# Visulate Public Records Usage and Sources

## Residential Rental Property Income Valuation

Visulate estimates the income value for a property by estimating the annual rent, subtracting the annual expenses and then applying a cap rate. The following table shows an example.

|  |  |
| --- | --- |
|  | Amount |
| Monthly Rent | 1,034 |
| Annual Rent per Sq Ft | 10.00 |
| Gross Annual Rent | **12,411** |
| Vacancies and Bad Debt | 15% |
| Vacancies and Bad Debt Amount | 1,862 |
| Maintenance | 644 |
| HOA, Utilities and CAM | 0 |
| Property Taxes | 1,256 |
| Insurance | 965 |
| Management Fees | 1,241 |
| NOI | **6,443** |
| Cap Rate | 7 |
| Estimated Value | **92,043** |
|  |  |
|  |  |

### Income Estimates

Four separate models are used to estimate rent

* The *Household Income* estimate uses a combination of census data and property tax records. Each property is assigned a percentile based on its tax assessed value. This percentile is used as a key to estimate the household income of the occupant. For example, if the tax assessed value places the property is in the 35th percentile in its region we use census data to find the 35th percentile of household incomes in the same region. The census data also reports the percentage of household income that people spend on rent in this region. We multiply income by the percentage to estimate the rent.
* The *Household Income - Renters* estimate performs a similar calculation based on the household income of renters rather than all households.
* The *Market Rents* estimate evaluates this property in comparison to rental properties in the area.
* The *Price/Ft* estimate uses the size of the property to estimate its rent.

### Expense Estimates

* Census data is used to identify the vacancy percentage for the region where the property is located. A bad dept allowance is added to this. This allowance varies based on the property class. 'A' class properties are assigned a lower bad dept allowance than 'C' class properties.
* Maintenance costs are estimated using a price per sq ft value.
* HOA, Utilities and CAM are currently not estimated
* The property tax estimate uses the average millage rate for the county. It does not include adjustments for city or unincorporated areas
* Insurance estimates are based on the size and location of the property. They are not adjusted for age, flood zone or other risk factors
* Management fees are estimated as 10% of rents collected
* Cap rates are assigned based on the class of the property. Visulate uses property tax records to determine which class to place the property in.

### NOI Estimation Detailed Logic

Estimates are generated by a pipelined pl/sql function. pr\_records\_pkg.get\_noi\_estimates accepts a property ID as input and returns values and pre formatted html for display on the property page.

Each property has been allocated to Public Use Microdata Area (PUMA). These are non-overlapping areas that partition each state into areas containing about 100,000 residents. There are 127 of them in Florida. The Census Bureau references PUMAs in their 1-year, 3-year, and 5-year American Community Survey (ACS) Public Use Microdata Sample (PUMS) files. The NOI estimation code relies on values from the 5 year PUMS files.

Each PUMA is assigned values for rent/income ratio, annual insurance cost/st ft and rental vacancy rate based on values in the 5 year PUMS file. We also calculate values for the 0 – 99th percentile for

* TAX-VALUE - tax assessed property values (not used?)
* HH-INCOME - household income
* RR-INCOME - household income of renters \* pct of hh paid in rent
* RR-INCOME2 - not used
* RR-INCOME3 – not used
* RR-RENT – Monthly rent paid

Each residential property is allocated 2 percentile values. The *puma\_percentile* records the the tax assessed value percentile within the PUMA. The *rental\_percentile* also records the tax assessed value percentile in the PUMA but limits the sample to properties where the mailing address of the owner is not the same as the property address. The puma\_percentile is used to estimate the household income. The rental\_percentile is used to estimate the monthly rent.

## Data Sources

### Property Tax Records

The Florida Department of Revenue assembles property tax data from every county in Florida on an annual basis. This data is available for download from

* <http://dor.myflorida.com/dor/property/resources/data.html>

Here's the URL for a document that describes the data we are currently using:  
  
[ftp://sdrftp03.dor.state.fl.us/Tax%20Roll%20Data%20Files/About%202012%20NAL-SDF-TPP%20Files/2012\_NAL\_SDF\_NAP\_UserGuide%20wo%20TOC.pdf](ftp://sdrftp03.dor.state.fl.us/Tax Roll Data Files/About 2012 NAL-SDF-TPP Files/2012_NAL_SDF_NAP_UserGuide wo TOC.pdf)  
  
We use the following fields:

