Memorandum

To: State of Washington

From: Montague DeRose and Associates, LLC

Date: October 4, 2011

Subject: **Debt Commission**

Montague DeRose and Associates ("MDA"), has provided below our findings regarding the consideration of infrastructure in state credit ratings, state debt limits, and the relationship between interest rates and credit ratings for consideration by the State of Washington Debt Commission.

Quality of Infrastructure

Though the three major rating agencies do consider the state's infrastructure in their credit analysis of the General Obligation rating, it is not an explicitly considered factor as are other aspects of the credit rating. Rating agencies will examine the general quality of the infrastructure in terms of determining the future capital needs, deferred maintenance requirements, and impact on economic growth. Infrastructure quality is also incorporated in terms of how the current condition of the infrastructure will affect ongoing operation and maintenance capital needs.

State Debt Limits

Many states have debt limits to manage the amount of debt the state may incur. States debt limits vary in that some are constitutional or statutory limits whereas others are guidelines and policies that are not legally enforceable but serve as benchmarks. State debt limits vary not only in their legal authority, but also in the nature of the limits and the detail included in debt limits. For example, several states have legal provisions in their constitutions or state statute that limit the states from issuing General Obligation debt except in certain specific circumstances which have the effect of these states not issuing General Obligation debt.

Of the states that do issue General Obligation debt and have developed debt limits there are several types of limits that are utilized most frequently. Examples of these metrics include: debt as a percentage of revenue, debt service as a percentage of revenue, debt as a percentage of valuation of property, debt as a percentage of personal income, debt per capita and amortization. Several states also have policies and guidelines for general debt management including when state staff should examine debt in terms of its debt limits and how this information will be conveyed to officials and the legislature. The following include several examples of state debt limits organized by type of debt limit.[1] In addition to these limits, there are also provisions to waive these limits in certain cases if determined so by the legislature, state officials, or other designated parties. The following sample information is based on publically available information obtained in October of 2011 and has not

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[1] State debt limits may not reflect the most current state debt limits nor include all debt limits for every state. The following is offered as a sampling of state debt policies that may be helpful to look to when evaluating state debt limits.

been verified by the respective states. This is a comprehensive sample set but may not include every national debt policy.

- **Debt as a Percentage of Revenue –**
  - Arkansas – the state may incur General Obligation debt not to exceed 5 percent of general fund revenue for the purpose of economic development.
  - Connecticut – the state is limited to General Obligation debt at 1.6 times general fund revenue.
  - Delaware – the state's annual General Obligation debt is limited to 5 percent of revenues.
  - Florida – the state limits outstanding General Obligation debt to less than 50 percent of general fund revenue for the two preceding fiscal years.
  - Georgia – additional General Obligation debt may not be incurred if the highest aggregate annual debt service requirement for the current year or any subsequent year exceeds 10 percent of the prior year's total treasury receipts. The debt affordability study provides a target of debt service to prior year revenues of 7 percent.
  - Mississippi – limits General Obligation debt to 1.5 times general fund revenues.
  - Pennsylvania – limits General Obligation debt issued for capital projects to 1.75 times the average of all governmental fund revenue in the 5 proceeding fiscal years.
  - Utah – limits outstanding General Obligation debt to no more than 45 percent of the general fund appropriations limit. However, General Obligation debt issued for the purposes of funding highways is not subject to such statutory issuance limitation.
  - Virginia – limits outstanding General Obligation debt to 1.15 times the average income tax and sales tax revenue in the three preceding fiscal years.
  - Wyoming – limits annual General Obligation debt issuance to less than 1.0 times general fund revenue.

- **Debt Service as a Percentage of Revenue –**
  - Alaska – limits annual debt service to not exceed 5 percent of annual unrestricted revenues. The state has attempted to maintain a more inclusive ratio in the range of 5 percent to 8 percent.
  - Delaware – maximum annual debt service on General Obligation debt cannot exceed cash balances and maximum annual debt service on all debt cannot exceed 15 percent of combined revenue.
  - Florida – if tax supported debt service to tax supported revenues exceeds 6 percent, additional debt can only be authorized by special consideration by the legislature. If it exceeds 7 percent, additional debt can only be authorized to address a critical state emergency. The legislature established a guideline to follow a 6 percent target and 7 percent cap.
  - Georgia – the state's debt affordability study provides a target of debt service to prior year revenues of 7 percent.
  - Hawaii – limits General Obligation debt if maximum annual debt service exceeds 18.5 percent of general fund revenue for the three preceding fiscal years.
  - Illinois – limits General Obligation debt issuance if aggregate maximum annual debt service exceeds 7 percent of general fund and road fund appropriations. The state treasurer and state comptroller, acting together, can waive this requirement.

