American FactFinder
Deep Linking

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Introduction

- Topic covered:
  - Deep linking to a table
- Topics not covered:
  - Deep linking to maps, search results
- Why use deep linking?
  - Quickly access information without having to start with the default AFF user interface
  - Easy to conduct research/field ad hoc requests
  - Website friendly
- The AFF Deep Linking Guide is your friend
  - Search the web for latest version. It gets updated.
  - Current version is 2.4 (Jul. 9, 2014)

Linking to a Table

Linking to a Table

The format for a deep link to a statistical table is:

```
factfinder2.census.gov/bkmk/table/version/lang/program/dataset/product
  [/geo_id[|geo_id]*]
  [/codetype~code[|code]*]*
```

Where:

version
: Bookmark API Version, current **1.0** (required).

lang
: Language used to display the page, either **en** or **es** (required).

program
: Program associated with the product (required).

dataset
: Dataset containing the product (required).

product
: Product identifier (required).

geo_id[|*geo_id*]*
: One or more Geographic Identifiers (optional). If not specified, product-specific default Geographic Identifier(s) are used.

codetype~*code*[|*code*]*
: A Code Type (Population Group or Industry) and one or more Codes (optional). If not specified, product-specific default Code(s) are used.

Linking to a Table, Cont'd

- 4 key parameters needed to obtain table
  - Program
  - Dataset
  - Product
  - Geo_id
- Learn about the various parameters by leveraging external resources
  - AFF Deep Linking Guide
  - AFF user interface
  - AFF saved bookmarks (hyperlinks) and queries
  - Summary file technical documentation
  - Other sources

4 Key Parameters in Action

- Quick Table H1 (General Housing Characteristics), Census 2010 Summary File 1, Cowlitz County, WA

  – Bookmark (hyperlink):

```
http://factfinder2.census.gov/bkmk/table/1.0/en/DEC/10_SF1/QTH1/
0500000US53015
```

  – Query:

```
<query schema-version="1.0" lang="en" type="table" sig="">
  <product program-id="DEC" dataset-id="10_SF1" table-id="QTH1"/>
  <selection>
    <dimension type="geo" vintage="2010">
      <cat-id>0500000US53015</cat-id>
    </dimension>
  </selection>
</query>
```

Program

Program	Program Name
ACS	American Community Survey
ASM	Annual Survey of Manufactures
BES	Business Expenses Survey
BP	Business Patterns
CFS	Commodity Flow Survey
DEC	Decennial Census
DMM	Data Access and Dissemination System
ECN	Economic Census
GEO	Geography
NES	Nonemployer Statistics
PEP	Population Estimates
SBO	Survey of Business Owners

Dataset

Program	Dataset	Dataset Name
ACS	10_1YR	2010 American Community Survey 1-Year Estimates
ACS	09_1YR	2009 American Community Survey 1-Year Estimates
ACS	08_3YR	2006-2008 American Community Survey 3-Year Estimates
ACS	08_1YR	2008 American Community Survey 1-Year Estimates
ACS	07_3YR	2005-2007 American Community Survey 3-Year Estimates
ACS	07_1YR	2007 American Community Survey 1-Year Estimates
ACS	06_EST	2006 American Community Survey
ACS	05_EST	2005 American Community Survey
DEC	10_SF1	2010 Census Summary File 1
DEC	10_PL	2010 Census Redistricting Data (Public Law 94-171) Summary File
DEC	00_SF1	Census 2000 Summary File 1 (SF 1) 100-Percent Data
DEC	00_SF2	Census 2000 Summary File 2 (SF 2) 100-Percent Data
DEC	00_SF3	Census 2000 Summary File 3 (SF 3) - Sample Data
DEC	00_SF4	Census 2000 Summary File 4 (SF 4) - Sample Data
DEC	00_PL	Census 2000 Redistricting Data (Public Law 94-171) Summary File

- Many more datasets exist
- Note change in dataset ID structure for ACS 2005 and 2006 compared to later years

Product

- Think ‘table’
- Many kinds of products available:
  - Detailed tables (the most basic kind of table)
  - Subject tables
  - Ranking tables
  - Quick tables
  - Data profiles
  - Comparison profiles
  - Etc.
- All products have IDs

Product, Cont'd

- Product IDs for Detailed tables can be found in the summary file technical documentation

Chapter 5.
List of Tables (Matrices)