* **NAL spreadsheets:** PARCEL\_ID, GRP\_NO, DOR\_UC, JV, LND\_SQFOOT, IMP\_QUAL, ACT\_YR\_BLT, TOT\_LVG\_AREA, NO\_BULDNG, NO\_RES\_UNTS, OWN\_NAME, S\_LEGAL, MKT\_AR, NBRHD\_CD, CENSUS\_BK, PHY\_ADDR1, 2 .. etc, ALT\_KEY
* **SDF spreadsheets:** PARCEL\_ID, OR\_BOOK, OR\_PAGE, SALE\_YR, SALE\_MO, SALE\_PRC

Then we pull the spatial coordinates for each parcel and calculate its centroid The Department of Revenue publishes shape files for every property in Florida. These are downloaded from

* [ftp://sdrftp03.dor.state.fl.us/Map%20Data/](ftp://sdrftp03.dor.state.fl.us/Map Data/)

### Setup Instructions

1. Download the NAL and SDF files using wget. Example:

wget [ftp://sdrftp03.dor.state.fl.us/Tax%20Roll%20Data%20Files/2013%20Final%20NAL%20-%20SDF%20Files/](ftp://sdrftp03.dor.state.fl.us/Tax Roll Data Files/2013 Final NAL - SDF Files/)\*

2. Move the files into separate directories named nal and sdf and unzip.

3. Create tables pr\_nal and pr\_sdf using tables.sql in /home/oracle/work/prop/2013

4. Edit nal.ldr and sdf.ldr in /home/oracle/work/prop/2013 to match the filenames in the nal and sdf sub directories.

5. Populate pr\_nal and pr\_sdf using sql loader.

6. Run update\_properties.sql

The shape files use NAD 83 (HARN) projection. We use ogr2ogr ( [setup/build instructions for ogr2ogr](https://github.com/wavded/ogre/wiki/Compiling-a-recent-ogr2ogr-from-source-on-CentOS-(RHEL))) to convert to them WGS 84:

ogr2ogr -t\_srs WGS84 outfile\_wgs84.shp infile\_harn.shp

Use [shp2sdo](http://www.oracle.com/technetwork/database/options/spatial/downloads/shp2sdo-158114.zip) to generate a SQL Loader file for the converted shp file:

#!/bin/bash  
./shp2sdo.exe -o ./geo2012wgs84/g11 pr\_geo11 -g GEOM -i ID -n 110000000 -s 8307 -f # alachua  
./shp2sdo.exe -o ./geo2012wgs84/g12 pr\_geo12 -g GEOM -i ID -n 120000000 -s 8307 -f # baker  
./shp2sdo.exe -o ./geo2012wgs84/g13 pr\_geo13 -g GEOM -i ID -n 130000000 -s 8307 -f # bay  
./shp2sdo.exe -o ./geo2012wgs84/g14 pr\_geo14 -g GEOM -i ID -n 140000000 -s 8307 -f # bradford

... etc

#### Census Data

##### American Fact Finder

ACS 5-year Public Use Microdata Samples (PUMS) - CSV format

The ACS Public Use Microdata Sample files (PUMS) are a sample of the actual responses to the American Community Survey and include most population and housing characteristics. These files provide users with the flexibility to prepare customized tabulations and can be used for detailed research and analysis. Files have been edited to protect the confidentiality of all individuals and of all individual households. The smallest geographic unit that is identified within the PUMS is the Public Use Microdata Area (PUMA).

http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\_pums\_csv\_2007\_2011&prodType=document

<http://www.census.gov/geo/reference/puma.html>

<http://www.census.gov/acs/www/data_documentation/pums_data/>

##### State & County Quick Facts

Florida market data reports use information from:

http://quickfacts.census.gov/qfd/states/12000.html

##### Population Data

<http://www.census.gov/popest/data/cities/totals/2011/SUB-EST2011-states.html>

http://www.census.gov/econ/geo-zip.html

<http://www.census.gov/econ/cbp/index.html>

<http://ledextract.ces.census.gov/>

##### City Summary

http://www2.census.gov/census\_2010/03-Demographic\_Profile/Florida/

<http://www2.census.gov/census_2010/03-Demographic_Profile/>

http://www.census.gov/geo/reference/codes/files/st12\_fl\_places.txt

#### Company Records

##### Sunbiz

http://www.sunbiz.org/data\_file\_download.html - Download fixed length record file

Unzip the file and load into database.

sqlldr control=sunbiz.ldr userid=usr/passwd

Then exec

sunbiz\_pkg.seed\_corps

sunbiz\_pkg.set\_inactive

sunbiz\_pkg.del\_inactive

sunbiz\_pkg.seed\_locations

sunbiz\_pkg.match\_properties

sunbiz\_pkg.match\_owners

sunbiz\_pkg.update\_geoloc