

**Meeting Between Staff of the Federal Reserve Board and the Government Finance Officers Association
July 14, 2015**

Participants: Adam Trost, Kevin Littler, SoRelle Peat, and Dafina Stewart (Federal Reserve Board)

Noreen Roche-Carter, Dustin McDonald, John Provenzano, and Portia Lee
(Government Finance Officers Association)

Summary: Staff of the Federal Reserve Board met with representatives of the Government Finance Officers Association to discuss the proposed rule to amend the Liquidity Coverage Ratio rule to include certain U.S. general obligation municipal securities as high-quality liquid assets (HQLA). Specifically, representatives of the Government Finance Officers Association discussed the proposed exclusion of revenue bonds from HQLA and the limitations the proposed rule placed on the amount of municipal securities that could be included in a banking organization's HQLA amount. A presentation provided by the Government Finance Officers Association that describes these issues in greater detail is attached.

Attachment



General Obligation Bonds CUSIPs

July 14, 2015

CUSIP Analysis: State of Washington General Obligation Bond Issuance Jan/Feb 2015

- The State of Washington issued \$1.4 billion general obligation bonds in competitive sales early in 2015. Due to the overall volume of the financing, issuance was spread over two sale dates. (January 21 and February 10). The sales included 7 series.

New Money

– Various Purpose GO Bonds – Tax-Exempt	\$281,750,000
– Motor Vehicle Fuel Tax General Obligation Bonds	\$199,920,000
– Various Purpose GO Bonds – Taxable	\$ 58,120,000

Refundings

– Various Purpose	\$458,760,000
– Various Purpose (coupon restricted)	\$147,325,000
– MVFT/GO	\$113,315,000
– MVFT/GO (coupon restricted)	\$132,745,000

Total \$1,391,935,000

- State of Washington general obligation bonds are issued under 6 base (6-digit) CUSIPs.
- The Jan/Feb sales created 93 individual CUSIPs for tax-exempt securities and 7 individual CUSIPs for taxable maturities.
- The largest individual maturity in any of the series was \$35 million. Under the proposed regulations, the largest holding an institution would be able to include in its HQLA calculation is 25% of the market value of this individual CUSIP.

