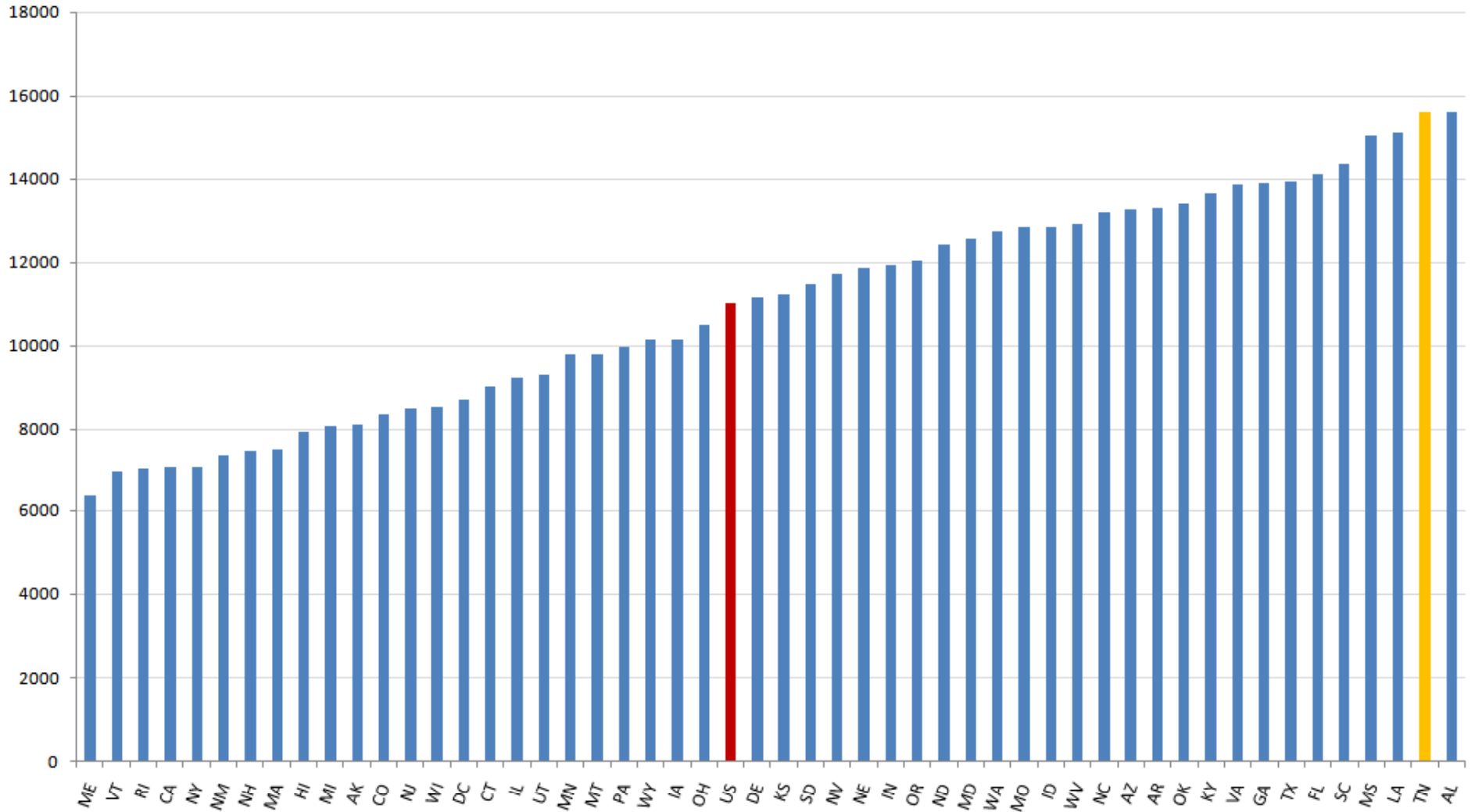


Residential Building Codes for One- and Two-Family Dwellings



**Tennessee Department of Commerce and Insurance
Fall 2009**

2006 Average Household Annual Electric Consumption by State (kWh)



Fire Deaths

- The National Fire Protection Association's (NFPA) research reveals that from 1999-2003 Tennessee's fire death rate was the fourth highest in the country.
- The Center for Disease Control and Prevention's records show that 80% of fire deaths in the United States occur in homes. Most of these deaths occur in the Southeastern states.
- From 2002-2006, 378 residential fire deaths were reported to TFIRS, the Tennessee branch of the National Fire Incident Reporting System (NFIRS). 246 or 65% of these occurred in 1 or 2 family dwellings.

