

## **Introduction**

Real Property Appraisal can be accomplished by single property appraisal or mass appraisal. The credibility each appraisal is judged in the context of the intended use of the appraisal.

Single property appraisals are made for various purposes and involve the appraisal of a single property as of a given date. Single property appraisals are governed by the Uniform Standards of Professional Appraisal Practice (USPAP Standards 1 and 2) and the credibility of the appraisal is judged against comparable sale properties used in the appraisal.

Mass appraisal involves the appraisal of many properties, a universe of properties, as of a given date. The intended use of mass appraisals is most often for ad valorem purposes, but can be for other intended uses. Mass appraisals are governed by USPAP – Standard 6.

Both single property and mass appraisal use three traditional approaches to value and require market research. Both require logical and systematic methods for collecting, analyzing, and processing data to produce supportive, well-documented value estimates. Single property appraisal requires only one person to research and analyze data and make appraisal judgments and decisions, while mass appraisal requires many persons performing many tasks. Appraisal quality is measured by comparison to comparable sales.

The major difference between the two types of appraisal is the scale of the mass appraisal. It is much larger, involving many properties, many people (coordination of tasks and appraisal judgment), with emphasis on standardization in procedures, methods, models and tables. Mass appraisal requires many people to contribute to the process using standardized procedures. Quality is measured using statistical procedures to test estimated values against sale prices.

## **Mass Appraisal**

The three traditional approaches considered in valuing real property are the cost approach, the sales comparison approach, and the income approach. Typically, assessors use a market calibrated cost model (cost and sales comparison approaches) in ad valorem residential mass appraisal. For properties bought and sold on their income producing capability (commercial and industrial property), an income capitalization approach and comparative sales approach are typically considered.

Minimum standards on appraisal are established in the Uniform Standards of Professional Appraisal Practice (USPAP) published by the Appraisal Foundation (Washington, DC).

Key mass appraisal concepts are:

**MASS APPRAISAL:** (is) the process of valuing a universe of properties as of a given date using standard methodology, employing common data, and allowing for statistical testing. (USPAP Definitions)

**MASS APPRAISAL MODEL:** a mathematical expression of how supply and demand factors interact in a market. (USPAP Definitions)

**Model Specification** (USPAP/STD 6)

Supply and demand factors affect property value. Identification of these factors and the formal development of a model statement or equation are called model specification.

Mass appraisers must develop mathematical models that, with reasonable accuracy, represent the relationship between property value and supply and demand factors, as represented by quantitative and qualitative property characteristics. The models may be specified using the cost, sales comparison, or income approaches to value. The specification format may be tabular, mathematical, linear, nonlinear, or any other structure suitable for representing the observable property characteristics. Appropriate approaches must be used to value a class of properties. The concept of recognized techniques applies to both real and personal property valuation models.

**Model Calibration** (USPAP/STD 6)

After a model is specified, then model calibration occurs. Calibration refers to the process of analyzing sets of property and market data to determine the specific parameters of a model. Most simply, it is the development of rates (coefficients) for use in the model. These include such things building rates, land rates, depreciation rates, adjustments and other items.

Cost manual, depreciation, land rate tables are examples of calibrated parameters.

**Market Calibrated Cost Approach**

In mass appraisal, assessors use “production line” methods and techniques to value a “universe” of properties. For many property types a “market calibrated” cost approach to value is used. A basic cost model formula (specified model structure) is:

$$\text{Market Value} = \text{Replacement Cost New} - \text{Depreciation} + \text{Land Value}$$

Model calibration of a cost approach occurs by applying tables of rates for improvement costs, depreciation, and land values. These rates are applied to each property’s relevant characteristics to produce a land value and building value. The model is analyzed and tested; and re-applied until acceptable results are attained. Essentially, properties that have sold are valued using this method and analyzed via sale to assessment ratio studies and other performance measures. Once the analysis is completed and acceptable performance measures are attained on the sample of sales, the model (rates/coefficients) is applied to the all properties (sale and non-sale properties) to estimate their value. Both during and following the re-appraisal, assessment performance analysis (ratio studies) is conducted to analyze quality.

Accurate property data (relevant property characteristics) is essential for accurate property values. Thus, the quality and quantity of data is important. Accurate values begin with accurate data. Assessors must ensure that the appropriate data is being captured accurately and

consistently. Market transfers (property sales) must be timely entered into the valuation system and existing property data characteristics must be updated for changes.

Properties should be regularly inspected to ensure existing data is accurate and current. IAAO standards call for routine property inspections at least every six years. Many states have laws requiring more frequent cycles. Maryland calls for inspections at least every three years. Building permits, aerial/oblique photography, street view images and the linking of this data with the assessors valuation system allows for a timely and efficient review and management of property record characteristics. Properties with changes can be identified and field inspections can be made to verify data as need. In many cases, data can be updated in the office using these technologies. The largest cost of any mass appraisal is data collection and review

### **Geographic Stratification**

Market or economic areas are broad geographic areas of properties subject to similar economic influences and value trends. Subareas or neighborhoods are groupings of homes that share similar location amenities. In mass appraisal, the universe of properties to be valued is analyzed and valued based upon type of property within market and submarket areas.

In supporting mass appraisal values, the assessor uses current market transactions of similar properties within a market or sub market area. The assessor uses land rates, building costs and depreciation tables in a model to value all similar properties uniformly.

### **Assessment Performance**

A measure of assessment quality is the assessed value to sale price ratio. In a market calibrated cost approach, the ratio of total property estimate of value is compared to actual sale prices. The goal is to achieving a ratio of 100%. Known as an assessment ratio study, these assessment performance analyses are performed measure assessment quality. These studies measure the typical level of assessment (measures of central tendency) and the variation between assessments (coefficient of dispersion, coefficient of variation, or standard deviation). Similarly, assessment uniformity is analyzed.

### **Frequency of Reassessment**

Property values are constantly changing and each property is affected by market factors unique to the each properties location, neighborhood or market area.