State of Washington General Obligation Bonds Sold in January/February 2015

<u>Maturity Date</u>									<u>Total Per Maturity</u>
<u>New Money</u>	<u>2015B VPGO</u>		<u>2015C MVFT/GO</u>		<u>2015T-2 GO</u>				
2/1/2016			\$4,265,000	93974DMA3	\$8,955,000	93974DNB0			\$13,220,000
2/2/2016			\$4,395,000	93974DMB1	\$8,860,000	93974DNC8			\$13,255,000
2/3/2016			\$4,615,000	93974DMC9	\$8,920,000	93974DND6			\$13,535,000
2/4/2016			\$4,850,000	93974DMD7	\$9,005,000	93974DNE4			\$13,855,000
2/5/2016			\$5,090,000	93974DME5	\$9,125,000	93974DNF1			\$14,215,000
2/6/2016			\$5,345,000	93974DMF2	\$9,275,000	93974DNG9			\$14,620,000
2/7/2016	\$5,480,000	93974DKN7	\$5,610,000	93974DMG0	\$3,980,000	93974DNH7			\$15,070,000
2/8/2016	\$9,820,000	93974DKP2	\$5,890,000	93974DMH8					\$15,710,000
2/9/2016	\$10,310,000	93974DKQ0	\$6,185,000	93974DMJ4					\$16,495,000
2/10/2016	\$10,825,000	93974DKR8	\$6,495,000	93974DMK1					\$17,320,000
2/11/2016	\$11,370,000	93974DKS6	\$6,825,000	93974DML9					\$18,195,000
2/12/2016	\$11,935,000	93974DKT4	\$7,165,000	93974DMM7					\$19,100,000
2/13/2016	\$12,535,000	93974DKU1	\$7,520,000	93974DMN5					\$20,055,000
2/14/2016	\$13,160,000	93974DKV9	\$7,900,000	93974DMP0					\$21,060,000
2/15/2016	\$13,820,000	93974DKW7	\$8,285,000	93974DMQ8					\$22,105,000
2/16/2016	\$14,510,000	93974DKX5	\$8,705,000	93974DMR6					\$23,215,000
2/17/2016	\$15,235,000	93974DKY3	\$9,135,000	93974DMS4					\$24,370,000
2/18/2016	\$15,995,000	93974DKZ0	\$9,600,000	93974DMT2					\$25,595,000
2/19/2016	\$16,795,000	93974DLA4	\$10,080,000	93974DMU9					\$26,875,000
2/20/2016	\$17,635,000	93974DLB2	\$10,580,000	93974DMV7					\$28,215,000
2/21/2016	\$18,520,000	93974DLC0	\$11,110,000	93974DMW5					\$29,630,000
2/22/2016	\$19,445,000	93974DLD8	\$11,665,000	93974DMX3					\$31,110,000
2/23/2016	\$20,415,000	93974DLE6	\$12,245,000	93974DMY1					\$32,660,000
2/24/2016	\$21,435,000	93974DLF3	\$12,860,000	93974DMZ8					\$34,295,000
2/25/2016	\$22,510,000	93974DLG1	\$13,505,000	93974DNA2					\$36,015,000
<u>Refundings</u>	<u>R-2015E VPGO</u>		<u>R-2015F MVFT/GO</u>		<u>R-2015G VPGO</u>		<u>R-2015H MVFT/GO</u>		
7/1/2015	\$470,000	93974DLH9	\$775,000	93974DNU8	\$485,000	93974DPJ1			\$1,730,000
7/1/2018	\$13,255,000	93974DLJ5			\$8,025,000	93974DPK8			\$21,280,000
7/1/2019	\$31,645,000	93974DLK2	\$8,205,000	93974DNV6	\$8,390,000	93974DPL6			\$48,240,000
7/1/2020	\$33,380,000	93974DLL0	\$8,625,000	93974DNW4	\$8,780,000	93974DPM4			\$50,785,000
7/1/2021	\$35,205,000	93974DLM8	\$9,070,000	93974DNX2	\$9,190,000	93974DPN2			\$53,465,000
7/1/2022	\$37,125,000	93974DLN6	\$9,535,000	93974DNY0	\$9,615,000	93974DPP7			\$56,275,000
7/1/2023	\$21,515,000	93974DLP1	\$10,025,000	93974DNZ7	\$10,060,000	93974DPQ5			\$41,600,000
7/1/2024	\$22,620,000	93974DLQ9	\$10,540,000	93974DPA0	\$10,530,000	93974DPR3			\$43,690,000
7/1/2025	\$23,770,000	93974DLR7	\$11,080,000	93974DPB8	\$11,075,000	93974DPS1			\$45,925,000
7/1/2026	\$25,000,000	93974DLS5	\$11,645,000	93974DPC6	\$11,710,000	93974DPT9	\$19,200,000	93974DPW2	\$67,555,000
7/1/2027	\$26,280,000	93974DLT3	\$12,245,000	93974DPD4	\$12,375,000	93974DPU6	\$20,300,000	93974DPX0	\$71,200,000
7/1/2028	\$27,630,000	93974DLU0	\$12,870,000	93974DPE2	\$13,080,000	93974DPV4	\$21,450,000	93974DPY8	\$75,030,000
7/1/2029	\$29,035,000	93974DLV8	\$13,530,000	93974DPF9			\$22,660,000	93974DPZ5	\$65,225,000
7/1/2030	\$30,530,000	93974DLW6	\$14,230,000	93974DPG7			\$23,950,000	93974DQA9	\$68,710,000
7/1/2031	\$32,095,000	93974DLX4	\$14,950,000	93974DPH5			\$25,185,000	93974DQB7	\$72,230,000
7/1/2032	\$33,740,000	93974DLY2							\$33,740,000
7/1/2033	\$35,465,000	93974DLZ9							\$35,465,000
Total All Bonds									\$1,391,935,000



Trading Liquidity Analysis

November 20, 2014



Executive Summary

- The State of Washington has prepared a detailed analysis of trading in the State's General Obligation Bonds ("WA GO Bonds") and representative corporate bonds
- Key findings:
 - *Trading Analysis:* Trading volumes, trade par amounts and trading frequency all compare favorably to corporate bonds in stable and volatile market environments
 - *Diverse Market Participants:* Trading flows are balanced in all market environments; most trades in stressed market conditions are sales to end investors
 - *Orderly Markets:* A review of two turbulent market periods – the Financial Crisis and the May-August 2013 bond market sell-off – shows orderly trading and relatively modest price declines for WA GO Bonds
 - *Robust Primary Market:* Successful primary market sales in volatile markets offers further evidence of strong liquidity
- The analysis clearly supports the designation of the WA GO Bonds as Level 2B High Quality Liquid Assets