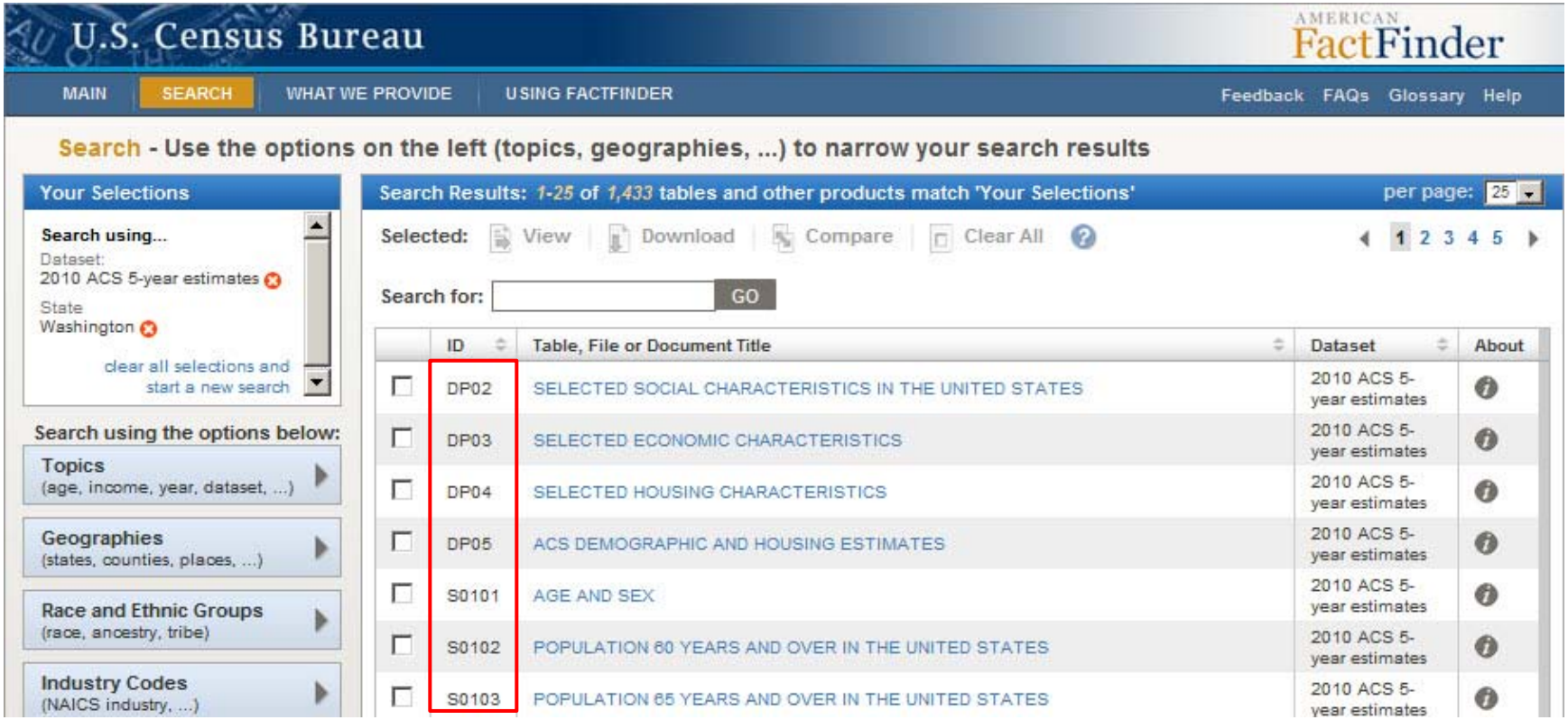
Table number	Title	Total number of data cells
	POPULATION SUBJECTS SUMMARIZED TO THE BLOCK LEVEL	
P1.	**TOTAL POPULATION** *Universe: Total population.*	1
P2.	**URBAN AND RURAL** *Universe: Total population.*	6
P3.	**RACE** *Universe: Total population.*	8

