

## **RESIDENTIAL SALES DATA METHODOLOGY**

CY2017

(Prepared August 2019)

The Sales data for calendar year (CY) 2017 are derived from the *MdProperty View*<sup>1</sup> Sales Databases created for Maryland's 23 counties and Baltimore City.

The Maryland Department of Planning (Planning) receives sales files from the State Department of Assessments and Taxation (Assessments). The Assessments files contain one complete year and are updated monthly (e.g. the December 2017 sales file contains sales with a trade date (TRADATE value YYYYMMDD) for December 1, 2016 - November 30, 2017).<sup>2</sup> Planning 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 CY2017 Residential Sales database with X,Y mapping locations the following steps were taken:

**Step 1 Statewide Sales Database** - It is necessary to combine two separate (12 month) sales files received from Assessments to create a CY2017 database. The May 2018 sales file was used to obtain the records for June 2017 through December 2017 and the December 2017 Sales Database was used to obtain the sales for January 2017 through May 2017. The separate *MdProperty View* (12 month) sales files for Maryland's 23 counties and Baltimore City were combined into a Statewide (12 month) sales file. The May 2018 statewide file has 187,497 sales records and the December 2017 statewide file has 188,733 sales records.

**Step 2 Trade Date** – From Step 1, the subset of records from the December sales file where the sales trade date (TRADATE) is between January 1, 2017 (20170101) and May 31, 2017 (20170531) were extracted (80,819 of the 188,733 from Step 1). Similarly, the May sales file was used to extract the records where the sales trade date (TRADATE is between June 1, 2017 (20170601) and December 31, 2017 (20171231), 112,687 of the 187,497 records. When combined these two extracts formed the initial CY2016 database of all sales, 193,506 records. This procedure of combining records from two sales files assures that no records are missed for the calendar year since there is a lag for some jurisdictions 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 0, 1, or 2) were included (95,332 of the 193,506 records from Step 2).

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<sup>1</sup> *MdProperty View*, first developed by the Maryland Department of Planning in 1996, is an electronic GIS (Geographic Information System) tool for accessing information on Maryland's 2.3 million parcel accounts 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>

<sup>2</sup> Since Assessments converted their data system to the Manatron, Inc. GRM custom CAMA Integrated Property Tax Software System in 2011, there have been delays in receiving an entire year of sales data. To ensure that all the records for CY 2017 were included in the residential sales dataset, it was necessary to include 2017 sales from the May 2018 sales download.

**Step 4 Improvement Value** – From Step 3, Sales Database records were included with an improvement value equal to or greater than \$10,000 (CURIMPVL field, current full market improvement value). Also included were 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 (90,650 of the 95,332 records from Step 3). A new field, IMPVALUE, was created and is populated with the value in CURIMPVL where that field has a value of \$10,000 or more otherwise IMPVALUE was populated with the value in SALIMPVL which has a value of \$10,000 or more).

**Step 5 Residential Sales** - From Step 4, only residential sales records were included in the analysis, i.e. sales records with a LU (Land Use) code of “R” (Residential), “TH” (Townhouse) or “U” (Residential Condominium). (87,713 of the 90,650 records from Step 4).

**Step 6 Duplicate Sales** - The database was reviewed 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 reflected instances of transfers involving financial institutions or home builders in combination with individual owner purchases or sales. The “duplicates” were removed from the Sales Database records. For each group of duplicate records, the record with the highest transaction number (TRANSNO1) was retained. (87,574 of the 87,713 records from Step 5 are kept, removing 139 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 retained after Step 6 were queried to identify those records where the current total value exceeded the consideration value by more than 1½ times. These properties were then deleted from the analysis. Also removed were a few records where the CONSIDR1 was 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. (82,285 of the 87,574 records from Step 6 are kept.)

**Step 8 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) were reviewed to determine if the sale was to an owner that is a business entity (e.g. bank, LLC, home builder, mortgage company), trustee, or other organization. These are likely to be properties purchased for redevelopment or a use other than residential sale and occupancy.

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 sales meeting these criteria, the CONSIDR1 values from the sales download database matched the current posting of the sales data on the Assessments website and therefore were considered accurate. 82,214 of the 82,285 records from Step 7 are kept.)

**Step 9 Duplicate Account Numbers** - Records were reviewed again for duplicate occurrences of the same account numbers to eliminate any records where a business entity (e.g. bank, LLC, home builder, mortgage company), trustee, or other organization is listed as the new owner of the property rather than a private individual. Sales to business entities, trustees, or other organizations are likely interim transactions that do not represent final residential sales. Consecutive sales of the same account among private individuals may also include interim transactions.

The 2017 sales database contained 1,597 records with two or three instances of the same account number. The chart below summarizes how these records were removed or retained to eliminate likely interim transactions.