Background To Trading Analysis



Trading Analysis: WA GO Bonds vs. Microsoft and Exxon

- State of Washington general obligation debt
 - WA GO Bonds are secured by the full faith, credit and taxing power of the State
 - Tax-exempt, fixed-rate Various Purpose (VP) and Motor Vehicle Fuel Tax (MVFT) General Obligation Bonds
 - VP and MVFT GO Bonds price identically in the primary and secondary markets
 - Trading data source: EMMA (Municipal Securities Rulemaking Board public website)

- Microsoft Corporation senior unsecured bonds (“Microsoft Bonds”) and Exxon Corporation senior unsecured bonds (“Exxon Bonds”)
 - Fixed rate USD public, senior, unsecured bonds
 - Trading data source: Bloomberg Finance, LLP

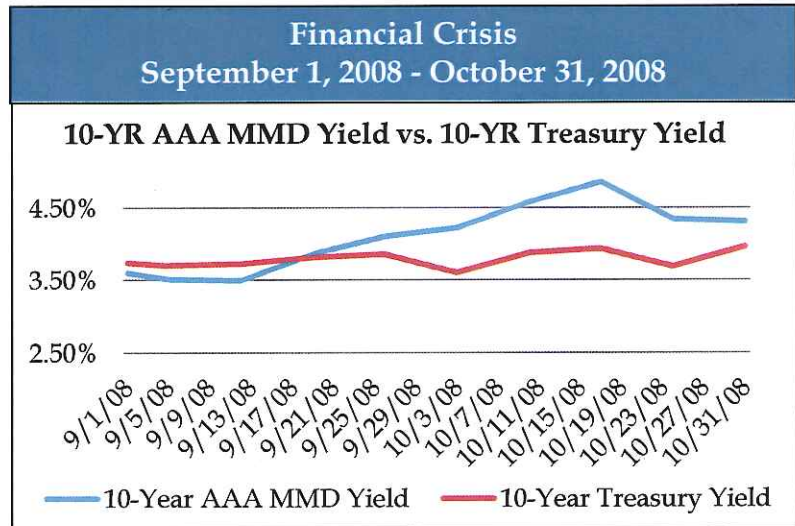
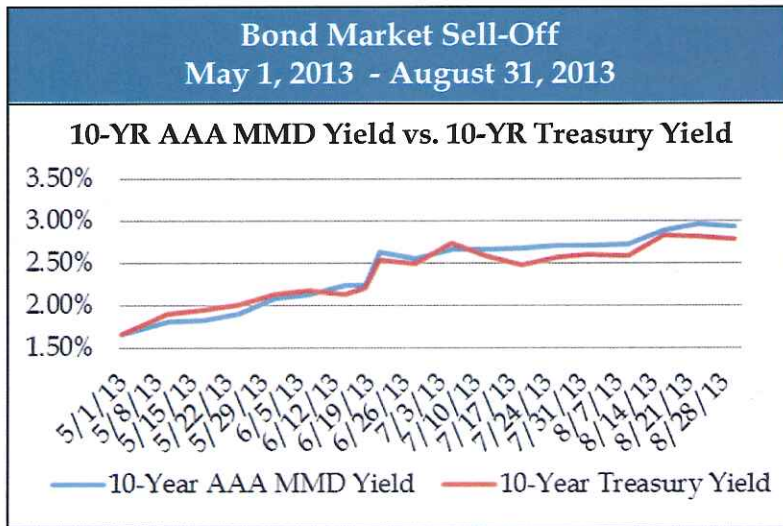
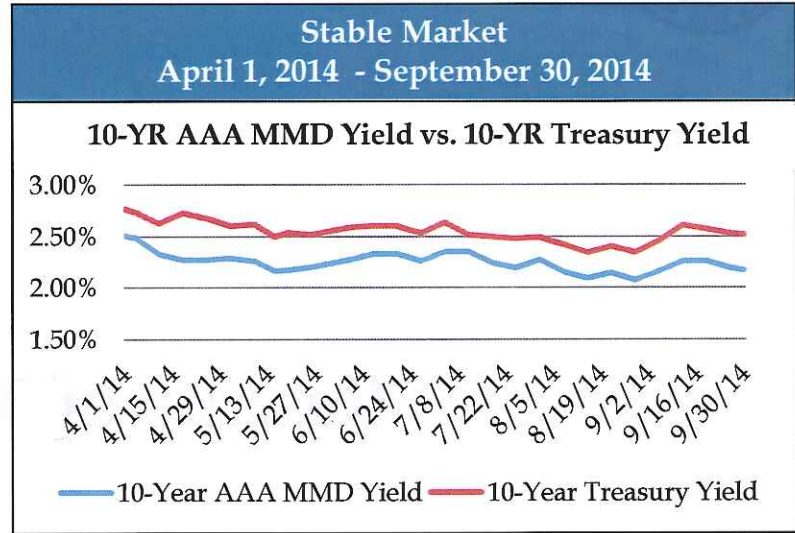
	State of Washington	Microsoft	Exxon
Total Outstanding 2014	18,443,000,000	15,200,000,000	NA
Total Outstanding 2013	17,692,000,000	8,450,000,000	NA
Total Outstanding 2008	13,680,000,000	-	6,800,000,000
Credit	General Obligation	Senior Unsecured	Senior Unsecured
Credit Ratings	Aa1/AA+/AA+	Aaa/AAA/AA+	Aaa/AAA/NR
Maturity Structure	Annual Serial Bonds	Index-eligible Bullets	Index-eligible Bullets
Debt Service Structure	Level Annual P&I Payments	Interest Only + Balloon	Interest Only + Balloon
CUSIPs	Multiple Per Issue	Single Per Issue	Single Per Issue



