RESIDENTIAL SALES DATA METHODOLOGY
CY2011
(Prepared October 2012)

The Sales data for calendar year (CY) 2011 are derived from the *MdProperty View*[1] Sales Databases created for Maryland's 23 counties and Baltimore City.

The Maryland Department of Planning (MDP) receives sales files from the State Department of Assessments and Taxation (SDAT). The SDAT files contain one complete year and are updated monthly (e.g. the December 2011 sales file contains sales with a trade date (TRADATE value YYYYMMDD) for December 10, 2010 - December 07, 2011).[2] MDP assigns x,y mapping coordinates to the sales records based on the latest *MdProperty View* parcel x,y values at the time of the sales download.

To create CY2011 Residential Sales database with x,y mapping locations the following steps are taken:

Step 1 Statewide Sales Database - It is necessary to combine two separate (12 month) sales files received from SDAT to create a CY2011 database. The May 10, 2012 sales file is used to obtain the records for June 2011 thru December 2011 and the December 10, 2011 Sales Database is used to obtain the sales for January 2011 thru May 2011. The separate MdProperty View (12 month) sales files for Maryland's 23 counties and Baltimore City are combined into a Statewide (12 month) sales file. When combined the May 10, 2012 statewide file has 128,610 sales records and the December 10, 2011 has 128,387 sales records.

Step 2 Trade Date – From Step 1, the subset of records from the May sales file where the sales trade date (TRADATE) is between June 1, 2011 (20110601) and December 31, 2011 (20111231) are extracted (78,776 of the 128,610 records from Step 1). Similarly the December sales file is used to extract the records where the sales trade date (TRADATE is between January 1, 2011 (20110101) and May 31, 2011 (20110531), 57,870 of the 128,387 records. When these two extracts are combined they form the initial CY2011 database of all sales records, 136,646 records. This procedure of combining records from two sales files also assures that no records are missed for the calendar year since there is a lag for some jurisdiction in recording and updating their sales records.

Step 3 Conveyance Type - From Step 2, only Sales Database records where the method of conveyance at the time of sale is an arms-length transfer of a single parcel (CONVEY1 field values of 1 or 2) are included (51,919 of the 136,646 records from Step 2).

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[1] *MdProperty View*, first developed by the Maryland Department of Planning (MDP) in 1996 and now nearing the completion of the sixteenth edition, is an electronic, CD-ROM based GIS (Geographic Information System) tool for accessing information on Maryland's 2.2 million land parcels referenced spatially via x,y points to their location on property maps that can be viewed with other map layers such as State Highway Administration roads. For more information go to
http://planning.maryland.gov/OurProducts/PropertyMapProducts/MDPropertyViewProducts.shtml

[2] When the SDAT converted their data system to the Manatron, Inc. GRM customCAMA Integrated Property Tax Software System in 2011, there was a delay in receiving an entire year of sales data. To ensure that all the records for CY 2011 where included, it was necessary to include 2011 sales from the May 2012 sales download.

Step 4 Improvement Value – From Step 3, Sales Database records are included with an improvement value equal to or greater than $10,000 (CURIMPVL field, current full market improvement value). Also included are records where CURIMPVL is less than $10,000 and the sale improvement value (SALIMPVL field) is equal to or greater than $10,000). This ensures that the properties included are those that are most likely to have a dwelling unit and that parcels are excluded where there is only land value with little or no improvement value (48,844 of the 51,919 records from Step 3). A new field, IMPVALUE, is created and is populated with the value in CURIMPVL where that field has a value of $10,000 or more otherwise IMPVALUE is populated with the value in SALIMPVL which has a value of $10,000 or more).

