compliant.	Fire Chief, Police Chief	Dept Budget	5,000/ 100,000	Ongoing
1.4f AH 2	Participate in annual exercises involving all emergency response agencies.	Response Agencies	Dept Budget	12,500/ 100,000	Ongoing
1.4h AH 2	Publish notice of federal, state, and local training opportunities to all emergency response personnel.	Response Agencies	Dept Budget	500/ 100,000	Ongoing
Objective 1.5: Improve capabilities to recover from all hazard incidents.					
1.5a AH 3	Develop comprehensive, economic, and continuity of operations plans.	City Mayor, City Council	City Budget	50,000 500,000	FY 15-16
1.5b AH 3	Develop redundancy strategies to prevent loss of public records in the event of damage to critical facilities.	City Depts.	Dept Budget	25,000/ 100,000	FY 15-16
1.5d AH 3	Provide debris management training for public works.	Public Works	Dept Budget	12,500/ 2,000,000	FY 15-16
1.5e AH 3	Develop a post-disaster recovery ordinance.	City Council	City Budget	15,000/ 1,000,000	FY 15-16
Goal 2: Minimize the impact of hazardous materials spills and releases.					
Objective 2.1: Identify and establish requirements for fixed sites with reportable quantities of hazardous materials					
2.1e HM 3	Enact legislation to require each Tier II site to install alert devices and develop a warning plan.	City Council, EMA	TIER II Sites	50,000/ 100,000	FY 14-15
2.1f HM 3	Create a GIS map database of Tier II sites to display ERG-established zones and evacuation perimeters.	GIS, Fire Chief	Dept Budget	7,500/ 200,000	FY 12-13



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Table 1.10.2 Oak Ridge Mitigation Action Items					
Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
Objective 2.2: Educate citizens on response to hazardous materials incidents					
2.2a HM 1	Publish articles in area newspapers to instruct citizens on shelter-in-place.	Fire Chief	Dept Budget	500/ 100,000	Ongoing
2.2b HM 1	Partner with LEPC and EMA to distribute hazardous materials awareness and preparedness literature at community events.	Fire Chief, EMA, LEPC	Dept Budget LEPC	2,500/ 100,000	Ongoing
2.2c HM 1	Partner with schools to present programs on shelter-in-place and environmental effects of hazardous materials.	Fire Chief, Board of Education	Dept Budget	5,000/ 100,000	Ongoing
Objective 2.3: Improve responder safety and Countywide response to hazardous materials incidents					
2.3a HM 2	Provide training for hazardous materials awareness, operations, TEPP, technician, and CBRNE levels as appropriate for all emergency responders.	Fire Chief, Police Chief, TEMA	Dept Budget Homeland Security Grants	75,000/ 1,000,000	Ongoing
2.3d HM 2	Participate in annual hazardous materials tabletop exercises and drills involving all emergency response agencies.	City Response Agencies, EMA, LEPC	Dept Budget LEPC Grant	25,000/ 100,000	Ongoing
2.3g HM 3	Continue to participate in DOE drills and exercises.	City Response Agencies	Dept Budget	7,500/ 100,000	Ongoing
Objective 2.4: Reduce effects to the environment from transportation hazardous materials spills.					
2.4a TN 2	Provide training for firefighters in containing hazardous materials spills on roadways.	Fire Chief	Dept Budget	25,000/ 100,000	Ongoing
2.4b TN 2	Provide the fire department equipment to contain hazardous materials spills on roadways.	Fire Chief	Dept Budget	5,000/ 500,000	FY 12-13
2.4c TN 1	Partner with TN One-Call to distribute "call before you dig" literature to citizens at community events.	Fire Chief, TN One Call	Dept Budget	2,500/ 100,000	FY 12-13
2.4d TN 2	Provide fire department personnel CSX rail incident training.	Fire Chief	Dept Budget	20,000/ 200,000	FY 12-13
Objective 2.5: Reduce risk of citizen proximity to hazardous materials incidents.					
2.5a HM 3	Establish codes to prohibit construction of residential or public structures near fixed hazardous materials sites.	Codes Dept, City Council	City Budget	3,000/ 100,000	FY 14-15
2.5b TN 3	Establish codes to prohibit construction of special needs population facilities near rail lines.	Codes Dept, City Council	City Budget	3,000/ 100,000	FY 14-15
Goal 3: Minimize the impact of severe weather incidents on citizens and property.					
Objective 3.1: Reduce the impact of drought.					
3.1a DR 1	Partner with EMA to distribute drought awareness and preparedness literature to citizens at community events.	Community Development, EMA	Dept Budget	2,500/ 100,000	Ongoing
3.1b DR 3	Enact legislation to restrict non-essential water usage during periods of drought.	City Council	City Budget	3,000/ 100,000	FY 13-14
3.1c DR 3	Maintain and update annually contact information for suppliers of potable water.	Purchasing Dept	Dept Budget	500/ 100,000	Ongoing
Objective 3.2: Reduce the impact of extreme temperatures.					



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Table 1.10.2 Oak Ridge Mitigation Action Items

Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
3.2a ET 1	Partner with EMA to distribute extreme heat and extreme cold awareness and preparedness literature to citizens at community events.	Community Development, EMA	Dept Budget	2,500/ 100,000	Ongoing
3.2b ET 1	Assist community agencies to establish heating/cooling centers for vulnerable populations.	Community Development, Health Dept	Dept Budget	3,000/ 100,000	FY 12-13
3.2c ET 2	Provide training for all city personnel subject to extreme heat and cold.	Public Works, Fire Chief	Dept Budget	3,500/ 100,000	FY 12-13
Objective 3.3: Reduce the loss of life and property from high wind, hail, and lightning incidents caused by tropical storms, thunderstorms, and tornados.					
3.3a HA 1	Partner with EMA to distribute hail awareness and preparedness literature to citizens at community events.	Community Development, EMA	Dept Budget	2,500/ 100,000	Ongoing
3.3d HW 1	Publish news articles and partner with EMA and Red Cross to distribute literature to educate the public on safe rooms and shelter-in-place.	Community Development, EMA, Red Cross	Dept Budget	2,500/ 100,000	Ongoing
3.3f HW 3	Continue to enforce building codes for new structures and structures undergoing renovation.	Codes Dept	Dept Budget	15,000/ 500,000	Ongoing
3.3k HW 2	Equip all fire/rescue vehicles with chain saws to ensure clearing of emergency routes following high wind incidents.	Fire Chief	AFG Grants, Dept Budget	12,500/ 100,000	FY 13-14
3.3l LG 1	Partner with EMA and Red Cross to distribute lightning awareness and preparedness literature to citizens at community events.	Community Development, EMA, Red Cross	Dept Budget	2,500/ 100,000	Ongoing
3.3m LG 3	Install lightning protection devices and grounding on critical facilities	Public Works	Dept Budget	50,000/ 2,500,000	FY 14-15
Objective 3.4: Reduce the impact of ice and snow caused by severe winter storms.					
3.4a IS 1	Partner with EMA and Red Cross to distribute severe winter storm awareness and preparedness literature to citizens at community events.	Community Development, EMA, Red Cross	Dept Budget	2,500/ 100,000	Ongoing
3.4c IS 2	Seek grant funding to equip all emergency response vehicles with on demand tire chains to ensure access to victims during ice and snow incidents.	Fire Chief, Police Chief	AFG Grants, Dept Budget	150,000/ 1,000,000	FY 15-16
3.4d IS 2	Develop emergency services winter storm response protocols.	Fire Chief, Police Chief	Dept Budget	2,500/ 100,000	FY 12-13
Objective 3.5: Minimize utility loss during all severe weather incidents					
3.5a UP 3	Continue aggressive power line right-of-way clearing to reduce incidence of telephone and power lines downed by high wind or ice/snow incidents.	Electric Utilities, Public Works	Dept Budget	50,000/ 500,000	Ongoing
3.5b UP 3	Enact legislation to require buried lines in all new cluster developments.	Codes Dept, City Council	City Budget	3,000/ 500,000	FY 15-16



