



## Fire Insurance Ratings (ISO)

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Dear Reader:

The following document was created from the MTAS website ([mtas.tennessee.edu](https://www.mtas.tennessee.edu)). This website is maintained daily by MTAS staff and seeks to represent the most current information regarding issues relative to Tennessee municipal government.

We hope this information will be useful to you; reference to it will assist you with many of the questions that will arise in your tenure with municipal government. However, the *Tennessee Code Annotated* and other relevant laws or regulations should always be consulted before any action is taken based upon the contents of this document.

Please feel free to contact us if you have questions or comments regarding this information or any other MTAS website material.

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## Fire Insurance Ratings (ISO)

**Reference Number:** MTAS-411

The ISO uses a grading system from 1 to 10 with 1 being the best and 10 representing a community without an effective fire service. Within this grading structure, a split class means that all properties within 1,000 feet of a water supply (usually a fire hydrant) are eligible for the first class (1-8).

Properties that are more than 1,000 feet from a water supply, but within five road miles of a fire station, are eligible for either a Class 9 alone or Class N/NX split classification, where the X signifies an area protected by a Class N fire department and the area lacks an adequate water supply. All properties more than five road miles from a fire station are Class 10. An example would be a 3/3X classification, where most of the properties are within 1,000 feet of a water supply and meet other fire standards (Class 3), and some of the community is more than 1,000 feet from a water supply but within five road miles of a fire station (Class 3X). The challenge to local government is to improve the fire service using the savings from an improved insurance rate classification.

The ISO rates community fire service in Tennessee. According to the Tennessee County Fire Handbook, "For areas without a public water supply system, the following flow rates must be achievable for a minimum of two hours:

ISO Rating	GPM
9	100
8	250
7	350
6	450

The flow, measured in gallons per minute (gpm), must be established within 15 minutes from the alarm time." [7]

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[7] Tennessee County Fire Handbook, Kevin J. Lauer, County Technical Assistance Service.

## Importance of Insurance Ratings

**Reference Number:** MTAS-412

In the following example, if a homeowner pays \$1 per year for fire insurance in a Class 10 rating, then:

- Class 9 pays 93 cents, (a savings of 7 percent over a Class 10.)
- Class 8 pays 72 cents, (a savings of 28 percent over a Class 10.)
- Class 7 pays 68 cents, (a savings of 32 percent over a Class 10.)
- Class 6 pays 65 cents, (a savings of 35 percent over a Class 10)
- Class 5 pays 63 cents, (a savings of 37 percent over a Class 10.)
- Class 4 pays 60 cents, (a savings of 40 percent over a Class 10.)
- Class 3 pays 58 cents, (a savings of 42 percent over a Class 10.)
- Class 2 pays 55 cents, (a savings of 45 percent over a Class 10.)
- Class 1 pays 53 cents, (a savings of 47 percent over a Class 10.) [8]

This information is just a guideline, as the actual rates a property owner will pay depend upon the proprietary formula their insurance company uses for calculating property insurance premiums.

ISO Mitigation Online reports the following breakdown for Tennessee communities as of October 2019:

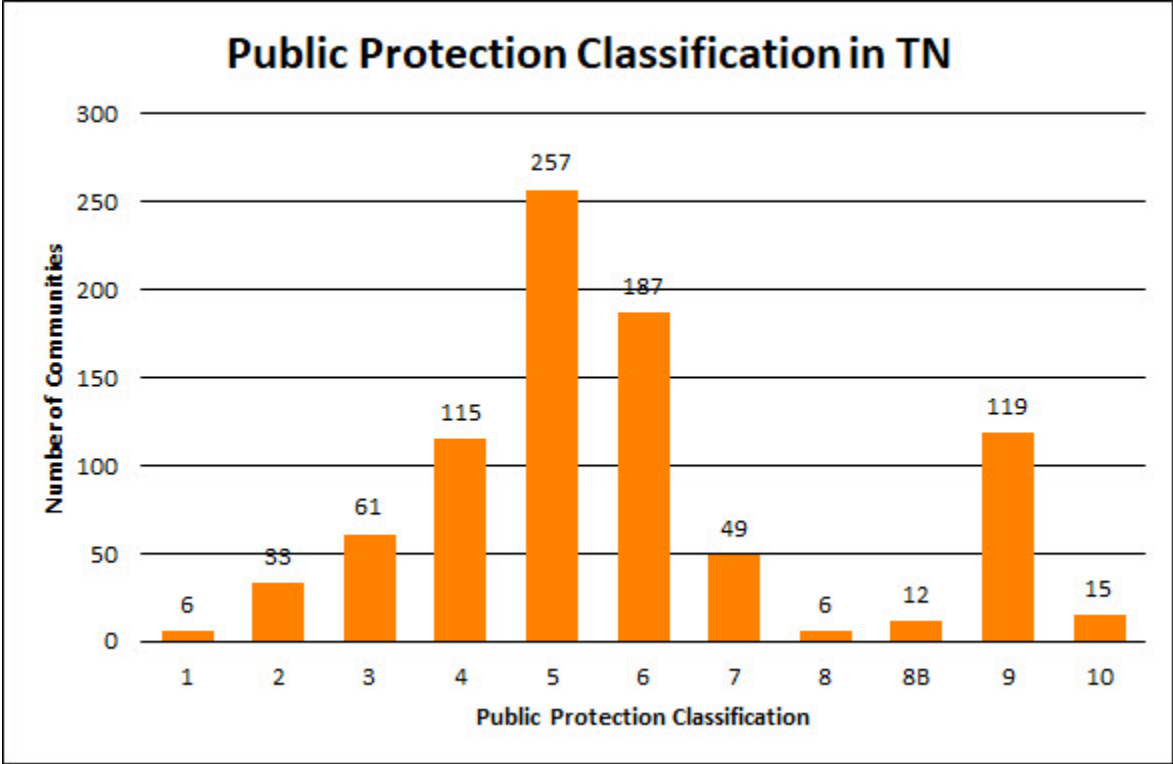
Grade	Number of Communities
1	5
2	33
3	61
4	115
5	257
6	187
7	49
8	6
8B	12
9	119
10	15
Total	860