Step 5 Residential Sales - From Step 4, only residential (excludes agricultural residential) sales records are included in the analysis, i.e. sales records with a LU (Land Use) code of "R" (Residential), "TH" (Townhouse) or "U" (Residential Condominium). (47,141 of the 48,844 records from Step 4)

When the State Department of Assessments and Taxation (SDAT) converted their data system to the Manatron, Inc. GRM custom CAMA Integrated Property Tax Software System in 2011, they took advantage of the opportunity to substantially reformat their core datasets. One of the changes they made was to redevelop the structure grade, type of construction, number of stories/style and building type codes used to identify the specific characteristics of buildings found on a given property. Structure codes and descriptions have changed significantly as compared to earlier Edition years of *MdProperty View*.

For this reason, a special statewide extract of all structure codes and their accompanying descriptions was created from the February 2012 Statewide Parcel extract downloaded from the SDAT website. This structure code extract was then matched to *MdProperty View* 2011 Edition, and the redeveloped structure codes were used to produce the 2011 Residential Sales extract, with the structure codes used in *MdProperty View* 2011 Edition only being used in the absence of matched structure codes and descriptions from the structure code extract.

A new field (HU_Type) is added to the database and the residential sales records are grouped into six types based on Dwelling Description (DESCDWEL) fields from the new structure codes and descriptions in the sales database. The six residential sales housing types are:

Single Family (Hu = SF) (28,681 records)
- Dwelling Description includes single family, split foyer or split level

Townhouse (Hu = TH) (13,452 records)
- Dwelling Description includes townhouse, LU = "R", "U" or "TH"
- Dwelling Description is blank or no data and LU = "TH"

Condominium (Hu = CON) (3,936 records)
- LU = "U" and Dwelling Description is blank
- LU = "U" or "R" and Dwelling Description includes condominium (garden, high-rise, penthouse, studio/efficiency) but Dwelling Description is not condominium townhouse or condominium "single family"
- Also includes 8 condominium storage units that will be deleted in Step 9

Mobile Home (Hu = MH) (113 records)
- Dwelling Description is Mobile Home

Unclassified Residential (Hu = UNK or Hu = RENT) (959 records)
- Hu = UNK, Dwelling Description is blank or no data and LU = "R" (71 records)
- Hu = RENT, Dwelling Description is "rental dwelling" and LU = "R" (888 records)

Step 6 Duplicate Sales - There is a review of the database for "duplicate" sales database records, i.e. multiple records with the same parcel account number (ACCTID), Trade Date (TRADATE) and Consideration Value (CONSIDR1). Upon review, most of the "duplicate" sales reflect instances of transfers involving financial institutions or home builders in combination with individual owner purchases or sales. The "duplicates" are removed from the Sales Database records. In cases where there was more than one group of duplicates, the record with the highest transaction number (TRANSNO1) was retained. (46,978 of the 47,141 records from Step 5 are kept, removing 163 records.)

Step 7 Current Total Values Versus Consideration Value - For some sales database records the current total value (CURTTLVL) is considerably higher than the consideration or amount of money paid for the property at the time of the sale (CONSIDR1). To address this issue, the data from Step 6 are queried to identify those records where the current total value exceeds the consideration value by more than 1½ times. These properties are then deleted from the analysis. Also removed are a few records where the CONSIDR1 is less than $10,000. Thus the residential sales records retained are those where the consideration is two-thirds or more of the improvement value and the consideration is greater than $10,000. (45,686 of the 46,978 records from Step 7 are kept.)

Step 8 Sales with X, Y Location - At the time the sales records are extracted they are assigned X, Y mapping locations based on the currently available *MdProperty View* parcel X, Y points. To improve the mapping, the most recent *MdProperty View* edition year X, Y mapping coordinates (2011 Edition for all counties) are used to improve the X, Y values. Sales records that had no X, Y's were geocoded using the US Census Bureau's Topologically Integrated Geographic Encoding and Referencing (TIGER) Line Files with address information. The addresses that did not match TIGER were then located by hand, calculating the X, Y's using Google Maps or Bing Maps. For purposes of this analysis, which includes small areas (see Step 11), only sales records that have X, Y mapping locations are included:

CY2011 Residential sales records from Step 9 = 45,686
With X, Y location = 45,656 = 99.9%

