Integrating the Census Data API with ArcGIS Web Applications

James Tedrick
U.S. Government Data APIs

https://www.data.gov/developers/apis

**Data.gov CKAN API**

The data.gov catalog is powered by CKAN, a powerful open source data platform that includes a robust API. Please be aware that data.gov and the data.gov CKAN API only contain metadata about datasets. This metadata includes URLs and descriptions of datasets, but it does not include the actual data within each dataset.

The base URL for the Data.gov CKAN API is:

```
http://catalog.data.gov/api/3/
```

Complete API documentation is available from CKAN.

**US Government APIs**

This is an extensive list of government APIs maintained via a GitHub repository. You are encouraged to use that repository to suggest additions or ask questions.
Census Data API
http://www.census.gov/developers/

- Decennial Census Data 1990, 2000, 2010
- American Community Survey (ACS) – 1,3,5 year
- Future Population Estimates
- Economic Indicators (Time Series)
- Economic-Wide Key Statistics, by industry 2007, 2012
We Are Here!

What does it do?

1. Get your location
2. Find the block groups within 1 mile
3. Get data from the Census API
4. Chart!
Let’s Peek Inside!

We Are Here
What we can learn from the U.S. Census Bureau
Joining APIs

• FIPS as unique ID between APIs
• Census data comes in as an array of rows (think CSV file)
  - Transform each row into an object with keys from first row
• Didn’t need to actually create joint objects, but simple
  - ArcGIS Objects – add extra fields to attributes of each graphic
  - Census objects – add geometry to object
Initial Issues

- Cross-domain requests – required a proxy on my web server
- API limitations – only 5 variables per request
- Working across multiple counties & states – separate API calls
Initial Issues

- Cross-domain requests – required a proxy on my web server
- API limitations – only 5 variables per request
- Working across multiple counties & states – separate API calls

APIs evolve (aka 1 year later)

- CORS enabled Census API – cross domain solved
- API limitations removed – fewer requests
- Data Description tools in beta
Getting Started

- Census API: http://www.census.gov/developers/
- TIGERweb Services:
  http://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html
  http://tigerweb.geo.census.gov/arcgis/rest/services/TIGERweb
Related Sessions – Search for ‘Census’

- **Tuesday: National Statistical Organizations Industry Focus (Hilton, Indigo 206)**
  - The Applications of Data, 12:00 – 1:00
  - Dissemination and Analysis of Census Data, 3:15 – 4:30

- **Wednesday**
  - **TW: Using ArcGIS to Support Healthy Communities and Open Health Data Portals**
    10:15 – 11:30, Room 31C
  - **DT: Mapping in Excel Using US Census TIGERweb Service as Custom Location Type**
    10:30 – 11:00, Federal Showcase
  - **DT: US Census Bureau Demographic Data Viz Tools**
    11:30 – 12:00, Federal Showcase
  - **Panel: Calling all Business, Government and Community Decision Makers - Help Census Bureau Innovate its Data Products and Services**
    1:30 – 2:45, Marina E
Related Sessions – Search for ‘Census’

• Thursday
  - TW: Using ArcGIS to Support Healthy Communities and Open Health Data Portals
    8:30 – 9:45, Room 32A
  - Paper Session: Census Bureau Innovative Tools and Products for 2020 Decennial
    10:15 – 11:30, Room 30A
  - Paper Session: Research and Analysis Using Census data
    3:15 – 4:30, Room 30C
Thank you…

- Please fill out the session survey:

**Offering ID: 2212**

Online – [www.esri.com/ucsessionsurveys](http://www.esri.com/ucsessionsurveys)
Integrating the Census Data API with ArcGIS Web Applications