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Table 1.10.2 Oak Ridge Mitigation Action Items					
Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
3.5c UP 1	Publish news articles and partner with EMA to distribute literature to increase citizen awareness of downed line prevention and safety.	Community Development, Electric Utilities, EMA	Dept Budget	2,500/ 100,000	Ongoing
3.5d UP 2	Provide downed line safety training to all emergency responders.	Electric Utilities	Dept Budget	15,000/ 200,000	Ongoing
3.5e UP 3	Seek grant funding to install generators or "pigtailed" in critical government facilities and fuel depots.	Grants Director	CDBG, City Budget	100,000/ 1,000,000	FY 15-16
3.5g UW 3	Seek grant funding to install water line insulation for low-income residents.	Grants Director	CDBG, ADFAC	75,000/ 500,000	FY 15-16
Goal 4: Reduce the impact of citizens and property from flash and riverine flooding incidents caused by thunderstorms and tropical storms.					
Objective 4.1: Continue participation in and improve citizen awareness of the National Flood Insurance Program.					
4.1a FL 1	Partner with EMA and Red Cross to publish news articles to advise citizens of the availability of flood insurance.	Community Development, EMA, Red Cross	Dept Budget	500/ 100,000	Ongoing
4.1b FL 1	Include information on flood insurance availability on city web page.	Community Development, IT Director	Dept Budget	500/ 100,000	FY 12-13
4.1c FL 1	Partner with local insurance agents and EMA to provide flood insurance literature to be distributed to citizens at community events.	Community Development, EMA, Local Insurers	Dept Budget	2,500/ 100,000	Ongoing
Objective 4.2: Apply for Community Rating System approval.					
4.2a FL 3	Coordinate with EMA to apply to receive Community Rating System status.	Community Development, EMA	Dept Budget	1,500/ 300,000	FY 14-15
Objective 4.3: Identify and restrict development in flood prone areas.					
4.3a FL 3	Continue to use updated FIRMs and GIS 100/500 year flood maps to restrict construction or placement of mobile homes within the flood plain.	Codes & Zoning Depts.	Dept Budget	2,500/ 100,000	Ongoing
4.3b FL 3	Evaluate methods to improve storm water systems in flood prone areas.	Storm Water Coordinator	Dept Budget	12,500/ 200,000	FY 14-15
4.3c FL 3	Evaluate the efficacy of construction of water flow and detention ponds in flood prone areas.	Storm Water Coordinator	Dept Budget	12,500/ 200,000	FY 14-15
4.3d FL 3	Continue to work with property owners to reduce run-off and erosion.	Storm Water Coordinator	Dept Budget	12,500/ 25,000	Ongoing
Objective 4.4: Reduce flooding from streams and creeks.					
4.4a FL 3	Install larger culverts to permit clear stream flow.	Public Works	Dept Budget TDOT	200,000/ 500,000	FY 14-15
4.4b FL 3	Provide regular maintenance to remove debris from flood prone streams and creeks.	Public Works	Dept Budget	150,000/ 300,000	Ongoing



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Table 1.10.2 Oak Ridge Mitigation Action Items

Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
4.4c FL 4	Seek grant funds and partner with DOE to construct a detention basin on East Fork Poplar Creek to remediate flooding on Jefferson Avenue.	Storm Water Coordinator Grants Director	PDM Grant City Budget	3,000/ 200,000	FY 14-15
4.4d FL 4	Seek grant funding to elevate three bridges on Illinois Avenue	Storm Water Coordinator, Grants Director	PDM Grant, City Budget	3,000/ 500,000	FY 14-15
Objective 4.5: Reduce repetitive roadway flooding.					
4.5a FL 3	Identify and map repetitive flooding roadways and bridges.	Public Works, GIS, Highway Dept	Dept Budget	12,500/ 300,000	FY 14-15
4.5b FL 3	Evaluate efficacy of raising grade level or expanding ditch depth and width along repetitive flooding roadways	Public Works	Dept Budget	12,500/ 500,000	FY 14-15
4.5c FL 1	Partner with NWS to erect "Turn Around, Don't Drown" signage at flooding points.	Public Works	Dept Budget Private Sector Grants	5,000/ 100,000	FY 13-14
4.5d FL 1	Erect staff signage indicating water depth at flooding points.	Public Works	Dept Budget HMGP Grant	25,000/ 100,000	FY 13-14
4.5e FL 1	Install gates to block roadways and bridges during flooding.	Public Works	Dept Budget HMGP Grant	50,000/ 100,000	FY 13-14
4.5f FL 4	Seek grant funds to enlarge storm drains at Glassboro Road, Baypath Drive, and Lafayette Drive at the Midway/Midland Roads industrial park area.	Storm Water Coordinator, Grants Director	PDM Grant City Budget	3,000/ 500,000	FY 14-15
4.5g FL 4	Seek grant funds to remediate back up of East Fork Poplar Creek on Illinois Avenue.	Storm Water Coordinator, Grants Director	PDM Grant, City Budget	3,000/ 250,000	FY 14-15
Objective 4.6: Increase citizen awareness of flood hazard and safety.					
4.6a FL 1	Partner with EMA and Red Cross to distribute flood awareness and preparedness literature at community events.	Community Development, EMA, Red Cross	Dept Budget	2,500/ 100,000	Ongoing
4.6b FL 1	Work with citizens in affected areas to develop a community flood response plan.	Public Works	Dept Budget	5,000/ 100,000	FY 13-14
Objective 4.7: Improve emergency response to flood incidents.					
4.7a FL 3	Identify and map areas made inaccessible by bridge and/or roadway flooding.	Public Works, GIS	Dept Budget	5,000/ 100,000	FY 13-14
4.7c FL 2	Train emergency response agencies in flood response safety.	Response Agencies	Dept Budget	10,000/ 100,000	FY 12-13



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Table 1.10.2 Oak Ridge Mitigation Action Items					
Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
Goal 5: Reduce loss of life and property from urban fires.					
Objective 5.1: Increase citizen awareness of fire hazards, prevention, and safety.					
5.1a UF 1	Continue aggressive fire prevention education programs in all schools.	Fire Chief	Dept Budget	10,000/ 100,000	Ongoing
5.1b UF 1	Seek grant funding to purchase materials and equipment to enhance fire prevention education programs.	Fire Chief	Dept Budget AFG Program	5,000/ 100,000	Ongoing
5.1c UF 1	Partner with volunteer agencies to present fire prevention education programs to service clubs, senior citizens, and special needs populations.	Fire Chief, Volunteer Agencies	Dept Budget	5,000/ 100,000	Ongoing
5.1d UF 1	Partner with volunteer agencies to present programs on the use of fire extinguishers.	Fire Chief, Volunteer Agencies	Dept Budget	5,000/ 100,000	Ongoing
5.1e UF 1	Partner with EMA to distribute fire prevention education literature at community events.	Fire Chief, EMA	Dept Budget	2,500/ 100,000	Ongoing
5.1f UF 1	Partner with the media to promote "change your clock, change your smoke alarm battery" twice yearly.	Fire Chief	Dept Budget	500/ 100,000	Ongoing
5.1g UF 1	Seek grant funding to provide free smoke alarms to citizens.	Fire Chief	Dept Budget AFG Program	5,000/ 100,000	Ongoing
5.1h UF 1	Partner with volunteer agencies to install smoke alarms for special needs populations.	Fire Chief, Volunteer Agencies	Dept Budget Agency Budget	2,500/ 100,000	Ongoing
Objective 5.2: Reduce the incidence and severity of structure fires.					
5.2b UF 3	Continue rigid enforcement of existing fire and electrical codes.	Codes Dept	Dept Budget	15,000/ 100,000	Ongoing
5.2c UF 3	Enact legislation to require sprinkler systems in all new construction.	City Council	City Budget	3,000/ 250,000	FY 14-15
5.2d UF 3	Develop and annually update emergency pre-plans for all public buildings, schools, businesses, and churches.	Fire Chief	Dept Budget	50,000/ 2,000,000	Ongoing
Objective 5.3: Improve firefighter safety and response capabilities					
5.3a UF 2	Provide training for state and national certifications for career firefighters.	Fire Chief	Dept Budget	25,000/ 100,000	Ongoing
5.3b UF 3	Continue to apply for Assistance to Firefighter Grants (AFG).	Fire Chief	Dept Budget	5,000/ 2,000,000	Ongoing
5.3c UF 3	Continue to provide matching funds to departments awarded Assistance to Firefighter Grants (AFG).	City Council	City Budget	50,000/ 1,000,000	Ongoing
Goal 6: Minimize the impact of wildfires on citizens and property					
Objective 6.1: Increase citizen awareness and preparedness for wildfire incidents.					
6.1a WF 1	Expand public fire prevention education to include programs on wildfire and arson.	Fire Chief	Dept Budget	1,000/ 100,000	Ongoing
6.1b WF 1	Publish news articles to promote wildfire awareness.	Fire Chief, Forestry	Dept Budget	500/ 100,000	Ongoing