Appendix E: Detailed Tables for the 2006-2010 ACS 5-Year Estimates

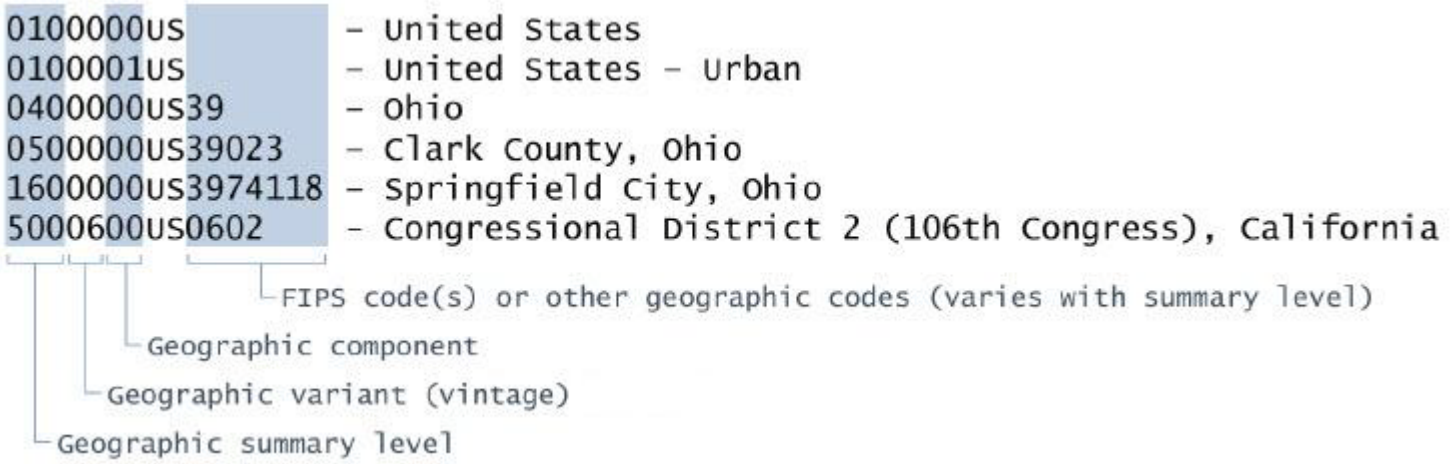
Table Number	Table Title	Table Restrictions for All Geographies Except Block Groups	Table Available for Block Groups on Summary File?	Summary File Sequence Number	Summary File Starting and Ending Positions
B00001	Unweighted Sample Count Of Population	See Note 1	Yes	9	7-7
B00002	Unweighted Sample Housing Units	See Note 1	Yes	9	8-8
B01001	Sex By Age		Yes	10	7-55
B01001A	Sex By Age (White Alone)			10	56-86

Product, Cont'd

- Product IDs for other types of tables can be found by experimenting with AFF



Geographic ID



- Note the 4 key components of a geographic ID
  - These are required!
  - Knowing the FIPS code(s) is not enough

Geographic ID: Summary Level

- These are well documented- see the summary file technical documentation
- Represented by a 3-digit code

Summary Level	Component	Name	In the US File or the Individual State Files
400	00	Urban Area	US
500	00	State-Congressional District	State
510	00	State-Congressional District-County	State
550	00	State-Congressional District-American Indian Area/Alaska Native Area/Hawaiian Home Land	State
610	00	State-State Legislative District (Upper Chamber)	State
612	00	State-State Legislative District (Upper Chamber)-County	State
620	00	State-State Legislative District (Lower Chamber)	State
622	00	State-State Legislative District (Lower Chamber)-County	State
795	00	State-Public Use Microdata Sample Area (PUMA)	State
950	00	State-School District (Elementary)/Remainder	State
960	00	State-School District (Secondary)/Remainder	State
970	00	State-School District (Unified)/Remainder	State

Geographic ID: Geographic Component

- These are well documented- see the summary file technical documentation
- Represented by a 2-digit code
- The portion of a geographic area (e.g., Washington) that meets a location-based test such as "in a metropolitan area" or "in a rural place“
- In most cases the geographic component code is ‘00’, except at the highest geographic levels: nation, region, division, state
- Note that the geographic component codes for the ACS changed in 2009

Geographic ID: Geographic Component, Cont'd

Summary Level	Component	Name	In the US File or the Individual State Files
040	00	State	State
040	01	State; Urban	State
040	43	State; Rural	State
040	A0	State; In Metropolitan or Micropolitan Statistical Area	State
040	C0	State; In Metropolitan Statistical Area	State
040	C1	State; In Metropolitan Statistical Area-In Principal City	State
040	C2	State; In Metropolitan Statistical Area-Not In Principal City	State
040	E0	State; In Micropolitan Statistical Area	State
040	E1	State; In Micropolitan Statistical Area-In Principal City	State
040	E2	State; In Micropolitan Statistical Area-Not In Principal City	State
040	G0	State; Not In Metropolitan or Micropolitan Statistical Area	State
040	H0	State; Not In Metropolitan Statistical Area	State

