



Finance Department  
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**TO:** Board of Supervisors  
**FROM:** Finance Committee  
**DATE:** November 2, 2016  
**SUBJECT:** Finance Committee Report and Recommendations

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A Joint Finance Committee/Board of Supervisors meeting was held in the First Floor Conference Room at 107 North Kent Street on Wednesday, November 2, 2016 at 8:00 a.m. Member Angela Rudolph was absent.

The purpose of the meeting was to discuss debt policies. Please find attached the following documents to aid in discussion:

- A. Summary spreadsheet, p. 2.
- B. Finance staff recommendations, p. 3.
- C. Davenport & Company presentation 9/14/16, p. 4 - 47.
- D. Davenport & Company analysis of 12th Elementary School and Armel School Addition 10/18/16, p. 48 - 59.

Items requiring action:

The committee recommends drafting policies based on the Finance staff recommendations. See attached sample, p. 60.

Respectfully submitted,  
FINANCE COMMITTEE

Judith McCann-Slaughter,  
Chairman  
Gary Lofton  
Bill Ewing  
Charles DeHaven

By   
Cheryl B. Shiffler, Finance Director

## Debt Analysis

					Debt Scenarios			
	Recommended		Ranges per	Current	Orig Presentation	Elem	Elem	Elem
	by Finance Staff	Recommended	Moody's &	Debt	w/ Four	School Only	School Only	School Only
	to FC on 10/19	by Consultant	S&P	Load	Projects	Now	1 yr Delay	2 yr Delay
Payout Ratio (higher better)	>65%	>55-65%	>65%	67.30%	as low as 58%	as low as 65%	as low as 67%	as low as 68%
Debt to Assessed Value (lower better)	<.75% - 1.75%	<.75% - 3.00%	<.75% - 1.75%*	1.50%	as high as almost 3%	as high as 1.8%	as high as 1.6%	as high as 1.5%
Debt Service vs. Expenditures (lower better)	<8 - 12%	<12 - 15%	< 8 - 15%^	7.37%	as high as 10.6%	as high as 8%	as high as 7.5%	as high as 7.5%
*For Aa								
^Strong; Very strong is <8%								
Note: All four projected debt service levels include existing debt.								

Financial Policies to consider:

- Reserve policies
- Debt policies
- Budget development policies
- Capital Improvement Budget policies

### Fund Balance Reserve

The current policy for unassigned fund balance is 17% of operating budget. The amount is the recommended GFOA amount for best practices and is sufficient.

### Debt Policies

Currently, the county does not have an adopted, formal debt policy. Items for discussion for such policy

1. Acceptable purposes for debt issuance.
2. Acceptable level of debt.
3. Debt maturity schedules
4. Mix use of pay-as-you-go and debt financing.

The presentation provided three areas that ratios can be established to enhance financial policies that help in achieving the highest credit rating and provide long-term financial planning.

1. Payout Ratio- Suggested use of S&P 10 year payout ratio of greater than 65%. For FY 17, we are at 67.3% with all currently issued debt.
2. Debt to Assessed Value-Suggested use of Moody's .75% - 1.75% range for Aa rating. We currently have 1.5%. We anticipate assessments increasing so there will be room for additional debt. Consultants suggested we could push as high as 3% and it may not impact our rating significantly.
3. Debt Services verses Expenditures- Currently we are very strong at < 8%, with a score of 7.37%. Strong per Standard and Poor's is 8-15%. Consultants recommended 12-15%. A range of 8-12% would remain in the strong category, allowing for 50% increase above what our current percentage is and not push us close to a lower range.

### Capital Improvement Budget Policies

Needs discussion

### Budget Development Policies

Needs discussion

# Discussion Materials

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Frederick County, Virginia



September 14, 2016

# Contents / Agenda



<u>Tab</u>	<u>Section Title</u>
1	Peer Comparatives and Credit Rating Overview
2	General Fund Balance Overview
3	Existing Tax Supported Debt Profile
4	Analysis of Selected Capital Projects
Appendix A	Details: Existing Tax Supported Debt



# 1. Peer Comparatives and Credit Rating Overview

# Peer Comparatives



## Peer Comparative Introduction

- Currently, the County has an Issuer Long-term Rating of Aa2 from Moody's.
- The following pages contain peer comparatives based on the below Moody's rating categories.
  - National Counties
    - Aaa's 87 Credits
    - Aa's 484 Credits
    - A's 146 Credits
  - Virginia Counties
    - Aaa's 9 Credits
    - Aa's 22 Credits
    - A's 2 Credits
- The data shown in the peer comparatives is from Moody's Municipal Financial and Ratio Analysis (MFRA) database. The figures shown are derived from the most recent financial statement available as September 7, 2016 (mostly FY 2015 figures).

Moody's Investors Service	Standard & Poor's	Fitch Ratings
Aaa	AAA	AAA
Aa1	AA+	AA+
<b>Aa2</b>	AA	AA
Aa3	AA-	AA-
A1	A+	A+
A2	A	A
A3	A-	A-
Baa1	BBB+	BBB+
Baa2	BBB	BBB
Baa3	BBB-	BBB-
Non Investment Grade		

### Virginia Credits: Moody's

Aaa		
Albemarle	Fairfax	James City
Arlington	Hanover	Loudoun
Chesterfield	Henrico	Prince William

Aa		
Appomattox	King George	Richmond
Carroll	Montgomery	Rockingham
Culpeper	Northumberland	Spotsylvania
Dinwiddie	Pittsylvania	Stafford
Fauquier	Powhatan	Warren
Fluvanna	Prince George	Washington
Frederick	Pulaski	Wise
Isle Of Wight		

A		
Patrick	Smyth	

# Rating Agency Methodology Updates



## Moody's

- On January 15, 2014, Moody's updated its US Local Governments General Obligation Debt methodology and assumptions.
- Under the new methodology, an initial indicative rating is calculated from a weighted average of four key factors:

US Local Governments General Obligation Debt Methodology	
<b>1. Economy / Tax Base</b>	<b>30%</b>
Tax Base Size (Full Value)	10%
Full Value Per Capita	10%
Wealth (Median Family Income)	10%
<b>2. Finances</b>	<b>30%</b>
Fund Balance (% of Revenues)	10%
Fund Balance Trend (5-Year Change)	5%
Cash Balance (% of Revenues)	10%
Cash Balance Trend (5-Year Change)	5%
<b>3. Management</b>	<b>20%</b>
Institutional Framework	10%
Operating History	10%
<b>4. Debt / Pensions</b>	<b>20%</b>
Debt to Full Value	5%
Debt to Revenue	5%
Moody's Adjusted Net Pension Liability (3-Year Average) to Full Value	5%
Moody's Adjusted Net Pension Liability (3-Year Average) to Revenue	5%

- Adjustments can be made to the indicative rating score based upon a series of qualitative factors, as determined by Moody's. Each factor has the potential to impact the indicative rating score by one-half notch or one full notch.

## S&P

- On September 12, 2013, Standard & Poor's updated its US Local Governments General Obligation Ratings methodology and assumptions.
- Under the new methodology, an initial indicative rating is calculated from a weighted average of seven key factors:

US Local Governments General Obligation Ratings Methodology	
<b>1. Institutional Framework</b>	<b>10%</b>
Legal and practical environment in which the local gov't operates	
<b>2. Economy</b>	<b>30%</b>
Total Market Value Per Capita	
Projected per capita effective buying income as a % of US projected effective buying income	
<b>3. Management</b>	<b>20%</b>
Impact of management conditions on the likelihood of repayment	
<b>4. Budgetary Flexibility</b>	<b>10%</b>
Available Fund Balance as a % of Expenditures	
<b>5. Budgetary Performance</b>	<b>10%</b>
Total Government Funds Net Result (%)	
General Fund Net Revenue	
<b>6. Liquidity</b>	<b>10%</b>
Total Gov't Available Cash as a % of Total Gov't Funds Debt Service	
Total Gov't Cash as a % of Total Gov't Funds Expenditures	
<b>7. Debt and Contingent Liabilities</b>	<b>10%</b>
Net Direct Debt as a % of Total Governmental Funds Revenue	
Total Governmental Funds Debt Service as a % of Total Governmental Funds Expenditures	

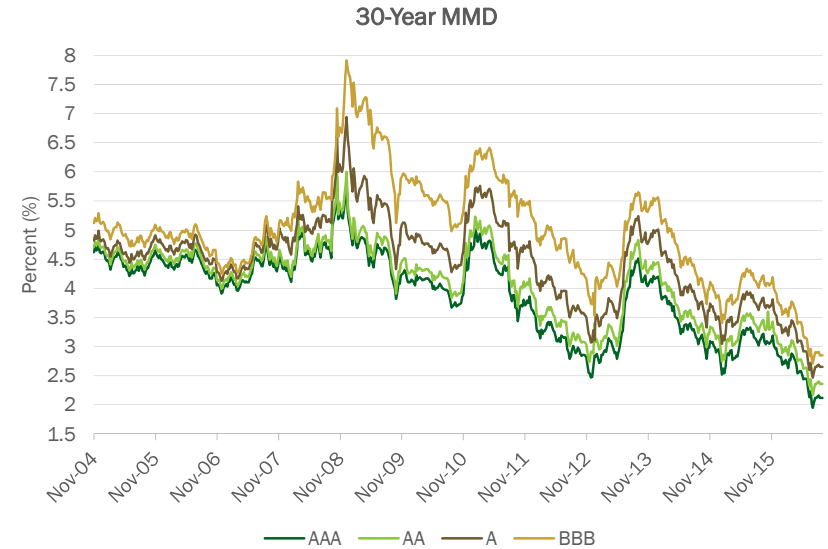
- Up to a one notch adjustment can be made from the indicative rating based on other qualitative factors.



