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DOR Values Extraction

Logic for extracting values / assessment ratios from Arizona Department of Revenue parcel files (ie., all counties except Maricopa & Pima):

Improvement Value

Use the ImprValSrc field from the "Secured Roll, Root" table as an index into the "Impr Value Segment" table to find the appropriate "Impr Value Segment" record containing the improvement value. For example, if the "Secured Roll, Root" table contains the following record:

ParcelID = "10101001A"
ImprValSrc = "2"

then the "Impr Value Segment" table will contain the following record:

ParcelID = "10101001A"
FcvSource = "2"
ImprFcv = The improvement value for this parcel

Limited Value

The limited value can be found in the "Impr Val Segment" table using an index of "3". For example, using the same "10101001A" parcel, the "Impr Value Segment" table will contain the following record:

ParcelID = "10101001A"
FcvSource = "3"
ImprFcv = The limited value for this parcel

Impr Assessment Ratio / Land Assessment Ratio

The "Impr Use Segment" table contains one or more records that describe the improvement legal classification of the property and the percentage of the improvement value that is to be assessed at the given ratio. Use the following guide as the key to the "Impr Use Segment" table:

ImprUseCode "F" = Residential Ratio (10%)
ImprUseCode "6,7,E,S,Y" = Vacant Land (16%)
ImprUseCode "G" = Apartment Ratio (10%)
ImprUseCode "0,1,2,3,4,5,A,B,C,D,K,P,Q,R,T,U,V,W,X" = Comm'l Ratio (25%)

For example, if parcel "10101001A" has the following record in the "Impr Use Segment" table:

ParcelID = "10101001A"
ImprUseCode = "C" or "4"
ImprUsePct = "100"

then 100% of the improvement value is to be assessed at the Commercial (25%) rate.



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Similarly, if parcel "10101001B" has the following 2 records in the "Impr Use Segment" table:

ParcelID	=	"10101001B"	"10101001B"
ImprUseCode	=	"F"	"E"
ImprUsePct	=	"59"	"41"

then 59% of the improvement value is to be assessed at the Residential (10%) rate and the other 41% of the improvement value is to be assessed at the Vacant Land (16%) ratio. This is known as a "mixed-use".

As you can see from the above examples, the total of all ImprUsePct fields from all related records always equals 100%, whether there is only one record or more than one record. Use the same logic to determine the Land Assessment Ratio. See the ParcelImprUseCode and ParcelLandUseCode tables in the CodeTables.Access2000.mdb or CodeTables.Access97.mdb files for a more detailed look at the codes and their corresponding descriptions, legal classes, and assessment ratios.

Calculating the Assessment Ratio:

To accurately calculate the "Assessed Value" for a parcel, it is first necessary to properly calculate the Assessment Ratio for the land and improvement values. When there is only one record in the LandUse or ImprUse segments, no recalculation of the ratio is necessary. However, when the use is split over 2 or more legal classes, we must derive the interim assessment ratio prior to calculating the assessed value.

Assessment Ratio's are always rounded to 1 decimal, even when performing an interim calculation to derive the ratio when there are multiple legal classes. Here is the general formula for calculating the Assessment Ratio for Improvements, use the same formula for Land:

$$\begin{aligned} \text{ImprCalcRatio1} &= \text{ImprUsePct1} * \text{UseRatio1} \\ \text{ImprCalcRatio2} &= \text{ImprUsePct2} * \text{UseRatio2} \\ \text{ImprCalcRatio3} &= \text{ImprUsePct3} * \text{UseRatio3} \\ \text{ImprCalcRatio4} &= \text{ImprUsePct4} * \text{UseRatio4} \\ \\ \text{ImprAssmRatio} &= \text{Round}(\text{ImprCalcRatio1},1) + \text{Round}(\text{ImprCalcRatio2},1) + \\ &\quad \text{Round}(\text{ImprCalcRatio3},1) + \text{Round}(\text{ImprCalcRatio4},1) \\ \\ \text{ImprAssdValue} &= \text{Round}((\text{ImprValue} * \text{ImprAssmRatio}),0) \end{aligned}$$

Once you have calculated the ImprAssdValue and the LandAssdValue, you are ready to calculate the Fullcash Assessed Value and the "overall" Fullcash Assessment Ratio:

$$\begin{aligned} \text{FullcashValue} &= \text{LandValue} + \text{ImprValue} \\ \text{FullcashAssdValue} &= \text{ImprAssdValue} + \text{LandAssdValue} \\ \text{FullcashAssmRatio} &= \text{Round}(\text{FullcashAssdValue} / \text{FullcashValue},1) \end{aligned}$$

IMPORTANT NOTE: If you multiply the "calculated" FullcashAssmRatio * FullcashValue, you will probably arrive at a different number than the "calculated" "FullcashAssdValue" above because of the FullcashAssmRatio decimal rounding to 1 significant digit.



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Using the example from the first page:

ParcelID	=	"10101001B"	"10101001B"
ImprUseCode	=	"F"	"E"
ImprUsePct	=	"59"	"41"

ImprCalcRatio1	=	ImprUsePct1 * UseRatio1
ImprCalcRatio2	=	ImprUsePct2 * UseRatio2

So...

ImprCalcRatio1	=	59% * 10%, which is 5.9%
ImprCalcRatio2	=	41% * 16%, which is 6.56%

And...

ImprAssmRatio	=	Round(ImprCalcRatio1,1) + Round(ImprCalcRatio2,1)
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So...

ImprAssmRatio	=	5.9% + 6.6%, which is 12.5%
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Therefore, if our original improvement value was \$528,517, then...

ImprAssessedValue	=	528,500 * 12.5%, which is 66,064.625
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Rounded to the nearest dollar...

ImprAssessedValue	=	66,065
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Since Assessed Fullcash Value is Assessed Land Value + Assessed Improvement Value, simply follow the same steps as above to derive the Assessed Land Value, add the 2 together, and you should arrive at an assessed value that is identical to the one calculated by the county or state.