An underlying precept of ad valorem appraisal is uniformity of assessment – that “similar properties” are assessed alike. Thus, all similar properties should be assessed similarly. This is accomplished by appraising at market value.

The Maryland Constitution (Article 15 – Declaration of Rights) and law require appraisal at market value<sup>1</sup>. Historically, Maryland counties have re-appraised properties on a triennial cycle.

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<sup>1</sup> Article 15 Declaration of Rights – “...General Assembly shall, by uniform rules, provide for the separate assessment, classification and sub-classification of land, improvements on land and personal property, as it may deem proper; and all taxes thereafter provided to be levied by the State for the support of the general State Government, and by the

Many counties have done this since the 1940's. In the early 1970's, the state law was amended to require statewide ad valorem appraisal on a triennial cycle.

In the 1970's and 1980's, the state legislature conducted several legislative study groups regarding real property assessment and enacted numerous provisions of law that govern real property assessment, tax credits, and real property tax exemptions.

### **Market Value Standard**

The Maryland Constitution and law require a market value appraisal standard and the assessor must consider the level of assessment and the uniformity of assessments. These are the underlying principles that guide the assessor.

Some suggest that the assessor should assess every property at 100% of its sale price. Assessors do not assess to 100% of each sale price. First, all properties do not sell. When they do sell they may not be current sales. The assessor must consider comparable sales occurring near the date of appraisal. Also properties are not all the same; and, often the sales may not be indicative of arms-length market transactions.

Price is a fact – list price, asking price, reduced price, sale price. Cost is a fact or an estimate of a fact. It cost \$100,000 or it will cost \$125 a square foot to build. Value is an opinion based upon fact. The assessor uses arms-length sales as comparables to estimate value.

### Residential Property

Article 15 of the Maryland Declaration of Rights, is why the assessor uses a market calibrated cost approach in valuing residential property. The valuation starts from replacement cost new (a" common basis" for all similar properties (similar cost new on similar properties). Next, depreciation (loss in value from all causes) is deducted from replacement cost new depreciation (similar condition properties have similar depreciation). The result is an estimate of the improvement value. Next an estimated land value (similar land rates for similar properties) is added to the improvement value to produce the estimated property value. The formula is  $RCN - Dep. = RCND + LV = MV$ .

The specification of the cost model and the application of the model on a sample of property sales, allows the assessor calibrate the model and to test it by the use of a sales to value ratio

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Counties and by the City of Baltimore for their respective purposes, shall be uniform within each class or sub-class of land, improvements on land and personal property which the respective taxing powers may have directed to be subjected to the tax levy;..."

Tax Property Article – Definitions (Section 1-101 (c) "Assessment" means: (1) for real property, the phased-in full cash value or use value to which the property tax rate may be applied; and (2) for personal property, the value to which the property tax rate may be applied.; (pp) Valuation. -- "Valuation" means the process of determining the value of a property; Value. -- "Value" means the full cash value of property. Case law further defines Full Cash Value as the Market Value of Property.

analysis. When acceptable ratio results are achieved the model is then applied to all other similar properties. This approach causes like type of property to be assessed alike.

### Commercial Property

Assessments on commercial income producing properties must, also, be uniform between like types of properties. This is why the income approach is used. The “common basis” for income property valuation is using market rents, market vacancy, and market expense ratios, in developing an estimate of the properties Net Operating Income (NOI). The assessor then uses a market capitalization rate to estimate market value. The formula is  $\text{Income/Capitalization Rate} = \text{Value}$ . We should emphasize that this is Market Income; Market Capitalization Rate equals Market Value.

The income approach, as with the cost approach (market calibrated cost approach), is related to the comparative sales approach. Market Capitalization rates consider the relationship of income to sale price. In other words, the capitalization rate is the percentage that income (NOI) is to value (sale price). The use of market rent and market cap rates allow the assessor to treat similar income producing properties similarly for assessment purposes.

Many do not understand the concept of the level of assessment and the uniformity/equalization requirement for assessments and tend to think of the income capitalization approach is separate and distinct from the comparative sales approach. The income approach and comparative sales approach are related. Market capitalization rates must be supported by market information. To do this, the assessor can develop capitalization rates, when they have income and expense information on properties that have sold. This is known as the direct comparison method. Similarly capitalization rates can be developed from the band of investment (mortgage/ equity) method and other methods.

Sales of income producing properties are not as common as sales of non-income producing properties or residential properties. Maryland has over 109,000 commercial parcels with approximately 900 (0.08%) commercial sales per year. Of all commercial sales many are not income producing properties and often property owners do not comply with the income and expense form filling requirement, so appraisers and assessors usually subscribe to commercial services that provide income and expense data summaries.

### **Discover, List, and Value**

Assessment officials are to discover, list and value all property for ad valorem purposes. For real property, discovery means to find each parcel of real property and assure that it is on the tax roll. This is accomplished by reviewing property deeds, and adding each parcel to the jurisdiction’s tax roll and tax maps.

Listing involves adding each property to the assessment roll and identifying the relevant property characteristics in the assessment records needed to value the property. This includes relevant

quantitative and qualitative characteristics for improvements and improvement sketches, zoning, property images, etc.

Value means developing an opinion of market value for all land and improvements to land at the highest and best use of the property for ad valorem purposes.

### **Property Characteristics Changes**

Modern appraisal systems, such as Computer Assisted Mass Appraisal (CAMA), greatly speed calculations and valuation in ad valorem mass appraisal. These systems streamline valuation sales analysis and individual property valuation. CAMA provides for more efficient assessment performance analysis (ratio analysis, data edits, and management reports). These systems allow linking of other technology systems which provide for efficient mass appraisal. Maryland's current CAMA system, known as AAVS should be linked to the various counties zoning, permits, and vacant (etc.) departments.