Step 9 CONSIDR1 Review – Sales records where the consideration (CONSIDR1) is $1 Million or more and the Improvement value (IMPVALUE) is 25% or less of the Consideration value (CONSIDR1) are reviewed to determine if the sale is to an owner that is a "business entity", e.g. LLC. These are likely to be properties purchased for redevelopment or a use other than residential sale and occupancy. For CY2011, 73 such sales were identified and removed from the sales database. Also, all sales where the

CONSIDR1 is $1 million or more and the Improvement Value is 10% or less of the Consideration Value are reviewed to determine if the consideration value is in fact correct. For these sales, the CONSIDR1 from the sales download database is compared to the current posting of the sales data on the SDAT website.

This leaves a balance of 45,583 records.

Step 10 Duplicate Account Numbers - Records were reviewed again for duplicate occurrences of the same account numbers to eliminate records where business entities, banks, home builders or mortgage companies were listed as the owner of the property rather than a private individual(s). Account number duplicates were deleted if the owner was determined to be a business, bank, home builder, or mortgage company which resulted in keeping records with a private individual(s) as the owner. For all duplicate transactions where the records meet the above criteria, records were deleted if the consideration (CONSIDR1) was less than 60% of the current total value (CURTTLVL). (44,435 of the 45,583 records from Step 10 are kept.)

Step 11 Small Geographic Area Assignments – Every sales record is assigned a jurisdiction identifier (23 counties and Baltimore City) and, where applicable, a municipality identifier based on fields that are in the Sales Database record. The town code description (DESCTOWN) identifies the municipality. (Updated based on MdPV2010 for all jurisdictions).

In addition, the Sales records are also tagged with small geographic area identifiers for purposes of tabular analysis and map display.

Each sales record from Step 10 is assigned identifiers for 2011 USPS Zip Code, 2010 Census Tract and and 2010 Block Group (block groups are subsets of census tracts). *MdProperty View* contains boundary files (polygons map layers) for the three geographic areas. Using a spatial join the identifier for the Zip Code, Census Tract and Block Group are assigned to each sales record based on its X, Y location and its intersection with the respective polygon boundary file.

The geographic area identifier fields included on the calendar year sales record files are: COUNTY (positions 1-2 are the State Code, 24, and postions 3-5 are the jurisdiction FIPS code), DESCTOWN (Town Code Name preceded by a four character County abbreviation), ZIPCODE1 (5 digit USPS Zip code), ZIPCODE2 (5 digit USPS Zip code preceded by 5 digit County Code), ZIPNAME (Zip Code Description), CT2010 (2010 census tract), and BG2010 (2010 block group). For census tract and block group data, the first 5 positions are the County code, positions 6-11 are the census tract and position 12 is the block group.

Each sales record is also tagged with its PFA (Smart Growth Priority Funding Area) identifier based on the Priority Funding Area as of April 10, 2012. A sales record is either inside the PFA (inPFA), in a PFA Comment Area (inPFAc) or outside the PFA (outPFA).

Step 12 Year Built - The year built (YEARBLT field) is determined based on the values found in the year built field in the sales database records provided to MDP by SDAT. These values are supplemented with the year built field values from *MdProperty View*. Specifically, the YEARBLT field is given the value in

MdPV2011 where the YEARBLT field is not specified (i.e. blank) in the sales record and is populated in MdPV. Where the MdPV and Sales YEARBLT fields are both populated and have different values the one with the more recent year built is used.

Step 13 Final Residential Sales Database for CY2011 – Selected fields from Step 13 for the 44,435 records are written out to the final sales database as a shapefile, for example, talb_sale11.shp, with the following field content:

This database is available for use with *MdProperty View* and *FINDER*. The database can also be used to generate aggregate statistical reports on residential sales for CY2011 for the State, 23 counties and Baltimore City, municipalities, zip codes, census tracts and block groups as well as areas in and out of Priority Funding Areas.