- Louisiana – limits General Obligation debt issuance if aggregate maximum annual debt service exceeds 6 percent of general fund revenue.
- Maryland – the state's debt management plan includes a limit of debt service as a percentage of revenues at 8 percent.
- Massachusetts – limits General Obligation issuance if aggregate maximum annual debt service exceeds 10 percent of general fund appropriations. Additionally, Massachusetts statutes restricted the amount of outstanding General Obligation debt to $6.8 billion in fiscal year 1991, and set the limit for each subsequent year at 105 percent of the previous fiscal year's limit.
- Minnesota – state guidelines limit debt service as a percentage of general fund revenues ratio at 3 percent.
- New Hampshire – limit of General Obligation debt issuance if aggregate maximum annual debt service exceeds 10 percent of general fund revenues.
- New York – the Debt Reform Act of 2000 capped debt service on new debt issued at 5 percent of all fund receipts; this cap is phased-in over 13 years.
- North Carolina – the state debt affordability model defines a target ratio of no more than 4 percent and not to exceed 4.75 percent for net tax supported debt service to general tax revenue.
- Ohio – limits General Obligation debt issuance if aggregate maximum annual debt service exceeds 5 percent of general fund and net lottery revenue.
- Rhode Island – guideline limits annual debt service for tax supported debt to 7.5 percent of general revenues.
- South Carolina – limits General Obligation debt issuance if aggregate maximum annual debt service exceeds 5 percent of general fund revenue. The percentage of revenue limitation may be reduced to 4 percent or increased to 7 percent by a favorable vote of two-thirds of the legislature.
- Tennessee – limits General Obligation debt issuance with a claim on a dedicated revenue source if aggregate maximum annual debt service exceeds 150 percent of such dedicated revenue source.
- Texas – limits General Obligation debt issuance if aggregate maximum debt service exceeds 5 percent of average general fund revenue in the three preceding fiscal years. However, General Obligation debt that is reasonably expected to be paid from a dedicated revenue source is not subject to such issuance limitation.
- Virginia – the debt affordability model limits state tax backed debt service to 5 percent.
- Washington – limits General Obligation debt issuance if aggregate maximum annual debt service exceeds 9 percent of average general fund revenue for the three preceding fiscal years.

- **Debt as a Percentage of Valuation of Property –**
  - Nevada – limits outstanding General Obligation debt to 2 percent of total assessed valuation of property in the state. However, the limitation does not apply to General Obligation debt that is incurred for the protection and preservation of any natural resources of the state.
  - New Mexico – limits outstanding General Obligation debt to 1 percent of total assessed valuation of property in the state.
  - Utah – limits outstanding General Obligation debt to 1.5 percent of the market value of all property in the state.

- Wisconsin – limits outstanding General Obligation debt to 5 percent of the market value of property in the state, and annual General Obligation debt issuance to 0.75 percent of the market value of property in the state.
- Wyoming – limits outstanding General Obligation debt to 1 percent of the assessed valuation of property in the state.

- **Debt as a Percentage of Personal Income –**
  - Georgia – debt affordability study provides a target of 3.5 percent.
  - Maryland – the state's debt management plan includes a limit of 4 percent.
  - Minnesota – the state's guidelines include a limit of net tax supported debt to personal income at 5 percent.
  - New York – the Debt Reform Act of 2000 capped the level of debt outstanding at 4 percent of personal income for debt issued after April 1, 2000. The cap is phased-in over 10 years.
  - North Carolina – the state debt affordability model defines a target ratio of 2.5 percent, not to exceed 3 percent for net tax supported debt to personal income.
  - Rhode Island – state guideline limits tax supported debt to a target range of 5 percent to 6 percent of personal income.
  - Vermont – state guideline includes equal or better than the 5-year mean and median of triple-A rated states for debt as a percentage of personal income.

- **Debt per Capita –**
  - Georgia – debt affordability study provides a target of $1,200.
  - Vermont – state guidelines include equal or better than the 5-year mean and median of triple-A rated states for debt per capita.