### **Assessment Calendar**

The Maryland Annotated Code prescribes many of the governing criteria for property assessment administration. In Maryland one third of all properties must be re-valued each year, and assessment notices are to be mailed by January 1. First level assessment appeal hearings must be heard (preferably before the assessment/tax roll is certified for real property tax billing July 1). If first level appeals are not completed timely, tax billing can be complicated by supplemental billing or by many manual adjustments.

Administrative and assessor staff must complete many administrative functions along with completing the reassessment program. Major administrative functions of the assessment office include the real property transfer process, administration of property tax credit and exemption programs, maintaining parcel maps, maintenance of the tax roll, and maintaining relations with county government agencies and community groups.

Major assessment functions include the annual revaluation program, pick up of additions and new construction to be added to the tax roll (full year, semi-annual or quarterly levy), and to hear and finalize assessment appeal hearings at all appeal levels.

### **New Construction**

- New Property Pick-up includes all new buildings and any renovations over a cost of \$100,000 in each triennial group
- New Property Pickup occurs twice a year (July 1 – Full Year Levy and the January 1 -Half year levy and several counties have a quarterly pickup)
- Renovations with a cost of less than \$100,000 are to be picked up in reappraisal cycle once every three years.

Several counties have a Quarterly Levy – Baltimore City, Baltimore, Charles, Howard, Montgomery, and Prince George's Counties

Other characteristics of new construction are:

- New property consists of new improvements to land (buildings and site improvements or additions/renovations to property);
- New improvements to land are picked up for Full Year and Half Year (or Quarterly) when substantially complete;
- Additions/renovations to property are picked up for Full Year and Half Year (or Quarterly) when complete if the cost is greater than \$100,000. If cost is less than \$100,000 additions/renovations are picked up during the triennial valuation cycle;
- Change of use to land is picked up for Full Year Levy only;
- Building permits are used to identify of new improvements/additions/renovations. However property owners sometimes make improvements without going through the permit process, the only way to identify this is through field review or the use of imagery;
- Most counties have automated building permit systems for the issuance and processing of building permits for the county and municipalities within a county;
- Some municipalities have their own building permit systems; and
- Historically, counties and municipalities forward paper copies of building permits and certificates of occupancy to each local assessment office and/or listings of permits & certificates of occupancy.

There are various methods of transmitting permit information to the assessment offices. These include:

- Paper permit or lists
- Periodic PDF file (monthly) of what would be paper permits
- Assessment office access to the county permit system
- Electronic extract from county system, typically Excel files, which can be used by assessment managers for management of the pick-up process and for loading of permit information to each account in the AAVS system
- It is important for all counties and municipalities to work closely with the local assessment office to provide permit and certificate of occupancy information as efficiently, as possible to help insure proper pickup

Assessment Introduction

Anne Arundel County building permit data is summarized below:

ANNE ARUNDEL COUNTY PERMITS THAT HAVE BEEN ENTERED INTO AAVS	
ADO	PERMITS WITH POTENTIAL PICK UP VALUE OF \$100,000 FOR ANNUAL OR 6 MONTH BILLING-INCLUDES NEW BLDGS AND ADDITIONS
ADU	PERMITS THAT WILL NOT ADD \$100,000 - REVIEWED DURING REASSESSMENT
OTH	MOSTLY DEMOLITIONS- ARE REVIEWED AND ABATED THROUGHOUT THE YEAR IN ALL GEO AREAS
NOTES	STARTING LATE 2012, CERTAIN PERMITS WERE NOT LOADED- FENCES, ABOVE GROUND POOLS, SIGNS ETC. 2014 IS THROUGH APRIL

Count of A		Permit~Type			Grand Total
YEAR	MONTH	ADO	ADU	OTH	
2011	1	127	349	13	489
	2	95	406	16	517
	3	151	520	25	696
	4	81	490	14	585
	5	94	607	15	716
	6	118	599	17	734
	7	109	504	11	624
	8	157	540	8	705
	9	136	491	10	637
	10	112	516	8	636
	11	103	343	10	456
	12	105	261	13	379
<b>2011 Total</b>		<b>1388</b>	<b>5626</b>	<b>160</b>	<b>7174</b>
2012	1	110	326	13	449
	2	112	356	22	490
	3	230	344	6	580
	4	105	359	11	475
	5	122	314	8	444
	6	136	360	8	504
	7	161	379	3	543
	8	152	379	4	535
	9	74	302	3	379
	10	114	317	2	433
	11	130	283	7	420
	12	107	270	16	393
<b>2012 Total</b>		<b>1553</b>	<b>3989</b>	<b>103</b>	<b>5645</b>
2013	1	138	252	13	403
	2	128	213	13	354
	3	151	239	12	402
	4	179	359	36	574
	5	177	315	26	518
	6	135	376	41	552
	7	189	398	39	626
	8	193	417	40	650
	9	180	312	35	527
	10	194	393	47	634
	11	114	188	22	324
	12	106	153	8	267
<b>2013 Total</b>		<b>1884</b>	<b>3615</b>	<b>332</b>	<b>5831</b>

Anne Arundel		Permits	Estimated Total	
<b>2011 to June 2014</b>				
2011	>100,000	1,388	776,630,302	
2012	>100,000	248	496,816,264	
2013	>100,000	294	558,632,100	
2014	>100,000	157	184,475,286	
		<b>2,087</b>	<b>2,016,553,952</b>	<b>966,245 Per Permit</b>



## **Assessment Appeals**

The assessment appeals process includes:

**Supervisors' level** appeal/owner can get a copy of worksheet/that information will be reviewed at the appeal meeting.

- The first level hearing is informal and should be viewed as an opportunity to present evidence which would indicate that the department's value of the property is inaccurate.
- The property owner should focus on points that affect value/math errors/differences in property characteristics, and property sales that support the property owners' findings as to value.
- Following the 1<sup>st</sup> level hearing, the property owner will be mailed a Final Notice of Assessment

## **Property Tax Assessment Appeal Board**

If the property owner does not agree with decision of the assessor, they may appeal to the Property Tax Assessment Appeal Board in the county where the property is located (three member independent board)

- Property owner can obtain a list of comparable properties if requested 15 days before hearing.
- Property owner is free to submit any supporting evidence.

