Carpe Datum

A Data Users Conference
Hey, Pig. What are you doing?

Having a party for all my sheep friends, but I'm not sure I have enough place settings.

Just count the number of sheep.

I know. I keep trying, but...

We're census-proof, too.
The Policy Institute

The Demographics Team

Pamela S. Perlich—Director
Mike Hollingshaus—Demographer
Effie Van Noy—State Data Center Coordinator
Natalie Young—Research Analyst
Person X—Data Analyst/Statistician
Person Y (Grad Student)—Computer Programmer
The Demographics Team

Pamela S. Perlich, PhD
Director of Demographic Research
What We Do

- Community Data
- State Data Center
- Estimates
- Projections
- Research and Data Releases
Estimates and Projections

Decennial Censuses

Complete Information

Intercensal Estimates

Partial Information

Postcensal Estimates

Today

Future

All Information Must be Projected

Projections
Demographic Accounting Method

Beginning Population

Plus Births

Minus Deaths

Plus In-Migrants

Minus Out-Migrants

Ending Population
Housing Unit Method

**Key Concepts**

1. Housing Units
2. Building permits – completion, occupancy, lags
3. Occupied versus Vacant
4. Total Households
5. Person Per Household
6. Household Population Estimate
7. Group Quarters Population
The Demographics Team

Mike Hollingshaus, PhD
Demographer
Background

• Education
  – PhD in Sociology, U of U (2015)
    • Chair: Ken Smith, Utah Population Database
  – Graduate Certificate in Demography, U of U (2015)

• Experience
  – Research Associate – Utah Population Database
  – Instructor – Social Statistics and Social Epidemiology
  – Zions Bank
  – Lived in Utah for 15 years
Peer-Review Published

- Social Science & Medicine
- Society and Mental Health
- Contexts
- Current Opinion in Obstetrics and Gynecology
Interests

Data

Demography

Family and Kinship
Demographic Projections

What forces affect population?

Fertility
- Births

Mortality
- Deaths

Migration
- Movement
J-Shaped Curve

Risk of Death vs Age

0.0 0.2 0.4 0.6 0.8 1.0
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88 92 96 100

Age
# Utah 2000 Life Table

Table UT-1. Life table for the total population: Utah, 1999-2001

<table>
<thead>
<tr>
<th>Age</th>
<th>Probability of dying between ages ( x ) to ( x+1 )</th>
<th>Number surviving to age ( x )</th>
<th>Number dying between ages ( x ) to ( x+1 )</th>
<th>Person-years lived between ages ( x ) to ( x+1 )</th>
<th>Total number of person-years lived above age ( x )</th>
<th>Expectation of life at age ( x )</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>0.00490</td>
<td>100,000</td>
<td>490</td>
<td>99,755</td>
<td>7,888,975</td>
<td>78.89</td>
</tr>
<tr>
<td>1-2</td>
<td>0.00045</td>
<td>99,510</td>
<td>45</td>
<td>99,488</td>
<td>7,789,220</td>
<td>78.26</td>
</tr>
<tr>
<td>2-3</td>
<td>0.00028</td>
<td>99,466</td>
<td>28</td>
<td>99,452</td>
<td>7,689,732</td>
<td>77.31</td>
</tr>
<tr>
<td>3-4</td>
<td>0.00022</td>
<td>99,438</td>
<td>22</td>
<td>99,427</td>
<td>7,590,280</td>
<td>76.33</td>
</tr>
<tr>
<td>4-5</td>
<td>0.00018</td>
<td>99,416</td>
<td>18</td>
<td>99,407</td>
<td>7,490,854</td>
<td>75.35</td>
</tr>
<tr>
<td>5-6</td>
<td>0.00015</td>
<td>99,398</td>
<td>15</td>
<td>99,391</td>
<td>7,391,446</td>
<td>74.36</td>
</tr>
<tr>
<td>6-7</td>
<td>0.00014</td>
<td>99,383</td>
<td>14</td>
<td>99,376</td>
<td>7,292,056</td>
<td>73.37</td>
</tr>
<tr>
<td>7-8</td>
<td>0.00013</td>
<td>99,369</td>
<td>13</td>
<td>99,362</td>
<td>7,192,679</td>
<td>72.38</td>
</tr>
<tr>
<td>8-9</td>
<td>0.00012</td>
<td>99,356</td>
<td>12</td>
<td>99,350</td>
<td>7,093,317</td>
<td>71.39</td>
</tr>
</tbody>
</table>