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[8] [www.isomitigation.com](http://www.isomitigation.com) [1]

# ISO Ratings of TN Fire Departments

Reference Number: MTAS-413



Of the 860 ISO-classified communities in Tennessee, 137, or 15.89 percent, are grade 9, as they meet only minimum standards.

The Tennessee ISO ratings are consistent with national ratings, as more than 18 percent of the fire districts in the United States have a Class 9 rating, which indicates the minimum recognized standard of fire protection.

While many Tennessee cities and utility districts with water systems have unaccounted-for water losses from 10 percent to as much as 50 percent, amounting to hundreds of thousands of gallons annually, the typical residential fire requires approximately 4,500 gallons for extinguishment, cleanup, and refilling tanks. Fire department usage is a mere drop in the bucket in comparison to water loss from leakage. A new Tennessee statute requires that cities report their unaccounted-for water losses annually. “The State of Arkansas addressed this problem in statutes indicating that nothing in this subchapter shall be construed to prevent county, municipal, or local water utilities or associations from contributing water free of charge for fire fighting and training activities to volunteer fire departments and districts.”<sup>[9]</sup> The statute encourages a commitment to better fire service with the supply of water.

[9] Arkansas Code Annotated 14-284-408. Contribution; funds; water.

## ISO Rating Effect on Economic Development

Reference Number: MTAS-414

### **Fire Service Rating Effect on Commercial and Economic Development**

Every small town and rural community in Tennessee is interested in promoting growth and commercial and economic development. They budget for economic development, participate in area development

efforts, become Three-Star certified, subsidize new development, and support it in other ways. They want business and industry to locate in their communities for jobs and economic opportunities. A community that does not have adequate water for fire service is at a tremendous disadvantage over a community that does. The difference in commercial fire insurance premiums between a community with adequate water for fire service and a community that does not have adequate water is significant, and in many instances may prevent industry from locating in the community. If two or more communities are competing to land a business, a community with a better ISO rating will have an advantage, as the business will pay lower annual property insurance premiums, which lowers the business's overhead costs.

## Savings from Improved Fire Services

**Reference Number:** MTAS-415

### **Examples**

A MTAS fire study for an East Tennessee city with a population of just over 4,000 with an ISO rating of Class 9 indicated that for a \$100,000 home structure paying an annual fire insurance premium of \$806, the annual savings per household where the ISO class was improved to Class 5 was \$298. When multiplied by the estimated 1,477 homes inside the city, the annual savings to city dwellers amounted to \$440,146. The cost of improving the water system was \$695,470, 57 percent of the total \$1,220,123 cost of improving fire service, including the water distribution system and installing hydrants. By using long-term debt and paying approximately \$100 annually per household for fire service improvements, each household received savings of approximately \$298 annually.

If a fire department improves its ISO rating, homeowners and businesses in the community often save money on their insurance premiums. If the savings are spent in the community, the extra cash can help the local economy. The U.S. Chamber of Commerce states that every dollar that stays in a community will turn over more than six or seven times. Using the above example, the \$440,146 annual savings in insurance premiums minus the annual cost of \$147,700 will generate an additional \$292,446. When this turns over six times during the year it generates an additional \$1,754,676 (\$292,446 x 6) for the local economy. At the rate of 2.75 percent local sales tax, this savings generates \$48,254 in additional tax revenue to the of improving the fire service and the water system. Much of this money currently is going to insurance companies outside the community. In this example, it clearly was in the local government's interest to make the improvements with the projected savings. Cities in need of revenues for improving fire service may want to do a similar analysis.

