Calculating Retirement GTB

Contents:

Step 1

Title: Co Retirement Mill Value Per ANB

Purpose: Determine County Mill Values.
Formula: (Tax Value / Co Current ANB) * 0.001
=ROUND((TV!C3/EL_CO_ANB_by_CO!C3)*0.001,2)
Definitions: **2005**
TV = MAEFAIRS **2005** report "Compare TV by Level DOR (DOR TV) Tab (TV)
Co ANB = **2004** Current Budgeted ANB (See supplement "Calculating Co ANB")

Step 2

Title: Co Retirement Subsidy Per Mill

Purpose: Determine how far above or below a county is from the statewide mill value.
Formula: State Mill Value - Co Retirement Mill Value Per ANB (Step 1)
=ROUND(IF(PAR!$B$46-'TOTALS Current Calc FP9'!C2<0,0,PAR!$B$46-'TOTALS Current Calc FP9'!C2),2)
Definitions: **2005**
PAR = State Mill Value (Calculated on the PAR tab) see below:

> Title: Statewide Ret Mill Value
> Purpose: To calculate the statewide retirement mill value
> Formula: (Sum of **2005** State TV * 121%) / **2004** State Bud ANB) * 0.001
> =((TV!K59*B57)/EL_CO_ANB_by_CO!G1)*0.001

Co ANB = **2004** Budgeted ANB (See supplement "Calculating Co ANB")
Tabs (CO_ANB_by_CO)

Step 3

Title: Co Retirement Subsidy Per Mill * ANB

Purpose: To determine the Sub Per Mill * ANB for calculating step 5.
Formula: Co Retirement Subsidy Per Mill * Co ANB
=ROUND(U2*EL_CO_ANB_by_COA!D3,2)
Definitions: **2005**
Co ANB = NOT the Budgeted ANB from step 1.
2005 Co ANB as listed on the FP-10A
(MAEFAIRS Table CoFP10aNetRequirements) Tabs (CO_ANB_by_CO**A**)

Step 4

Title: County Mills

Purpose: Determine the county retirement mills
Formula: Years known are a vlookup to reported data on the FP9 report located at:
http://opi.mt.gov/PUB/School%20Finance/OPICoreDataFiles/County/County_Levy/XLS_Format/COLEVY1995_2009.xls
For all Other years calculated as follows:
(Net Requirement – Anticipated Revenue – Re-appropriated) / (TV * 0.001 + Co Retirement Subsidy Per EL Mill *ANB
=ROUND((ELNetReq!I3-'CO EL Anticipated Rev'!I3-ElemReapprop!I3)/(TVA!M3*0.001+'TOTALS Current Calc FP9'!AW2),2)
Definitions: **2005**
Net Requirement = **2005** Sum by level from table vwtblCoFP10aNetRequirements (Tabs NetReq)
Anticipated Revenue=**2005** Sum of Categorized data from Table CoFP10aAniticipatedRevenues (There is a detailed tab and a Co summed Table; see tabs CO HS Anticipated Rev & HS Anticipated Rev)
Re-appropriated= **2005** Sum from table vwtblCoFP10aCounty (Tabs Reapprop)
TV = NOT the TV in step 1 this is the **2005** TV listed on the FP-10a table vwtblCoFP10aCounty (Tab TVA)

Step 5

Title: Retirement GTB Payment

Purpose: Determine the $ Payment in Retirement GTB by County

Formula: County Mills * Co Retirement Subsidy Per EL Mill *ANB
Step 4 * Step 3
=ROUND(BE2*AM2,2)

Supplement "Calculating Co ANB"

Title: Calculating Co ANB

Start with Tab County ANB where the Base data (older years) are queried from MAEFAIRS table "CountyANB" by Co by LE. The data is summed to Co on tab CO_ANB_by_CO

For the "bridge year" (This step may not be needed as it just added additional complications)
The year that is not calculated onto the County ANB table yet.
The budgeted ANB is lookup to the County ANB Tab.
Tab "Split" lists all joint districts and calculates % spit over a series of years
Tab "Split Ave" Averages all the splits but considers 0% and 100% into the average
The average split % is applied to the "bridge" years bud ANB to adjust joint districts.
LE data is then summed by county on the CO_ANB_by_CO

Parameters Tab (PAR)

1. The First section is the Elem, Middle and HS projected enrollments from "The Model" the Elem and Middle School values are averaged as this retirement GTB Model used Elem and HS level only.