# Historical Credit Spreads



- The County's credit worthiness has a direct impact on the cost of borrowing, which in turn effects the County's debt capacity.
  - The credit spread is the premium an issuer pays to the purchaser of their bonds (i.e. higher interest rate) as compensation for increased credit risk.
  - Since the financial downturn in September 2008, credit quality of issuers has taken on a renewed importance to investors.
  - The average spread for an A rated borrower has increased from 0.33% from Nov 2004 – Dec 2008 to 0.71% since Dec 2008.



## Credit Spreads (%) vs the 30-yr AAA MMD

### Nov 2004 - Dec 2008

Rating	Min	Max	Average
AA	0.04	0.19	0.10
A	0.15	1.26	0.33
BBB	0.30	2.52	0.60

### Dec 2008 - Sep 2016

Rating	Min	Max	Average
AA	0.09	0.56	0.22
A	0.27	1.11	0.71
BBB	0.69	2.58	1.37

Note: credit spreads compared to the 'AAA' equivalent



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## 2. General Fund Balance Overview

# General Fund Balance

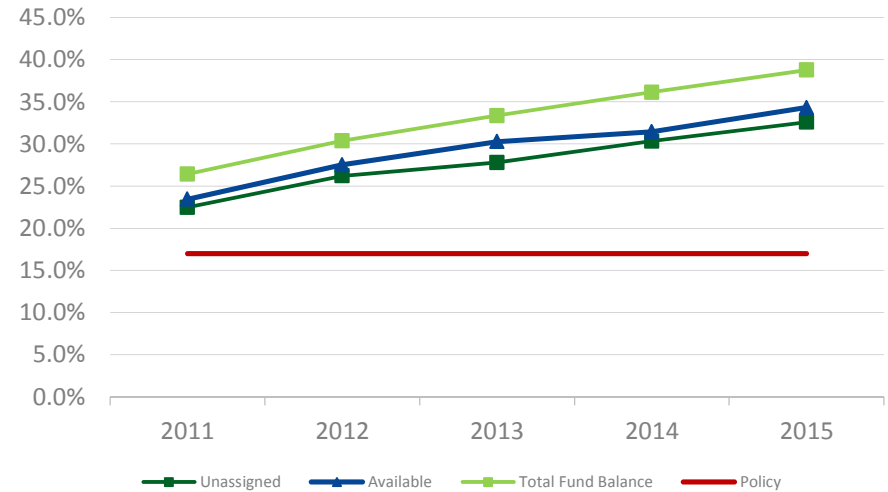


## General Fund Balance

	2011	2012	2013	2014	2015
<b>1 General Fund Budget</b>					
2 Revenues	126,258,831	130,323,790	137,167,533	143,485,222	148,431,913
<b>3</b>					
<b>4 General Fund Balance</b>					
5 Nonspendable	740,576	736,632	739,911	737,911	738,854
6 Restricted	3,022,694	2,963,356	3,504,341	5,987,501	5,878,352
7 Committed	1,222,437	1,698,907	3,385,779	1,616,849	2,540,730
8 Assigned	1,635	2,135	2,135	4,780	4,780
9 Unassigned	28,372,870	34,175,579	38,127,444	43,513,213	48,376,225
<b>10 Total</b>	<b>33,360,212</b>	<b>39,576,609</b>	<b>45,759,610</b>	<b>51,860,254</b>	<b>57,538,941</b>
11 Increase / (Decrease) in Total Fund Balance	n/a	6,216,397	6,183,001	6,100,644	5,678,687
<b>12</b>					
13 Available Fund Balance <sup>(1)</sup>	29,596,942	35,876,621	41,515,358	45,134,842	50,921,735
<b>14</b>					
<b>15 General Fund Balance Ratios</b>					
16 Unassigned as a % of Revenues	22.5%	26.2%	27.8%	30.3%	32.6%
17 Available Fund Balance as a % of Revenues	23.4%	27.5%	30.3%	31.5%	34.3%
18 Total General Fund Balance as a % of Revenues	26.4%	30.4%	33.4%	36.1%	38.8%

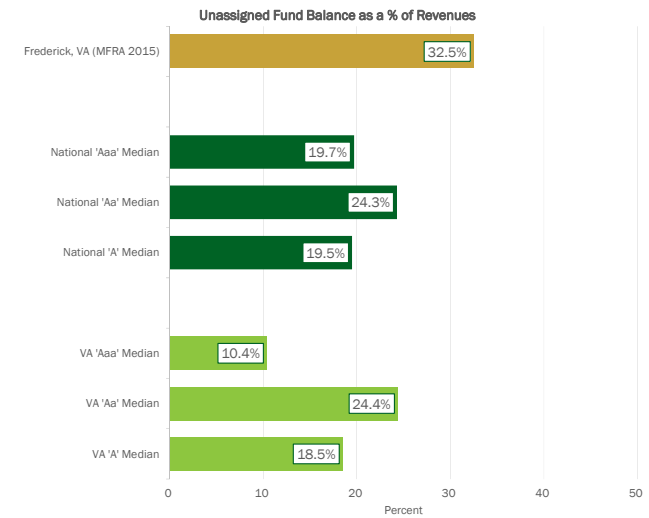
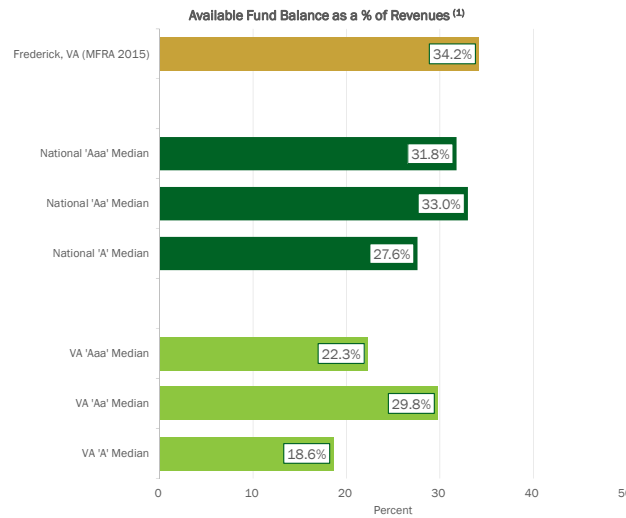
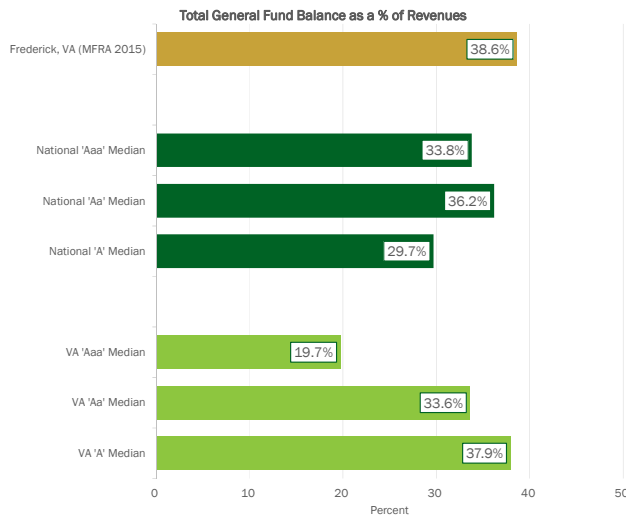
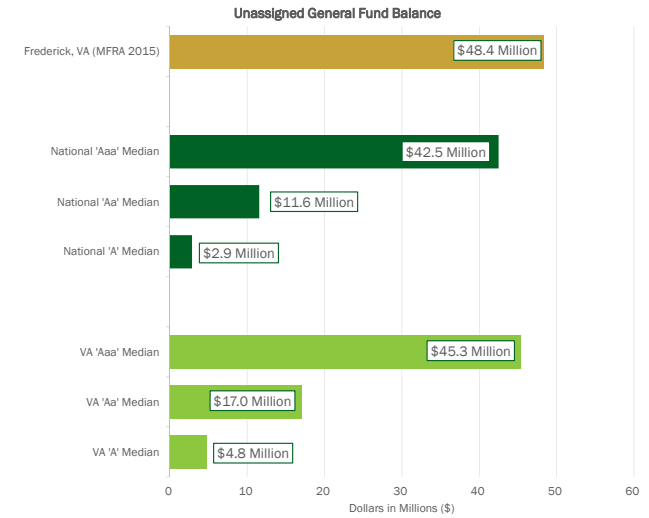
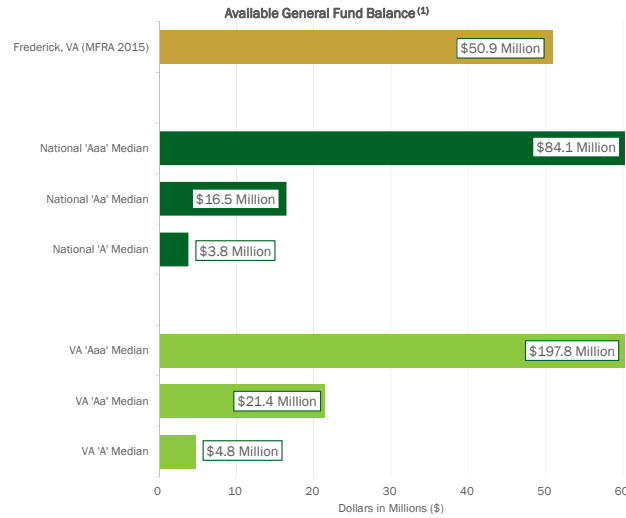
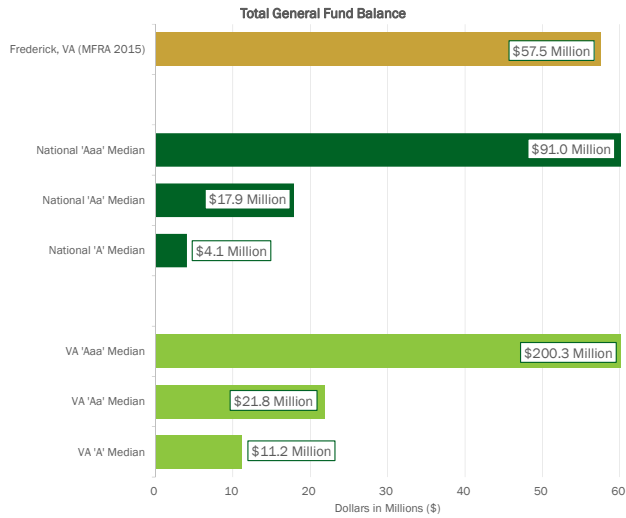
<sup>(1)</sup> Includes Committed, Assigned, and Unassigned Fund Balances.