Geographic ID: Geographic Variant

- These are poorly documented
- Represented by a 2-digit code
- Used to distinguish the vintage of geographic areas for certain summary levels
- Think about areas that have boundaries that can change markedly over time:
  - Congressional districts
  - Legislative districts
  - Metropolitan statistical areas
  - Urban areas
- Ex:

```
Congressional Dist. 1 (110th Congress) 5001000US5301, in ACS 2007 & 2008 prods.
Congressional Dist. 1 (111th Congress) 5001100US5301, in ACS 2009 & 2010 prods.
```

Geographic ID: Geographic Variant, Cont'd

- Common codes

	A	B
1	00	Geographic variant code signifying no geographic vintage variation (most common)
2	06	Congressional District (106th Congress)
3	10	Congressional District (110th Congress)
4	11	Congressional District (111th Congress)
5	12	Congressional District (112th Congress)
6	13	Congressional District (113th Congress)
7	14	Congressional District (114th Congress)
8	15	Congressional District (115th Congress)
9	L0	Lower Chamber State Legislative District for the 2000 Census
10	L1	Lower Chamber State Legislative District pre 2010 Census (approx. 2007/ 2008)
11	L2	Lower Chamber State Legislative District for the 2010 Census (roughly matching 111th Congress)
12	L3	Lower Chamber State Legislative District (roughly matching 113th Congress)
13	L4	Lower Chamber State Legislative District (roughly matching 114th Congress)
14	L5	Lower Chamber State Legislative District (roughly matching 115th Congress)
15	M1	Metropolitan Statistical Area as of 2010 Census
16	M2	Metropolitan Statistical Area defined by OMB post 2010 Census (approx. 2013)
17	U0	Upper Chamber State Legislative District for the 2000 Census
18	U1	Upper Chamber State Legislative District, pre 2010 Census (approx. 2007/ 2008)
19	U2	Upper Chamber State Legislative District for the 2010 Census (roughly matching 111th Congress)
20	U3	Upper Chamber State Legislative District (roughly matching 113th Congress)
21	U4	Upper Chamber State Legislative District (roughly matching 114th Congress)
22	U5	Upper Chamber State Legislative District (roughly matching 115th Congress)
23	C0	Urban Area, for 2000 Urban Area definition
24	C1	Urban Area, for future Urban Area definition

Geographic ID: FIPS or Other Geographic Codes

- These are well documented- see the summary file technical documentation
- Pay attention to hierarchical summary levels
  - The geographic code is a concatenation of the individual components
  - Ex: summary level '155' (state-place-county)
    - Washington, King County (part), Auburn city, Washington
      - 1550000US5303180033
        - » 5303180033 = concatenation of 3 FIPS codes
          - » 53 is the Washington state FIPS code
          - » 031 is the King County FIPS code
          - » 80033 is the Auburn city FIPS code
    - Table values will reflect the King County portion of Auburn

Geographic ID, Cont'd

- Pay attention to nation (US) and state-based summary levels
  - Nation-based: areas that can logically cross state boundaries
    - Nation, regions, divisions, American Indian areas, metro/micro/combined statistical areas, urban areas
    - Ex: Longview, WA--OR Urbanized Area: 40000US51283
      - 51283 is the urban area FIPS code
  - State-based: areas wholly within a single state
    - Ex: Lewiston, ID-WA Metro Area (part); Washington: 32000US5330300
      - 53 is the Washington state FIPS code
      - 30300 is the metropolitan statistical area FIPS code
    - Table values will reflect the WA portion of the metro area

Geographic ID, Cont'd

- Separate geographies with a pipe '|' to obtain data for multiple geographies at one time
  - Limited to a single product (table) using the 'linking to a table' URL format
    - To obtain data for multiple products with a single link, see 'linking to a search result' and 'linking to a quick start search result' URL formats in the Deep Linking Guide
- Note that modern browsers support URLs up to approx.1000 characters in length

