Using GIS to Update Federal Education Geographic Indicators: Integrating the 2010 Urban Delineation

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Urban Area Definitions

- Represent densely developed territory, encompassing residential, commercial, and other non-residential urban land uses in which frequent social and economic interactions occur.
- Represent the “Urban Footprint”
- Explicitly defined through measures based primarily on population counts and residential population density.
- Account for non-residential land uses that are functionally part of the urban landscape.
Urban and Rural Classification

• Census Bureau identifies and classifies urban and rural areas after each decennial census

• Urban areas of at least 2,500 people have been identified since 1906

• Urbanized areas of 50,000 or more people were first defined for the 1950 Census. Urban places of at least 2,500 people were identified outside urbanized areas. Urban clusters of 2,500 - 49,999 were first defined after Census 2000.

• Rural = non-urban residual

• Identified solely for the purpose of tabulating and presenting statistical data.

• Updated once every 10 years
NCES Locale Geography

• U.S. Department of Education, National Center for Education Statistics (NCES)
• NCES Locale code = general geographic indicator
• Assigned since mid-1980s, though methods and criteria have changed
• Assigned relative to other types of geographic areas (e.g., urban areas, metros)
• Provided for schools, school districts, libraries, post-secondary institutions
• Used for research; reporting; sampling (as stratifier); program eligibility, etc.
• Twelve classifications (4 basic types that have 3 subtypes)
  - City – Large, Midsize, Small
  - Suburban – Large, Midsize, Small
  - Town – Fringe, Distant, Remote
  - Rural – Fringe, Distant, Remote
NCES Locale Geography

City-Large (11): In UA, Principal city with population > 250,000
City-Midsize (12): In UA, Principal city with population between 100,000 - 250,000
City-Small (13): In UA, Principal city with population < 100,000
Suburb-Large (21): In UA with population > 250,000
Suburb-Midsize (22): In UA with population between 100,000 – 250,000
Suburb-Small (23): In UA with population < 100,000
Town-Fringe (31): UC less than 10 miles from a UA
Town-Distant (32): UC between 10 – 35 miles of UA
Town-Remote (33): UC more than 35 miles from UA
Rural-Fringe (41): Rural area < 2.5 miles from UC and < 5 miles from UA
Rural-Distant (42): Rural area 2.5–10 miles from UC and 5-25 miles from UA
Rural-Remote (43): Rural territory > 10 miles from UC and > 25 miles from UA

UA = Urbanized Area  UC = Urban Cluster
Urban Change #1: General growth (2000)
Urban Change #1: General growth (2010)
Urban Change: Rural to Non-Rural Schools (2000-2010)
Urban Change #3: UA absorbs UC (2000)
Urban Change #3: UA absorbs UC (2010)
Urban Change #4: UC becomes UA (2000)
Urban Change #4: UC becomes UA (2010)
Urban Change #5: Loss of UC (2010)
Urban Change #6: UA reduced to UC (2010)
Urban Change: UA and UC (2000-2010)

- UC Decline
- UC Growth
- UA Decline
- UA Growth
Path to Urban Area Delineation and NCES Locale Indicators

Geographic update to prepare for Census collection (2007-2010)

2010 Census collection (Spring/summer 2010)

Geographic adjustments to prepare for data tabulation (Spring/summer 2010)

Census tabulation (Fall 2010, 2011)

Urban area delineation (Spring 2012)

Metropolitan Area Update (Spring 2013)

Final counts sent to Congress (Dec 2010)

Splashy news stories about population changes (Summer/Fall 2011)

Release of standard Census data (SF1) and profiles (Summer 2011)

Release of Urban Area boundaries (May 2012)

Next update: 2022!

Release of Metro Areas and Principal Cities by OMB (Feb 2013)

NCES 2012-2013 Survey Collections (Jan-July 2013)

NCES 2012-2013 geo assignments (May-Sept 2013)
Overall Impact?

- TBD!
- NCES 2012-2013 surveys processed this summer/fall
- Integrated Post-Secondary Education Data System (IPEDS) – Summer 2013
- Common Core of Data (CCD) – Summer/Fall 2013
- Rural Education Achievement Program (REAP) – Winter 2013
  - Different locale framework.
  - More reliance on metropolitan area boundaries
  - Rural and Town status have significant impact
- Private School Survey (PSS) – Summer 2014
Questions and Contact

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Resources

- U.S. Census Bureau: http://www.census.gov
  - Demographic data: (American Factfinder: http://factfinder.census.gov)
    - Census 2000: SF1, SF3
    - American Community Survey
    - 2010 Census
    - Small Area Income and Poverty Estimates: http://www.census.gov/did/www/saipe
  - Geographic data:
    - TIGER/Line: http://www.census.gov/geo/www/tiger/
    - Cartographic Products: http://www.census.gov/geo/www/maps/CP_MapProducts.htm

- National Center for Education Statistics
  - School District Demographics: http://nces.ed.gov/surveys/sdds/
  - Common Core of Data: http://nces.ed.gov/ccd/
## Criteria Changes from 2000 to 2010

<table>
<thead>
<tr>
<th>Criteria</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Blocks</td>
<td>Block groups and blocks</td>
<td>Tracts and blocks</td>
</tr>
<tr>
<td>Impervious</td>
<td>N/A</td>
<td>Used NLCD impervious land cover</td>
</tr>
<tr>
<td>Exempted Territory</td>
<td>Water, national parks, national monuments</td>
<td>Water</td>
</tr>
<tr>
<td>Hops and Jumps</td>
<td>Hop (0.5 miles), jump (2.5 miles), hop (0.5 miles)</td>
<td>Hop (0.5 miles), jump (2.5 miles)</td>
</tr>
<tr>
<td>Split/Merge</td>
<td>Splits guided by metro areas</td>
<td>Splits guided by 2000 urbanized areas (utilized places). Merge to maintain status</td>
</tr>
<tr>
<td>Airports</td>
<td>10,000 min enplanement</td>
<td>2,500 min enplanement</td>
</tr>
<tr>
<td>Non-Institutional GQ</td>
<td>N/A</td>
<td>At least 1,500 outside</td>
</tr>
<tr>
<td>Military</td>
<td>Adjusted density of high count military blocks</td>
<td>No density adjustment</td>
</tr>
</tbody>
</table>