SUPPLEMENTAL DEVELOPER NOTES

View and query the new Consumer Spending variables with the following steps.

1. Substitute valid values for your subscription username and password in the following Get Token service request and submit:

https://baoapi.esri.com/rest/Authentication?request=getToken&username=**<YOUR USERNAME>**&password=**<YOUR PASSWORD>**&f=json

Notes: The Free 30-Day Trial subscription is limited to the Business Analyst Basic subscription level and does not provide access to Consumer Spending data.

2. Parse the token value from the previous result; substitute the value in the following Get Summarizations service request and; submit:

http://baoapi.esri.com/rest/report/GetSummarizations?f=PJSON&Query=category:"(Consumer+Spending)"&ActiveDatasetID=USACensus2010&Token=**<YOUR TOKEN>**

3. Query variables with the Benchmark Report or Smart Map Facts (Thematic Query) services

Option A: Benchmark Report Service Request Sample (for simplified XML output for easy integration into applications)

http://baoapi.esri.com/rest/report/BenchmarkReport?BenchmarkOptions=useNone&FieldSortType=sortNone&StandardReportOptions={"ReportFormat":"S.XML"}&Summarizations=X2001_X;TOTHH_CY&TradeAreas=[{"StdLayer":{"ID":"US.ZIP5","GeographyIDs":["92373","92374"]}}]&f=pjson&ActiveDatasetID=USACensus2010&Token=**<YOUR TOKEN>**

Option B: Smart Map Facts (Thematic Query) Request Sample (for JSON output for easy integration into applications)

http://baoapi.esri.com/rest/maps/ThematicQuery/execute?geoLevelID=US.ZIP5&f=pjson&outFields=NAME,ID,X2001_X,TOTHH_CY&Where=(NAME='Redlands')&ActiveDatasetID=USACensus2010&Token=**<YOUR TOKEN>**

In the Get Summarizations output records, some metadata is provided for each variable which can be leveraged to compute important supplemental information. For example, if a record has an **AvgBase** attribute listed, it can be used to determine the average annual household spending within the area of the associated variable.

In general,

$$\frac{[Annual\ consumer\ spending\ of\ X\ in\ analysis\ area]}{[Households\ in\ analysis\ area]}$$

$$= \boldsymbol{Average\ annual\ consumer\ spending\ on\ X\ per\ household\ in\ analysis\ area}$$

The average annual household spending of "Alcoholic Beverages" in the analysis area can be computed by dividing the cumulative annual spending on alcoholic beverages by all households in the area [X2001_X] with the "AvgBase" attribute [TOTHH_CY] which is the total household count for the area.

$$\frac{[X2001\_X]}{[TOTHH\_CY]}$$

$$= \frac{Annual\ consumer\ spending\ on\ alcoholic\ beverages\ in\ analysis\ area}{Households\ in\ analysis\ area}$$

$$= \boldsymbol{Average\ annual\ consumer\ spending\ on\ alcoholic\ beverges\ \ per\ household\ in\ analysis\ area}$$

After obtaining the annual average household spending, you can divide it by the national average household spending value given by the **IndexBase** attribute. The resulting value can then be multiplied by 100 to get a 100-based index value which can be used to compare the average annual household spending in the analysis area with the national average. With this value, anything below 100 is below the national household average while anything above 100 is above the national household average.

In general,

$$\left(\frac{[Annual\ consumer\ spending\ of\ X\ in\ analysis\ area]/[Households]}{[IndexBase\ value]}\right) * 100$$

$$= \boldsymbol{Index\ value\ compared\ to\ national\ average}$$

Notes:

- *When using your API subscription credentials, these requests may count against your report allotment.*
- *Note the ActiveDatasetID=USACensus2010 parameter and value in the Get Summarizations, Benchmark Report, and Smart Map Facts requests. It is required to access the newer content (2011 data and estimates based on Census 2010 geographies)*
- ***In the Get Summarizations output records, only the Consumer Spending variables with the ID ("Name" attribute) which end with "_X" (such as "X2001_X") can be directly queried through the API**. These values represent the estimated cumulative annual consumer spending for the entire analysis area. The other variables which end with "_A" (averages) and "_I" (index value versus national average) can be easily calculated with data from the API. See next bullet below.*
- *Although these are REST services examples, the equivalent requests can be made with the SOAP services or with the Flex or Silverlight SDKs*