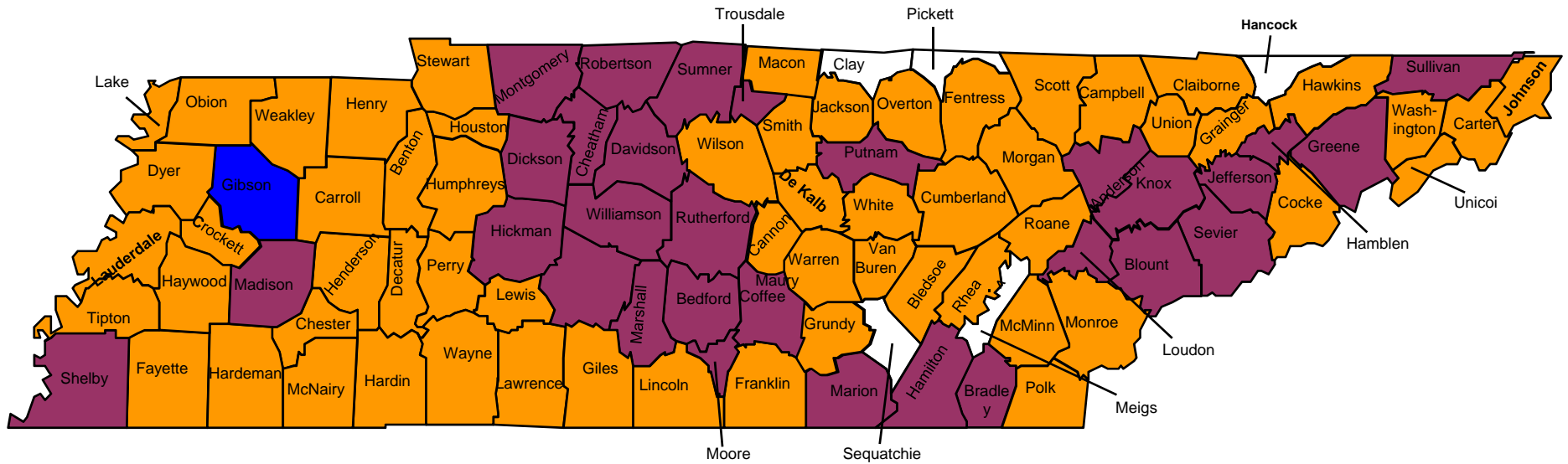
Risk Indicators

- NFPA's study shows that certain factors are indicators of high residential fire death rates including:
 - Poverty
 - Lack of education (people over 25 years old without a high school diploma)
 - Smoking
 - Extensive rural areas
- The NFPA concluded that “a state that rates high in one or more of these risk factors could be expected to rank high in state fire death rate.”

Importance of Code Enforcement

- They also concluded that effective fire and life safety education, a wider use of home fire protection systems, along with a **“strong consensus code with strong enforcement- can reduce fire death rates in any state”**.
- **When the counties with and without residential housing codes are grouped separately, there is a 22% decrease in fire death rate for those with codes.**

Where is Tennessee now?



COUNTY WITHOUT CODE NO MUNICIPALITIES WITH CODE	COUNTY WITH CODE MUNICIPALITIES WITHOUT CODE	COUNTY WITHOUT CODE MUNICIPALITY(S) WITH CODE	COUNTY WITH CODE MUNICIPALITY(S) WITH CODE
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Source – TBOA Survey, 2009

Tennessee's codes status

- Most of the state's more populous areas enforce one- and two-family residential building codes.
- More than 75% of the state's residents live in areas with some sort of code and varying degrees of enforcement.
- Many communities are not enforcing the energy components of a residential code, even if they have adopted the more recent uniform codes.

Increased Costs

Permit and inspection fees are anticipated to be in line with what local governments are charging (\$500-\$750 for a 2,000-square foot/\$150,000 home). Using builder estimates, a home built to the most stringent energy standards costs 2.5% more.