Time Periods Analyzed

Time Periods Analyzed

- April - September 2014:** Recent, stable market conditions
- May - August 2013:** Significant bond market sell-off
- September - October 2008:** Financial Crisis





Results of Trading Analysis



Trading Analysis: Results

- WA GO Bonds demonstrate strong trading liquidity in stable markets and in times of financial stress and market volatility
 - In stable markets over the last six months, trade metrics on WA GO Bonds compare favorably with those of a highly rated corporate bond
 - Similar evidence of robust trading in stressed markets: during the Financial Crisis (Sep - Oct 2008) and significant bond market sell-off (May - Aug 2013)

	Stable Market Apr - Sep 2014		Bond Market Sell-Off May - Aug 2013		Financial Crisis Sep - Oct 2008	
	State of Washington	Microsoft	State of Washington	Microsoft	State of Washington	Exxon
Total Par Traded	5,360,310,000	2,360,690,000	3,235,900,000	2,144,077,000	1,854,050,000	432,330,000
Traded Par/Outstanding	29%	16%	18%	25%	14%	6%
# of Trades	1,053	910	651	770	332	N/A
% of Trading Days with Trades	95%	98%	94%	99%	86%	80%
Average Trade Par	5,030,122	2,594,165	4,970,661	N/A	5,584,488	N/A
Median Trade Par	2,500,000	2,000,000	2,250,000	N/A	2,500,000	N/A
Max Trade Par	49,550,000	5,000,000	40,195,000	N/A	34,475,000	N/A
Avg. Par Traded Per Trading Day	42,207,165	18,588,110	37,626,744	24,931,128	42,137,500	9,825,682
Median Par Traded per Trading Day	19,830,000	17,250,000	22,710,000	21,621,500	37,907,500	7,650,000
Avg. Trades per Trading Day	9	7	8	9	9	N/A
Median Trades per Trading Day	7	7	7	8	8	N/A

Note: trading data for all trades with a par amount of \$1 million or greater



WA GO Bond Trades by Maturity

- There is active trading of WA GO Bonds in all maturity ranges in both stable and stressed markets
- Trading activity across all maturities ensures sufficient price information and transparency at all points on the yield curve

Stable Market 4/1/2014 through 9/30/2014				
Maturity	Trade Count	Total Par	Average Par	Median Par
0-5 Years	225	894,925,000	3,977,444	2,500,000
5-10 Years	318	1,918,745,000	6,033,789	3,765,000
10-15 Years	240	1,095,480,000	4,564,500	2,482,500
15-20 Years	189	815,395,000	4,314,259	2,000,000
20-30 Years	81	635,765,000	7,848,951	4,500,000