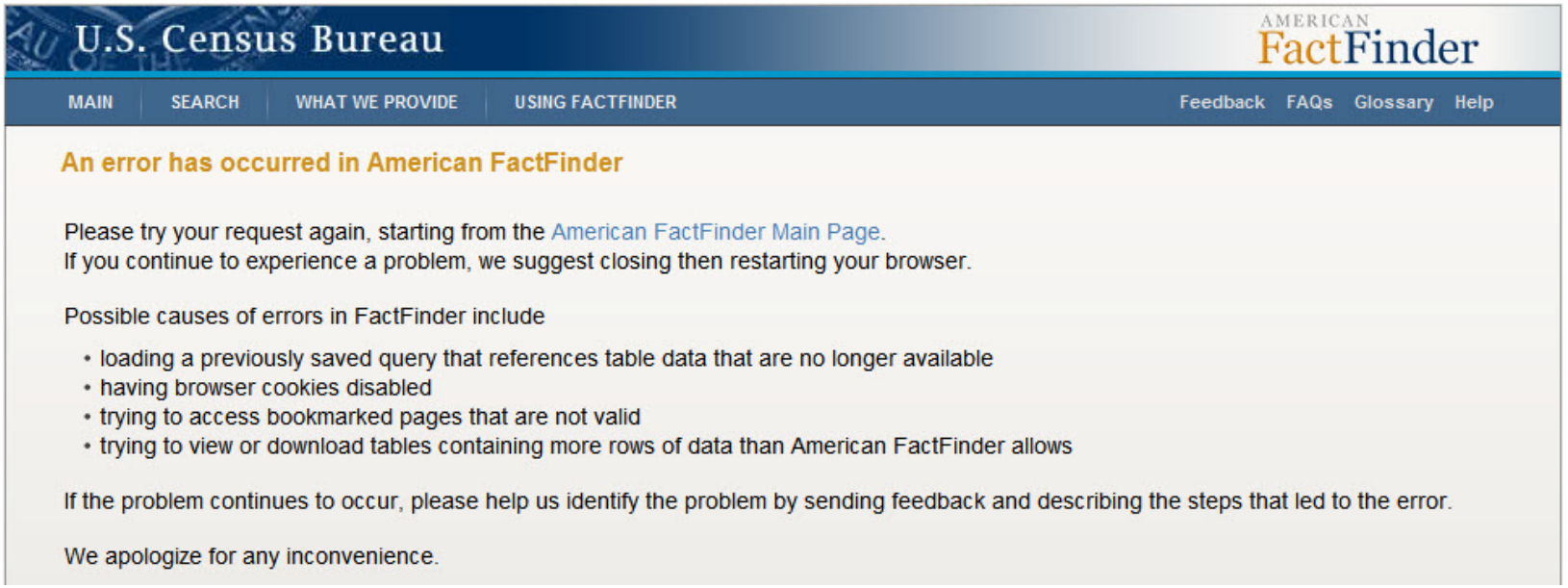
Geographic ID, Cont'd

- Return all geographies for a given summary level
  - Poorly documented
  - Ex: All counties within state of WA
    - http://factfinder2.census.gov/bkmk/table/1.0/en/DEC/10_SF1/QTH1/04000000US53.05000
      - 040 is state summary level for 'state'
      - 53 is the Washington state FIPS code
      - .05000 (the 050 portion is the summary level for 'county')
  - Not sure which specific summary levels one can do this for or if one can do this with nation-based files also

Deep Linking in Action

- ACS, 2010 1-year data, product B25002 (Occupancy Status) for the 4 PSRC counties
  - http://factfinder2.census.gov/bkmk/table/1.0/en/ACS/10_1YR/B25002/0500000US53033|0500000US53035|0500000US53053|0500000US53061
- DEC, 2010 demographic profile data, product DP-1 (Profile of General Population and Housing Characteristics) for all census places
  - http://factfinder2.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/0400000US53.16000

Errors



- Possible causes:
  - Browser version may not be supported
  - URL case sensitivity matters
    - The 4 main parameters off to the right are capitalized; everything to the left is not

Errors, Cont'd

- There may be no data for a particular geographic area
  - This is especially true for the ACS where minimum population thresholds exist
  - Other minimum thresholds may also exist (# respondents, # occupied housing units, etc.)
- Data may not be available at particular geographic summary levels
  - Block group level data not available in AFF
  - Certain tables not published at lower level geographies.
  - See the summary file technical documentation
- The geographic ID may not be constructed properly
  - The geographic component or geographic variant is missing or incorrect
  - The geographic variant is associated with the wrong dataset

