Finding Affordable Shelter

Federal Reserve Bank of Dallas & Real Estate Center at Texas A&M University
February 23, 2018

Assessing Texas’ Affordable Housing Market

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Chief Economist

REAL ESTATE CENTER
TEXAS A&M UNIVERSITY
MAYS BUSINESS SCHOOL
Macro Housing Issues

1. **Affordability**: the main challenge for the next several years (decades?); income growth vs. price changes
2. **Demographics**: generational life cycles; shifting tastes, preferences, attitudes & desires
3. **Capital Flows & Lending Requirements**: equity requirements; interest rates and monetary/fiscal policies
4. **Infrastructure**: transportation, education, utilities, water
5. **Development**: Design, Density, Resources and Processes
6. **Regulatory**: lending; environmental; land use controls
   - Federal
   - State
   - Local
Affordability: Income to Price Balance

Household Income

House Price
Affordability: How much down and how much per month?
Future of Housing & Affordability: Supply & Demand

Demand Side

• Income growth relative to home price changes

• Demographics and shifts in housing attitudes & preferences

• Mortgage availability: currently a demand constraint
  • Underwriting and risk rating: ease of credit & terms
  • Interest rates

• Effective buyer education
Future of Housing & Affordability: Supply & Demand

Supply Side

• Land & land development costs
• Construction Costs: labor & materials
• Rent growth
• Regulatory Effects: federal, state and local constrain supply & lead to higher costs
• SF investor-rental market
National Housing Market
New and Existing SF Home Sales

Sources: US Census Bureau; NAR
NAHB-Wells Fargo Housing Market Index & SF Starts

Housing Market Index
Single-Family Starts

Average Starts since 1990 (SAAR) 1,014k

Source: NAHB, Real Estate Center at Texas A&M University
Expected Interest Rate on a 30-Year, Fixed-Rate Mortgage in 2018

30-Year FRM rate affected by:
1. Changes in Fed Funds rate
2. Fed downsizing balance sheet
3. Inflation expectations
4. Growth in debt demand
5. Income & productivity growth

Source: FHLMC; Real Estate Center at Texas A&M University
Texas Housing Market & Affordability
## Mortgage & Tenure Status of Homes in Texas 2006 & 2016

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent of Total Units</td>
</tr>
<tr>
<td>Total Housing Units</td>
<td>9,224,920</td>
<td></td>
</tr>
<tr>
<td>Total Occupied Units</td>
<td>8,109,388</td>
<td>87.9%</td>
</tr>
<tr>
<td>Total Renter-Occupied Housing Units</td>
<td>2,818,343</td>
<td>34.8%</td>
</tr>
<tr>
<td>Total Owner-Occupied Housing Units</td>
<td>5,291,045</td>
<td>65.2%</td>
</tr>
<tr>
<td>O-O units with a mortgage</td>
<td>3,368,890</td>
<td>63.7%</td>
</tr>
<tr>
<td>O-O units without a mortgage</td>
<td>1,922,155</td>
<td>36.3%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2005 & 2016 American Community Survey
Texas Median HH Income & Median Home Price Indexed to 1990

Median home price +206.7% (3x); Avg. 7.7%/yr.
HH Income +106.0% (2x); Avg. 3.9%/yr.

Source: U.S. Census Bureau; Real Estate Center at Texas A&M University
Alternative Texas Population Projections 2010-2050

From 1970 to 2010 (40 years), Texas added 13.9 million people

From 2010 to 2050 (40 years), Texas will add between 22 and 30 million people

Sources: U.S. Census Bureau, Texas State Demographer 2014 Projections
Annual Texas Home Sales

Since 2011
Sales + 58%
Average Price + 42%
Median Price + 52%
2018p sales +6-7%
Prices +4%

Source: TAR Data Relevance Program; Real Estate Center at Texas A&M University
2017 Change in Home Sales and Median Prices by Metro Areas

Source: Real Estate Center at Texas A&M University
Texas Months’ Inventory

Source: TAR Data Relevance Program; Real Estate Center at Texas A&M University
## Texas Sales by Price Since 2011