Bond Market Sell-Off 5/1/2013 through 8/30/2013				
Maturity	Trade Count	Total Par	Average Par	Median Par
0-5 Years	98	370,340,000	3,778,980	1,700,000
5-10 Years	146	620,060,000	4,246,986	3,000,000
10-15 Years	217	1,270,520,000	5,854,931	3,175,000
15-20 Years	127	601,060,000	4,732,756	1,960,000
20-30 Years	63	373,920,000	5,935,238	1,535,000

Financial Crisis 9/1/2008 through 10/31/2008				
Maturity	Trade Count	Total Par	Average Par	Median Par
5-10 Years	21	48,430,000	2,306,190	1,500,000
10-15 Years	78	346,665,000	4,444,423	1,650,000
15-20 Years	133	821,875,000	6,179,511	4,750,000
20-25 Years	100	637,080,000	6,370,800	3,095,000



Market Participants: Trading Flows

- Trading flows in WA GO Bonds are well balanced in all time periods analyzed
- Notably, there is no spike in customer sales during down markets and, in fact, customer purchases comprise the greatest portion of trade flows in these down markets
- Market liquidity not overly reliant on inter-dealer trade flows

	Stable Market Apr - Sep 2014		Bond Market Sell-Off May - Aug 2013		Financial Crisis Sep - Oct 2008	
	State of Washington	Microsoft	State of Washington	Microsoft	State of Washington	Exxon
Customer Sold Volume	1,386,355,000	905,186,000	792,135,000	NA	575,625,000	NA
Customer Sold % of Volume	26%	38%	24%	NA	31%	NA
Customer Bought Volume	2,053,285,000	869,902,000	1,484,100,000	NA	747,425,000	NA
Customer Bought % of Volume	38%	37%	46%	NA	40%	NA
Inter-dealer Volume	1,920,670,000	585,602,000	959,665,000	NA	531,000,000	NA
Inter-dealer % of Volume	36%	25%	30%	NA	29%	NA



Price Volatility Analysis



Price Volatility During Down Markets

- Price declines in times of market stress have been identified as a key factor in assessing liquidity
- WA GO Bond maximum 30 calendar-day price declines of 16% during the Financial Crisis and 9% during the 2013 bond market sell-off are well below the 20% threshold specified for Level 2B corporate bonds