Cost of home:	\$150,000
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Cost of energy efficient home:	\$153,750
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A difference of:	\$3,750
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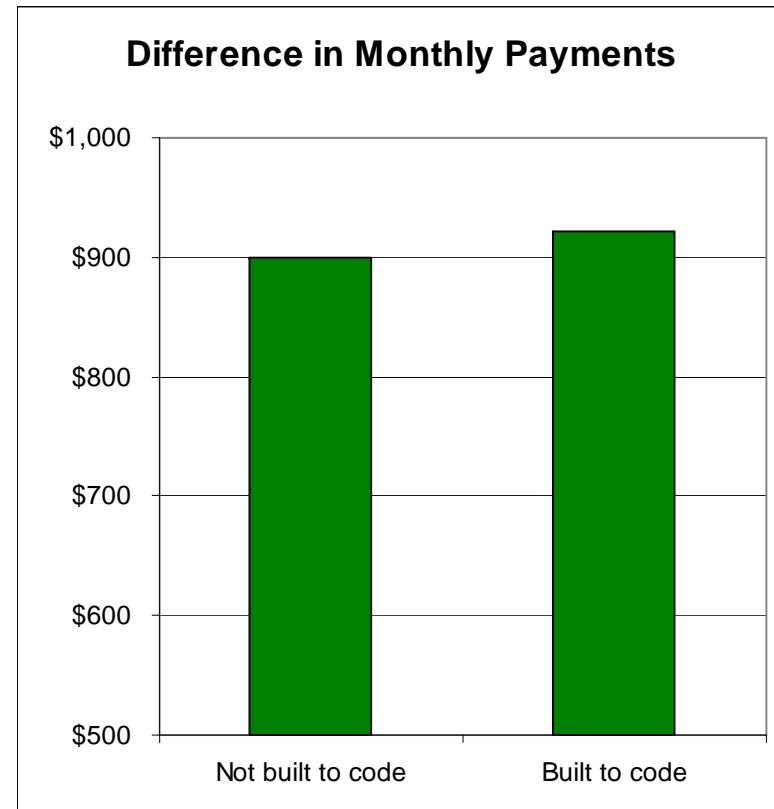
Monthly Mortgage Payment

That difference, \$3750, using a 30-year 6% mortgage, increases the monthly payment by **\$22.48**.