National Vital Statistics Report, Volume 60, Number 9, September 14, 2012 (Utah)
Getting Probability of Death

• Data
  – Population Counts for single years of age (0-100), for 2010 (Census Bureau)
  – Death Counts (2009-2011) - NCHS
    • for single years of age (1-100)
    • For < 1 day, 1-6 days, 7-27 days, 28-364 days
  – Birth Counts for years 2007-2011 – NCHS

• For each age, deaths / population gives you death probability

• Make a “Cohort” Adjustment for midyear

• Smooth data (Beer’s Formula)
Why Smoothing?

Utah Life Table 2010 (So Far)

Utah State Data Center

Effie Van Noy
State Data Center Coordinator
Past

State of Utah + Census Bureau
1982

GOPB/GOMB
1982-2013

BEBR
November 2013
Present

- The Utah State Data Center
  - Part of The Policy Institute in the Demographics Unit
  - Remains the lead coordinating agency
    - 30 additional affiliate organizations
  - Respond timely and accurately to data questions
  - Training and technical assistance in accessing and using Census Bureau data
Future

• Expand the role of the State Data Center Affiliate Network
• Disseminate U.S. Census Bureau data with an emphasis on the Utah story
• Products regularly released through a variety of channels and through an expanded communication role
• Involvement in preparation of the Demographics Team products
• Dynamic website with a variety of data products
2020 Census

Re-engineering the Census: Prototype, Test, Build, Integrate

*Interactive Testing of All Components Needed to Conduct the Census*

- **2015**: Small-Scale Individual Tests, Build IT Systems & Procedures
  - **2012 to 2014**: Identify major cost drivers of the 2010 Census, and develop new, innovative methodologies to reengineer the operations.
- **2016**: Refined Individual Tests, Field Test Refined IT Systems & Procedures
- **2017**: Integrated Tests, Large-Scale End-to-End Test of Census Operations and Systems
  - April 1: Deliver 2020 Census Topics to Congress
- **2018**: Census Begins: Early Operations
  - April 1: Deliver question wording to Congress
- **2019**: Census: Count the People, Tabulate Results
  - December 31: Deliver Apportionment Counts to President
- **2020**:
  - April 1: Census Day
  - December 31: Deliver Apportionment Counts to President

* = Legally mandated deadline
<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Census Test, Washington D.C.</td>
</tr>
<tr>
<td>2015</td>
<td>Census Test, Maricopa, AZ</td>
</tr>
<tr>
<td>2015</td>
<td>Census Test, Savannah, GA</td>
</tr>
</tbody>
</table>
2020 Census

2015 National Content Test

2016 Census Test
Harris County, TX

2016 Census Test
Los Angeles County, CA
2020 Census—LUCA

Local Update of Census Address (LUCA)

Invitation Fall of 2017
Materials Available Winter 2018
Feedback shipped Summer 2019
Community Data

Natalie Young
Research Analyst
Community Data

• Life Expectancy Map

• Utah Community Data Project

• Utah County Population Change Map

• Utah County Demographic Trend Report

• Free and Reduced Lunch Map
Estimates: What happens after 2010?

Tract 1151.06
Herriman, Utah

2000 Population: 470
2010 Population: 7,858
Increase: 7,388 (over 1500%)
Thank You! Data Geeks Rule!

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