## **Maryland Tax Court.**

- If dissatisfied with the notice of decision from the Appeal Board, you may file (within 30 days) to the Maryland Tax Court.

Assessment appeal levels include:

- 1<sup>st</sup> Level – Supervisor of Assessment – informal meeting with assessor
- 2<sup>nd</sup> Level – PTAAB – informal independent board
- 3<sup>rd</sup> Level – Md. Tax Court – more formal
- 4<sup>th</sup> Level – Circuit Court – county where property is located.
- 5<sup>th</sup> Level – Court of Special Appeals
- 6<sup>th</sup> Level – Court of Appeals

Assessment Introduction

The assessment appeal process is available to allow property owners the opportunity to dispute the value determined by the department, if they feel the value is wrong.

Appeals may be filed on three occasions:

- When an assessment notice is received (reassessment)
- Out of cycle review – file a petition for review (in the two years when the property is not valued)
- Upon Purchase (When a property is transferred between Jan. 1 and July 1)

Statewide First Level Assessment Appeals FY 2011 to 2014

Year	GEO	In Cycle				Out Cycle			Grand Total	Total Res	Total C&I	In Cycle %	Field Res Ass	Filed C&I *	Appeal Per DAY Res	Appeal Per DAY C&I	Appeal DAY Res	Appeal DAY C&I
		Notices	Res	C&I	Total	Res	C&I	Total										
2011	81	740,128	23,029	8,907	31,936	15,404	3,273	18,677	50,613	38,433	12,180	4.3%	124	39	15	10	21	31
2012	82	737,387	21,472	8,730	30,202	10,907	3,942	14,849	45,051	32,379	12,672	4.1%	124	39	15	10	17	32
2013	80	678,666	12,718	5,936	18,654	8,204	2,812	11,016	29,670	20,922	8,748	2.7%	124	39	15	10	11	22
2014	81		16,345	9,399	25,744	4,638	3,462	8,100	33,844	20,983	12,861		124	39	15	10	11	33

- Appeals vary by county by year and type (Res. & C&I)
- Appeals impact workload each year
- Statewide Res and C& I averages mask actual impact by county
- Note typical days to hearings from statewide to big 5 counties on Pages Following

Anne Arundel First Level Assessment Appeals FY 2011 to 2014

Year	GEO	In Cycle				Out Cycle			Grand Total	Total Res	Total C&I	In Cycle %	Field Res Ass	Filed C&I *	Appeal Per DAY Res	Appeal Per DAY C&I	Appeal DAY Res	Appeal DAY C&I
		Notices	Res	C&I	Total	Res	C&I	Total										
2011	81	74,910	990	1,142	2,132	866	382	1,248	3,380	1,856	1,524	2.8%	14	2	15	10	9	76
2012	82	61,953	1,578	714	2,292	383	387	770	3,062	1,961	1,101	3.7%	14	2	15	10	9	55
2013	80	59,769	672	421	1,093	413	371	784	1,877	1,085	792	1.8%	14	2	15	10	5	40
2014	81	-	806	1,589	2,395	219	262	481	2,876	1,025	1,851		14	2	15	10	5	93

Baltimore City First Level Assessment Appeals FY 2011 to 2014

Year	GEO	In Cycle				Out Cycle			Grand Total	Total Res	Total C&I	In Cycle %	Field Res Ass	Filed C&I *	Appeal Per DAY Res	Appeal Per DAY C&I	Appeal DAY Res	Appeal DAY C&I
		Notices	Res	C&I	Total	Res	C&I	Total										
2011	81	74,910	4,817	1,085	5,902	2,185	525	2,710	8,612	7,002	1,610	7.9%	18	5	15	10	26	32
2012	82	61,953	7,036	1,009	8,045	2,583	344	2,927	10,972	9,619	1,353	13.0%	18	5	15	10	36	27
2013	80	59,769	3,628	1,068	4,696	2,408	175	2,583	7,279	6,036	1,243	7.9%	18	5	15	10	22	25
2014	81	-	5,570	1,174	6,744	379	492	871	7,615	5,949	1,666		18	5	15	10	22	33

Assessment Introduction

Baltimore Co		First Level Assessment Appeals FY 2011 to 2014																	
		In Cycle	In Cycle			Out Cycle			Grand	Total	Total	In Cycle %	Field	Filed	Appeal	Appeal	Appeal	Appeal	
	GEO	Notices	Res	C&I	Total	Res	C&I	Total	Total	Res	C &I	of Notice	Res Ass	C&I *	DAYS Res	DAYS C&I	DAYS Res	DAYS C&I	
2011	81	90,876	2,610	1,790	4,400	1,434	440	1,874	6,274	4,044	2,230	4.8%	17	4	15	10	16	56	
2012	82	98,931	3,309	1,844	5,153	1,102	559	1,661	6,814	4,411	2,403	5.2%	17	4	15	10	17	60	
2013	80	86,745	834	1,235	2,069	959	377	1,336	3,405	1,793	1,612	2.4%	17	4	15	10	7	40	
2014	81		1,393	1,726	3,119	379	492	871	3,990	1,772	2,218		17	4	15	10	7	55	
Montgomery		First Level Assessment Appeals FY 2011 to 2014																	
		In Cycle	In Cycle			Out Cycle			Grand	Total	Total	In Cycle %	Field	Filed	Appeal	Appeal	Appeal	Appeal	
	GEO	Notices	Res	C&I	Total	Res	C&I	Total	Total	Res	C &I	of Notice	Res Ass	C&I *	DAYS Res	DAYS C&I	DAYS Res	DAYS C&I	
2011	81	91,923	2,359	1,118	3,477	1,804	587	2,391	5,868	4,163	1,705	3.8%	24	6	15	10	12	28	
2012	82	118,485	3,020	1,962	4,982	789	612	1,401	6,383	3,809	2,574	4.2%	24	6	15	10	11	43	
2013	80	102,446	1,609	630	2,239	507	347	854	3,093	2,116	977	2.2%	24	6	15	10	6	16	
2014	81		1,750	1,333	3,083	285	568	853	3,936	2,035	1,901		24	6	15	10	6	32	
Princes Georges		First Level Assessment Appeals FY 2011 to 2014																	
		In Cycle	In Cycle			Out Cycle			Grand	Total	Total	In Cycle %	Field	Filed	Appeal	Appeal	Appeal	Appeal	
	GEO	Notices	Res	C&I	Total	Res	C&I	Total	Total	Res	C &I	of Notice	Res Ass	C&I *	DAYS Res	DAYS C&I	DAYS Res	DAYS C&I	
2011	81	112,287	5,141	1,859	7,000	3,903	285	4,188	11,188	9,044	2,144	6.2%	11	6	15	10	55	36	
2012	82	84,612	1,728	1,126	2,854	2,616	1,230	3,846	6,700	4,344	2,356	3.4%	11	6	15	10	26	39	
2013	80	77,606	1,086	963	2,049	1,354	816	2,170	4,219	2,440	1,779	2.6%	11	6	15	10	15	30	
2014	81		1,982	1,439	3,421	568	1,063	1,631	5,052	2,550	2,502		11	6	15	10	15	42	