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Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
6.1c WF 1	Publish outdoor burn permit requirements in area newspapers in October.	Fire Chief, Forestry	Dept Budget	500/ 100,000	Ongoing
6.1e WF 1	Publish outdoor burn ban information in area newspapers, as required.	Forestry, Fire Chief	Dept Budget	500/ 100,000	Ongoing
6.1f WF 1	Partner with the Division of Forestry and EMA to distribute USFS fuels reduction, wildfire awareness, and prevention literature at community events.	Forestry, Fire Chief, EMA	Dept Budget	2,500/ 100,000	Ongoing
Objective 6.2: Enforce outdoor burn ban and permit requirements.					
6.2a WF 3	Enact legislation to make mandatory fines for non-permitted outdoor burning.	City Council	City Budget	3,000/ 100,000	FY 14-15
6.2b WF 3	Require prosecution and restitution for arson.	Forestry, City Council	Dept Budget	3,000/ 100,000	FY 14-15
Objective 6.3: Improve firefighter safety and effectiveness during wild land firefighting operations.					
6.3a WF 3	Continue the partnership between the fire department and the Division of Forestry.	Forestry, Fire Chief	N/A	0/ 50,000	Ongoing
6.3b WF 3	Provide annual wild land fire training for all fire department personnel.	Forestry, Fire Chief	Dept Budget	25,000/ 100,000	Ongoing
6.3c WF 3	Seek grant funding to purchase wild land firefighting equipment.	Fire Chief, Grants Director	Dept Budget AFG, Forestry Grants	15,000/ 100,000	Ongoing
Objective 6.4: Reduce loss of structures in urban interface wildfire incidents.					
6.4a WF 3	Enforce codes stipulating setback distances for all new structures not using fire-resistive materials.	Codes Dept	Dept Budget	3,000/ 150,000	FY 14-15
6.4b WF 3	Partner with Forestry and EMA to publish news articles and distribute Firewise literature to increase citizen awareness of recommended setback distances.	Community Development, Forestry, EMA	Dept Budget	2,500/ 150,000	Ongoing
Goal 7: Protect the county's citizens and assets from domestic and international terrorism.					
Objective 7.1: Increase citizen awareness and preparedness for terrorism incidents.					
7.1a TR 1	Partner with TEMA and EMA to distribute terrorism awareness and preparedness literature at community events.	Community Development, TEMA, EMA	Dept Budget	2,500/ 100,000	Ongoing
Objective 7.2: Decrease the possibility of and loss of life from attacks on public facilities.					
7.2a TR 3	Continue to restrict parking of vehicles in close proximity to critical facilities.	Public Works	Dept Budget	10,000/ 2,000,000	Ongoing
7.2c TR 3	Assist critical facilities to develop emergency response plans.	Fire Chief, Critical Facilities	Dept Budget	25,000/ 250,000	FY 12-13
7.2d TR 3	Develop and practice quarterly an evacuation plan for all critical facilities.	Fire Chief, Critical Facilities	Dept Budget	12,500/ 250,000	FY 13-14



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Table 1.10.2 Oak Ridge Mitigation Action Items					
Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
7.2e TR 3	Partner with schools to improve security and lockdown procedures.	Police Chief, School Board	Dept Budget	12,500/ 250,000	Ongoing
Objective 7.3: Improve terrorism response capabilities and emergency responder safety.					
7.3a TR 3	Continue to participate in the Joint Terrorism Task Force.	Police Chief	Dept Budget	12,500/ 100,000	Ongoing
7.3b TR 2	Provide Emergency Response to Terrorism training for all emergency response agencies.	TEMA, Fire Chief, Police Chief	Dept Budget	15,000/ 100,000	Ongoing
Goal 8: Reduce loss of life and property from meth labs.					
Objective 8.1: Increase citizen awareness of meth lab hazards, recognition, and reporting.					
8.1a IL 3	Partner with the drug task force and EMA to distribute meth lab awareness information at community events.	Police Chief, Drug Task Force, EMA	Dept Budget	2,500/ 100,000	Ongoing
8.1b IL 1	Provide meth lab awareness training for citizens.	Police Chief	Dept Budget	5,000/ 100,000	Ongoing
8.1c IL 1	Partner with schools to promote awareness, recognition, and reporting of meth labs.	Police Chief, Board of Education	Dept Budget	12,500/ 100,000	Ongoing
Objective 8.2: Improve emergency responder safety at clandestine labs.					
8.2a IL 4	Continue participation in the state and federal drug task force.	Police Chief	Dept Budget DOJ, DEA	5,000/ 100,000	Ongoing
8.2b IL 2	Provide training and equipment for law enforcement and drug task force personnel.	Police Chief	Dept Budget DOJ, DEA	30,000/ 100,000	Ongoing
8.2c IL 2	Develop meth lab SOGs for emergency responders.	Police Chief, Fire Chief	Dept Budget	5,000/ 100,000	FY 12-13
Goal 9: Minimize property damage and public risk from landslides.					
Objective 9.1: Identify areas prone to landslide.					
9.1a LM 3	Participate in a countywide study to determine and GIS map potential landslide areas.	Public Works, GIS	Dept Budget	12,500/ 500,000	FY 16-17
9.1b LM 3	Conduct meetings between road and planning departments to prioritize potential landslide areas and methods of remediation.	Public Works, Highway Dept	Dept Budget	12,500/ 500,000	FY 16-17
9.1c LM 4	Seek grant funding to remediate areas prone to landslide on Melton Lake Drive.	Public Works, Grants Director	HMGP Grant City Budget	3,000/ 250,000	FY 16-17
Objective 9.2: Restrict development in areas prone to landslide.					
9.2a LM 3	Revise zoning and building codes to restrict construction in landslide hazard areas.	Codes Dept	Dept Budget	3,000/ 500,000	FY 16-17
Objective 9.3: Increase citizen awareness of landslide hazards.					
9.3a LM 1	Partner with EMA to distribute landslide awareness and safety information at community events.	Community Development, EMA	Dept Budget	2,500/ 100,000	Ongoing
9.3b LM 1	Erect signage to warn motorists of landslide danger at identified sites.	Public Works	Dept Budget	3,000/ 100,000	FY 16-17