OFM ACS Technical Resources

- 'Overview' products for Washington
  - ACS geographic availability
    - Summary Level, Summary Level Description, Type (Nation or State), Area Name, AFF Geographic ID, TIGER Geographic ID
  - ACS detailed table availability
    - Product (Table) ID, Title, Universe, Subject Area, # Table Cells, Geographic Restrictions
- The above 2 resources:
  - Provide information on data availability by geography/table ID by ACS dataset
  - Obviate the need to consult the technical documentation for product ID and AFF geographic ID

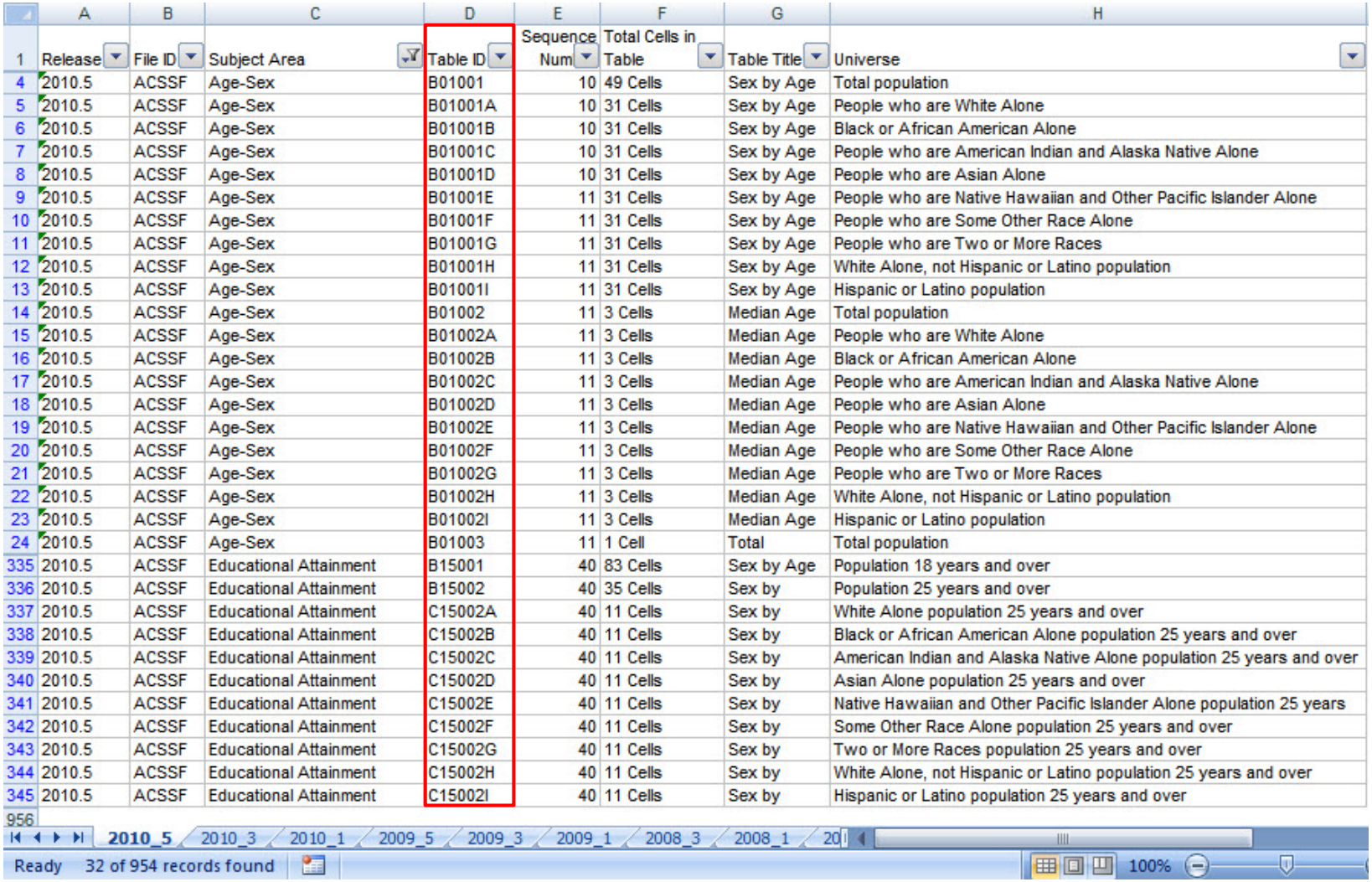
ACS Geographic Availability

	A	E	F	I	J	K	L	M	N
1	Summary Level	Summary File Type	Area Name	American FactFinder Geographic ID	ACS 2010.5	ACS 2009.5	ACS 2010.3	ACS 2009.3	ACS 2008.3
2	040	State	Washington	0400000US53	Y	Y	Y	Y	Y
3	040	State	Washington; Urban	0400001US53	Y	Y	Y	Y	Y
4	040	State	Washington; Rural	0400043US53	Y	Y	Y	Y	Y
5	040	State	Washington; In metropolitan or micropolitan statistical area	0400052US53	.	.	.	.	Y
6	040	State	Washington; Not in metropolitan or micropolitan statistical area	0400055US53	.	.	.	.	Y
7	040	State	Washington; In metropolitan statistical area	0400056US53	.	.	.	.	Y
8	040	State	Washington; In metropolitan statistical area -- in principal city	0400057US53	.	.	.	.	Y
9	040	State	Washington; In metropolitan statistical area -- not in principal city	0400058US53	.	.	.	.	Y
10	040	State	Washington ; Not in metropolitan statistical area	0400059US53	.	.	.	.	Y
11	040	State	Washington; In micropolitan statistical area	0400060US53	.	.	.	.	Y
