## THAI and FTHAI

The Texas Housing Affordability Index (HAI) reflects the relationship between the current median family income in a locale and the computed amount required to purchase a median-priced home. The required income derives from the current mortgage interest rate, an assumed 20 percent down payment, and the lenders' required mortgage debt-to-income ratio.

A higher HAI 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 housing affordability index above 1.00 means the median family income exceeds the required income to purchase a median-priced home. Conversely, a housing affordability index below 1.00 indicates that the median family income is not sufficient to purchase the median-priced home.

For example, a HAI 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 HAI 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 HAI 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 existing and new) sold through Multiple Listing Services (MLS) in Texas to calculate the required monthly mortgage payment. The THAI assumes a lender-stipulated qualifying ratio of 25 percent. This means that the monthly mortgage payment (principal and interest) cannot exceed 25 percent of the borrower's gross monthly income. The required monthly mortgage payment is based on an 80 percent loan-to-value (LTV) conventional mortgage using the effective interest rate for the area. The Federal Housing Financing 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 the HAI is:
HAI = (Median Family Income/Required Income to Qualify for a Mortgage)
Where Required Income = (Required Monthly Mortgage Payment × 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 lender-stipulated qualifying ratio remained 25 percent. 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, as used by the National Association of Realtors (NAR).