THAI and FTHAI Methodology

The Texas Housing Affordability Index (THAI) reflects the relationship between the median family income in a locale and the computed amount required to purchase a median-priced home. The required income is derived from the current mortgage interest rate, the down payment, and the lender's required mortgage debt-to-income ratio, or qualifying ratio. The qualifying ratio is a measure of the monthly mortgage payment to the borrower's gross monthly income. For example, a qualifying ratio of 25 percent means that the monthly mortgage payment (principal and interest) cannot exceed 25 percent of the borrower's gross monthly income.

A higher THAI indicates relatively greater affordability. A ratio of 1.00 means that the median family income (MFI) is exactly sufficient to purchase the median-priced home. A THAI above 1.00 means the MFI exceeds the required income to purchase a median-priced home. Conversely, a THAI below 1.00 indicates that the MFI is not sufficient to purchase the median-priced home.

For example, a THAI of 1.10 can be interpreted to mean that the MFI is 10 percent more than the required income to purchase the median-priced home. A THAI of 0.90 can be interpreted to mean that the MFI is 10 percent less than the required income to purchase the median-priced home. An increase in the THAI indicates that a family is better able to afford the median-priced home.

The Texas Housing Affordability Index (THAI) and First-Time Homebuyers Housing Affordability Index (FTHAI) use the quarterly median price for homes (both new and existing) sold through Multiple Listing Services in Texas to calculate the required monthly mortgage payment. The Federal Housing Finance Agency provided the effective interest rate data. MFI figures were obtained from the Department of Housing and Urban Development and the Federal Financial Institutions Examination Council.

The equation to calculate both the THAI and FTHAI is:

Index = median family income / required income to qualify for a mortgage
Where required income= (required monthly mortgage payment x 12) / qualifying ratio

The underlying assumptions used to calculate the FTHAI differ slightly from those used to calculate the THAI. The first-time buyer home price was assumed to be 70 percent of the overall median home price. The required monthly mortgage payment is based on a 90 percent loan-to-value mortgage using the effective interest rate for the area. One-half of a percentage point was added to the effective interest rate. The increase in the borrowing rate accounts for private mortgage insurance (required by the lender with a down payment of less than 20 percent) as well as the higher borrowing costs associated with a higher LTV. The MFI for first-time homebuyers is assumed to be 65 percent of the overall MFI.