Sale Type	Action Taken			Records Kept	Records Deleted
	Kept All Transactions	Deleted All Transactions	Deleted Transaction with Earliest TRADATE		
Any sale to a business/trust/organization		✓			650
Any sale to private individual if next sale of same account is to a business/trustee/organization OR if previous sale of same account was to a business/trustee/ organization	✓			465	--
Consecutive sales of same account to private individuals:					
· <i>Sales share transaction date (TRADATE ) OR Sales share a consideration value (CONSIDR1)</i>			✓	28	28
· <i>Subsequent sale price decreased below first sale price</i>			✓	144	144
· <i>Subsequent sale price increased by 10 percent or more over the previous sale</i>			✓	49	49
· <i>Subsequent sale price increased by less than 10 percent over the previous sale and both transactions took place within 90 days</i>			✓	10	10
· <i>Subsequent sale price increased by less than 10 percent and transactions occurred beyond 90 days of each other</i>	✓			20	--
<b>Total Records with Multiple Instances of Same Account</b>					<b>1597</b>
<b>Records Deleted</b>					<b>881</b>
<b>Records Kept</b>					<b>716</b>

Finally, the records with multiple instances of the same account are identified for deletion if the consideration (CONSIDR1) is less than 60% of the current total value (CURTTLVL). Since none of the remaining 550 transactions met this criteria, no additional records were flagged for deletion. (70,600 of the 80,848 records from Step 8 are kept.)

**Step 10 Sales with X, Y Location** - When the sales records are extracted from Assessments they are assigned X, Y mapping locations based on the *MdProperty View* parcel account coordinates available at that time (latest edition for each county).

2335 of the 80,848 sales records could not be assigned X, Y coordinates using *MdProperty View* data. These unlocated accounts were exported to separate file for further research and then deleted from the main file. (78,513 records from Step 9 are kept.)

**Step 11 Building Description Check** - When Assessments converted their data system to the Manatron, Inc. GRM custom CAMA Integrated Property Tax Software System in 2011, they reformatted their core datasets, changing the fields used to identify characteristics of buildings found on a given property. Therefore, the current structure codes and descriptions are significantly different and not comparable to earlier versions of residential sales.

A new field (HU) was added to the database and the residential sales records are grouped into six types based on the Land Use (LU) and dwelling description fields (DESCSTYL and DESCBLDG) from the new structure codes and descriptions in the sales database. Starting in 2023 and retroactively applied for sales years 2017 to 2022 housing units meeting the criteria previously assigned to UNK and RENT are removed from the analysis. The current and retroactively assigned four residential sales housing types are:

#### Single Family (HU = SF) (47,029 records)

- One or more dwelling description fields includes single family, split foyer or split level, but LU is not TH and dwelling description fields do not contain townhouse (TH); and/or
- LU = U, property does not meet the townhouse or condominium criteria below, and DESCSTYLE indicates the unit has a basement; and/or
- LU = U, property does not meet the townhouse or condominium criteria below, DESCSTYLE indicates there is no basement, and research does not suggest the property contains multiple dwellings within the same building

#### Townhouse (HU = TH) (23,796 records)

- LU = TH, and/or
- One or more dwelling description fields includes townhouse (TH), and LU = R, U or TH

#### Condominium (HU = CON) (6,407 records)

- LU = U or R, and one or more dwelling description fields include condominium (garden, high-rise, penthouse, studio/efficiency) but none of the dwelling description fields contain condominium townhouse or condominium single family
- LU = U, DESCSTYLE indicates no basement, and research suggests the property contains multiple dwellings within the same building

#### Mobile Home (HU = MH) (218 records)

- One or more dwelling description fields contains mobile home

Deletes (HU = UNK, HU = D or HU = RENT) (1,063 records)

- HU = UNK if dwelling description fields are blank or contain no data and LU = R (132 records)
- HU = RENT if one or more dwelling description fields contain rental dwelling and LU = R (885 records)
- Includes condominium storage units, parking spaces, churches, and boat slips with a sale (CONSIDR1) value of \$50,000 or less

A few properties that did not fit the above criteria were assigned a code based on readily available information (e.g. Google Street View, adjacent parcel data, etc). The 46 condominium storage units, parking spaces, and boat slips referenced above were removed from the dataset during this step. (78,467 records from Step 10 are kept.)

**Step 12 Small Geographic Area Assignments** – During this step each sale was assigned a jurisdiction identifier (one of the 23 Maryland counties or Baltimore City), municipality identifier (where applicable), USPS zip code, 2010 Census tract, and 2010 block group (block groups are subsets of Census tracts), and location relative to the Priority Funding Area (PFA) for the purposes of tabular analysis and map display.

The geographic area identifier fields included on the calendar year sales record files are: COUNTY (positions 1-2 are the State Code, 24, and positions 3-5 are the jurisdiction FIPS code), DESCTOWN (town 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), and PFA (location relative to PFA). For Census tract and block group data, the first 5 positions are the County code, and positions 6-11 are the Census tract. For block group data position 12 is the block group.

The source of the COUNTY identifier and DESCTOWN fields are the sales extract data from SDAT. Additionally, *MdProperty View* contains boundary files (polygons map layers) for zip codes, Census tracts, and block groups. Using a spatial join, the zip code, Census tract and block group identifiers were assigned to each sales record based on the sale's X, Y location and its intersection with the respective polygon boundary file.

Finally, each sales record was tagged with its location relative to the PFA based on the PFA boundaries as of July 2019. A sales record is either inside the PFA (inPFA), in a PFA Comment Area (inPFAc) or outside the PFA (outPFA).

In a few cases the PFA, zip code, Census tract, and block group assignments needed manual adjustment. For example, sale points that were just offshore of the PFA were reassigned to the PFA, and minor adjustments to the zip code, Census Tract, and block group assignments were necessary for consistency with the COUNTY identifier.

**Step 13 Final Residential Sales Database for CY2017** – Selected fields from Step 13 for the 78,467 records were written out to the final sales database as a shapefile and database with the following field content:



This database is available for use with *MdProperty View* and *FINDER* Quantum. The database can also be used to generate aggregate statistical reports on residential sales for CY2017 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.