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Table 1.10.2 Oak Ridge Mitigation Action Items					
Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
Goal 10: Minimize potential loss of life and economic impact from dam failure.					
Objective 10.1: Reduce loss of life from Norris Dam failure.					
10.1c FL 1	Partner with EMA to distribute dam failure awareness and preparedness literature at community events.	Community Development, EMA	Dept Budget	2,500/ 100,000	Ongoing
Objective 10.3: Improve emergency preparedness and response to flooding from dam failure.					
10.3a FL 3	Quantify extent of flooding in Oak Ridge from Norris Dam failure.	GIS	Dept Budget	7,500/ 200,000	FY 16-17
10.3b FL 4	Develop emergency plans for response to and recovery from Norris Dam failure.	Fire Chief Police Chief	Dept Budget	5,000/ 1,000,000	FY 16-17
Goal 11: Minimize damage to property from land subsidence.					
Objective 11.1: Identify karst prone areas.					
11.1a LS 3	Participate in a UT geology department countywide study of karst areas and known sinkholes.	Public Works, EMA	Dept Budget	12,500/ 3,000,000	FY 16-17
11.1b LS 3	Create GIS maps showing karst areas.	GIS	Dept Budget	5,000/ 3,000,000	FY 16-17
Objective 11.2: Improve citizen awareness of land subsidence hazards					
11.2b LS 3	Require property owners to sign acknowledgement of subsidence risk notification before issuing building permits on high-risk sites.	Planning & Zoning	Dept Budget	1,000/ 100,000	FY 16-17
11.2c LS 1	Partner with EMA to distribute subsidence awareness literature at community events.	Community Development, EMA	Dept Budget	2,500/ 100,000	Ongoing
Goal 12: Minimize damage and loss of life from earthquakes.					
Objective 12.1: Evaluate the potential for a damaging earthquake in Anderson County.					
12.1a EQ 3	Participate in a state Division of Geology study to quantify the potential for an earthquake greater than 6.0 in Anderson County.	Public Works, GIS	Dept Budget	12,500/ 100,000	FY 16-17
12.1b EQ 3	Participate in a UT geology department study to identify areas of greatest earthquake hazard.	Public Works, GIS	Dept Budget	12,500/ 100,000	FY16-17
12.1c EQ 3	Create a GIS mapping database to determine critical facilities and numbers of other structures that would be affected by earthquake.	GIS	Dept Budget	5,000/ 100,000	FY 16-17
Objective 12.2: Increase citizen awareness of earthquake hazards and pre-disaster mitigation strategies.					
12.2a EQ 1	Partner with EMA to distribute earthquake awareness and preparedness literature at community events.	Community Development, EMA	Dept Budget	2,500/ 100,000	Ongoing
12.2b EQ 1	Partner with EMA and local insurance agents to distribute earthquake insurance information at community events.	Community Development, EMA, Local Insurers	Dept Budget	2,500/ 100,000	Ongoing
Goal 13: Minimize the impact of bioterrorism and widespread health emergencies.					
Objective 13.1: Increase citizen awareness and preparedness for pandemic health incidents.					



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Table 1.10.2 Oak Ridge Mitigation Action Items					
Hazard Goal & Action	Action/Project Description	Responsible Entity	Funding Source	Cost/ Benefit Estimate	Date Complete Estimate
13.1a PD 1	Partner with the Health Department and EMA to distribute pandemic awareness and preparedness literature at community events.	Community Development, Health Dept, EMA	Dept Budget	2,500/ 100,000	Ongoing
13.1b PD 1	Include on the city web page the state Health Department link for pandemic planning information.	IT Director	N/A	0/ 100,000	FY 12-13
Objective 13.2: Improve response to bioterrorism incidents and pandemic health emergencies.					
13.2c PD 3	Continue to participate in Strategic National Stockpile drills and exercises.	Emergency Response Agencies, Health Dept	Dept Budget	5,000/ 100,000	Ongoing
Objective 13.3: Reduce the impact of bioterrorism and pandemic health emergencies on business, agriculture, and emergency services agencies.					
13.3a PD 3	Assist businesses to develop pandemic emergency plans.	Community Development, Health Dept	Dept Budget	25,000/ 200,000	FY 13-14
13.3b PD 3	Develop pandemic emergency plans for emergency services and city departments.	All City Depts. and Agencies, Health Dept	Dept Budget	12,500/ 300,000	FY 13-14

1.11 Mitigation Actions Prioritizing

Prioritizing mitigation actions for each jurisdiction was based on the “STAPLEE” process. “STAPLEE” uses multiple factors under the categories of Social, Technical, Administration, Legal, Economic and Environment. The original “STAPLEE” factors have been modified to enhance the prioritization process. The enhancements include adding life, property and economic items to the Social category and implementing weighting factors to Social and Economic categories. A weighting factor of 3 is used for loss of life, property, and economic loss. A weighting factor of 2 is used for cost/benefit items. The actual table used for prioritization is at the end of this section.

Table 1.11.1 “STAPLEE” Prioritizing Process			
Issue	1	2	3
Social			
High Community Acceptance	Potential objection from public and/or very expensive	Unknown if objectionable, or costs may be significant	Not objectionable and low/no costs
High Effect on saving lives	Life saving impact is low	Life saving impact is moderate	Life saving impact is significant
High Effect on reducing property loss	Effect on reducing property loss is low	Effect on reducing property loss is moderate	Effect on reducing property loss is significant
Effect on reducing economic loss	Effect on reducing economic loss is low	Effect on reducing economic loss is moderate	Effect on reducing economic loss is significant
Technical			
Technical Feasible	Technology not currently existing	Emerging or untested technology or unknown	Technology readily available
Is a Long-Term Solution	No, is not effective in helping reduce losses in the long term	Potentially or unknown	Yes, is effective in helping reduce losses in the long term
No Secondary Impacts	Yes, likely to create secondary problems	Potentially or unknown	No, unlikely to create secondary problems
Administrative			
Little Staffing is required	Need to hire a permanent employee(s)	Potentially need to hire a temporary employee(s) or unknown.	Do not have to hire
Funding Potential is high	No obvious source of funding available and action has significant cost impact	Limited or unknown funding available	Little or no funding required or funding can be readily obtained
Low Maintenance and Operations	The action is likely to require high level of ongoing maintenance	Unknown or action has the potential for moderate ongoing maintenance	Action requires limited or no ongoing maintenance
Political			
High Political Support	Local Elected Official likely to be contentious	Local Elected Official may be controversial	Local Elected Official likely to be supportive
Local Champion available	Unlikely there is a Local Elected Official to support	Uncertain if there is a Local Elected Official to champion	A Local Elected Official is likely to support and champion
High Public Support	Public Political support is unlikely	Public Political support is uncertain	Public Political support is likely
Legal			
State Authority Exists	No legal state authority exists	Legal state authority is unclear, uncertain or adoption is in progress	Legal state authority exists



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Local Authority Exists	No legal authority exists	Legal authority is unclear, uncertain or adoption is in progress	Legal authority exists
Potential Legal Challenge is high	High likelihood of legal challenge by stakeholders	Moderate likelihood of legal challenge by stakeholders	Low likelihood of legal challenge by stakeholders
Economic High Action Benefit	Low benefit to the jurisdiction from the action	Moderate benefit to the jurisdiction from the action	High benefit to the jurisdiction from the action
Low Action Cost	High cost to implement action	Moderate cost to implement action	Low cost to implement action
High Economic Contribution	Low contribution to other community economic goals	Moderate contribution to other community economic goals	High contribution to other community economic goals
Outside Funding is Required	Likely for action to be delayed pending outside sources of funding	Possible for action to be delayed pending outside sources of funding	Unlikely for action to be delayed pending outside sources of funding
Environmental Low Land/Water Effect	High likelihood of negative consequences to land/water	Moderate likelihood of negative consequences to land/water	Low likelihood of negative consequences to land/water
Low Endangered Species Effect	High likelihood of potential negative consequences to endangered species	Moderate likelihood of negative consequences to endangered species	Low likelihood of negative consequences to endangered species
Low Hazmat Waste Site affect	High likelihood of potential affect on hazardous materials and waste sites	Moderate likelihood of affect on hazardous materials and waste sites	Low likelihood of affect on hazardous materials and waste sites
Low Environment Effect	No, project is not consistent with jurisdiction environmental goals	Possible, project is consistent with jurisdiction environmental goals	Yes, project is consistent with jurisdiction environmental goals
Federal Law Compliant	No	Uncertain	Yes

Prioritizing mitigation actions for each jurisdiction was based on the "STAPLEE" process. "STAPLEE" uses multiple factors under the categories of Social, Technical, Admistration, Legal, Economic and Environment

Table 1.11.2 "STAPLEE" Mitigation Actions Prioritization Table																										
Action/Project Description	Social			Technical		Administrative		Political		Legal		Economic		Environmental		Prioritization										
	High Community Acceptance	High Effect on Loss of Life-WF=3	High Effect on Property Loss WF=3	High Effect on Economic Loss WF=3	is Technical Feasibility	is a Long-Term Solution	No Secondary Impacts	Little Staffing required	Funding Potential is High	Low Maintenance/Operations	High Political Support	Has a Local Champion	Has Public Support	State Authorized	Local Authority Exists		Potential Legal Challenge is High	Action Benefit is High WF=2	Action Cost is Low WF=2	High Economic Goal Contribution	Outside Funding Not Required	Land/Water Effect is Low	Low Endangered Species Effect	HAZMAT Waste Site Effect is Low	Environmental Effect is Low	Federal Law Compliant is High

