HOW ZILLOW USES ACS DATA TO TURN ON THE LIGHTS

Aaron Terrazas, Senior Economist
zillow.com/research
WHY WOULD ZILLOW CARE ABOUT THE ACS?
<table>
<thead>
<tr>
<th>Core Values</th>
<th>Core Beliefs</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn on the Lights.</td>
<td>Transparent</td>
<td>Believe in transparency. We unlock information, bring it into the light, and make it accessible and useful for all.</td>
</tr>
<tr>
<td>Power to the People.</td>
<td>Consumer Obsessed</td>
<td>Empower consumers with the tools, insight and information they need to make the best decisions. When we delight consumers, we are of most value to our customers.</td>
</tr>
</tbody>
</table>
Living Database of 110M Homes
50M Home Profiles Updated by Community

Consumer Empowerment
Through Information Transparency
THE ACS COMPLEMENTS ZILLOW DATA
Zillow data
Lots of information about homes

ACS data
Lots of information about people
Some (recent) research…

**Affordability Tears**
- ACS data on incomes by metro

**Figure 1: Mortgage Affordability by Tier - United States**

<table>
<thead>
<tr>
<th>Year</th>
<th>All 2006</th>
<th>Bottom Tier 2006</th>
<th>Top Tier 2006</th>
<th>All 2013</th>
<th>Bottom Tier 2013</th>
<th>Top Tier 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>68%</td>
<td>50%</td>
<td>88%</td>
<td>66%</td>
<td>47%</td>
<td>82%</td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
...Some more (recent) research...

The Renters Next Door: America’s New Generation of Single Family Renters
– ACS data on demographics of renters of single-family residences

The Renters Next Door:
America’s New Generation of Single-Family Residence Renters

The labor force participation gap between men and women is wider among SFR renters...

...and SFR renters suffered greater unemployment during the Great Recession.

Racial and ethnic minorities are overrepresented among SFR renters.

SFR renters own fewer vehicles and are more likely to be car-less than SFR owners.

SFR renters are more likely to live in a home with children than SFR owners...

...and are also more likely to be single parents...

...or have experienced a birth or marriage in the previous 12 months.

SFR renters are more likely than SFR owners to carpool or take public transportation to work.

<table>
<thead>
<tr>
<th>Average vehicles per adult</th>
<th>Share car-less</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartment renter</td>
<td>0.6</td>
</tr>
<tr>
<td>SFR owner</td>
<td>1.0</td>
</tr>
<tr>
<td>SFR renter</td>
<td>0.8</td>
</tr>
<tr>
<td>Apartment renter</td>
<td>3%</td>
</tr>
<tr>
<td>SFR owner</td>
<td>27%</td>
</tr>
<tr>
<td>SFR renter</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: Zillow analysis of U.S. Census Bureau, American Community Survey, 2013, made available by the University of Minnesota, IPUMS-USA.

SFR owner

<table>
<thead>
<tr>
<th>Birth or marriage</th>
<th>Divorce or widowhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.9%</td>
<td>2.0%</td>
</tr>
<tr>
<td>6.0%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

SFR renter

<table>
<thead>
<tr>
<th>Birth or marriage</th>
<th>Divorce or widowhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2%</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

Apartment renter

<table>
<thead>
<tr>
<th>Birth or marriage</th>
<th>Divorce or widowhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.8%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

Source: Zillow analysis of U.S. Census Bureau, American Community Survey, 2013, made available by the University of Minnesota, IPUMS-USA.
...Still more (recent) research...

**Doubled up for Dollars**
- ACS data on household size and composition

**Figure 1:** Adults are increasingly doubling-up to save on living expenses

Nationwide, 32 percent of all adults live in a doubled-up home
...There is a lot of recent research.

- **Homeownership Really Is All About the Money**
- **Beasts of Burden: Characteristics of High-Burden and Low-Burden Renting Households**
- **The New Suburban Tenements**
- **Young Adults are Stacking Up, But not Shacking Up**
- **The Best Place for you to Retire is…**
- **Americans paid $441 billion in rent in 2014**
- **Large Multi-Family Buildings: Bright, Shiny, New … and Affordable?**
- **Hidden Households and their Future Housing Activity**
Applications of ACS data every day

• Market insight
  – Market segment seminars for industry professionals
  – Consumer-facing research

• Benchmarking
  – Number of owned/rented properties in our database
  – List rents (although not home values)

• Locational decisions
  – Not us, but so we’ve heard…
WE PRACTICE WHAT WE PREACH
We don’t just consume data. We open ours too.

Real Estate Metrics

- Zillow Home Value Index
- Zillow Rent Index
- Zillow Home Value Forecast
- Negative equity
- List prices
- Sale prices
- Rental prices
- Home sales
- $ value/square foot
- $ price/square foot
- Sale-to-list price ratio
- % listings with price cuts
- $ amount of listing price cuts
- % homes sold for loss/gain
- % homes foreclosed
- % sales that are foreclosure re-sales
- % homes increasing/decreasing in value
- % homes sold in the past year
- Price-to-rent ratios
- Price-to-income ratios
- Affordability
Thank you.

Aaron Terrazas
Senior Economist
Zillow Real Estate Research
aaront@zillow.com