2. State RET GTB:
This section in older years copies the statewide Retirement GTB mill value from older MAEFAIRS reports. In more current years and projected years the value is calculated (see discussion on sub box of step 2 earlier in this report)

3. Statewide Applied Percentage (121%):
This is the current statewide ratio set in statute. All uses of this value are rooted here.

3. Taxable Value Growth:
This is from the Par tab in "The Model" and is used in projections (See Projections Section)

4. Net Requirement % Increase:
This is a 3% increase used for projections (See Projections Section)

5. Non-Levy Revenue (NLR):
This section doesn't do anything yet. If legislation addresses one of these we will be able to write a formula to adjust these in the projected on table (EL&HS Anticipated Rev)

Projections

This section describes how each projection is currently being done.

County ANB for Steps 1 and 2: Much of this is outlined in the Supplement "Calculating Co ANB" in future years the County ANB tab is adjusted by applying the enrollment change %.
Example =ROUND(O4*PAR!$B$27,0) where O = the previous year CoANB and the Par = the calculated enrollment change for future years.

The County ANB for step 3: also employs "The Model's" enrollment projection %'s as well.

Tax Values for both steps 1 and 4, project using the "Taxable Value Growth" from "The Model".

Anticipated Revenues
If the trend over the past two years is downward then the % change over the last two years is calculated and applied to the final year as the result. If the downward trend result creates a negative value the number is then a 0. Otherwise, If the average of all years is greater than the % change of the two most current years the average is used else, If the % change is greater the % change is added to the most current year.

Re-appropriated projected years are and average of all years minus the highest value.

Net Requirements projected years apply a 3% increase from the previous year. This can be adjusted from the PAR tab.

Maintenance:

1. If we decide to keep the "bridge years calculation the BudBudANB tab would need to be updated and columns need to be shifted. (Source: Table ANB Budgeted ANB)
2. CountyANB tabs will need to be added to, shifted and tested (Source: Table County ANB)
3. Co_ANB_by_COA tables updated from Table CoFP10aNetRequirements (ANB value)
4. Update Co Mills from the web Co Mills
5. TV is from the MAEFAIRS report " Compare TV by level DOR"
6. TVA is from FP10a table vwtblCoFP10aCounty
7. Anticipated Rev vwtblCoFP10aAniticipatedRevenues
8. Re-appropriated vwtblCoFP10aCounty
9. Net Requirements vwtblCoFP10aNetRequirements

Mills Levied Different from the Mills from the Requirement

On tab Fp9CoMills columns N:Y list the difference between the actual mills levied by county and the calculated mills.

Most counties mill the amount calculated but many budget for shortfalls. The statewide totaled differences are listed below:

2005		2006		2007		2008		2009			
EL	HS	EL	HS	EL	HS	EL	HS	EL	HS	EL TOTAL	HS TOTAL
(7.44)	9.16	(8.26)	12.35	4.01	(46.52)	91.32	94.02	6.38	(3.20)	86.01	65.81

Differences in Payment Amount from Calculated

Once I calculated the $ amounts I checked the amount against actual payments. I located 4 reasons for differences.

1. The ANB reported on the FP-10a table is different or changed on the paper version of the FP-10a (51 instances)
2. The taxable value is different from the MAEFAIRS report "Values from DOR by Level" and the MAEFAIRS report "Certified Retirement GTB Subsidy Per Mill Per ANB".
3. The ANB for step 1 is different. In most cases this is sensible. In the case of Moon Creek Closing or the consolidation and opening of CJI
4. The ANB for Step 1 changed and adjusts the totaled Statewide ANB adjusting the Statewide Mill Value. This occurs in 2009 in Teton and Pondera counties only.

One last thought Re-Appropriated amount vary from year to year and may make projecting difficult.