Monthly Payment: \$899.33

Monthly Payment: \$921.81

A difference of: **\$22.48**



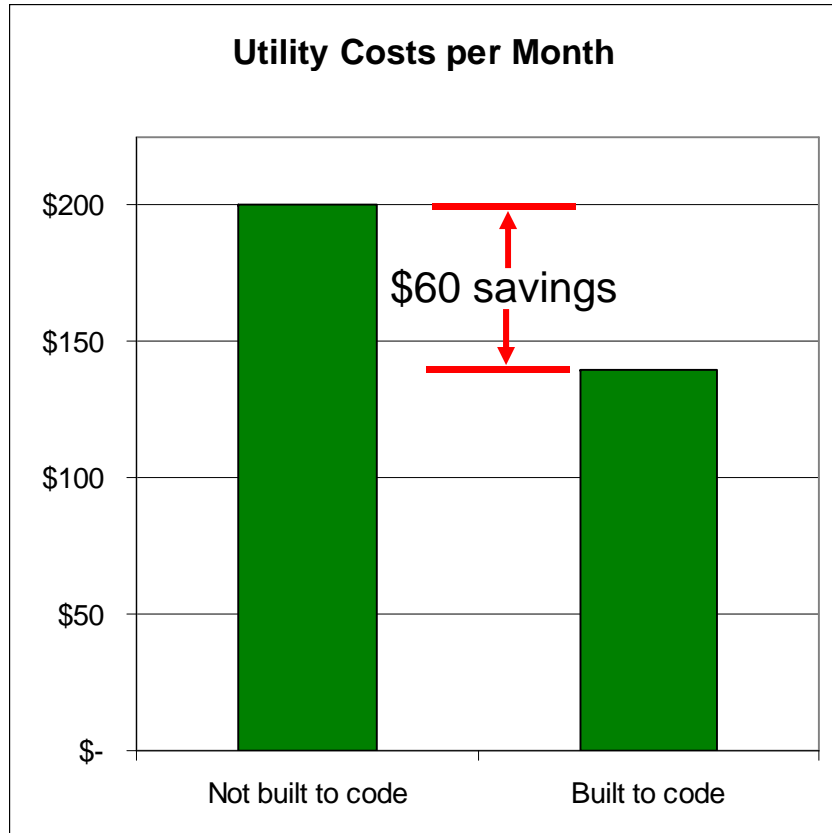
Utility Savings

An energy efficient home has **30% lower** utility costs. (Some estimates are 50%.)

Utility Costs/month: \$200

Utility Costs/month: \$140

Savings per month: **\$60**



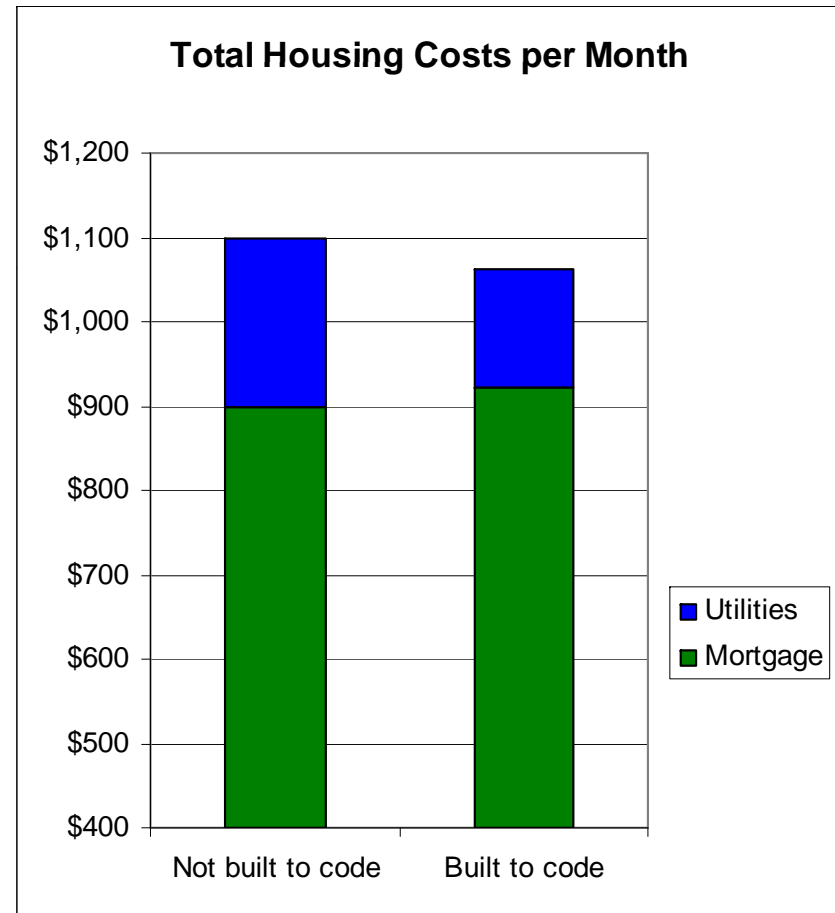
Total Housing Costs

Using the 30% savings, the estimated net costs of an energy efficient home is actually **\$37.52 in savings** per month.