General Fund Balance as a % of Revenues



- The County previously had an Unassigned Fund Balance policy of ten percent (10%) of the operating budget. This amount has been increased to seventeen percent (17%) as recommended by GFOA.

# General Fund Balance





# Fund Balance Overview

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- Historically, the County’s General Fund Balance levels have been healthy. This is primarily attributable to good management and strong requirements within the Adopted Policy.
  
- As measured by the Methodology used by Moody’s Investor Services, “Finances” represent 30% of a locality’s Rating Score. This includes the following weightings:
  - 10% for Fund Balance as a % of Revenues;
  - 5% for Fund Balance Trend (5-year change);
  - 10% for Cash Balance as a % of Revenues; and
  - 5% for Cash Balance Trend (5-year change).
  - How the County manages its reserves is a material factor when looking to the credit markets.
  
- Maintenance of a healthy Fund Balance, compliance with Adopted Policies, and appropriate use of reserves limited to Capital Investment is viewed favorably by Lenders and the Rating Agencies.

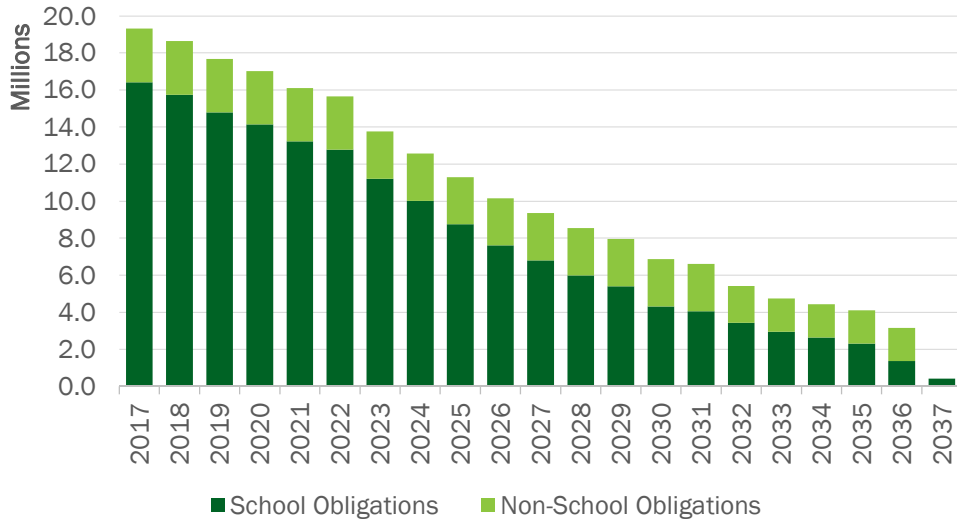


## 3. Existing Tax Supported Debt Profile

# Existing Tax Supported Debt



## Tax Supported Debt Service



## Tax Supported Debt Service

FY	Principal	Interest	Total	10-yr Payout
<b>Total</b>	<b>158,253,067</b>	<b>55,508,389</b>	<b>213,761,456</b>	
2017	12,281,479	7,032,361	19,313,841	67.3%
2018	12,239,456	6,399,340	18,638,796	69.5%
2019	11,858,948	5,823,453	17,682,401	71.7%
2020	11,760,478	5,263,333	17,023,811	74.2%
2021	11,383,537	4,720,823	16,104,360	76.4%
2022	11,457,809	4,201,285	15,659,094	79.3%
2023	10,066,131	3,690,404	13,756,534	82.1%
2024	9,326,735	3,238,272	12,565,006	85.2%
2025	8,467,548	2,828,980	11,296,528	89.1%
2026	7,690,434	2,459,922	10,150,356	94.1%
2027	7,206,178	2,140,212	9,346,389	99.2%
2028	6,683,542	1,853,224	8,536,767	100.0%
2029	6,360,043	1,590,541	7,950,583	100.0%
2030	5,494,443	1,368,223	6,862,666	100.0%
2031	5,585,510	1,024,295	6,609,805	100.0%
2032	4,728,509	686,454	5,414,964	100.0%
2033	4,222,708	516,981	4,739,689	100.0%
2034	4,070,124	362,789	4,432,913	100.0%
2035	3,888,025	218,383	4,106,408	100.0%
2036	3,076,430	82,940	3,159,369	100.0%
2037	405,000	6,176	411,176	100.0%

## Par Outstanding – Estimated as of 6/30/2016

Type	Par Amount
School General Obligations	\$ 123,394,245
School Literary Loans	1,196,169
Non-School General Obligations	1,803,582
County Lease/Revenue Obligations	31,721,500
Other Obligations	137,571
<b>Total</b>	<b>\$158,253,067</b>

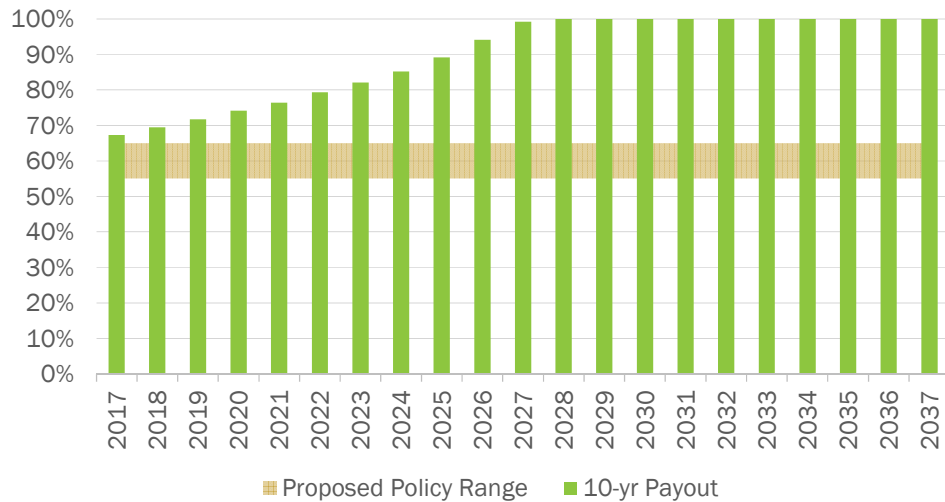
### Notes:

- (1) Estimated debt outstanding includes up through the 2016 VPSA Spring Pool Issuance.
- (2) Existing Tax Supported debt is estimated based on information obtained in the County's 2015 CAFR, schedules provided by Staff, and official statements for publically issued debt through VPSA and VRA.
- (3) 2011 QSCB interest is shown gross of federal subsidy.

# Key Debt Ratio: Tax Supported Payout Ratio

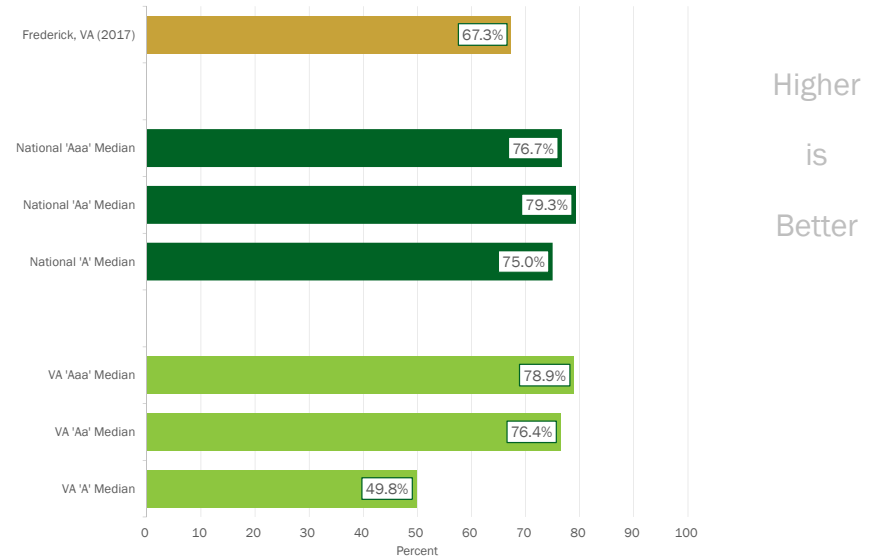


## 10-Year Payout Ratio



- Existing 10-year Payout Ratio
  - FY 2017: 67.3%
- The 10-Year Payout Ratio measures the amount of principal to be retired in the next 10 years.
- This ratio is an important metric that indicates whether or not a locality is back-loading its debt.
- The County may want to consider establishing a Financial Policy as it relates to a minimum 10-Year Payout Ratio policy.