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>$0 - $69,999</td>
<td>15.1</td>
<td>12.7</td>
<td>9.2</td>
<td>7.2</td>
<td>6.1</td>
<td>5.0</td>
<td>4.2</td>
</tr>
<tr>
<td>$70,000 - $99,999</td>
<td>12.5</td>
<td>11.3</td>
<td>9.5</td>
<td>8.2</td>
<td>6.8</td>
<td>5.6</td>
<td>4.8</td>
</tr>
<tr>
<td>$100,000 - $149,999</td>
<td>23.6</td>
<td>22.8</td>
<td>21.9</td>
<td>20.2</td>
<td>17.7</td>
<td>15.2</td>
<td>12.9</td>
</tr>
<tr>
<td>$150,000 - $199,999</td>
<td>17.5</td>
<td>18.5</td>
<td>19.7</td>
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<td>20.7</td>
<td>20.6</td>
<td>19.7</td>
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<tr>
<td>$200,000 - $249,999</td>
<td>9.8</td>
<td>10.8</td>
<td>11.7</td>
<td>12.8</td>
<td>14.1</td>
<td>15.6</td>
<td>16.6</td>
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<tr>
<td>$250,000 - $299,999</td>
<td>6.9</td>
<td>7.6</td>
<td>8.3</td>
<td>9.1</td>
<td>10.2</td>
<td>11.3</td>
<td>12.2</td>
</tr>
<tr>
<td>$300,000 - $399,999</td>
<td>7.1</td>
<td>7.9</td>
<td>9.3</td>
<td>10.5</td>
<td>11.8</td>
<td>13.0</td>
<td>14.5</td>
</tr>
<tr>
<td>$400,000 - $499,999</td>
<td>3.0</td>
<td>3.6</td>
<td>4.5</td>
<td>5.1</td>
<td>5.6</td>
<td>6.2</td>
<td>6.7</td>
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<tr>
<td>$500,000 - $749,999</td>
<td>2.7</td>
<td>3.0</td>
<td>3.6</td>
<td>4.2</td>
<td>4.6</td>
<td>4.9</td>
<td>5.4</td>
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<tr>
<td>$750,000 - $999,999</td>
<td>0.9</td>
<td>1.0</td>
<td>1.1</td>
<td>1.2</td>
<td>1.3</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>$1,000,000 +</td>
<td>0.9</td>
<td>0.9</td>
<td>1.1</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Source: TAR Data Relevance Project; Real Estate Center at Texas A&M University
Texas 2017 Sales and EoY Months Inventory by Price

Source: TAR Data Relevance Program; Real Estate Center at Texas A&M University
Texas Households by Highest Affordable Price: 20% Down

20% down; 4.15% interest; 35% qualifying ratio; and 6% taxes, insurance & utilities

Median Income of $56,565 can afford home priced at $185,605; effective 3.28x

~41% of Texas HHs cannot afford home priced > $150,000;
~53% not >$200,000

Source: 2016 American Community Survey; Real Estate Center at Texas A&M University
Texas Households by Highest Affordable Price: 10% Down

10% down; 4.15% interest; 35% qualifying ratio; and 6% taxes, insurance & utilities

Median Income of $56,565 can afford home priced at $175,981; effective 3.11x

~43% of Texas HHs cannot afford home priced > $150,000; ~55% not > $200,000

Source: 2016 American Community Survey; Real Estate Center at Texas A&M University
Texas Households by Highest Affordable Price: 5% Down

5% down; 4.15% interest; 35% qualifying ratio; and 6% taxes, insurance & utilities

Thousands of Households

- >$750,000: 6.0% of households, 571
- $500,000-$749,999: 4.3% of households, 413
- $400,000-$499,999: 5.5% of households, 520
- $300,000-$399,999: 10.6% of households, 1,013
- $250,000-$299,999: 7.9% of households, 749
- $200,000-$249,999: 9.6% of households, 913
- $175,000-$199,999: 5.8% of households, 553
- $150,000-$174,999: 6.6% of households, 632
- $125,000-$149,999: 7.2% of households, 682
- $100,000-$124,999: 7.7% of households, 735
- $70,000-$99,999: 9.9% of households, 945
- <$70,000: 19.0% of households, 1,810