12	040	State	Washington; In micropolitan statistical area -- in principal city	0400061US53	.	.	.	.	Y
13	040	State	Washington; In micropolitan statistical area -- not in principal city	0400062US53	.	.	.	.	Y
14	040	State	Washington; In metropolitan or micropolitan statistical area	04000A0US53	Y	Y	Y	Y	.
15	040	State	Washington; In metropolitan statistical area	04000C0US53	Y	Y	Y	Y	.
16	040	State	Washington; In metropolitan statistical area -- in principal city	04000C1US53	Y	Y	Y	Y	.
17	040	State	Washington; In metropolitan statistical area -- not in principal city	04000C2US53	Y	Y	Y	Y	.
18	040	State	Washington; In micropolitan statistical area	04000E0US53	Y	Y	Y	Y	.
19	040	State	Washington; In micropolitan statistical area -- in principal city	04000E1US53	Y	Y	Y	Y	.
20	040	State	Washington; In micropolitan statistical area -- not in principal city	04000E2US53	Y	Y	Y	Y	.
21	040	State	Washington; Not in metropolitan or micropolitan statistical area	04000G0US53	Y	Y	Y	Y	.
22	040	State	Washington; Not in metropolitan statistical area	04000H0US53	Y	Y	Y	Y	.
23	050	State	Adams County, Washington	0500000US53001	Y	Y	.	.	.
24	050	State	Asotin County, Washington	0500000US53003	Y	Y	Y	Y	Y
25	050	State	Benton County, Washington	0500000US53005	Y	Y	Y	Y	Y
26	050	State	Chelan County, Washington	0500000US53007	Y	Y	Y	Y	Y
27	050	State	Clallam County, Washington	0500000US53009	Y	Y	Y	Y	Y
28	050	State	Clark County, Washington	0500000US53011	Y	Y	Y	Y	Y
29	050	State	Columbia County, Washington	0500000US53013	Y	Y	.	.	.
30	050	State	Cowlitz County, Washington	0500000US53015	Y	Y	Y	Y	Y