## 10-Year Payout Ratio Peer Comparative



### Rating Considerations

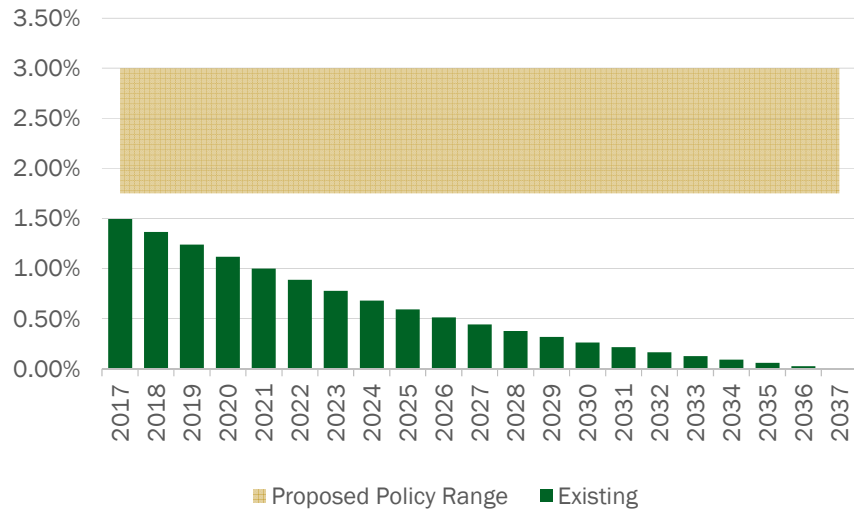
- Moody's:** Moody's rating criteria for General Obligation credits allows for a scorecard adjustment if an issuer has unusually slow or rapid amortization of debt principal.
- S&P:** A payout ratio greater than 65% results in a one point positive qualitative adjustment to the Debt & Contingent Liabilities section of S&P's General Obligation rating methodology.





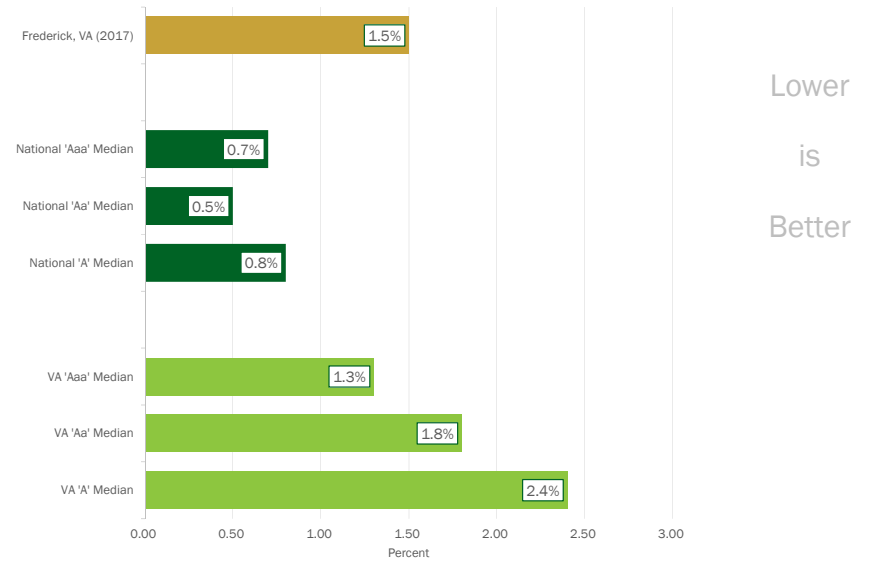
# Key Debt Ratio: Debt to Assessed Value

## Debt to Assessed Value



- Existing Debt to Assessed Value
  - FY 2017: 1.50%
- Assumed Future Growth Rates
  - 1/1/2016 Assessed Value: \$10,469,863,397
  - 2017 & Beyond: 1.00%
  - 5 Yr. Avg. Growth: 2.27%
  - 10Yr. Avg. Growth: 2.35%
- The County may want to consider establishing a Financial Policy as it relates to a maximum Debt to Assessed Value ratio.

## Debt to Assessed Value Peer Comparative



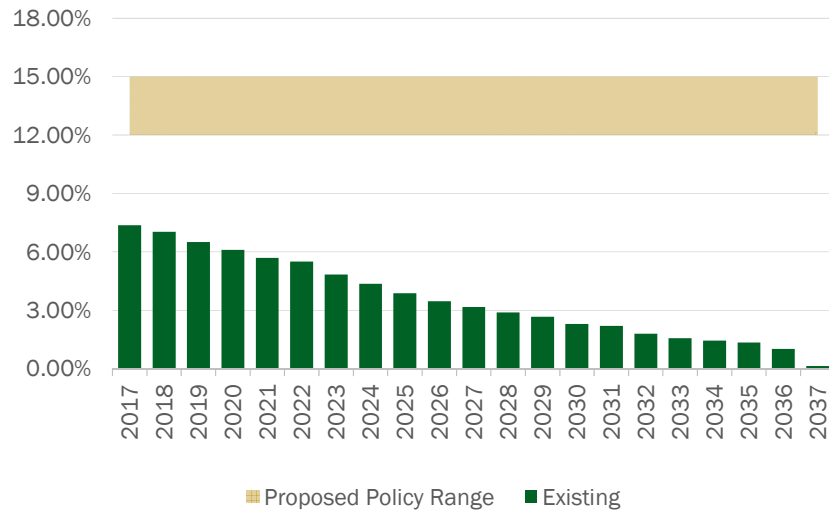
### Rating Considerations

- **Moody's:** Under the Debt/Pensions section of Moody's methodology, debt to full value categories are defined as follows:
  - Aaa: <0.75%
  - Aa: 0.75% - 1.75%
  - A: 1.75% - 4.00%
  - Baa and below: >4.00%
- **S&P:** A positive qualitative adjustment is made to the Debt and Contingent Liabilities score for a debt to market value ratio below 3.00%, while a negative adjustment is made for a ratio above 10.00%.



# Key Debt Ratio: Debt Service vs. Expenditures

## Debt Service vs. Governmental Expenditures

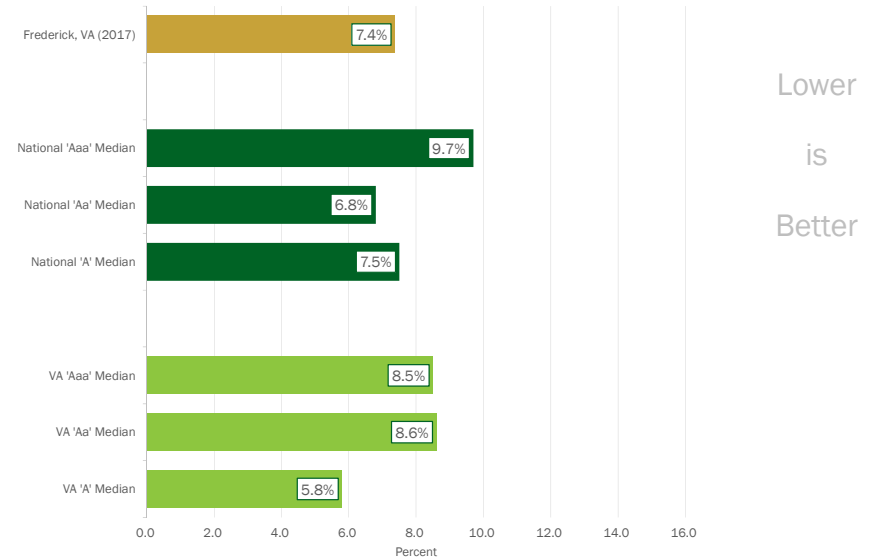


- Existing Debt Service vs. Expenditures
  - FY 2017: 7.37%
- Assumed Future Growth Rates
  - 2015 Adj. Expenditures<sup>(1)</sup>: \$220,088,658
  - 2016 <sup>(2)</sup>: 4.30%
  - 2017 <sup>(2)</sup>: 5.70%
  - 2018 & Beyond: 1.00%
  - 5 Yr. Avg. Growth: 4.10%
  - 10Yr. Avg. Growth: 3.40%

■ The County may want to consider establishing a Financial Policy as it relates to a maximum Debt Service vs. Expenditures ratio.

(1) Governmental Expenditures represent the ongoing operating expenditures of the County and School Board (net of transfers). In this analysis, debt service and capital outlay expenditures are excluded.  
 (2) Growth rates shown for 2016 & 2017 are based upon County expenditure growth included in the respective fiscal year budgets.

## Debt Service vs. Expenditures Peer Comparative



### Rating Considerations

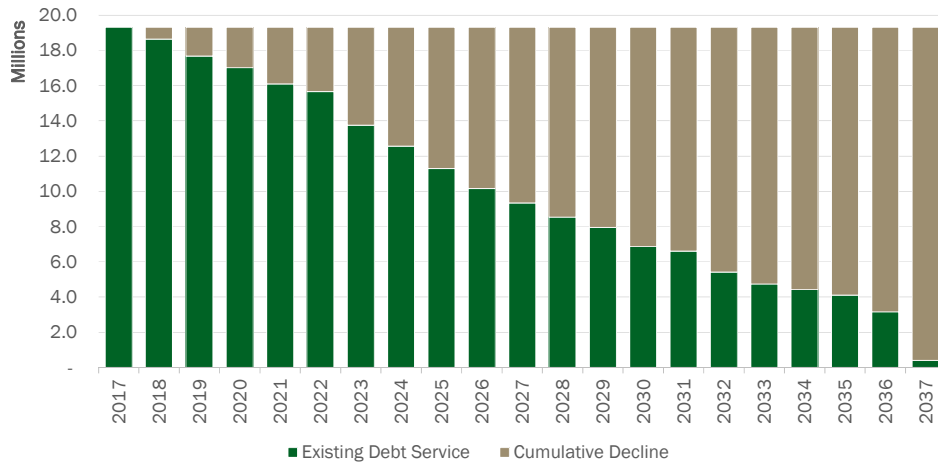
- Moody's: Moody's criteria allows for a scorecard adjustment if an issuer has very high or low debt service relative to its budget:
- S&P: The Debt and Contingent Liabilities section defines categories of Net Direct Debt as a % of Total Governmental Funds Expenditures as follows:
 