500 1,000 1,500 2,000

Median Income of $56,565 can afford home priced at $171,534; effective 3.03x

~44% of Texas HHs cannot afford home priced > $150,000; ~56% not > $200,000

Source: 2016 American Community Survey; Real Estate Center at Texas A&M University
Average Number of Texas Households That Cannot Afford a Home Price Increase of $1,000

20% down; 4.15% interest; 35% qualifying ratio; and 6% taxes, insurance & utilities

Source: Real Estate Center at Texas A&M University
## Average Number of Households Unable to Afford a $1,000 Price Increase

<table>
<thead>
<tr>
<th>Home Price Intervals</th>
<th>Average Number of HH Per $1,000 Price Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>$50,000-$100,000</td>
<td>28,449</td>
</tr>
<tr>
<td>$100,000-$150,000</td>
<td>27,362</td>
</tr>
<tr>
<td>$150,000-$200,000</td>
<td>23,156</td>
</tr>
<tr>
<td>$200,000-$250,000</td>
<td>19,213</td>
</tr>
<tr>
<td>$250,000-$300,000</td>
<td>16,169</td>
</tr>
<tr>
<td>$300,000-$500,000</td>
<td>9,726</td>
</tr>
<tr>
<td>$500,000-$750,000</td>
<td>2,130</td>
</tr>
<tr>
<td><strong>Average thru $250,000</strong></td>
<td><strong>25,315</strong></td>
</tr>
<tr>
<td><strong>Overall Average</strong></td>
<td><strong>21,358</strong></td>
</tr>
</tbody>
</table>

20% down; 4.15% interest; 35% qualifying ratio; and 6% taxes, insurance & utilities

Source: Real Estate Center at Texas A&M University
Texas & US Housing Affordability Indexes

Texas is fast losing its competitive housing advantage

Source: Real Estate Center at Texas A&M University
Measuring Affordable Housing: Demand and Supply at the Local Level:

Austin/Travis County Case Study on Affordability
# Affordable Price and Rent by Median HH Income Cohorts

- **What is an “affordable” unit?**
  - Owner-occupied units: **Price-to-income ratio of 3.33**
  - Renter-occupied units: **Rent-to-income ratio of 35%**

## 2015 Median Household Income
- Travis County = $65,269
- City of Austin = $62,250

<table>
<thead>
<tr>
<th>Income Cohorts</th>
<th>Income Distribution</th>
<th>Price Range of “Affordable”</th>
<th>Rent Range of “Affordable”</th>
<th>Income Distribution</th>
<th>Price Range of “Affordable”</th>
<th>Rent Range of “Affordable”</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30% MHI</td>
<td>$0</td>
<td>$0 - $65,205</td>
<td>$0 - $571</td>
<td>$0</td>
<td>$0 - $62,188</td>
<td>$0 - $545</td>
</tr>
<tr>
<td>&gt;30-60% MHI</td>
<td>$19,582</td>
<td>$65,206 - $130,406</td>
<td>$572 - $1,142</td>
<td>$18,676</td>
<td>$62,189 - $124,376</td>
<td>$546 - $1,089</td>
</tr>
<tr>
<td>&gt;60-80% MHI</td>
<td>$39,162</td>
<td>$130,407 - $173,876</td>
<td>$1,143 - $1,523</td>
<td>$37,351</td>
<td>$124,377 - $165,834</td>
<td>$1,090 - $1,453</td>
</tr>
<tr>
<td>&gt;80-120% MHI</td>
<td>$52,216</td>
<td>$173,877 - $260,816</td>
<td>$1,524 - $2,284</td>
<td>$49,801</td>
<td>$165,835 - $248,751</td>
<td>$1,454 - $2,179</td>
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<tr>
<td>&gt;120-140% MHI</td>
<td>$78,324</td>
<td>$260,817 - $304,285</td>
<td>$2,285 - $2,665</td>
<td>$74,701</td>
<td>$248,752 - $290,210</td>
<td>$2,180 - $2,542</td>
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<tr>
<td>&gt;140% MHI</td>
<td>$91,378</td>
<td>$304,285</td>
<td>$2,665</td>
<td>$87,151</td>
<td>&gt;$290,210</td>
<td>&gt;$2,542</td>
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</table>

*Source: American Community Survey and REC Estimates*
## REC Estimate of Distribution of “Affordable” Owner- and Renter-Occupied Units in 2015