## CORE Work Processes

Assessors must annually complete certain core processes besides field inspection in the general reassessment. Work production studies can be developed for any work segment of a year's work. Each staff member is only available for work a certain number of days a year.

Total work days would typically be about 200 days per year after weekends, holidays, sick days, vacation, and training days are deducted from 365 days per year

Each year supervisors of assessment year plan for the revaluation cycle, make assessor assignments, review exempt accounts, prepare AAVS for next revaluation, and complete a work production analysis next revaluation cycle.

CORE Processes include:

- Inspection and verification property sales information for each area being appraised and conducting market research;
- Re-appraise each triennial group once every three years including conducting market analysis, field inspections, and valuation analysis (sales analysis, market value index analysis and valuation edits).
- Revaluing new subdivision plats, splits and combinations
- Completing and reviewing ratio reports, making final edit checks and percent change edit reports checks
- Picking up New Buildings and Major Renovations (over \$100,000 in cost) at least twice a year (Full year and Half Year Levy and quarter year levy where applicable) – conduct field inspections and value
- Conducting 1<sup>st</sup> Level assessment appeals
- Conducting 2<sup>nd</sup> Level assessment appeals
- Conducting 3<sup>rd</sup> Level assessment appeals
- Daily completing all real property transfers and entering that information on the tax roll in the AAVS system – sales data and owner information
- Completing mapping prep for all splits and combinations and subdivision plats
- Performing customer service duties– phone and tax roll counter
- Processing change reports (abatements and increases)
- Processing address and occupancy changes
- Staffing production reports allow management to estimate staff requirements

CORE processes must be completed daily as required. After CORE processes are complete, the assessors can focus reassessment physical inspections. In staffing analysis the supervisor of assessments estimates the number of days for all CORE Processes. If CORE process days are subtracted from total available work days for all assessors, the remaining days are available for reassessment physical inspection.

If there are not enough personnel to complete the physical review in the days available for physical review, additional resources would have to be added to complete field reviewed. If additional personal are not added, then the physical review cannot be accomplished.

CORE days and Reassessment field days can vary from county to county and are due to the property complexity, property density (urban, suburban, and rural), method of valuation, etc.

For each county, work production estimates can be developed and consider the various job functions, standard production rates per day, and a difficulty factor.

### **Assessment Office Production**

An example of a CORE work production report follows. It is a suburban jurisdiction with approximately 200,000 total parcels. Assuming the production for residential and commercial properties are roughly the same (which it is not) and 9 assessors would produce the following results.

Assuming 1/3 of the 200,000 total parcels are valued each year, 66,700 parcels would have to be reassessed. If total work days for the 9 assessors is 1,845 and the CORE days are 1,024, the remaining days for reassessment are 821.

With 9 assessors and 821 reassessment days, there are 91 man days for reassessment field review and edit. If the average field review is 45 accounts per day, 1 assessor could review 4,100 parcels and 9 assessors would complete 36,900 of a total of 66,700. In this case, all properties could be field reviewed in about 6 years

Rural Counties or counties with more complex properties would take longer to field and office review as the distance between properties or the complexity of the property increases.

Example - CORE day analysis worksheet

Calculator for Number of Rating Days-						
Task Name						
		days per yr	Ass Needed			
Total Rating Day	0	205	0.00			
Team	Task	Number	Difficulty factor enter *	Est Accts per day	Standard Accts per Day	Rating Days
Residential	FLD REV-Scheduled			8	8	0
Residential	FLD REV-unscheduled			16	16	0
Residential	IMP SUB-Reassessment			60	60	0
Residential	IMP ATT-Reassessment			100	100	0
Residential	IMP REG-Reassessment			40	40	0
Residential	VACANT-Reassessment			200	200	0
Residential	AG-Reassessment			25	25	0
Residential	WF-Reassessment (Add)			100	100	0
Residential	X HSES-(Add)			100	100	0
Residential	EDITS			100	100	0
Residential	SF Edits and Sketches (Combined)			30	30	0
Residential	SF SKETCH			45	45	0
Residential	Att Edits and Sketches (Combined)			45	45	0
Residential	ATT SKETCH			60	60	0
Residential	VALUATION			350	350	0
Residential	NC PU			12.5	12.5	0
Residential	NC WU inc sketch			12.5	12.5	0
Residential	NC PU ATT			20	20	0
Residential	NC WU ATT inc sketch			20	20	0
Residential	MTC WU			1	1	0
Residential	MTC HLD			4	4	0
Residential	PTAAB WU			5	5	0
Residential	PTAAB HLD			20	20	0
Residential	HEAR HLD			15	15	0
Residential	DECISION inc sketch			15	15	0
Commercial	IMP ATT-Reassessment			100	100	0
Commercial	IMP REG-Reassessment			25	25	0
Commercial	VACANT-Reassessment			200	200	0
Commercial	X HSES-(Add)			100	100	0
Commercial	EDITS			25	25	0
Commercial	SF SKETCH			30	30	0
Commercial	VALUATION			40	40	0
Commercial	NC PU			4	4	0
Commercial	NC WU			4	4	0
Commercial	MTC WU			0.3	0.33	0
Commercial	MTC HLD			2	2	0
Commercial	PTAAB WU			3	3	0
Commercial	PTAAB HLD			10	10	0
Commercial	FLD REV			6.7	6.67	0
Commercial	HEAR HLD			10	10	0
Commercial	DECISION			6.7	6.67	0