Increase in monthly mortgage payment: **\$22.48**

Decrease in monthly utility costs: **\$60.00**

A savings of: **\$37.52/mo.**



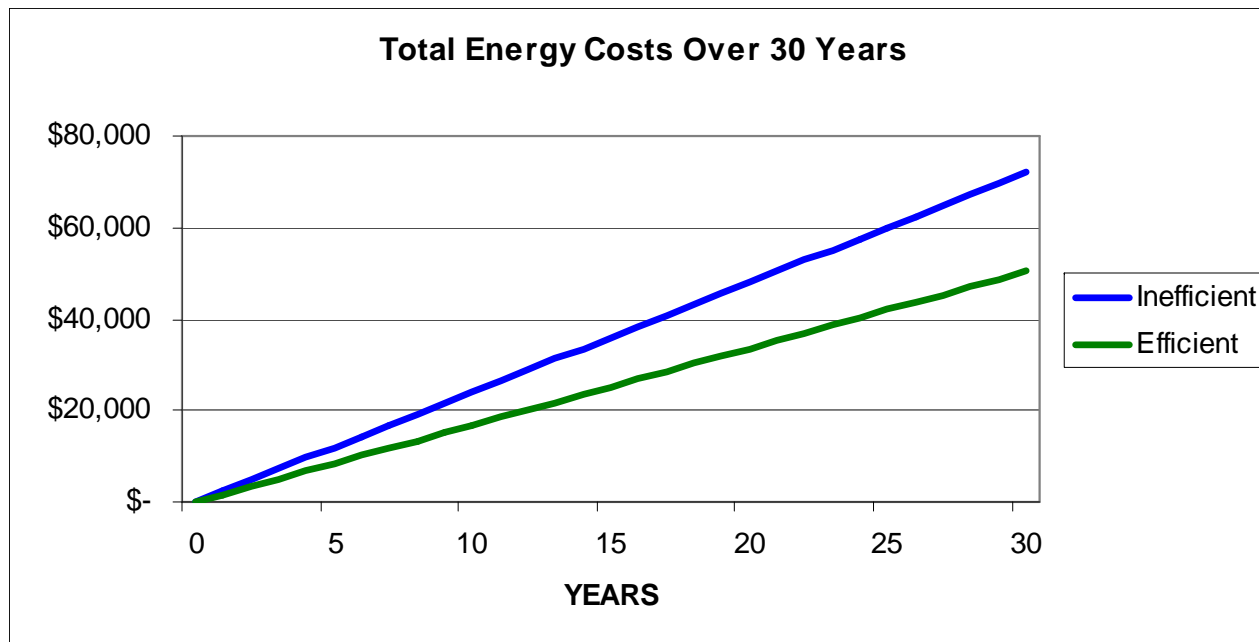
Long-term Savings

After less than 6 years, the savings in utility costs will have surpassed the 2.5 % increase in construction costs.

Increase in cost of construction:	\$3,750
Utility savings after 6 years:	\$4,320

Total Energy Savings

The owner of an energy efficient home will save approximately **\$21,600*** when compared to a home not built according to code over the 30 year period.



**not including any tax deductibility savings or savings due to a rise in utility costs.*

Why is the State interested in the residential codes?

- To make new homes safer and more energy-efficient.
- Without enforcement, studies have shown there is widespread lack of compliance with minimum building standards.
- The most cost effective time to incorporate energy efficient elements is at the time of construction. Corrections are less costly before they are covered up.
- Tennessee is committed to green jobs and energy efficient development. Adoption of a residential code is critical to that effort.

What are the options for jurisdictions enforcing residential building codes?

- The SFM will adopt a statewide residential code and local governments can enforce that particular code or a code that is current within 7 years of the statewide code.
- This means local governments can adopt either the 2003, 2006 or 2009 version of the International Residential Code (IRC); and
 - enforce the code by performing the required inspections; and
 - keep its code current (with seven years of the most recent edition),
- In those jurisdictions that do not currently have residential codes in place or that no longer wish to inspect or enforce a residential code, the SFA will implement the inspection program in the same way it performs electrical inspections **AT NO COST TO LOCAL GOVERNMENTS.**
- Or opt out and have no code or enforce a non-compliant code.

Grants Available as Part of the Governor's Energy Act

- **\$500,000 for training and materials** to code officials.
- **\$9.3 million (Energy Efficiency and Conservation Block Grant-EECBG)** for grants of up to \$100,000 to cities with populations less than 35,000 and counties with populations less than 200,000.
 - Grants may be used for eligible activities, including:
 - retrofitting public buildings,
 - LED lighting (traffic/street lights),
 - renewable energy such as solar or geothermal retrofits, and
 - developing and implementing building codes and inspection services to promote energy efficiency.
 - Program administered by the Department of Economic and Community Development's Energy Office and will provide a preference to local governments that do not opt out of the residential codes program (either have a residential code program in place or allow the SFM to enforce the state-adopted code.)

For additional information

- Regarding codes, contact the SFM at 615-741-2981.
- Regarding grants, contact the Energy Office at 615-741-2994.