Table 1.11.2 "STAPLEE" Mitigation Actions Prioritization Table

Action/Project Description	Social				Technical		Administrative		Political		Legal		Economic			Environmental			Prioritization						
	High Community Acceptance	High Effect on Loss of Life-WF=3	High Effect on Property Loss WF=3	High Effect on Economic Loss WF=3	Is Technical Feasibility	Is a Long-Term Solution	No Secondary Impacts	Little Staffing required	Funding Potential is High	Low Maintenance/Operations	High Political Support	Has a Local Champion	Has Public Support	State Authorized	Local Authority Exists	Potential Legal Challenge is High	Action Benefit is High WF=2	Action Cost is Low WF=2	High Economic Goal Contribution	Outside Funding Not Required	Land/Water Effect is Low	Low Endangered Species Effect	HAZMAT Waste Site Effect is Low	Environmental Effect is Low	Federal Law Compliant is High
Continue aggressive fire prevention education programs in all schools.	3	9	9	9	3	2	2	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	3	94
Partner with volunteer agencies to present fire prevention education programs to service clubs, senior citizens, and special needs populations.	3	9	9	9	3	2	2	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	3	94
Partner with volunteer agencies to present programs on the use of fire extinguishers.	3	9	9	9	3	2	2	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	3	94
Partner with EMA to distribute fire prevention education literature at community events.	3	9	9	9	3	2	2	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	3	94
Seek grant funding to purchase materials and equipment to enhance fire prevention education programs.	3	9	9	9	3	2	2	2	2	2	2	3	3	3	6	6	3	3	3	3	3	3	3	3	92
Partner with the media to promote "change your clock, change your smoke alarm battery" twice yearly.	3	6	9	9	3	2	2	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	3	91
Partner with schools to improve security and lockdown procedures.	3	6	6	6	3	3	3	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	3	88
Quantify extent of flooding in Oak Ridge from Norris Dam failure.	3	6	9	9	3	3	3	2	2	2	2	2	3	3	6	4	3	3	3	3	3	3	3	3	88
Partner with volunteer agencies to install smoke alarms for special needs populations.	3	6	9	9	3	3	2	2	2	2	2	3	3	3	6	4	3	2	3	3	3	3	3	3	87
Participate in a state Division of Geology study to quantify the potential for an earthquake greater than 6.0 in Anderson County.	3	6	6	9	3	2	3	2	3	2	2	2	3	3	6	6	3	3	3	3	3	3	3	3	87
Partner with schools to present programs on shelter-in-place and environmental effects of hazardous materials.	3	6	3	6	3	3	3	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	3	85
Partner with EMA to distribute dam failure awareness and preparedness literature at community events.	3	6	6	9	3	2	3	2	3	2	3	3	3	3	4	4	3	3	3	3	3	3	3	3	85

Table 1.11.2 "STAPLEE" Mitigation Actions Prioritization Table																										
Action/Project Description	Social			Technical			Administrative			Political			Legal		Economic		Environmental		Prioritization							
	High Community Acceptance	High Effect on Loss of Life-WF=3	High Effect on Property Loss WF=3	High Effect on Economic Loss WF=3	is Technical Feasibility	is a Long-Term Solution	No Secondary Impacts	Little Staffing required	Funding Potential is High	Low Maintenance/Operations	High Political Support	Has a Local Champion	Has Public Support	State Authorized	Local Authority Exists	Potential Legal Challenge is High	Action Benefit is High WF=2	Action Cost is Low WF=2	High Economic Goal Contribution	Outside Funding Not Required	Land/Water Effect is Low	Low Endangered Species Effect	HAZMAT Waste Site Effect is Low	Environmental Effect is Low	Federal Law Compliant is High	Total Priority Score
Participate in a UT geology department study to identify areas of greatest earthquake hazard.	3	6	6	9	3	2	3	2	3	2	2	2	2	3	3	3	6	4	3	3	3	3	3	3	3	85
Continue to enforce building codes for new structures and structures undergoing renovation.	2	6	9	9	3	3	2	2	2	2	2	2	2	3	3	1	6	4	3	3	3	3	3	3	3	84
Seek grant funding to provide free smoke alarms to citizens.	3	6	9	9	3	3	2	2	1	2	1	1	3	3	3	3	6	4	3	2	3	3	3	3	3	84
Continue rigid enforcement of existing fire and electrical codes.	2	6	9	9	3	3	2	1	2	2	2	2	2	3	3	2	6	4	3	3	3	3	3	3	3	84
Include on the city web page the state Health Department link for pandemic planning information.	3	9	0	6	3	2	3	2	3	2	3	3	3	3	3	6	6	3	3	3	3	3	3	3	3	84
Expand public fire prevention education to include programs on wildfire and arson.	3	3	6	6	3	2	3	2	3	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	83
Publish news articles to promote wildfire awareness.	3	3	6	6	3	2	3	2	3	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	83
Publish outdoor burn permit requirements in area newspapers in October.	3	3	6	6	3	2	3	2	3	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	83
Publish outdoor burn ban information in area newspapers, as required.	3	3	6	6	3	2	3	2	3	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	83
Partner with the Division of Forestry and EMA to distribute USFS fuels reduction, wildfire awareness, and prevention literature at community events.	3	3	6	6	3	2	3	2	3	2	3	2	3	3	3	3	6	6	3	3	3	3	3	3	3	83
Create a GIS mapping database to determine critical facilities and numbers of other structures that would be affected by earthquake.	3	6	6	9	3	2	3	2	2	2	2	2	2	3	3	3	6	4	3	2	3	3	3	3	3	83



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Table 1.11.2 “STAPLEE” Mitigation Actions Prioritization Table

Action/Project Description	Social			Technical		Administrative		Political		Legal		Economic			Environmental			Prioritization								
	High Community Acceptance	High Effect on Loss of Life-WF=3	High Effect on Property Loss WF=3	High Effect on Economic Loss WF=3	Is Technical Feasibility	Is a Long-Term Solution	No Secondary Impacts	Little Staffing required	Funding Potential is High	Low Maintenance/Operations	High Political Support	Has a Local Champion	Has Public Support	State Authorized	Local Authority Exists	Potential Legal Challenge is High	Action Benefit is High WF=2	Action Cost is Low WF=2	High Economic Goal Contribution	Outside Funding Not Required	Land/Water Effect is Low	Low Endangered Species Effect	HAZMAT Waste Site Effect is Low	Environmental Effect is Low	Federal Law Compliant is High	Total Priority Score
Continue participation in annual Hazard Mitigation Planning Committee meetings to review progress and oversee implementation of the mitigation plan.	2	9	9	9	3	3	2	1	3	1	2	2	2	3	3	3	6	4	3	1	2	2	2	2	3	82
Partner with LEPC and EMA to distribute hazardous materials awareness and preparedness literature at community events.	3	6	6	6	3	2	3	2	3	2	2	2	3	3	3	3	6	4	3	2	3	3	3	3	3	82
Continue to use updated FIRMs and GIS 100/500 year flood maps to restrict construction or placement of mobile homes within the flood plain.	2	6	6	9	3	3	2	2	2	1	2	2	2	3	3	3	6	4	3	3	3	3	3	3	3	82
Continue the partnership between the fire department and the Division of Forestry.	3	3	6	6	3	2	3	2	3	2	3	3	3	3	3	3	4	6	3	3	3	3	3	3	3	82
Partner with Forestry and EMA to publish news articles and distribute Firewise literature to increase citizen awareness of recommended setback distances.	3	3	6	6	3	2	3	2	3	2	3	3	3	3	3	3	4	6	3	3	3	3	3	3	3	82
Partner with TEMA and EMA to distribute terrorism awareness and preparedness literature at community events.	3	3	6	6	3	2	3	2	3	2	3	3	3	3	3	3	4	6	3	3	3	3	3	3	3	82
Partner with EMA to distribute earthquake awareness and preparedness literature at community events.	3	0	6	9	3	3	3	2	3	2	2	2	2	3	3	3	6	6	3	3	3	3	3	3	3	82
Require prosecution and restitution for arson.	3	3	6	6	3	3	3	2	3	2	3	3	3	3	3	3	4	4	3	3	3	3	3	3	3	81
Continue to participate in Strategic National Stockpile drills and exercises.	3	9	0	6	3	2	3	2	3	2	3	3	3	3	3	3	6	4	3	2	3	3	3	3	3	81
Assist businesses to develop pandemic emergency plans.	3	6	0	6	3	2	3	2	3	2	3	3	3	3	3	3	6	6	3	3	3	3	3	3	3	81