Assessment Introduction

<b>Anne Arundel Residential Assessor Activities WITH 9 RESIDENTIAL ASSESSORS (Avg 2 years)</b>						
WORK DAYS from Below	821	349	266	219	190	1845
PERCENT of total work days	44.5%	18.9%	14.4%	11.9%	10.3%	100.0%
	Reassessment Pickup and Office edits	New Construction Pu and Workup	1st level appeals	Higher level Appeals	Valuation and edits	TOTAL
November	85%	0%	5%	10%	0%	100%
December	20%	65%	5%	10%	0%	100%
January	15%	55%	20%	10%	0%	100%
February	40%	0%	50%	10%	0%	100%
March	20%	0%	70%	10%	0%	100%
April	75%	0%	15%	10%	0%	100%
May	70%	15%	5%	10%	0%	100%
June	55%	30%	0%	15%	0%	100%
July	25%	60%	0%	15%	0%	100%
August	45%	0%	0%	15%	40%	100%
September	15%	0%	0%	15%	70%	100%
October	70%	0%	0%	15%	15%	100%
sum of percent	535%	225%	170%	145%	125%	1200%
Overall percent	44.6%	18.8%	14.2%	12.1%	10.4%	100.0%

TOTAL WORK DAYS 9 ASSESSORS*	1,845	100%
Less CORE work days	1,024	56%
REMAINING REASS	821	44%

\* 9ass x205work days =1845 days

**Work Production Estimate Analysis**

Assumptions: Suburban Jurisdiction

200,000 parcels

9 Assessors

TOTAL WORK DAYS 9 ASSESSORS*	1,845	100%
Less CORE work days	1,024	56%
REMAINING days for REASS	821	44%

\* 9 assessors x 205 work days = 1845 days

**Annual Major Tasks**

	Days	Percent of Total Work Days
Re- assessment field review & office edits	821	44%
New construction pick-up and valuation	349	19%
1st level appeals	266	14%
2nd and 3rd level appeals	219	12%
Reassessment Valuation and edits	190	10%
	1,845	100%

See Appendix ??

## Assessment Introduction

### Staffing

- Staffing production reports allow management to estimate staff requirements
- CORE processes must be completed daily as required
- After CORE processes are complete, the assessors can focus on the reappraisal physical review for the current assessment year
- Supervisors of Assessment can calculate the number of Rating Days for each assessor function

### Total Parcels

Assessable Real Property Accounts Per Staffing - All Groups 7/1/2014

County Name	AGRI	GOLF	MARSH	RESIDENCE	CONDO	RES COMM	TOWN HOUSE	RES SUBTOTAL	COMM	INDUST	COMM CONDO	APTS	COMM RES	COMM SUBTOTAL	TAXABLE	EXEMPT	TOTAL ACCT'S
Allegany	1,516	5	-	33,613	60	334	-	35,528	2,585	374	49	39	3	3,050	38,578	2,749	41,327
Anne Arundel	1,473	6	51	173,731	21,390	20	-	196,671	5,369	989	1,735	226	1,135	9,454	206,125	5,183	211,308
Baltimore City	-	-	-	193,477	12,110	22	1	205,610	8,963	2,333	584	2,188	4	14,072	219,682	17,247	236,929
Baltimore	3,981	39	1	240,936	22,028	1	1	266,987	7,865	3,190	429	2,625	863	14,972	281,959	16,559	298,518
Calvert	1,315	1	2	36,828	1,128	1	1,410	40,685	709	161	114	17	162	1,163	41,848	892	42,740
Caroline	2,659	-	14	12,115	24	15	272	15,099	712	89	-	69	57	927	16,026	708	16,734
Carroll	4,634	12	-	54,793	1,981	2	1	61,423	2,313	261	299	182	392	3,447	64,870	1,978	66,848
Cecil	2,175	-	3	37,784	937	4	2,232	43,135	1,998	205	179	112	267	2,761	45,896	1,207	47,103
Charles	2,288	3	5	48,485	434	14	9,363	60,592	1,455	353	833	66	289	2,996	63,588	1,257	64,845
Dorchester	2,364	-	237	18,133	264	1	26	21,025	905	176	-	25	7	1,113	22,138	1,033	23,171
Frederick	5,180	26	-	62,464	4,808	23	14,629	87,130	2,646	537	663	256	561	4,663	91,793	2,827	94,620
Garrett	3,032	-	-	22,886	881	-	168	26,967	1,111	20	252	38	-	1,421	28,388	1,005	29,393
Harford	3,299	-	-	82,322	7,139	10	-	92,770	2,802	347	156	205	70	3,580	96,350	1,986	98,336
Howard	1,181	-	-	79,010	14,544	3	1,854	96,592	1,733	815	1,369	133	173	4,223	100,815	3,270	104,085
Kent	1,382	-	4	10,631	280	-	-	12,297	612	4	15	22	27	680	12,977	490	13,467
Montgomery	2,034	44	1	244,555	62,408	27	2	309,071	4,267	1,439	3,244	1,631	161	10,742	319,813	16,972	336,785
Prince Georges	1,950	80	7	199,700	26,681	1	33,653	262,072	5,061	3,312	3,011	1,042	554	12,980	275,052	17,115	292,167
Queen Anne	2,223	-	16	19,512	1,523	-	21	23,295	900	26	429	37	472	1,864	25,159	670	25,829
St. Marys	2,794	-	31	39,817	893	-	1,875	45,410	1,546	82	149	166	-	1,943	47,353	1,460	48,813
Somerset	2,116	-	133	12,218	519	-	-	14,986	943	-	17	39	7	1,006	15,992	1,117	17,109
Talbot	1,812	4	10	16,860	407	-	13	19,106	1,050	68	211	83	71	1,483	20,589	591	21,180
Washington	3,313	9	-	44,745	824	66	3,313	52,270	2,538	372	86	601	235	3,832	56,102	2,802	58,904
Wicomico	3,360	8	50	35,927	1,001	1	1,183	41,530	2,442	533	291	142	135	3,543	45,073	1,610	46,683
Worcester	2,860	7	36	30,775	28,099	3	-	61,780	2,011	185	858	126	36	3,216	64,996	1,387	66,383
Total	58,941	244	601	1,751,317	210,363	548	70,017	2,092,031	62,536	15,871	14,973	10,070	5,681	109,131	2,201,162	102,115	2,303,277



