Demography – the study of the size, distribution, and composition of populations; the processes determining these – namely, fertility, mortality, and migration; and the determinants and consequences of all of the above.

~ Bogue, 1968; Murdock & Ellis, 1991
Population Estimating Equation

\[ P_1 = P_0 + B - D + I - O \]

where:
- \( P_0 \) = the population at some earlier date
- \( B \) = births
- \( D \) = deaths
- \( I \) = in-migration
- \( O \) = out-migration
The Population Research Institute,
2.1 Kids: Stable Population

http://youtu.be/zBS6f-JVvTY
The Office of the State Demographer disseminates demographic and related socioeconomic data to the State of Texas and the general public. The State Demographer’s Office monitors demographic and socioeconomic changes in the State in order to better inform the executive and legislative branches of Texas government. Special emphasis is placed on data that may be useful to policy makers in dealing with issues regarding the demand for state services.
Meeting the Mission

• Data Portal, Publications, and Reports
  http://txsdc.utsa.edu/

• Population Estimates and Projections Program
  http://txsdc.utsa.edu/Data/TPEPP/Estimates/Index.aspx

• Resource Witness at Legislative Hearings

• Public Presentations
  http://osd.state.tx.us

• Data Requests

• Custom Research Projects

• Annual Conference for Data Users and Applied Demography Conference
2010 Census: Texas Profile

Population Density by Census Tract

Texas Population
- 1970: 11,196,730
- 1980: 14,229,191
- 1990: 16,986,510
- 2000: 20,851,820
- 2010: 25,145,561

State Race Breakdown
- White
- Black or African American
- American Indian and Alaska Native
- Asian
- Native Hawaiian and Other Pacific Islander
- Some other race
- Two or more races

Hispanic or Latino (of any race) makes up 37.6% of the state population.

Population by Sex and Age

Housing Tenure
- Total Occupied Housing Units: 8,922,933
- 63.7% Owner Occupied
- 36.3% Renter Occupied

Average Household Size of Owner-Occupied Units: 2.87 people
Average Household Size of Renter-Occupied Units: 2.54 people

People per Square Mile by Census Tract

- 5,000.0 to 55,254.8
- 500.0 to 4,999.9
- 88.4 to 499.9
- 29.0 to 88.3
- 5.0 to 19.9
- 1.0 to 4.9
- Less than 1.0

United States Census Bureau
U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
## Growing States, 2000-2010

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>281,421,906</td>
<td>308,745,538</td>
<td>27,323,632</td>
<td>9.7%</td>
</tr>
<tr>
<td>Texas</td>
<td>20,851,820</td>
<td>25,145,561</td>
<td>4,293,741</td>
<td>20.6%</td>
</tr>
<tr>
<td>California</td>
<td>33,871,648</td>
<td>37,253,956</td>
<td>3,382,308</td>
<td>10.0%</td>
</tr>
<tr>
<td>Florida</td>
<td>15,982,378</td>
<td>18,801,310</td>
<td>2,818,932</td>
<td>17.6%</td>
</tr>
<tr>
<td>Georgia</td>
<td>8,186,453</td>
<td>9,687,653</td>
<td>1,501,200</td>
<td>18.3%</td>
</tr>
<tr>
<td>North Carolina</td>
<td>8,049,313</td>
<td>9,535,483</td>
<td>1,486,170</td>
<td>18.5%</td>
</tr>
<tr>
<td>Arizona</td>
<td>5,130,632</td>
<td>6,392,017</td>
<td>1,261,385</td>
<td>24.6%</td>
</tr>
</tbody>
</table>

15.7% of numerical change in U.S.