– Very Strong:	<8%
– Strong:	8% - 15%
– Adequate:	15% - 25%
– Weak:	25% - 35%
– Very Weak:	> 35%

# Decline in Tax Supported Debt Service



## Existing Tax Supported Debt Service Decline



## Existing Tax Supported Debt Service Decline

FY	Existing Debt Service	Cumulative Decline
Total	213,761,456	
2017	19,313,841	-
2018	18,638,796	675,045
2019	17,682,401	1,631,439
2020	17,023,811	2,290,030
2021	16,104,360	3,209,481
2022	15,659,094	3,654,747
2023	13,756,534	5,557,306
2024	12,565,006	6,748,834
2025	11,296,528	8,017,313
2026	10,150,356	9,163,485
2027	9,346,389	9,967,451
2028	8,536,767	10,777,074
2029	7,950,583	11,363,258
2030	6,862,666	12,451,175
2031	6,609,805	12,704,036
2032	5,414,964	13,898,877
2033	4,739,689	14,574,151
2034	4,432,913	14,880,928
2035	4,106,408	15,207,433
2036	3,159,369	16,154,471
2037	411,176	18,902,665



# Debt Affordability Analysis

## Existing Debt

A FY	B Debt Service Requirements					C Revenue Available for DS							D Debt Service Cash Flow Surplus (Deficit)					R Estimated Incremental Tax Equivalent	S Capital Reserve Fund Balance
	B Existing Debt Service	C CIP Debt Service	D CIP Pay-Go Cash	E CIP Operating Impact	F Total	G General Fund Budgeted Debt Service	H General Fund Budgeted for Pay-Go Cash	I Other Available Revenues	J Round Hill Fire (35.35% of VFPF 2014)	K Millwood Fire Reimbursement <sup>(1)</sup>	L Credits for Series 2011 QSCBs <sup>(2)</sup>	M Total Revenues Available	N Surplus/ (Deficit)	O Revenue From Prior Tax Impact	P Capital Reserve Utilized	Q Adjusted Surplus/ (Deficit)			
2017	19,313,841	-	-	-	19,313,841	18,830,782	-	-	131,088	74,999	276,973	19,313,841	-	-	-	-	-	-	
2018	18,638,796	-	-	-	18,638,796	18,830,782	-	-	130,435	74,999	276,973	19,313,188	674,392	-	-	674,392	-	674,392	
2019	17,682,401	-	-	-	17,682,401	18,830,782	-	-	131,149	74,999	276,973	19,313,902	1,631,500	-	-	1,631,500	-	2,305,892	
2020	17,023,811	-	-	-	17,023,811	18,830,782	-	-	131,699	74,999	276,973	19,314,452	2,290,641	-	-	2,290,641	-	4,596,533	
2021	16,104,360	-	-	-	16,104,360	18,830,782	-	-	130,354	74,999	276,973	19,313,107	3,208,747	-	-	3,208,747	-	7,805,280	
2022	15,659,094	-	-	-	15,659,094	18,830,782	-	-	130,544	74,999	276,973	19,313,297	3,654,203	-	-	3,654,203	-	11,459,484	
2023	13,756,534	-	-	-	13,756,534	18,830,782	-	-	130,456	74,999	276,973	19,313,209	5,556,675	-	-	5,556,675	-	17,016,158	
2024	12,565,006	-	-	-	12,565,006	18,830,782	-	-	130,186	74,999	276,973	19,312,939	6,747,933	-	-	6,747,933	-	23,764,091	
2025	11,296,528	-	-	-	11,296,528	18,830,782	-	-	131,458	74,999	276,973	19,314,211	8,017,683	-	-	8,017,683	-	31,781,774	
2026	10,150,356	-	-	-	10,150,356	18,830,782	-	-	130,735	74,999	276,973	19,313,488	9,163,132	-	-	9,163,132	-	40,944,907	
2027	9,346,389	-	-	-	9,346,389	18,830,782	-	-	131,837	74,999	276,973	19,314,590	9,968,200	-	-	9,968,200	-	50,913,107	
2028	8,536,767	-	-	-	8,536,767	18,830,782	-	-	131,209	74,999	276,973	19,313,962	10,777,196	-	-	10,777,196	-	61,690,303	
2029	7,950,583	-	-	-	7,950,583	18,830,782	-	-	130,401	74,999	276,973	19,313,154	11,362,571	-	-	11,362,571	-	73,052,873	
2030	6,862,666	-	-	-	6,862,666	18,830,782	-	-	131,168	74,999	276,973	19,313,921	12,451,256	-	-	12,451,256	-	85,504,129	
2031	6,609,805	-	-	-	6,609,805	18,830,782	-	-	130,442	74,999	276,973	19,313,195	12,703,390	-	-	12,703,390	-	98,207,519	
2032	5,414,964	-	-	-	5,414,964	18,830,782	-	-	131,777	74,999	138,486	19,176,044	13,761,080	-	-	13,761,080	-	111,968,599	
2033	4,739,689	-	-	-	4,739,689	18,830,782	-	-	131,143	74,999	-	19,036,924	14,297,234	-	-	14,297,234	-	126,265,833	
2034	4,432,913	-	-	-	4,432,913	18,830,782	-	-	130,334	74,999	-	19,036,115	14,603,202	-	-	14,603,202	-	140,869,035	
2035	4,106,408	-	-	-	4,106,408	18,830,782	-	-	131,126	74,999	-	19,036,907	14,930,499	-	-	14,930,499	-	155,799,535	
2036	3,159,369	-	-	-	3,159,369	18,830,782	-	-	131,576	74,999	-	19,037,357	15,877,987	-	-	15,877,987	-	171,677,522	
2037	411,176	-	-	-	411,176	18,830,782	-	-	-	74,999	-	18,905,781	18,494,604	-	-	18,494,604	-	190,172,126	
2038	-	-	-	-	-	18,830,782	-	-	-	74,999	-	18,905,781	18,905,781	-	-	18,905,781	-	209,077,907	
2039	-	-	-	-	-	18,830,782	-	-	-	74,999	-	18,905,781	18,905,781	-	-	18,905,781	-	227,983,688	
2040	-	-	-	-	-	18,830,782	-	-	-	74,999	-	18,905,781	18,905,781	-	-	18,905,781	-	246,889,468	
2041	-	-	-	-	-	18,830,782	-	-	-	74,999	-	18,905,781	18,905,781	-	-	18,905,781	-	265,795,249	
2042	-	-	-	-	-	18,830,782	-	-	-	50,332	-	18,881,114	18,881,114	-	-	18,881,114	-	284,676,362	
2043	-	-	-	-	-	18,830,782	-	-	-	-	-	18,830,782	18,830,782	-	-	18,830,782	-	303,507,144	
2044	-	-	-	-	-	18,830,782	-	-	-	-	-	18,830,782	18,830,782	-	-	18,830,782	-	322,337,926	
2045	-	-	-	-	-	18,830,782	-	-	-	-	-	18,830,782	18,830,782	-	-	18,830,782	-	341,168,707	
<b>Total</b>	<b>213,761,456</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>213,761,456</b>								<b>Total</b>	<b>-</b>	<b>-</b>	<b>Total Tax Effect</b>	<b>0.00¢</b>		

- Assumed FY2017 Value of a Penny <sup>(3)</sup>: \$800,000
- Assumed Growth Rate: 1.00%

(1) The 2015B VRA debt service matures in FY 2036; however, the reimbursement schedule from the Millwood Fire Department allows for payments through FY 2042.

(2) Note: 2011 QSCB debt service is shown per sinking fund requirements, gross of earnings and with gross interest expense. At the time of the issuance, the published QTCB (subsidy) rates were well above the stated coupon rates. Therefore, at issue, interest expense should be fully subsidized by the Federal Government. However, due to sequestration, a reduction in subsidy was implemented. For the period 10/1/2016 to 9/30/2017, the sequester reduction is 6.9%.

(3) Provided by Staff.

# Observations



- The County's debt profile is well managed and exhibits material step down in annual debt service over the next several years.
- The County compares well to its Rated Peers.
- Within Key Debt Ratios, the County has Debt Capacity to fund future Capital Needs.
- Development of a long-range Capital Financing Model/Plan will be critical to understanding the County's future Debt Affordability. This creates the framework for developing and monitoring debt policies which enhance the County's ability to continue building upon the solid financial foundation achieved to date.
- The County participates in several regional government entities. The County is not directly involved with the daily operations nor is it financially responsible for these entities, as such these entities are not included in the County's CAFR. However, to the extent these entities pass-through capital and operational expenditures to the County at some level, it may be worthwhile discussing future participation and fiscal requirements that may potentially impact the County's budget. The entities which require further discussion and which have not been included in this analysis are:
  - Handley Regional Library Board;
  - Northwestern Regional Jail Authority;
  - Winchester Regional Airport Authority;
  - Frederick-Winchester Service Authority;
  - Northwestern Community Services Board; and
  - Frederick County Sanitation Authority.