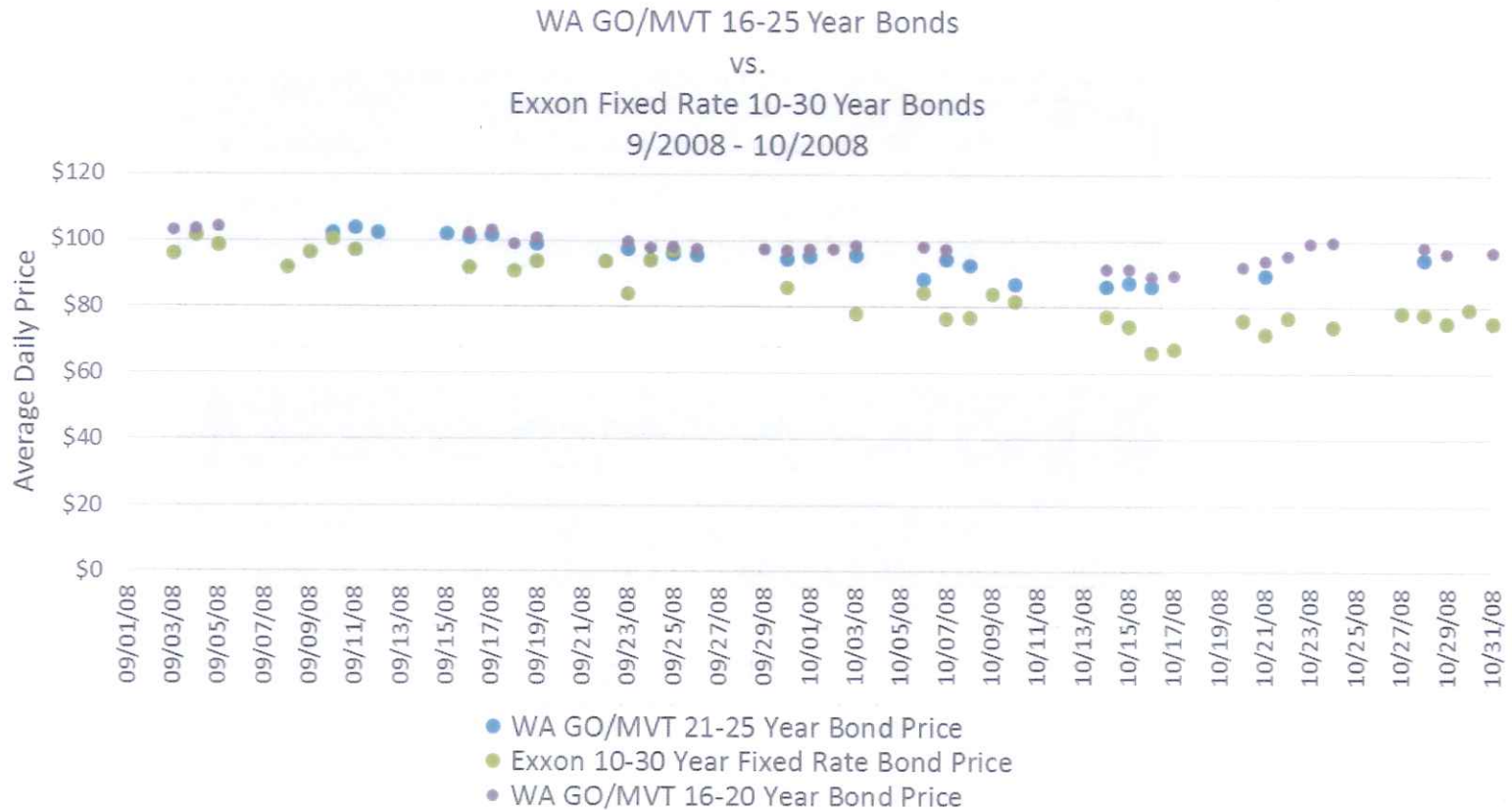
Max Price Declines - Financial Crisis 9/1/2008 through 10/31/2008			
Coupon	State of Washington (15-20 Year Maturities)	State of Washington (20-25 Year Maturities)	Exxon (10-30 Year Maturities)
5%	13%	16%	N/A
5-6%	N/A	N/A	32%

Max Price Declines - Bond Market Sell-Off 5/1/2013 through 8/30/2013			
Coupon	State of Washington (15-20 Year Maturities)	State of Washington (20-25 Year Maturities)	Microsoft (10-30 Year Maturities)
2%	N/A	N/A	5%
3%	5%	N/A	11%
4%	8%	9%	8%
5%	6%	7%	7%



Price Volatility During Down Markets

- WA GO Bond trading during the Financial Crisis was orderly
- Price trends similar to but less severe than representative corporate bonds





Primary Market Liquidity



Primary Market Liquidity

- The State scheduled the competitive sale of \$934 million refunding bonds on October 15, 2014 (\$626.8 million VPGO Bonds and \$307.3 million of MVFT GO Bonds)
- The fixed income markets experienced significant intra-day market volatility on October 15
- Despite volatility in the Treasury, equity and oil markets, the State proceeded with the sale



10-Year UST Yield			
	Time (ET)	Yield	Change
Open Yield	8:30 AM	2.16%	
Intra-day Low Yield	9:38 AM	1.86%	-0.30%
Intra-day High Yield	3:37 PM	2.16%	0.30%
Close Yield	5:00 PM	2.13%	-0.03%



Primary Market Liquidity

- Bonds were sold via the municipal market's standard electronic competitive bid process
 - Bid award based on lowest True Interest Cost (TIC) for each issue
 - Dealers commit to underwrite the entire bond issue (all-or-none bid)
 - Limited pre-selling to investors given uncertainty regarding which bidder would be successful
- The State received five bids on each series
 - Bids were aggressive and tight, with the winning bidders committing \$746 million and \$369 million on the two series
- Bidding process provides strong evidence of dealers' confidence in secondary market liquidity