Note: Population values are decennial census counts for April 1, 2000 and April 1, 2010. Source: U.S. Census Bureau. 2000 and 2010 Census Counts.
Texas Racial and Ethnic Composition, 2000 and 2010

Total Population by County, 2010

Number of People:
- 82 - 9,999
- 10,000 - 24,999
- 25,000 - 99,999
- 100,000 - 999,999
- 1,000,000 - 4,092,459

Total Population

Population % Change, 2000 to 2010

Percent Change:
- -21% - -10.1%
- -10% - -0.1%
- 0% - 24.9%
- 25% - 54.9%
- 55% - 81.8%

Maps produced by the Office of the State Demographer.
Percent Change in Population by County, 2000 to 2010

Non-Hispanic White

Hispanic

Percent Change

-51.4% - -10.1%
-10% - -0.1%
0% - 24.9%
25% - 54.9%
55% - 62.1%
Less than 100 population

Maps produced by the Office of the State Demographer.
Percent Change in Population by County, 2000 to 2010

Non-Hispanic Black

Non-Hispanic Asian

Percent Change
-49% - -10.1%
-10% - -0.1%
0% - 24.9%
25% - 74.9%
75% - 3000%

Percent Change
-27.9% - -10.1%
-10% - -0.1%
0% - 24.9%
25% - 54.9%
55% - 697%

Maps produced by the Office of the State Demographer.
Texas Population Pyramids by Race/Ethnicity, 2010

Source: Derived from U.S. Census Bureau 2010 Summary File 1 data by the Office of the State Demographer.
Texas Population Pyramid, 2010

Source: Derived from U.S. Census Bureau 2010 Summary File 1 data by the Office of the State Demographer.
Projected Population in Texas, 2010 to 2050

- No Migration
- 1/2 2000 to 2010
- 2000 to 2010

Projected Population for Texas by Race/Ethnicity, 2010 to 2050, 0.5 Migration Scenario

- Anglo
- Black
- Hispanic
- Other

Projecting the educational attainment of the Texas labor force
• Texas educational attainment among those aged 18 to 64 is ranked low among the 51 states.
  – Ranks 51\textsuperscript{st} in high school graduation, with 81.3\% graduation from high school.
  – Ranks 37\textsuperscript{th} in college graduation, with 23.6\% graduating from college.

Source: U.S. Census Bureau. 2006-2010 American Community Survey PUMS data
Individuals with some higher education are more likely to be employed; trend suggests this gap may be widening.

Source: U.S. Census Bureau. 2001 to 2010 American Community Survey 1-Year PUMS data
Educational attainment has improved in the last 10 years.

Source: U.S. Census Bureau. 2001 to 2010 American Community Survey 1-Year PUMS data
Educational attainment improvements seen among most subgroups, but demographic differences are still pronounced.

Source: U.S. Census Bureau. 2001 to 2010 American Community Survey 1-Year PUMS data
Educational attainment improvements seen among most subgroups, but demographic differences are still pronounced.

Source: U.S. Census Bureau. 2001 to 2010 American Community Survey 1-Year PUMS data
Educational attainment improvements seen among most subgroups, but demographic differences are still pronounced.

Educational Attainment Level for Persons Age 18 -64
ACS PUMS 5-year, 2006-2010

Source: U.S. Census Bureau. 2001 to 2010 American Community Survey 1-Year PUMS data
Data & Methods

• Data sources:
  – American Community Survey PUMS data 2001 to 2010
  – Texas State Data Center population projections data
  – Texas Workforce Commission occupation-education projection data

• Analysis plan
  – Multinominal regression model used to predict the rates of each educational attainment category for each demographic sub-group, based on historical trend and demographic characteristics
  – The predicted sub-group specific rates are applied to the population projections
Findings

• Compare projected educational attainment of the labor force to required labor force for projected job needs
• Identify gaps between demand (by job type) for education and the supply (by the labor force)
• Specific educational attainment levels and population sub-groups can then be targeted to meet these needs
  – Tailored career paths in high schools, colleges, and vocational schools
  – Inform immigration goals for specific skill visas
  – Evaluate funding needed to meet goals of projected education levels needed in the labor force
Demographics & Destiny
Hans Rosling’s The Joy of Stats BBC Four

http://youtu.be/jbkSRLYSoojo
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