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Partner with volunteer and emergency response agencies to post on agency websites links to training available to citizens.	2	6	6	6	3	3	3	3	2	3	2	2	2	3	3	3	4	4	2	3	3	3	3	3	3	80
Publish in area newspapers notice of citizen training opportunities and availability of citizen awareness training links on website.	2	6	6	6	3	3	3	3	2	3	2	2	2	3	3	3	4	4	2	3	3	3	3	3	3	80
Enact legislation to require NOAA weather radios in all schools, day care, industrial, and health care facilities.	3	9	3	3	3	3	2	2	3	2	2	3	3	3	3	6	4	2	3	3	3	3	3	3	3	80
Partner with EMA and Red Cross to distribute flood awareness and preparedness literature at community events.	3	6	6	6	3	2	3	2	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	80
Work with citizens in affected areas to develop a community flood response plan.	3	6	6	9	3	2	2	2	3	2	3	2	3	3	3	3	2	3	3	2	3	3	3	3	3	80
Develop and annually update emergency pre-plans for all public buildings, schools, businesses, and churches.	2	6	6	6	3	2	3	1	2	2	3	2	3	3	3	6	4	3	2	3	3	3	3	3	3	80
Provide training for state and national certifications for career firefighters.	3	3	6	6	3	2	3	2	3	2	3	2	3	3	3	6	4	3	2	3	3	3	3	3	3	80
Continue to apply for Assistance to Firefighter Grants (AFG).	3	3	6	6	3	2	3	2	3	2	3	2	3	3	3	6	4	3	2	3	3	3	3	3	3	80
Continue to provide matching funds to departments awarded Assistance to Firefighter Grants (AFG).	3	3	6	6	3	2	3	2	3	2	3	2	3	3	3	6	4	3	2	3	3	3	3	3	3	80
Complete BEOP assigned mitigation and preparedness activities.	2	6	6	6	3	3	3	2	3	2	2	2	2	3	3	4	4	3	2	3	3	3	3	3	3	79

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Develop and maintain a city web page with citizen information to include shelter locations; shelter-in-place, safe room, and flood insurance information; FEMA on-line course listing; and links to disaster preparedness websites.	3	9	6	6	3	3	3	1	2	1	2	2	2	3	3	3	4	2	3	2	3	3	3	3	3	3	78
Provide training for hazardous materials awareness, operations, TEPP, technician, and CBRNE levels as appropriate for all emergency responders.	3	6	6	6	3	2	3	2	2	2	2	2	2	3	3	3	4	4	3	2	3	3	3	3	3	3	78
Publish news articles and partner with EMA and Red Cross to distribute literature to educate the public on safe rooms and shelter-in-place.	3	9	0	3	3	2	3	2	3	3	3	2	3	3	3	3	4	6	2	3	3	3	3	3	3	3	78
Partner with local insurance agents and EMA to provide flood insurance literature to be distributed to citizens at community events.	2	0	9	6	3	3	2	2	3	2	3	2	3	3	3	3	4	4	3	3	3	3	3	3	3	3	78
Identify and map repetitive flooding roadways and bridges.	2	6	6	6	3	3	3	2	2	2	3	2	3	3	3	3	3	2	3	3	3	3	3	3	3	3	78
Assist critical facilities to develop emergency response plans.	3	3	3	6	3	2	3	2	3	2	3	2	3	3	3	3	4	6	3	3	3	3	3	3	3	3	78
Develop and practice quarterly an evacuation plan for all critical facilities.	3	3	3	6	3	2	3	2	3	2	3	2	3	3	3	3	4	6	3	3	3	3	3	3	3	3	78
Develop emergency plans for response to and recovery from Norris Dam failure.	3	6	9	9	3	2	3	2	2	2	2	2	2	3	3	3	6	4	3	3	3	3	3	3	3	3	78
Develop pandemic emergency plans for emergency services and city departments.	3	6	0	6	3	2	3	2	3	2	3	3	3	3	3	3	6	4	3	2	3	3	3	3	3	3	78
Complete requirements to attain NWS Storm Ready Community status.	2	6	6	6	3	3	2	2	2	2	2	2	2	3	3	3	4	4	2	3	3	3	3	3	3	3	77
Enact legislation to require sprinkler systems in all new construction.	2	6	9	9	3	3	2	2	2	2	2	1	1	3	3	1	6	2	3	2	2	3	3	2	3	3	77

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Partner with the Health Department and EMA to distribute pandemic awareness and preparedness literature at community events.	3	9	0	0	3	3	3	2	3	2	2	3	2	3	3	3	6	6	3	3	3	3	3	3	3	77
Develop a post-disaster ordinance.	2	6	6	6	3	3	2	2	3	1	2	2	2	3	3	2	4	6	3	3	2	2	3	2	3	76
Seek grant funding to provide NOAA weather radios to low-income residents.	3	9	0	3	3	3	3	2	2	2	2	2	3	3	3	3	6	4	2	2	3	3	3	3	3	75
Continue to support school phone system to notify parents of school emergencies	3	6	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	75
Partner with TN One-Call to distribute "call before you dig" literature to citizens at community events.	3	3	3	3	3	3	3	2	2	3	3	2	2	3	3	2	6	6	2	3	3	3	3	3	3	75
Publish news articles and partner with EMA to distribute literature to increase citizen awareness of downed line prevention and safety.	2	3	3	3	3	2	3	2	3	3	3	2	3	3	3	4	6	3	3	3	3	3	3	3	3	75
Provide downed line safety training to all emergency responders.	2	3	3	3	3	2	3	2	3	3	3	2	3	3	3	4	6	3	3	3	3	3	3	3	3	75
Seek grant funding to install generators or "pigtales" in critical government facilities and fuel depots.	2	3	3	3	3	2	3	2	3	3	3	2	3	3	3	4	6	3	3	3	3	3	3	3	3	75
Partner with EMA and Red Cross to publish news articles to advise citizens of the availability of flood insurance.	2	0	6	6	3	3	2	2	3	2	3	2	3	3	3	4	4	3	3	3	3	3	3	3	3	75
Include information on flood insurance availability on city web page.	2	0	6	6	3	3	2	2	3	2	3	2	3	3	3	4	4	3	3	3	3	3	3	3	3	75
Provide annual wild land fire training for all fire department personnel.	3	3	6	6	3	2	3	2	2	2	2	2	2	3	3	4	4	3	2	3	3	3	3	3	3	75
Partner with EMA to distribute landslide awareness and safety information at community events.	3	3	3	6	3	2	3	2	3	2	2	2	3	3	3	4	4	3	3	3	3	3	3	3	3	75