# Assessment Introduction

## Staffing and Parcels

Assessable Real Property Accounts Per Staffing - All Groups 7/1/2014																	
County	County	RES	COMM	TAXABLE	EXEMPT	TOTAL	C & I	Total	RES. ASS'OR	Total Acc'ts	Total Field	Total Acc'ts	#3 Total Acc'ts	Total Res	#3 Per	**Tot Com	**#3 Com
Class	Name	SUBTOTAL	SUBTOTAL			ACC'TS	ASSESS	FTE	Equivalent	Per FTE	Assessor	Field Assessor	Field Assessor	Res Acc'ts	Res Assess	Per C&I	.Per C&I
C	Allegheny	35,528	3,050	38,578	2,749	41,327	1	8	2	5,166	3	13,776	4,592	17,764	5,921	3,050	1,017
A	Anne Arundel	196,671	9,454	206,125	5,183	211,308	2	34	15.5	6,215	17.5	12,075	4,025	12,688	4,229	4,727	1,576
A	Baltimore City	205,610	14,072	219,682	17,247	236,929	5	45	19.5	5,265	24.5	9,671	3,224	10,544	3,515	2,814	938
A	Baltimore	266,987	14,972	281,959	16,559	298,518	4	43	19	6,942	23	12,979	4,326	14,052	4,684	3,743	1,248
C	Calvert	40,685	1,163	41,848	892	42,740	0.5	10.5	3	4,070	3.5	12,211	4,070	13,562	4,521	2,326	775
C	Caroline	15,099	927	16,026	708	16,734	0.5	7.5	1	2,231	1.5	11,156	3,719	15,099	5,033	1,854	618
B	Carroll	61,423	3,447	64,870	1,978	66,848	1	12	4.5	5,571	5.5	12,154	4,051	13,650	4,550	3,447	1,149
C	Cecil	43,135	2,761	45,896	1,207	47,103	1	9	3	5,234	4	11,776	3,925	14,378	4,793	2,761	920
B	Charles	60,592	2,996	63,588	1,257	64,845	0.5	12.5	6	5,188	6.5	9,976	3,325	10,099	3,366	5,992	1,997
C	Dorchester	21,025	1,113	22,138	1,033	23,171	1	6	1	3,862	2	11,586	3,862	21,025	7,008	1,113	371
B	Frederick	87,130	4,663	91,793	2,827	94,620	2	14	4	6,759	6	15,770	5,257	21,783	7,261	2,332	777
C	Garrett	26,967	1,421	28,388	1,005	29,393	1	9	2	3,266	3	9,798	3,266	13,484	4,495	1,421	474
B	Harford	92,770	3,580	96,350	1,986	98,336	2	15	5	6,556	7	14,048	4,683	18,554	6,185	1,790	597
B	Howard	96,592	4,223	100,815	3,270	104,085	2	15	6	6,939	8	13,011	4,337	16,099	5,366	2,112	704
C	Kent	12,297	680	12,977	490	13,467	0.5	5.5	1	2,449	1.5	8,978	2,993	12,297	4,099	1,360	453
A	Montgomery	309,071	10,742	319,813	16,972	336,785	5	53	25.5	6,354	30.5	11,042	3,681	12,120	4,040	2,148	716
A	Prince Georges	262,072	12,980	275,052	17,115	292,167	6	42	13.5	6,956	19.5	14,983	4,994	19,413	6,471	2,163	721
C	Queen Anne	23,295	1,864	25,159	670	25,829	1	6	1	4,305	2	12,915	4,305	23,295	7,765	1,864	621
C	St. Marys	45,410	1,943	47,353	1,460	48,813	1	10	3	4,881	4	12,203	4,068	15,137	5,046	1,943	648
C	Somerset	14,986	1,006	15,992	1,117	17,109	0.5	6.5	2	2,632	2.5	6,844	2,281	7,493	2,498	2,012	671
C	Talbot	19,106	1,483	20,589	591	21,180	0.5	7.5	2	2,824	2.5	8,472	2,824	9,553	3,184	2,966	989
B	Washington	52,270	3,832	56,102	2,802	58,904	1	11	4.5	5,355	5.5	10,710	3,570	11,616	3,872	3,832	1,277
C	Wicomico	41,530	3,543	45,073	1,610	46,683	1	8	2	5,835	3	15,561	5,187	20,765	6,922	3,543	1,181
B	Worcester	61,780	3,216	64,996	1,387	66,383	2	14	3.5	4,742	5.5	12,070	4,023	17,651	5,884	1,608	536
	<b>Total</b>	<b>2,092,031</b>	<b>109,131</b>	<b>2,201,162</b>	<b>102,115</b>	<b>2,303,277</b>	<b>42</b>	<b>404</b>	<b>149.5</b>	<b>5,701</b>	<b>191.5</b>					<b>2,598</b>	<b>866</b>
															Res Assess @ 3,000 per		C&I Assess @750 per
															Needed	232	49
															Existing Field	150	42
															Additional	82	6.5
															Total New	89	