## 4. Analysis of Selected Capital Projects



# Analysis of Selected Capital Projects

## Key Funding & Project Assumptions

### Non-School Project

■ Courthouse	
– Issue Date of	5/1/2023
– Term/Amortization	20 Years (Level Principal)
– Interest Rate	5.0%
– <b>Total Estimated Project Amount</b>	<b>\$50,000,000*</b>
– Incremental Operating Costs	\$500,000*
– Operating Impact Commences at Open	FY 2025

### Joint Project

■ Joint Administration Facility (County/Schools)	
– Issue Date of	5/1/2018
– Term/Amortization	20 Years (Level Principal)
– Interest Rate	4.50%
– <b>Total Estimated Project Amount</b>	<b>\$40,000,000*</b>
– Incremental Operating Costs	\$500,000*
– Operating Impact Commences at Open	FY 2020

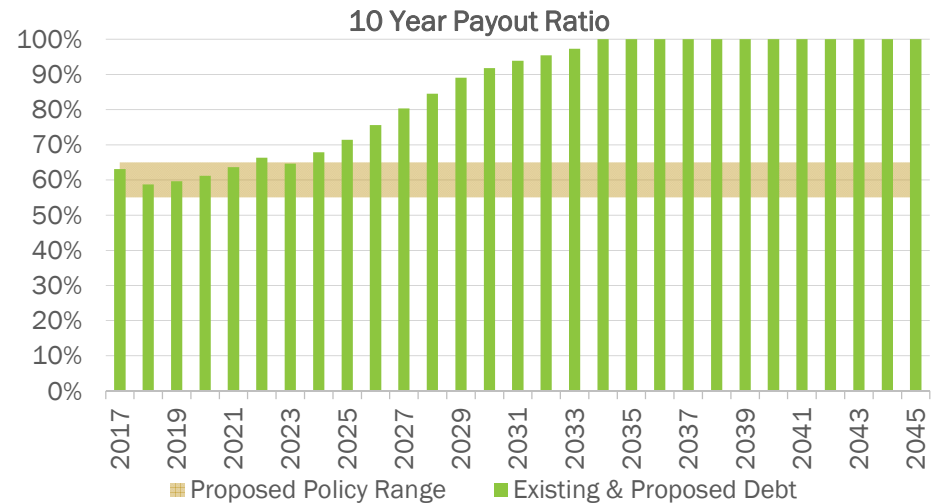
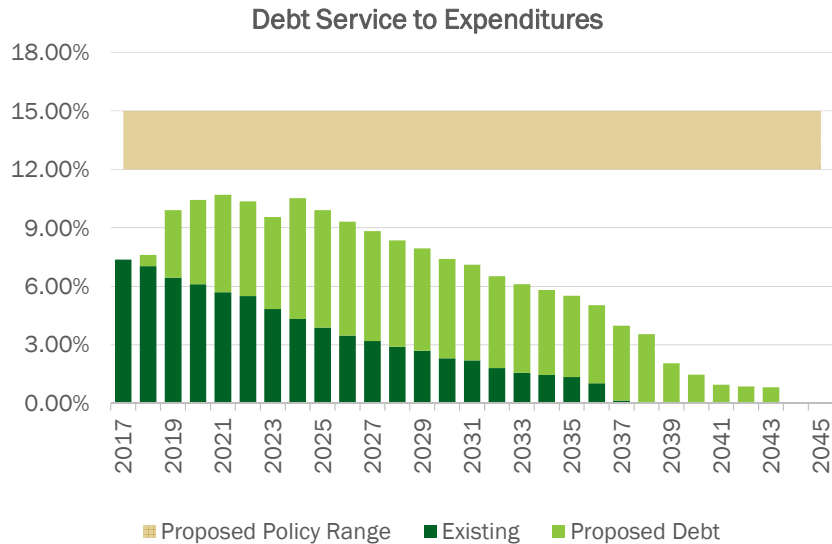
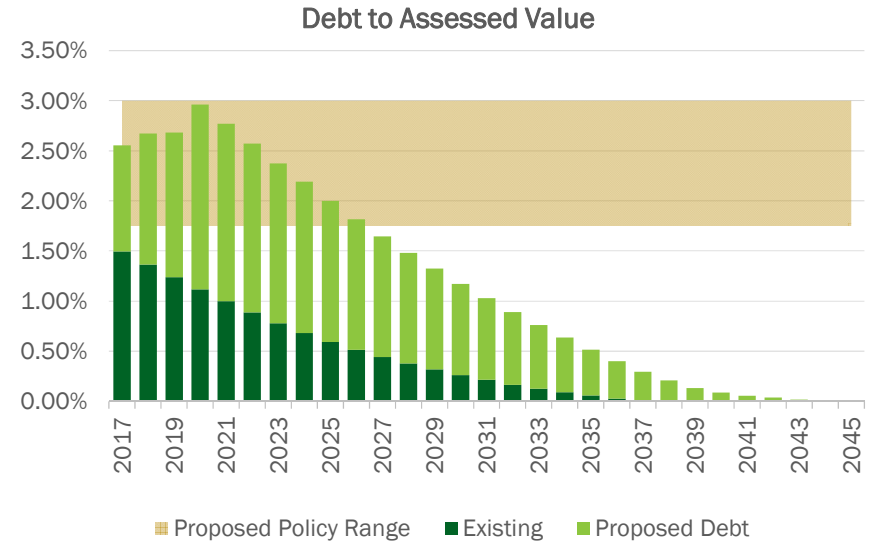
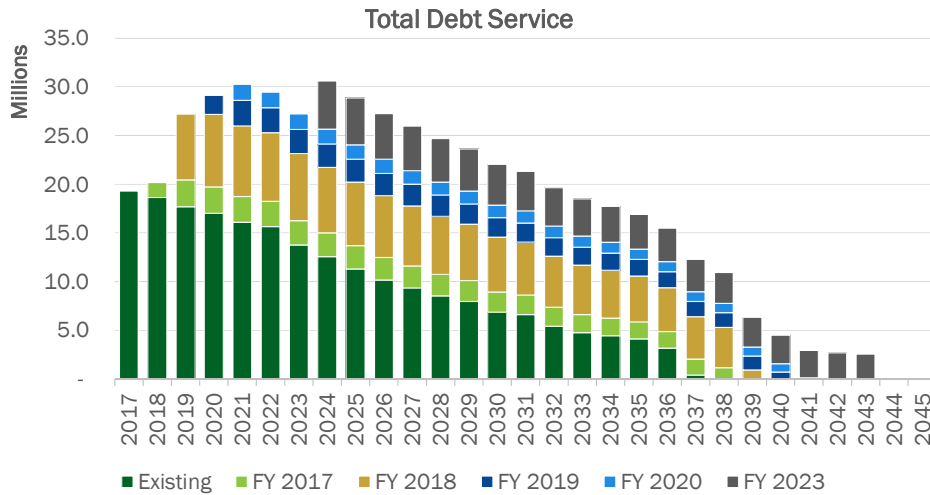
### School Projects

■ 12 <sup>th</sup> Elementary School and Armel Elementary School Addition	
✳ <i>Note – Total Project Amount is spread over 4 bond issuances as follows:</i>	
– Issue Date of 11/1/2016	\$8,800,000 (at 4.0%)
– Issue Date of 5/1/2017	\$8,800,000 (at 4.0%)
– Issue Date of 11/1/2017	\$8,900,000 (at 4.50%)
– Issue Date of 5/1/2018	\$4,400,000 (at 4.50%)
– <b>Total Estimated Project Amount</b>	<b>\$30,900,000*</b>
– Incremental Operating Costs	\$2,300,000*
– Operating Impact Commences at Open	FY 2019
– Term/Amortization	20 Years (Level Principal)
■ 4 <sup>th</sup> High School	
✳ <i>Note – Total Project Amount is spread over 7 bond issuances as follows:</i>	
– Issue Date of 5/1/2017	\$13,700,000 (at 4.0%)
– Issue Date of 11/1/2017	\$13,700,000 (at 4.50%)
– Issue Date of 5/1/2018	\$13,700,000 (at 4.50%)
– Issue Date of 11/1/2018	\$13,700,000 (at 4.50%)
– Issue Date of 5/1/2019	\$13,700,000 (at 5.0%)
– Issue Date of 11/1/2019	\$14,100,000 (at 5.0%)
– Issue Date of 5/1/2020	\$2,600,000 (at 5.0%)
– <b>Total Estimated Project Amount</b>	<b>\$85,200,000*</b>
– Incremental Operating Costs	\$7,200,000*
– Operating Impact Commences at Open	FY 2021
– Term/Amortization	20 Years (Level Principal)

<b>Total School Projects</b>	<b>\$116,100,000*</b>
<b>Non-School Project</b>	<b>50,000,000*</b>
<b>Joint Project</b>	<b>40,000,000*</b>
<b>GRAND Total Selected Projects</b>	<b>\$206,100,000*</b>