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Improve the city's Emergency Operations Center by providing adequate space, office, computer, and display equipment to enhance information sharing during activation.	2	9	9	9	3	3	2	1	1	1	2	2	2	3	3	2	3	1	3	1	2	2	3	2	3	74
Participate in annual hazardous materials tabletop exercises and drills involving all emergency response agencies.	2	6	6	6	3	2	2	2	1	2	2	2	2	3	3	2	6	2	3	2	3	3	3	3	3	74
Continue to participate in DOE drills and exercises.	2	6	6	6	3	2	2	2	2	2	2	2	2	3	3	2	6	4	3	2	2	2	3	2	3	74
Enact legislation to make mandatory fines for non-permitted outdoor burning.	2	3	6	6	3	3	2	2	2	2	2	2	2	3	3	2	4	4	3	3	3	3	3	3	3	74
Continue to restrict parking of vehicles in close proximity to critical facilities.	2	3	3	6	3	3	3	2	3	3	2	2	2	3	3	2	4	4	3	3	3	3	3	3	3	74
Revise zoning and building codes to restrict construction in landslide hazard areas	2	3	3	6	3	3	3	2	3	3	2	1	1	3	3	1	4	6	3	3	3	3	3	3	3	73
Develop and annually update a list of vendor 24/7 contact information and pre-disaster MOUs.	1	3	3	6	3	3	3	3	3	3	2	2	2	3	3	3	3	3	2	3	3	3	3	3	3	72
Seek grant funding to purchase and install an automated wide area rapid notification system.	2	9	3	3	3	3	3	2	1	2	2	2	2	3	3	3	6	2	2	1	3	3	3	3	3	72
Develop a post-disaster recovery ordinance.	2	3	3	6	3	3	2	2	2	3	1	1	3	3	3	2	4	6	2	3	3	3	3	3	3	72
Enact legislation to require each Tier II site to install alert devices and develop a warning plan.	3	9	3	6	3	3	2	2	2	2	2	1	3	2	2	2	6	2	3	2	2	2	3	2	3	72
Publish articles in area newspapers to instruct citizens on shelter-in-place.	3	6	0	3	3	2	3	2	3	2	2	2	3	3	3	3	6	4	2	2	3	3	3	3	3	72
Partner with EMA to distribute extreme heat and extreme cold awareness and preparedness literature to citizens at community events.	3	3	3	3	3	2	3	2	3	2	3	3	2	3	3	3	4	4	2	3	3	3	3	3	3	72

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Partner with EMA and Red Cross to distribute severe winter storm awareness and preparedness literature to citizens at community events.	3	3	3	3	2	3	2	3	2	2	2	3	3	3	3	4	4	3	3	3	3	3	3	3	72
Coordinate with EMA to apply to receive Community Rating System status.	1	0	6	6	3	2	2	2	2	2	2	2	3	3	3	4	6	3	3	3	3	3	3	3	72
Seek grant funding to purchase wild land firefighting equipment.	3	3	6	6	3	2	3	2	1	2	2	2	3	3	3	4	2	3	2	3	3	3	3	3	72
Enforce codes stipulating setback distances for all new structures not using fire-resistive materials.	2	3	6	6	3	3	2	2	2	2	1	1	2	3	3	2	4	4	3	3	3	3	3	3	72
Partner with schools to promote awareness, recognition, and reporting of meth labs.	3	0	3	3	3	2	2	3	2	3	3	3	3	3	3	4	6	2	3	3	3	3	3	3	72
Participate in annual exercises involving all emergency response agencies.	2	6	6	6	3	2	2	2	2	2	2	2	3	3	2	6	2	3	1	2	2	3	2	3	71
Publish notice of federal, state, and local training opportunities to all emergency response personnel.	2	3	3	3	3	3	3	3	3	2	2	2	3	3	3	4	4	2	2	3	3	3	3	3	71
Develop redundancy strategies to prevent loss of public records in the event of damage to critical facilities.	3	0	3	6	3	3	3	2	2	2	3	2	3	3	3	6	2	3	1	3	3	3	3	3	71
Provide the fire department equipment to contain hazardous materials spills on roadways.	2	3	3	6	3	3	2	2	2	2	2	2	3	3	3	6	2	3	1	3	3	3	3	3	71
Establish codes to prohibit construction of special needs population facilities near rail lines.	3	6	3	3	3	3	2	3	1	3	1	2	3	3	3	2	6	2	2	3	2	3	3	3	71
Partner with EMA to distribute hail awareness and preparedness literature to citizens at community events.	2	3	3	3	3	3	3	2	2	2	3	2	2	3	3	4	6	2	2	3	3	3	3	3	71

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Partner with EMA and Red Cross to distribute lightning awareness and preparedness literature to citizens at community events.	3	3	3	3	3	2	3	2	2	2	2	2	2	3	3	3	4	6	2	3	3	3	3	3	3	71
Provide debris management training for public works.	3	3	3	6	3	2	3	2	1	2	2	2	2	3	3	3	6	2	3	1	3	3	3	3	3	70
Create a GIS map database of Tier II sites to display ERG-established zones and evacuation perimeters.	3	6	0	6	3	3	3	1	2	1	2	2	2	3	3	3	6	2	3	1	3	3	3	3	3	70
Provide training for firefighters in containing hazardous materials spills on roadways.	3	3	3	3	3	2	3	2	2	2	3	2	2	3	3	3	6	2	3	2	3	3	3	3	3	70
Establish codes to prohibit construction of residential or public structures near fixed hazardous materials sites.	2	6	6	6	3	3	1	2	1	2	1	1	2	2	2	1	6	2	3	3	3	3	3	3	3	70
Participate in a countywide study to determine and GIS map potential landslide areas.	2	3	3	3	3	2	2	2	3	3	2	2	2	3	3	3	4	6	2	2	3	3	3	3	3	70
Partner with EMA to distribute subsidence awareness literature at community events.	3	3	3	3	3	2	3	2	3	2	2	2	2	3	3	3	4	4	2	3	3	3	3	3	3	70
Ensure all emergency response personnel are Incident Command System and National Incident Management System training compliant.	2	3	3	6	3	3	3	2	2	2	2	2	2	3	3	3	4	2	3	1	3	3	3	3	3	69
Develop comprehensive, economic, and continuity of operations plans.	2	3	3	6	3	3	2	2	2	2	2	1	2	3	3	3	6	2	3	1	3	3	3	3	3	69
Develop emergency services winter storm response protocols.	2	3	0	3	3	2	3	2	3	2	2	2	2	3	3	3	4	6	3	3	3	3	3	3	3	69
Continue participation in the state and federal drug task force.	3	0	3	3	3	2	2	2	3	2	2	3	2	3	3	3	4	6	2	3	3	3	3	3	3	69
Partner with EMA and local insurance agents to distribute earthquake insurance information at community events.	2	0	6	9	3	3	3	2	2	1	2	1	1	3	3	3	2	2	3	3	3	3	3	3	3	69

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Partner with EMA to distribute drought awareness and preparedness literature to citizens at community events.	3	0	3	3	3	2	3	2	3	2	3	2	3	3	3	4	4	2	3	3	3	3	3	3	68	
Provide training for all city personnel subject to extreme heat and cold.	3	3	3	3	3	2	3	2	2	2	2	3	2	3	3	3	4	4	2	1	3	3	3	3	3	68
Evaluate the efficacy of construction of water flow and detention ponds in flood prone areas.	3	3	3	6	3	3	2	2	2	2	2	2	3	3	2	6	4	3	1	2	2	2	2	2	3	68
Participate in a UT geology department countywide study of karst areas and known sinkholes.	2	3	3	3	3	2	3	2	2	2	2	2	3	3	3	4	4	2	3	3	3	3	3	3	3	68
Create GIS maps showing karst areas.	2	3	3	3	3	2	3	2	2	2	2	2	3	3	3	4	4	2	3	3	3	3	3	3	3	68
Seek grant funding to purchase and install warning sirens.	3	9	0	3	3	3	2	2	1	2	3	2	3	3	3	2	6	2	2	1	2	2	3	2	3	67
Evaluate efficacy of raising grade level or expanding ditch depth and width along repetitive flooding roadways	3	6	6	6	3	3	2	2	1	2	2	2	3	3	2	3	1	3	1	2	2	2	2	2	3	67
Continue to participate in the Joint Terrorism Task Force.	2	3	3	3	3	2	2	2	3	2	2	2	3	3	3	4	4	2	2	3	3	3	3	3	3	67
Conduct meetings between road and planning departments to prioritize potential landslide areas and methods of remediation.	2	3	3	3	3	2	2	2	3	2	2	2	3	3	3	4	4	2	2	3	3	3	3	3	3	67
Provide fire department personnel CSX rail incident training.	2	3	3	3	3	2	3	2	2	3	2	1	2	3	3	3	4	2	2	3	3	3	3	3	3	66
Enact legislation to restrict non-essential water usage during periods of drought.	2	0	3	3	3	3	2	3	2	3	2	2	2	3	3	2	4	4	2	3	3	3	3	3	3	66
Equip all fire/rescue vehicles with chain saws to ensure clearing of emergency routes following high wind incidents.	3	3	3	3	3	2	3	1	2	2	2	2	3	3	3	4	4	1	1	3	3	3	3	3	3	66
Install lightning protection devices and grounding on critical facilities	2	3	6	3	3	3	2	2	1	2	1	1	1	3	3	3	4	4	3	2	3	2	3	3	3	66