"In 2000, the Rural Fire Protection Work Group, a committee appointed by Arkansas Governor Mike Huckabee, quantified the economic benefits of improved fire protection for that state. In its final report the work group estimated the statewide cost of projects to be about \$150 million or \$15 million a year for 10 years. Next, the work group projected the reduction in property insurance premiums when each of 839 rural fire departments has improved its Public Protection Classification (PPC) to Class 7. According to that analysis, the statewide savings would total more than \$100 million per year. More than 425,000 homeowners would share the benefits, with an average savings of \$235 per household. The Arkansas work group projected increased economic activity at more than \$2 billion over a period of 13 years. According to the work group's analysis, that economic activity would generate additional state and local sales tax revenue more than offsetting the cost of the improvements." [10] These savings from approximately 700 fire departments in the state of Arkansas are consistent with the savings of the East Tennessee city cited previously. Perhaps a similar approach would work in Tennessee.

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[10] [www.iso.com](http://www.iso.com). [2]

## Fire Resource Conservation and Development

**Reference Number:** MTAS-416

Councils (RC&Ds) in East Texas have begun a pilot project that will turn over to the state of Texas a model to improve rural volunteer fire department (VFD) fire suppression and to provide VFDs with training in homeland protection. The key, long-term measure of success will be that insurance ratings

for many volunteer fire departments will be lowered, and, as a result, substantial savings will be returned to rural homeowners. The impact of a successful project in just 10 years could potentially be millions of dollars saved in reduced insurance premiums, which will boost local economies. In the short term, during the pilot project, 50 counties and their volunteer fire departments will:

- Prepare county master plans for improved fire protection;
- Train local volunteers in ways to lower their ISO rating; and
- Provide training in key areas of homeland security and emergency management.

The pilot project is modeled after a very successful statewide project in Arkansas. In just six years, that project improved the fire suppression capability of hundreds of volunteer fire departments and realized \$25 million dollars in annual savings for rural counties when homeowner insurance rates dropped because of the improved ISO ratings.

The above examples demonstrate that there are substantial insurance cost savings from improving a community's fire service. Often the problem is that the government agency, the fire department, has the expense, and the homeowners receive the insurance savings from their insurance premiums. Many homeowners are not willing to return any savings realized from a reduction in insurance premiums to pay for needed fire service improvements. They do not want their property taxes increased to pay for the savings. Another funding mechanism is needed to capture these savings for the benefit of the fire service as well as the homeowner.

Could insurance companies enter into agreements with local governments to provide upfront the costs of needed fire service improvements, with the insurance company, the fire department, and the homeowner sharing in the savings? Could a government fund be established to contract with local governments for improving fire service with the fund and the fire department sharing in the savings? With a 3-to-1 return on investment from improved fire service, there are many potential ways to recover the insurance savings for the benefit of the fire department, the homeowner, and the finance organization. Tennessee cities have not sought optional and innovative ways to capture the insurance rate savings for the benefit of the fire departments and the homeowner.

## Recommendations for Small Municipal Fire Departments

**Reference Number:** MTAS-417

Small municipal fire departments using volunteers are important to Tennessee cities. There are 723 recognized fire departments in Tennessee. Most of them are small fire departments struggling with water supply issues. Many small-city fire departments lack an adequate supply of water and the necessary funding to provide for needed supplies, equipment, and facilities. Improving a city's fire service rating can lead to homeowner insurance savings, and it can provide a mechanism to fund needed improvements in the fire service. Residential sprinkler systems can reduce the loss of life and property. Growth issues affecting a city's ability to provide an adequate level of fire service to its community need to be adequately addressed.

MTAS recommends that cities look for innovative methods to improve the water supply required for fire service such as:

- Develop and participate in model programs that pay for fire service improvements from reduced fire insurance rates, similar to the Texas model program outlined herein;
- Seek changes in federal laws that prevent a city from taking over a utility inside the city where the utility has outstanding bond obligations. Cities should be allowed to pay off the bonds and acquire the utility;
- Support changes in the state's growth laws requiring utility districts operating within a city, or its urban growth area, to comply with the city's subdivision regulations. This would give cities the ability to provide needed water for fire service; and
- Include utilities in the county/city 20-year growth plan.

**Links:**

[1] <http://www.isomitigation.com>

[2] <http://www.iso.com/>

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