Readme | Geographic Availability

Ready | Filter Mode

ACS Detailed Tables



	A	B	C	D	E	F	G	H
1	Release	File ID	Subject Area	Table ID	Sequence Num	Total Cells in Table	Table Title	Universe
4	2010.5	ACSSF	Age-Sex	B01001	10	49 Cells	Sex by Age	Total population
5	2010.5	ACSSF	Age-Sex	B01001A	10	31 Cells	Sex by Age	People who are White Alone
6	2010.5	ACSSF	Age-Sex	B01001B	10	31 Cells	Sex by Age	Black or African American Alone
7	2010.5	ACSSF	Age-Sex	B01001C	10	31 Cells	Sex by Age	People who are American Indian and Alaska Native Alone
8	2010.5	ACSSF	Age-Sex	B01001D	10	31 Cells	Sex by Age	People who are Asian Alone
9	2010.5	ACSSF	Age-Sex	B01001E	11	31 Cells	Sex by Age	People who are Native Hawaiian and Other Pacific Islander Alone
10	2010.5	ACSSF	Age-Sex	B01001F	11	31 Cells	Sex by Age	People who are Some Other Race Alone
11	2010.5	ACSSF	Age-Sex	B01001G	11	31 Cells	Sex by Age	People who are Two or More Races
12	2010.5	ACSSF	Age-Sex	B01001H	11	31 Cells	Sex by Age	White Alone, not Hispanic or Latino population
13	2010.5	ACSSF	Age-Sex	B01001I	11	31 Cells	Sex by Age	Hispanic or Latino population
14	2010.5	ACSSF	Age-Sex	B01002	11	3 Cells	Median Age	Total population
15	2010.5	ACSSF	Age-Sex	B01002A	11	3 Cells	Median Age	People who are White Alone
16	2010.5	ACSSF	Age-Sex	B01002B	11	3 Cells	Median Age	Black or African American Alone
17	2010.5	ACSSF	Age-Sex	B01002C	11	3 Cells	Median Age	People who are American Indian and Alaska Native Alone
18	2010.5	ACSSF	Age-Sex	B01002D	11	3 Cells	Median Age	People who are Asian Alone
19	2010.5	ACSSF	Age-Sex	B01002E	11	3 Cells	Median Age	People who are Native Hawaiian and Other Pacific Islander Alone
20	2010.5	ACSSF	Age-Sex	B01002F	11	3 Cells	Median Age	People who are Some Other Race Alone
21	2010.5	ACSSF	Age-Sex	B01002G	11	3 Cells	Median Age	People who are Two or More Races
22	2010.5	ACSSF	Age-Sex	B01002H	11	3 Cells	Median Age	White Alone, not Hispanic or Latino population
23	2010.5	ACSSF	Age-Sex	B01002I	11	3 Cells	Median Age	Hispanic or Latino population
24	2010.5	ACSSF	Age-Sex	B01003	11	1 Cell	Total	Total population
335	2010.5	ACSSF	Educational Attainment	B15001	40	83 Cells	Sex by Age	Population 18 years and over
336	2010.5	ACSSF	Educational Attainment	B15002	40	35 Cells	Sex by	Population 25 years and over
337	2010.5	ACSSF	Educational Attainment	C15002A	40	11 Cells	Sex by	White Alone population 25 years and over
338	2010.5	ACSSF	Educational Attainment	C15002B	40	11 Cells	Sex by	Black or African American Alone population 25 years and over
339	2010.5	ACSSF	Educational Attainment	C15002C	40	11 Cells	Sex by	American Indian and Alaska Native Alone population 25 years and over
340	2010.5	ACSSF	Educational Attainment	C15002D	40	11 Cells	Sex by	Asian Alone population 25 years and over
341	2010.5	ACSSF	Educational Attainment	C15002E	40	11 Cells	Sex by	Native Hawaiian and Other Pacific Islander Alone population 25 years
342	2010.5	ACSSF	Educational Attainment	C15002F	40	11 Cells	Sex by	Some Other Race Alone population 25 years and over
343	2010.5	ACSSF	Educational Attainment	C15002G	40	11 Cells	Sex by	Two or More Races population 25 years and over
344	2010.5	ACSSF	Educational Attainment	C15002H	40	11 Cells	Sex by	White Alone, not Hispanic or Latino population 25 years and over
345	2010.5	ACSSF	Educational Attainment	C15002I	40	11 Cells	Sex by	Hispanic or Latino population 25 years and over

956

2010_5 | 2010_3 | 2010_1 | 2009_5 | 2009_3 | 2009_1 | 2008_3 | 2008_1 | 20

Ready 32 of 954 records found 100%

Final Thoughts/Comments

- Knowing the program, dataset, product, and geography ID information in advance can help in nearly all cases
  - The default AFF user interface functions like a giant filter or funnel
    - Finding a table using the point and click method is really just a subtle way to get the same 4 key pieces of information from someone whether they know it or not
- Deep linking is relatively simple one gets that hang of it
  - Structure is a good thing… it sets bounds
    - Use the guide
    - Practice, experiment, save and inspect queries and bookmarks
    - Create a handy list of links, geographic IDs, and product IDs to mine later

Final Thoughts/Comments, Cont'd

- Nearly all of the information presented applies AFF query functionality as well
  - Saving, modifying, and loading custom queries
- AFF is now being updated on a quarterly basis
  - The functionality is vastly improved
  - However, there is vastly more data these days
- The technical documentation is getting better and becoming more consistent over time

Contact Information

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