- SDAT Total FTE staffing from 1976 to 1992 reduced by 18% while Total Accounts increased by 33.3 %
- SDAT Field Assessor staff from 1990 to 2014 reduced 70% while the number of accounts increased by 25.5%
- Current county FTE staffing is 401 with 131 personnel having more than 30 years service (32%)

IAAO Staffing Survey conducted in 1986 and 2013

Staffing in Assessment Offices in the United States and Canada Results of 2013 Survey – IAAO Research Committee and Lawrence C. Walters, PH.D. - 62 pages

Table 16. Parcels per permanent employee by type of agency

Type of Agency	Number of Respondents	Parcels per Permanent Employee				1986 Mean	Percentage Change 1986–2013
		Mean	Median	Minimum	Maximum		
County	311	3,610	3,000	68	32,793	3,120	+15.7%
Municipality	217	2,488	2,302	31	8,133	2,220	+12.1%
Township	64	2,740	2,467	126	12,000	1,770	+54.8%
Public multiple	22	3,227	3,190	1,375	8,938	5,530	-42.6%
Private multiple	15	3,919	2,333	320	9,857	NA	
State/Province	14	2,873	2,867	984	5,000	NA	
Overall	643	3,123	2,692	31	32,793	2,420	+29.0%

Reappraisal Frequency	Respondents		Mean Permanent Employees per 1,000 Parcels
	Number	Percent	
More than once a year	8	1.2%	N/A
Every year	147	22.7%	0.61
2-4 years	189	29.2%	0.63
5 years	105	16.2%	0.61
6-10 years	84	13.0%	0.96
> than 10 years	34	5.2%	0.29
As needed	64	9.9%	0.7
Rarely or never	17	2.6%	0.39
	648	100.0%	0.65

FTE Maryland vs. 2013 IAAO Study Table 35 SDAT needs 85 personnel

County Class	County	FTE	Total Parcels	Field Assessor	Mean FTE 1000 parcel	Per 1000	FTE Total Act	FTE 1/3 Total	SDAT 1/3 DELTA
C	Allegany	8	41,327	3	0.62	41.3	26	9	1
A	Anne Arundel	34	211,308	17.5	0.62	211.3	131	44	10
A	Baltimore City	45	236,929	24.5	0.62	236.9	147	49	4
A	Baltimore	43	298,518	23	0.62	298.5	185	62	19
C	Calvert	10	42,740	3	0.62	42.7	26	9	(1)
C	Caroline	7	16,734	1	0.62	16.7	10	3	(4)
B	Carroll	12	66,848	5.5	0.62	66.8	41	14	2
C	Cecil	9	47,103	4	0.62	47.1	29	10	1
B	Charles	12	64,845	6	0.62	64.8	40	13	1
C	Dorchester	6	23,171	2	0.62	23.2	14	5	(1)
B	Frederick	14	94,520	6	0.62	94.5	59	20	6
C	Garrett	9	29,393	3	0.62	29.4	18	6	(3)
B	Harford	15	98,336	7	0.62	98.3	61	20	5
B	Howard	15	104,085	8	0.62	104.1	65	22	7
C	Kent	5	13,467	1	0.62	13.5	8	3	(2)
A	Montgomery	53	336,785	30.5	0.62	336.8	209	70	17
A	Prince George's	42	292,167	19.5	0.62	292.2	181	60	18
C	Queen Anne's	6	25,829	2	0.62	25.8	16	5	(1)
C	St. Mary's	10	48,813	4	0.62	48.8	30	10	0
C	Somerset	6	17,109	2	0.62	17.1	11	4	(2)
C	Talbot	7	21,180	2	0.62	21.2	13	4	(3)
B	Washington	11	58,904	5.5	0.62	58.9	37	12	1
C	Wicomico	8	46,683	3	0.62	46.7	29	10	2
B	Worcester	14	66,383	5.5	0.62	66.4	41	14	(0)
	<b>Total</b>	<b>401</b>	<b>2,303,177</b>	<b>188.5</b>	<b>0.62</b>	<b>2303.2</b>	<b>1428</b>	<b>476</b>	<b>75</b>

Maryland FY 15 budget per parcel

- Maryland Class A (largest) Counties Median Budget per parcel \$ 11.74
- Maryland Class B (midsize) Counties Median Budget per parcel \$ 13.26
- Maryland Class C (smallest) Counties Median Budget per parcel \$ 21.35

IAAO Staffing Study 2013 – Budget Per Parcel

	Mean	Median
• County	\$ 26.38	\$ 21.85
• Municipality	\$ 30.79	\$ 28.02
• State Province	\$ 24.04	\$ 21.00

Assessment Introduction

Should assessor staff have to be added one Assessor III salary with fringe benefits is listed below this includes costs for multiples of 10 assessors.

Typical Assessor Salary

Maryland Assessor 3 Salary

Salary over 6 years \$40,547 to \$45,194

Average Salary	\$43,500
Fringe Benefits (Dept./ Leg. Ser.) 27.35 %	<u>11,897</u>
Total	\$55,397

Assessor Fiscal Analysis		
Additional Assessors @		
	55,397	'(\$43,500 plus 27.35% fringe)
10	553,970	
20	1,107,940	
30	1,661,910	
40	2,215,880	
50	2,769,850	
60	3,323,820	

Representative Key Data

- **Market Areas and Neighborhoods (geographic stratification) SDAT statewide:**

Market Areas	Neighborhoods	Parcels
1,250	15,722	2,275,062
- **Total Parcel Transfers (arms length/non-arms length)**

2012	2013	2014 (7 months)
141,501	160,378	80,902
- **Estimated annual arms length residential sales (all groups statewide) – 50,000**
- **Owner-Occupied residential sales – 35,000 to 40,000**
- **Estimated arms length com/ind sales - 900**