Table 1.11.2 "STAPLEE" Mitigation Actions Prioritization Table

Action/Project Description	Social			Technical		Administrative		Political		Legal		Economic			Environmental			Prioritization								
	High Community Acceptance	High Effect on Loss of Life-WF=3	High Effect on Property Loss WF=3	High Effect on Economic Loss WF=3	Is Technical Feasibility	Is a Long-Term Solution	No Secondary Impacts	Little Staffing required	Funding Potential is High	Low Maintenance/Operations	High Political Support	Has a Local Champion	Has Public Support	State Authorized	Local Authority Exists	Potential Legal Challenge is High	Action Benefit is High WF=2	Action Cost is Low WF=2	High Economic Goal Contribution	Outside Funding Not Required	Land/Water Effect is Low	Low Endangered Species Effect	HAZMAT Waste Site Effect is Low	Environmental Effect is Low	Federal Law Compliant is High	Total Priority Score
Continue aggressive power line right-of-way clearing to reduce incidence of telephone and power lines downed by high wind or ice/snow incidents.	3	3	3	6	3	2	2	1	2	2	3	2	3	3	2	2	6	2	3	1	2	2	3	2	3	66
Enact legislation to require buried lines in all new cluster developments.	3	3	3	6	3	2	2	1	2	2	3	2	3	3	2	2	6	2	3	1	2	2	3	2	3	66
Evaluate methods to improve storm water systems in flood prone areas.	2	0	3	6	3	3	2	2	2	2	2	2	2	3	3	2	6	4	3	3	2	2	2	2	3	66
Provide Emergency Response to Terrorism training for all emergency response agencies.	2	3	3	3	3	2	2	2	2	2	2	2	2	3	3	3	4	4	2	2	3	3	3	3	3	66
Partner with the drug task force and EMA to distribute meth lab awareness information at community events.	3	0	3	3	3	2	2	2	3	2	2	3	2	3	3	3	4	4	2	2	3	3	3	3	3	66
Develop meth lab SOGs for emergency responders.	2	0	3	3	3	2	2	2	3	2	2	2	2	3	3	3	4	6	2	2	3	3	3	3	3	66
Require property owners to sign acknowledgement of subsidence risk notification before issuing building permits on high-risk sites.	2	3	3	3	3	2	2	2	2	2	2	2	2	3	3	2	4	4	2	3	3	3	3	3	3	66
Update evacuation routes and procedures.	2	6	0	0	3	3	3	2	3	2	2	2	2	3	3	3	4	2	2	3	3	3	3	3	3	65
Maintain and update annually contact information for suppliers of potable water.	3	3	0	0	3	2	3	2	3	2	2	3	2	3	3	3	4	4	2	3	3	3	3	3	3	65
Provide meth lab awareness training for citizens.	3	0	3	3	3	2	2	2	2	2	2	3	2	3	3	3	4	4	2	2	3	3	3	3	3	65
Provide training and equipment for law enforcement and drug task force personnel.	2	0	3	3	3	2	2	2	3	2	2	3	2	3	3	3	4	4	2	2	3	3	3	3	3	65
Install larger culverts to permit clear stream flow.	3	3	3	6	3	3	2	1	1	2	2	2	2	3	3	2	6	2	3	1	2	2	2	2	3	64
Partner with NWS to erect "Turn Around, Don't Drown" signage at flooding points.	2	6	0	0	3	3	3	2	2	2	3	2	3	3	3	3	3	3	1	3	2	3	3	3	3	64

Table 1.11.2 "STAPLEE" Mitigation Actions Prioritization Table																										
Action/Project Description	Social			Technical			Administrative			Political			Legal		Economic			Environmental			Prioritization					
	High Community Acceptance	High Effect on Loss of Life-WF=3	High Effect on Property Loss WF=3	High Effect on Economic Loss WF=3	is a Long-Term Solution	No Secondary Impacts	Little Staffing required	Funding Potential is High	Low Maintenance/Operations	High Political Support	Has a Local Champion	Has Public Support	State Authorized	Local Authority Exists	Potential Legal Challenge is High	Action Benefit is High WF=2	Action Cost is Low WF=2	High Economic Goal Contribution	Outside Funding Not Required	Land/Water Effect is Low	Low Endangered Species Effect	HAZMAT Waste Site Effect is Low	Environmental Effect is Low	Federal Law Compliant is High	Total Priority Score	
Continue to work with property owners to reduce run-off and erosion.	2	0	3	6	3	2	2	2	2	2	2	2	3	3	2	4	4	3	3	2	2	2	2	3	63	
Seek grant funds and partner with DOE to construct a detention basin on East Fork Poplar Creek to remediate flooding on Jefferson Avenue.	2	3	3	3	3	3	2	2	3	2	2	2	3	3	2	4	2	3	1	2	3	3	2	3	63	
Seek grant funding to elevate three bridges on Illinois Avenue	2	3	3	3	3	3	2	2	3	2	2	2	3	3	2	4	2	3	1	2	3	3	2	3	63	
Erect staff signage indicating water depth at flooding points.	3	6	0	0	3	3	3	2	2	2	3	3	3	3	3	3	2	1	2	2	3	3	3	3	63	
Install gates to block roadways and bridges during flooding.	3	6	0	0	3	3	2	2	2	3	2	3	3	3	3	3	2	1	2	2	3	3	3	3	63	
Seek grant funds to enlarge storm drains at Glassboro Road, Baypath Drive, and Lafayette Drive at the Midway/Midland Roads industrial park area.	2	3	3	3	3	3	2	2	3	2	2	2	3	3	2	4	2	3	1	2	3	3	2	3	63	
Seek grant funds to remediate back up of East Fork Poplar Creek on Illinois Avenue.	2	3	3	3	3	3	2	2	3	2	2	2	3	3	2	4	2	3	1	2	3	3	2	3	63	
Seek grant funding to equip all emergency response vehicles with on demand tire chains to ensure access to victims during ice and snow incidents.	2	3	0	3	3	3	2	2	2	2	2	2	3	3	3	4	2	3	1	3	3	3	3	3	62	
Seek grant funding to install water line insulation for low-income residents.	2	0	3	3	3	3	3	2	1	2	1	2	3	3	3	4	4	1	1	3	3	3	3	3	62	
Provide regular maintenance to remove debris from flood prone streams and creeks.	3	3	3	6	3	2	2	1	1	1	2	2	2	3	3	2	6	2	3	1	2	2	2	2	3	62
Seek grant funding to remediate areas prone to landslide on Melton Lake Drive	3	3	3	3	3	3	2	2	1	2	2	2	3	3	3	2	3	2	2	2	2	3	2	3	61	
Erect signage to warn motorists of landslide danger at identified sites.	3	3	0	0	3	2	3	2	2	2	2	2	3	3	3	4	4	1	2	3	3	3	3	3	61	

Anderson County, Tn.
Multi-Jurisdictional
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	High Community Acceptance	High Effect on Loss of Life-WF=3	High Effect on Property Loss WF=3	High Effect on Economic Loss WF=3	Is Technical Feasibility	is a Long-Term Solution	No Secondary Impacts	Little Staffing required	Funding Potential is High	Low Maintenance/Operations	High Political Support	Has a Local Champion	Has Public Support	State Authorized	Local Authority Exists	Potential Legal Challenge is High	Action Benefit is High WF=2	Action Cost is Low WF=2	High Economic Goal Contribution	Outside Funding Not Required	Land/Water Effect is Low	Low Endangered Species Effect	HAZMAT Waste Site Effect is Low	Environmental Effect is Low	Federal Law Compliant is High	Total Priority Score
Assist community agencies to establish heating/cooling centers for vulnerable populations.	3	3	0	3	3	2	2	1	1	2	2	2	3	3	2	6	2	2	1	2	2	3	2	3	3	58