- **Amortization –** Many states at the minimum have a limit on the maximum amortization of their General Obligation debt. Examples include:
  - Maryland to 15 years, New Hampshire to 20 years, and California to 50 years.
  - Minnesota – the state's guidelines include that 40 percent of debt be retired within 5 years and 70 percent be retried within 10 years.
  - New Mexico – limits the term of General Obligation debt to 50 years, but also has a debt policy that long-term General Obligation bonds are issued with a maximum maturity of 10 years with level debt service amortization.
  - North Carolina – the state debt affordability model defines a target of 55 percent of debt to be retired in the next 10 years and not to decline below 50 percent (from date of the study).

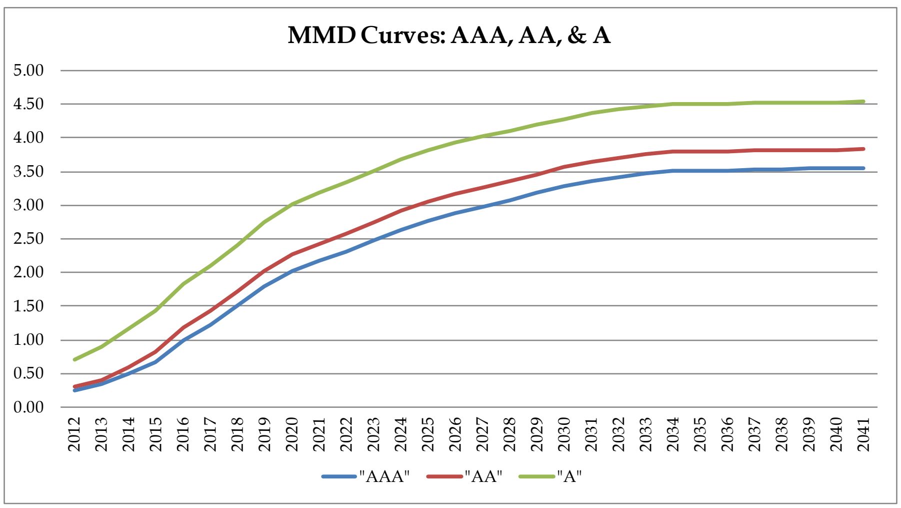
- **Other Limits –**
  - North Carolina – non-voter approved General Obligation debt issuance may not exceed two-thirds of the amount by which outstanding General Obligation debt decreases in the two preceding fiscal years.
  - Rhode Island – state guidelines include that their debt Board should monitor the total amount of tax supported debt, state supported revenue debt, and agency revenue debt in relation to the state's personal income. Also, in regards to the state's established Credit Guidelines, the Guidelines may be exceeded temporarily under certain extraordinary conditions. If a guideline is exceeded due to economic or financial circumstances, the Board should request that the Governor and the

Legislature recommend a plan to return debt levels to the Guidelines within five years.

- Texas – the Texas Bond Review Board is mandated to prepare a target and cap for Not Self-Supporting Debt Service as a Percentage of Unrestricted General Revenue, which can be adjusted as requested by the Legislature.
- Vermont – state guidelines include no greater than 6 percent of annual General Obligation debt service as percent of the annual aggregate General and Transportation Funds.

Interest Rates and Credit Ratings

One of the best ways to analyze the relationship between credit ratings and interest rates is illustrated through the Municipal Market Data ("MMD") interest rates for AAA, AA, and A-rated issuers. Rates as of September 28, 2011 indicated a spread difference between the AAA and AA MMD scale of about 5 to 25 basis points for maturities up to 10 years. For the remainder of the curve out to 30-year maturities, the difference ranges from about 26 to 28 basis points. The difference between the AAA and A MMD scale is more significant escalating from a difference of around 45 basis points to around 105 basis points in the 15 year maturity, before the difference slightly drops and then remains mostly flat from the 20 to 30 year maturities at about 99-100 basis points.



However, the relationship between interest rates and credit ratings is not static and is influenced by other market factors including the general tone in the market and the supply of issues in the market. When there are significant credit concerns and headline risk as experienced earlier this year the differential between credit ratings and interest rates may be may be larger as investors focus more on the creditworthiness of their investment. In difficult market environments, market access can be very limited for issuers who are not highly rated (2008 was an example of such a market). When there is strong demand in the market and limited supply, credit ratings may play a less significant role in interest rates. Additionally, credit ratings alone do not always tell the whole story. Interest rates can be highly issuer and sector specific and greatly influenced by the perception of the issuer's credit.

If you have any questions, please feel free to contact Elisse Larouche or Jenny Poree (925) 256-9797.