# Debt Profile and Key Debt Ratios

## Existing & Proposed Debt







# Debt Affordability Analysis

## Existing & Proposed Debt

\* The figures in the table below are based upon preliminary planning estimates and are subject to change.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
Debt Service Requirements						Revenue Available for DS						Debt Service Cash Flow Surplus (Deficit)							
FY	Existing Debt Service	CIP Debt Service	CIP Pay-Go Cash	CIP Operating Impact <sup>(1)</sup>	Total	General Fund Budgeted Debt Service	General Fund Budgeted for Pay-Go Cash	Other Available Revenues	Round Hill Fire (35.35% of VFPF 2014)	Millwood Fire Reimbursement <sup>(2)</sup>	Credits for Series 2011 QSCBs <sup>(3)</sup>	Total Revenues Available	Surplus/ (Deficit)	Revenue From Prior Tax Impact	Capital Reserve Utilized	Adjusted Surplus/ (Deficit)	Estimated Incremental Tax Equivalent	Capital Reserve Fund Balance	
2017	19,313,841	-	-	-	19,313,841	18,830,782	-	-	131,088	74,999	276,973	19,313,841	-	-	-	-	-	-	
2018	18,638,796	1,546,200	-	-	20,184,996	18,830,782	-	-	130,435	74,999	276,973	19,313,188	(871,808)	-	-	(871,808)	1.08¢	-	
2019	17,682,401	9,509,800	-	2,300,000	29,492,201	18,830,782	-	-	131,149	74,999	276,973	19,313,902	(10,178,300)	880,526	-	(9,297,774)	11.39¢	-	
2020	17,023,811	12,094,325	-	2,800,000	31,918,136	18,830,782	-	-	131,699	74,999	276,973	19,314,452	(12,603,684)	10,280,083	-	(2,323,601)	2.82¢	-	
2021	16,104,360	14,170,450	-	10,000,000	40,274,810	18,830,782	-	-	130,354	74,999	276,973	19,313,107	(20,961,703)	12,729,721	-	(8,231,981)	9.89¢	-	
2022	15,659,094	13,808,950	-	10,000,000	39,468,044	18,830,782	-	-	130,544	74,999	276,973	19,313,297	(20,154,747)	21,171,320	-	1,016,573	-	1,016,573	
2023	13,756,534	13,457,950	-	10,000,000	37,214,484	18,830,782	-	-	130,456	74,999	276,973	19,313,209	(17,901,275)	21,383,033	-	3,481,757	-	4,498,330	
2024	12,565,006	18,044,450	-	10,000,000	40,609,456	18,830,782	-	-	130,186	74,999	276,973	19,312,939	(21,296,517)	21,596,863	-	300,346	-	4,798,676	
2025	11,296,528	17,568,450	-	10,500,000	39,364,978	18,830,782	-	-	131,458	74,999	276,973	19,314,211	(20,050,767)	21,812,832	-	1,762,065	-	6,560,741	
2026	10,150,356	17,092,450	-	10,500,000	37,742,806	18,830,782	-	-	130,735	74,999	276,973	19,313,488	(18,429,318)	22,030,960	-	3,601,642	-	10,162,383	
2027	9,346,389	16,616,450	-	10,500,000	36,462,839	18,830,782	-	-	131,837	74,999	276,973	19,314,590	(17,148,250)	22,251,270	-	5,103,020	-	15,265,403	
2028	8,536,767	16,140,450	-	10,500,000	35,177,217	18,830,782	-	-	131,209	74,999	276,973	19,313,962	(15,863,254)	22,473,782	-	6,610,528	-	21,875,931	
2029	7,950,583	15,664,450	-	10,500,000	34,115,033	18,830,782	-	-	130,401	74,999	276,973	19,313,154	(14,801,879)	22,698,520	-	7,896,641	-	29,772,572	
2030	6,862,666	15,188,450	-	10,500,000	32,551,116	18,830,782	-	-	131,168	74,999	276,973	19,313,921	(13,237,194)	22,925,505	-	9,688,311	-	39,460,883	
2031	6,609,805	14,712,450	-	10,500,000	31,822,255	18,830,782	-	-	130,442	74,999	276,973	19,313,195	(12,509,060)	23,154,760	-	10,645,700	-	50,106,583	
2032	5,414,964	14,236,450	-	10,500,000	30,151,414	18,830,782	-	-	131,777	74,999	138,486	19,176,044	(10,975,370)	23,386,308	-	12,410,938	-	62,517,521	
2033	4,739,689	13,760,450	-	10,500,000	29,000,139	18,830,782	-	-	131,143	74,999	-	19,036,924	(9,963,216)	23,620,171	-	13,656,955	-	76,174,476	
2034	4,432,913	13,284,450	-	10,500,000	28,217,363	18,830,782	-	-	130,334	74,999	-	19,036,115	(9,181,248)	23,856,373	-	14,675,125	-	90,849,602	
2035	4,106,408	12,808,450	-	10,500,000	27,414,858	18,830,782	-	-	131,126	74,999	-	19,036,907	(8,377,951)	24,094,937	-	15,716,986	-	106,566,588	
2036	3,159,369	12,332,450	-	10,500,000	25,991,819	18,830,782	-	-	131,576	74,999	-	19,037,357	(6,954,463)	24,335,886	-	17,381,423	-	123,948,011	
2037	411,176	11,856,450	-	10,500,000	22,767,626	18,830,782	-	-	-	74,999	-	18,905,781	(3,861,846)	24,579,245	-	20,717,399	-	144,665,410	
2038	-	10,949,250	-	10,500,000	21,449,250	18,830,782	-	-	-	74,999	-	18,905,781	(2,543,469)	24,825,037	-	22,281,568	-	166,946,977	
2039	-	6,328,775	-	10,500,000	16,828,775	18,830,782	-	-	-	74,999	-	18,905,781	2,077,006	25,073,288	-	27,150,293	-	194,097,271	
2040	-	4,502,000	-	10,500,000	15,002,000	18,830,782	-	-	-	74,999	-	18,905,781	3,903,781	25,324,020	-	29,227,801	-	223,325,072	
2041	-	2,945,750	-	10,500,000	13,445,750	18,830,782	-	-	-	74,999	-	18,905,781	5,460,031	25,577,261	-	31,037,291	-	254,362,363	
2042	-	2,687,500	-	10,500,000	13,187,500	18,830,782	-	-	-	50,332	-	18,881,114	5,693,614	25,833,033	-	31,526,647	-	285,889,010	
2043	-	2,562,500	-	10,500,000	13,062,500	18,830,782	-	-	-	-	-	18,830,782	5,768,282	26,091,364	-	31,859,645	-	317,748,655	
2044	-	-	-	10,500,000	10,500,000	18,830,782	-	-	-	-	-	18,830,782	8,330,782	26,352,277	-	34,683,059	-	352,431,714	
2045	-	-	-	10,500,000	10,500,000	18,830,782	-	-	-	-	-	18,830,782	8,330,782	26,615,800	-	34,946,582	-	387,378,295	
<b>Total</b>	<b>213,761,456</b>	<b>303,869,750</b>	-	<b>265,600,000</b>	<b>783,231,206</b>								<b>Total</b>				<b>Total Tax Effect</b>	<b>25.18¢</b>	

- Assumed FY2017 Value of a Penny<sup>(4)</sup>: \$800,000
- Assumed Growth Rate: 1.00%

- The CIP Operating Impact represents the estimated incremental increase to annual operating expenses related to the Selected Projects: (a) \$2.3 Million commencing FY 2019 for the 12<sup>th</sup> Elementary School and Arnel Elementary School Addition; (b) \$0.5 Million commencing FY 2020 for the Joint Administration Facility; (c) \$7.2 Million commencing FY 2021 for the 4<sup>th</sup> High School; and (d) \$0.5 Million commencing FY 2025 for the Courthouse.
- The 2015B VRA debt service matures in FY 2036; however, the reimbursement schedule from the Millwood Fire Department allows for payments through FY 2042.
- Note: 2011 QSCB debt service is shown per sinking fund requirements, gross of earnings and with gross interest expense. At the time of the issuance, the published QTCB (subsidy) rates were well above the stated coupon rates. Therefore, at issue, interest expense should be fully subsidized by the Federal Government. However, due to sequestration, a reduction in subsidy was implemented. For the period 10/1/2016 to 9/30/2017, the sequester reduction is 6.9%.
- Provided by Staff.

# Financial Policy Guidelines



- As the County moves forward in assessing future capital projects and developing a plan of finance, Davenport recommends that the County Board of Supervisors consider adopting, amending, and/or enhancing a series of Financial Policy Guidelines that cover the following areas of County operations:
  - Capital Improvement Budget Policies;
  - Debt Policies;
  - Reserve Policies; and
  - Budget Development Policies.
  
- Financial Policy Guidelines can serve to:
  - Contribute to the County's ability to insulate itself from fiscal crisis;
  - Enhance short-term and long-term financial performance by helping to achieve the highest credit and bond ratings possible;
  - Promote long-term financial stability by establishing clear and consistent guidelines;
  - Direct attention to the total financial picture of the County rather than single issue areas;
  - Promote the view of linking long-term financial planning with day-to-day operations; and
  - Provide the County Staff, County Board of Supervisors, and Citizens a framework for measuring the fiscal impact of government services against established fiscal parameters and guidelines.



# Appendix A

Details: Existing Tax Supported Debt

# Existing Tax Supported Debt



## Total Tax Supported Debt Service

FY	Principal	Interest	Total
<b>Total</b>	<b>158,253,067</b>	<b>55,508,389</b>	<b>213,761,456</b>
2017	12,281,479	7,032,361	19,313,841
2018	12,239,456	6,399,340	18,638,796
2019	11,858,948	5,823,453	17,682,401
2020	11,760,478	5,263,333	17,023,811
2021	11,383,537	4,720,823	16,104,360
2022	11,457,809	4,201,285	15,659,094
2023	10,066,131	3,690,404	13,756,534
2024	9,326,735	3,238,272	12,565,006
2025	8,467,548	2,828,980	11,296,528
2026	7,690,434	2,459,922	10,150,356
2027	7,206,178	2,140,212	9,346,389
2028	6,683,542	1,853,224	8,536,767
2029	6,360,043	1,590,541	7,950,583
2030	5,494,443	1,368,223	6,862,666
2031	5,585,510	1,024,295	6,609,805
2032	4,728,509	686,454	5,414,964
2033	4,222,708	516,981	4,739,689
2034	4,070,124	362,789	4,432,913
2035	3,888,025	218,383	4,106,408
2036	3,076,430	82,940	3,159,369
2037	405,000	6,176	411,176

## School (General Obligations)

FY	Principal	Interest	Total
<b>Total</b>	<b>123,394,245</b>	<b>39,664,672</b>	<b>163,058,917</b>
2017	10,049,127	5,512,068	15,561,195
2018	10,402,583	4,957,708	15,360,291
2019	10,341,220	4,453,035	14,794,255
2020	10,180,047	3,954,044	14,134,091
2021	9,733,540	3,491,494	13,225,034
2022	9,731,944	3,041,115	12,773,059
2023	8,590,784	2,607,867	11,198,651
2024	7,780,000	2,230,754	10,010,754
2025	6,855,000	1,895,969	8,750,969
2026	6,000,000	1,610,521	7,610,521
2027	5,425,000	1,373,569	6,798,569
2028	4,815,000	1,169,750	5,984,750
2029	4,410,000	995,019	5,405,019
2030	3,455,000	860,449	4,315,449
2031	3,455,000	603,800	4,058,800
2032	3,080,000	351,221	3,431,221
2033	2,685,000	255,205	2,940,205
2034	2,460,000	169,406	2,629,406
2035	2,210,000	91,711	2,301,711
2036	1,330,000	33,791	1,363,791
2037	405,000	6,176	411,176