\$626,765,000 Series R-2015C Various Purpose General Obligation Refunding Bonds 8:00 am PT - October 15, 2014		
Bid Par Amount:	\$626,765,000	
Number of bids:	5	
Bid Results	TIC (%)	Variance From Winning Bid (%)
Bank of America Merrill Lynch	2.843874	
J.P. Morgan Securities	2.844120	0.000246
Barclays Capital	2.867331	0.023457
Citigroup Global Markets	2.899109	0.055235
Morgan Stanley & Co.	3.049818	0.205944

\$307,285,000 Series R-2015D Motor Vehicle Fuel Tax General Obligation Refunding Bonds 8:30 am PT - October 15, 2014		
Bid Par Amount:	\$307,285,000	
Number of bids:	5	
Bid Results	TIC (%)	Variance From Winning Bid (%)
J.P. Morgan Securities	2.947695	
Bank of America Merrill Lynch	2.961734	0.014039
Citigroup Global Markets	2.962584	0.014889
Barclays Capital	2.982748	0.035053
Morgan Stanley & Co.	3.089930	0.142235

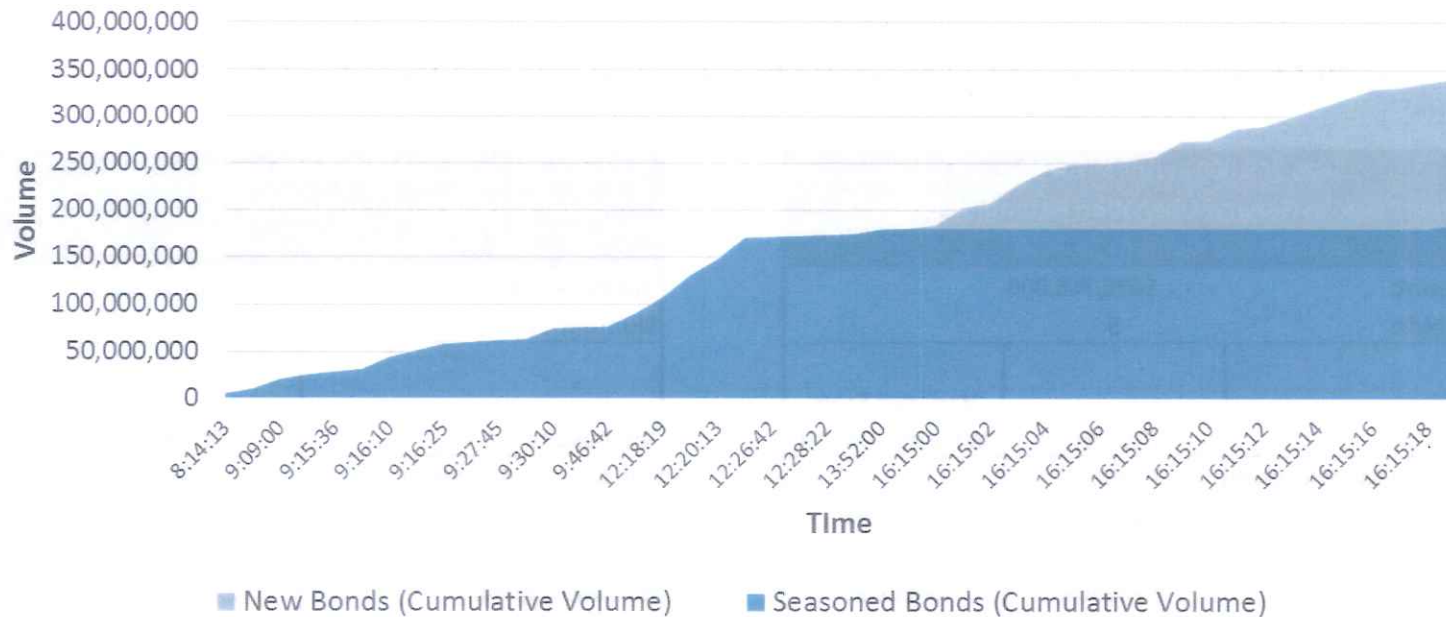


Primary Market Liquidity

- On October 15, trading in WA GO Bonds was very active, both in seasoned bonds as well as in the newly issued bonds

Total Trading Volume:	341,130,000
Seasoned Bond Trading Volume:	180,580,000
New Bond Trading Volume:	160,550,000

State of Washington GO Bond Cumulative Trading Volume
October 15, 2014





Conclusion



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