

Division of Local Government Finance

Weighted Average Maturity Calculator

TENNESSEE COMPTROLLER OF THE TREASURY



Contact Information by Region

REGION 5

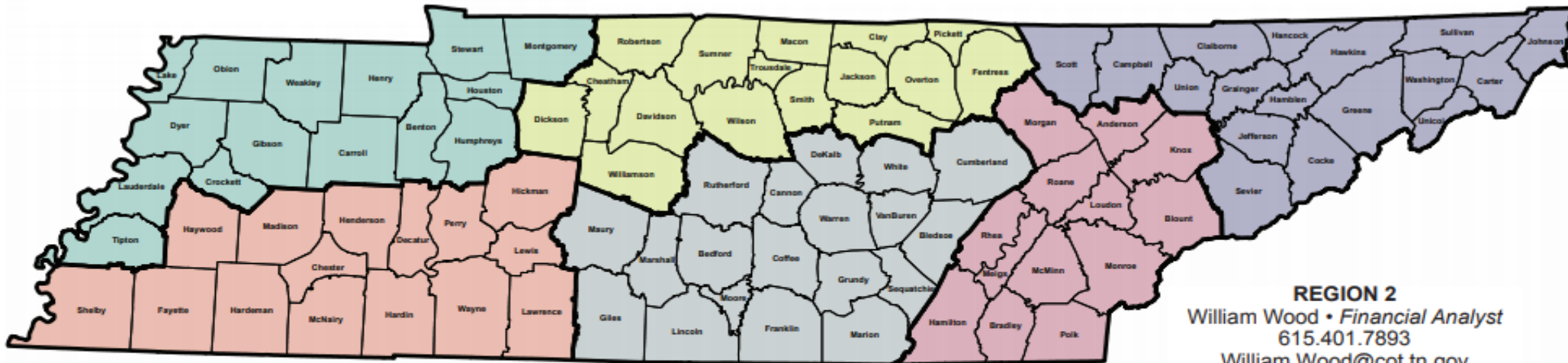
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Effective March 1, 2020

Overview

The Division of Local Government Finance approves capital outlay notes and certain leases. The approval process includes a review of both the life of the debt and the life of the assets.

In this presentation, we will discuss:

- A change to State Law concerning notes and leases.
- The importance of matching asset life with debt life.
- How to calculate weighted average maturity using our estimator tool.
- How this affects the issuance of debt

The estimator tool is located on the “Tools” tab on our website’s Debt Guidance page: tncot.cc/debt

T.C.A § 9-21-601(b)(4)

Capital Outlay Notes

In determining whether to approve the sale of capital outlay notes, the comptroller of the treasury or the comptroller's designee shall consider whether the issuance of the capital outlay notes, as compared to the issuance of general obligation bonds, is in the best interest of the local government. The comptroller or the comptroller's designee shall not approve the sale of any capital outlay notes if the comptroller or the comptroller's designee determines that the reasonably expected weighted average life of the public works project proposed to be financed materially exceeds the weighted average maturity of the capital outlay notes proposed to be issued and that the public works project should be financed with general obligation bonds.

T.C.A § 9-24-104(a)(2)

Lease Financing

The weighted average maturity of the principal payments under the lease financing must not exceed the estimated weighted average life of the property that is financed through the lease financing;

Asset Life Vs. Debt Life

Tennessee law limits the term of debt to no more than the life of the financed asset.

Example:

- Police car with a 4-year life can be financed for up to 4 years*
- Fire truck with an 8-year life can be financed for up to 8 years*
- School building with a 30-year life can be financed for up to 30 years*

*debt issued with level debt service.

Asset Life Vs. Debt Life

It is not financially responsible for a local government to finance an asset for a shorter duration than it can afford.

Example:

- Construction Project Financing \$30 million for 10 years vs. 30 years

Principal Borrowed	\$ 30,000,000
Interest Rate	2.00%
Years Financed	10
Annual Payment	3,339,796

Principal Borrowed	\$ 30,000,000
Interest Rate	2.50%
Years Financed	30
Annual Payment	1,433,329

Weighted Average Maturity

The weighted average maturity, is a measure of how quickly principal will be repaid according to the bond's debt service structure.

To find the weighted average life, the number of bond years is divided by the number of bonds. Bond years are the amount of principal maturing in each year multiplied by the number of years to maturity and divided by \$1,000. Similarly, the number of bonds is the total principal divided by \$1,000.

$$\frac{\text{Bond Years (Principal Maturing } \times \text{ Years to Maturity/1000)}}{\text{Number of bonds } \left(\frac{\text{Principal Maturing}}{1,000} \right)}$$

Year	Principal	Number of bonds	Bond year dollars	Bond years
1	3,500,000	3,500	3,500,000	3,500
2	3,000,000	3,000	6,000,000	6,000
3	2,500,000	2,500	7,500,000	7,500
4	2,000,000	2,000	8,000,000	8,000
	11,000,000	11,000	25,000,000	25,000

The weighted average maturity is then:

$$\frac{25,000 \text{ bond years}}{11,000 \text{ bonds}} = 2.3 \text{ years}$$

WAM Calculator

Average Life Calculator				
For Multiple Asset Financing				
		Year	Principal	
Weighted Average Life of the Assets to be Purchased	8.79		1	40,000
Life of the Debt	5		2	40,000
Average Life of Debt (Weighted Average Life - COMPLETE TABLE FIRST)	2.50		3	40,000
Is the Life of the Project greater than the weighted average life of the debt	YES		4	40,000
Is the Life of the Asset greater than or Equal to the life of the debt	YES		5	
Needs More Analysis				
Okay to Continue with Checklist if above cell is not red				
*If the Cell above States "Needs More Analysis" the analyst should further explore the affordability of the debt because the local government might need a longer life of debt than what is being preposed.				
** The life of the debt is longer than the life of the asset and we cannot approve the debt with this life. Call the government and discuss.				
For Multiple Assets Financed with one Note complete this section also				
		Asset	Life of Asset in years	Amount of Debt for asset
Do totals Match?	TRUE	1	20	15,000
Average Life of Assets	8.79	2	20	25,000
		3	5	12,900
		4	5	2,500
		5	5	56,800
		6	5	32,966
		7	5	11,500
		8	7	3,334
		9		
		10		
160,000				

WAM Calculator Multiple Assets

Average Life Calculator				
For Multiple Assets Financed with one Note complete this section also				
	Asset	Life of Asset in years	Amount of Debt for asset	
Do totals Match?	TRUE	1	20	15,000
Average Life of Assets	8.79	2	20	25,000
		3	5	12,900
		4	5	2,500
		5	5	56,800
		6	5	32,966
		7	5	11,500
		8	7	3,334
		9		
		10		
				160,000
				160,000

** The life of the debt is longer than the life of the asset and we cannot approve the debt with this life. Call the government and discuss.

Interpreting Results

- Is the life of the debt longer than the life of the asset?
- Is the weighted average life of the debt longer than the average life of the assets?
- Is the average life of the assets materially longer than the weighted average life of the debt?
- Can the government afford the debt payment if using short amortizing debt?

Things to Remember

- Under Tennessee law debt cannot be issued with a maturity longer than the life of the financed asset.
- WAM Schedule: Only enter values in the yellow cells and the rest will be calculated for you.
- Use the output from the WAM Schedule to determine if the weighted average life of the asset is materially longer than the weighted average maturity of the debt.

Call if you need assistance!

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