<table>
<thead>
<tr>
<th>Income Cohorts</th>
<th>Travis County</th>
<th>City of Austin</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30% MHI</td>
<td>10,186</td>
<td>20,247</td>
</tr>
<tr>
<td>&gt;30-60% MHI</td>
<td>18,819</td>
<td>84,734</td>
</tr>
<tr>
<td>&gt;60-80% MHI</td>
<td>23,391</td>
<td>67,556</td>
</tr>
<tr>
<td>&gt;80-120% MHI</td>
<td>50,699</td>
<td>37,479</td>
</tr>
<tr>
<td>&gt;120-140% MHI</td>
<td>22,855</td>
<td>4,344</td>
</tr>
<tr>
<td>&gt;140% MHI</td>
<td>101,963</td>
<td>4,069</td>
</tr>
<tr>
<td></td>
<td>227,913</td>
<td>218,429</td>
</tr>
</tbody>
</table>

Source: American Community Survey and REC Estimates
# Projected Housing to Meet Affordability Needs: Travis Co.

<table>
<thead>
<tr>
<th>Income Cohorts</th>
<th>Price Range of “Affordable” Price-to-income ratio of 3.33</th>
<th>Rent Range of “Affordable” Rent-to-income ratio of 35%</th>
<th># of HHs in the Income Cohort (2015)</th>
<th># of “Affordable” Occupied Housing Units by Income Cohort (2015)</th>
<th>Level of (Under) or Oversupply in 2015</th>
<th>Projected # of Households by 2025</th>
<th>Change in # of Occupied Housing Units to Meet “Affordability” of Each Income Cohort by 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30% MHI</td>
<td>$0 - $65,205</td>
<td>$0 - $571</td>
<td>53,184</td>
<td>30,433</td>
<td>(22,751)</td>
<td>71,266</td>
<td>40,833</td>
</tr>
<tr>
<td>&gt;30-60% MHI</td>
<td>$65,206 - $130,406</td>
<td>$572 - $1,142</td>
<td>77,253</td>
<td>103,553</td>
<td>26,300</td>
<td>103,519</td>
<td>(34)</td>
</tr>
<tr>
<td>&gt;60-80% MHI</td>
<td>$130,407 - $173,876</td>
<td>$1,143 - $1,523</td>
<td>48,038</td>
<td>90,947</td>
<td>42,909</td>
<td>64,371</td>
<td>(26,576)</td>
</tr>
<tr>
<td>&gt;80-120% MHI</td>
<td>$173,877 - $260,816</td>
<td>$1,524 - $2,284</td>
<td>80,469</td>
<td>88,178</td>
<td>7,709</td>
<td>107,828</td>
<td>19,650</td>
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<tr>
<td>&gt;120-140% MHI</td>
<td>$260,817 - $304,285</td>
<td>$2,285 - $2,665</td>
<td>30,066</td>
<td>27,199</td>
<td>(2,867)</td>
<td>40,288</td>
<td>13,089</td>
</tr>
<tr>
<td>&gt;140% MHI</td>
<td>&gt;$304,285</td>
<td>&gt;$2,665</td>
<td>157,332</td>
<td>106,032</td>
<td>(51,300)</td>
<td>210,826</td>
<td>104,794</td>
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<tr>
<td></td>
<td>446,342</td>
<td>446,342</td>
<td>598,098</td>
<td>151,756</td>
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<td></td>
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</tbody>
</table>

Sources: American Community Survey and REC Estimates; Owner-occupied household income distribution in 2025 is the same as in 2015.
Texas SF Building Permits

1990-2016 average 95,529/year

2015 +2.3%
2016 +1.0%
2017e +8.4%
2018p +9%

Source: US Census Bureau; NAHB; Real Estate Center at Texas A&M
Texas MF Building Permits

1995-2016 average 45,444/year

Source: US Census Bureau, Real Estate Center at Texas A&M
Texas Residential Construction Leading and Coincident Indexes

Jan 2000 = 100

Source: Real Estate Center at Texas A&M University
What We Have to Look Forward To!

NEW HOMES IN SAN FRANCISCO
FROM THE LOW $1,000,000s
Summit800Homes.com
Finding Affordable Shelter

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Assessing Texas’ Eroding Affordable Housing Market

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