## School (Lit Loans)

FY	Principal	Interest	Total
<b>Total</b>	<b>1,196,169</b>	<b>47,345</b>	<b>1,243,514</b>
2017	814,169	35,885	850,054
2018	382,000	11,460	393,460
2019	-	-	-
2020	-	-	-
2021	-	-	-
2022	-	-	-
2023	-	-	-
2024	-	-	-
2025	-	-	-
2026	-	-	-
2027	-	-	-
2028	-	-	-
2029	-	-	-
2030	-	-	-
2031	-	-	-
2032	-	-	-
2033	-	-	-
2034	-	-	-
2035	-	-	-
2036	-	-	-
2037	-	-	-

# Existing Tax Supported Debt



## Non-School (General Obligations)

FY	Principal	Interest	Total
<b>Total</b>	<b>1,803,582</b>	<b>157,776</b>	<b>1,961,357</b>
2017	282,705	44,188	326,893
2018	289,631	37,261	326,893
2019	296,727	30,166	326,893
2020	303,997	22,896	326,893
2021	311,445	15,448	326,893
2022	319,075	7,817	326,893
2023	-	-	-
2024	-	-	-
2025	-	-	-
2026	-	-	-
2027	-	-	-
2028	-	-	-
2029	-	-	-
2030	-	-	-
2031	-	-	-
2032	-	-	-
2033	-	-	-
2034	-	-	-
2035	-	-	-
2036	-	-	-
2037	-	-	-

## Non-School (Lease/Revenue Obligations)

FY	Principal	Interest	Total
<b>Total</b>	<b>31,721,500</b>	<b>15,620,425</b>	<b>47,341,925</b>
2017	1,101,250	1,435,592	2,536,842
2018	1,146,250	1,389,271	2,535,521
2019	1,206,250	1,337,157	2,543,407
2020	1,261,250	1,283,843	2,545,093
2021	1,325,561	1,212,204	2,537,765
2022	1,393,399	1,151,075	2,544,473
2023	1,461,543	1,081,673	2,543,215
2024	1,532,505	1,007,079	2,539,583
2025	1,612,548	933,011	2,545,559
2026	1,690,434	849,401	2,539,835
2027	1,781,178	766,643	2,547,821
2028	1,868,542	683,474	2,552,017
2029	1,950,043	595,522	2,545,564
2030	2,039,443	507,774	2,547,217
2031	2,130,510	420,495	2,551,005
2032	1,648,509	335,233	1,983,743
2033	1,537,708	261,776	1,799,484
2034	1,610,124	193,383	1,803,506
2035	1,678,025	126,672	1,804,697
2036	1,746,430	49,149	1,795,578
2037	-	-	-

## Non-School (Other Obligations)

FY	Principal	Interest	Total
<b>Total</b>	<b>137,571</b>	<b>18,172</b>	<b>155,744</b>
2017	34,228	4,629	38,858
2018	18,992	3,639	22,631
2019	14,751	3,096	17,847
2020	15,184	2,550	17,734
2021	12,991	1,678	14,669
2022	13,391	1,277	14,669
2023	13,804	864	14,669
2024	14,230	439	14,669
2025	-	-	-
2026	-	-	-
2027	-	-	-
2028	-	-	-
2029	-	-	-
2030	-	-	-
2031	-	-	-
2032	-	-	-
2033	-	-	-
2034	-	-	-
2035	-	-	-
2036	-	-	-
2037	-	-	-

# School: General Obligations



**\$1,200,000**  
VPSA School Bonds, Series 1996

FY	Coupon	Principal	Interest	Total
Total		60,000	1,568	61,568
2017	5.349%	60,000	1,568	61,568
2018				
2019				
2020				
2021				
2022				
2023				
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\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: ##### Next Call: Current  
100%

Purpose: Stonewall/ Senseny Road Insurance: n/a

Coupon Dates: 1/15, 7/15 Maturity Date: 7/15/2016

Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$1,355,000**  
VPSA School Bonds, Series 1997

FY	Coupon	Principal	Interest	Total
Total		130,000	7,280	137,280
2017	5.600%	65,000	5,460	70,460
2018	5.475%	65,000	1,820	66,820
2019				
2020				
2021				
2022				
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\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 5/1/1997 Next Call: Current  
100%

Purpose: Repay 10M Bridge Loan Insurance: n/a

Coupon Dates: 1/15, 7/15 Maturity Date: 7/15/2017

Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$3,200,000**  
VPSA School Bonds, Series 1998

FY	Coupon	Principal	Interest	Total
Total		480,000	36,720	516,720
2017	5.100%	160,000	20,400	180,400
2018	5.100%	160,000	12,240	172,240
2019	5.100%	160,000	4,080	164,080
2020				
2021				
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\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 4/1/1998 Next Call: Current  
100%

Purpose: Additions Middletown/  
Armel Insurance: n/a

Coupon Dates: 1/15, 7/15 Maturity Date: 7/15/2018

Source: 2015 CAFR, schedules from Staff, and VPSA official statement.



# School: General Obligations



**\$6,150,000**  
VPSA School Bonds, Series 2001

FY	Coupon	Principal	Interest	Total
Total		1,830,000	252,540	2,082,540
2017	4.550%	305,000	79,453	384,453
2018	4.550%	305,000	63,898	368,898
2019	4.550%	305,000	48,343	353,343
2020	4.550%	305,000	32,788	337,788
2021	4.550%	305,000	20,283	325,283
2022	4.550%	305,000	7,778	312,778
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\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/15/2001      Next Call: Current  
100%  
Purpose: Millbrook High School (5.15M), Insurance: n/a  
11th elem (1M)  
Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2021  
Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$8,385,000**  
VPSA School Bonds, Series 2002

FY	Coupon	Principal	Interest	Total
Total		2,925,000	520,583	3,445,583
2017	4.667%	420,000	138,465	558,465
2018	4.667%	420,000	117,045	537,045
2019	4.667%	420,000	95,625	515,625
2020	4.667%	420,000	74,205	494,205
2021	4.667%	415,000	52,913	467,913
2022	4.667%	415,000	31,748	446,748
2023	4.667%	415,000	10,583	425,583
2024				
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\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 4/30/2002      Next Call: Current  
100%  
Purpose: Third High School -(\$4.8MM), Insurance: n/a  
JWMS renov. (\$3.6MM)  
Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2022  
Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$3,315,000**  
VPSA School Bonds, Series 2002 (Non-Subsidy)

FY	Coupon	Principal	Interest	Total
Total		1,155,000	197,505	1,352,505
2017	4.770%	165,000	53,048	218,048
2018	4.770%	165,000	44,633	209,633
2019	4.770%	165,000	36,218	201,218
2020	4.770%	165,000	27,803	192,803
2021	4.770%	165,000	19,800	184,800
2022	4.770%	165,000	12,004	177,004
2023	4.770%	165,000	4,001	169,001
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\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/7/2002      Next Call: Current  
100%  
Purpose: 3rd High School (\$1.515M), Insurance: n/a  
JWMS (\$.8 M), 4th MS (1 M)  
Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2022  
Source: 2015 CAFR, schedules from Staff, and VPSA official statement.



# School: General Obligations



\$3,782,296

VPSA School Bonds, Series 2002 (Subsidy)

FY	Coupon	Principal	Interest	Total
Total		1,434,245	250,052	1,684,297
2017	4.770%	194,127	66,084	260,211
2018	4.770%	197,583	56,096	253,679
2019	4.770%	201,220	45,926	247,146
2020	4.770%	205,047	35,566	240,613
2021	4.770%	208,540	25,541	234,081
2022	4.770%	211,944	15,605	227,549
2023	4.770%	215,784	5,233	221,017
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2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/7/2002      Next Call: Current  
 100%  
 Purpose: 3rd High School = \$3.8MM      Insurance: n/a  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2022  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

\$12,655,000

VPSA School Bonds, Series 2003

FY	Coupon	Principal	Interest	Total
Total		5,040,000	974,610	6,014,610
2017	5.100%	630,000	228,375	858,375
2018	4.100%	630,000	199,395	829,395
2019	5.100%	630,000	170,415	800,415
2020	5.100%	630,000	138,285	768,285
2021	5.100%	630,000	106,155	736,155
2022	5.100%	630,000	74,025	704,025
2023	4.600%	630,000	43,470	673,470
2024	4.600%	630,000	14,490	644,490
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2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 4/30/2003      Next Call: Current  
 100%  
 Purpose: Millbrook (\$7MM),      Insurance: n/a  
 JWMS (\$5.7MM), 4th MS (\$0 M), Transp (\$0)  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2023  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

\$5,980,000

VPSA School Bonds, Series 2003

FY	Coupon	Principal	Interest	Total
Total		2,380,000	479,730	2,859,730
2017	5.350%	300,000	113,355	413,355
2018	5.350%	300,000	97,305	397,305
2019	5.100%	300,000	81,630	381,630
2020	4.600%	300,000	67,080	367,080
2021	5.100%	295,000	52,658	347,658
2022	5.100%	295,000	37,613	332,613
2023	5.100%	295,000	22,568	317,568
2024	5.100%	295,000	7,523	302,523
2025				
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\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/14/2003      Next Call: Current  
 100%  
 Purpose: 4th middle school      Insurance: n/a  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2023  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

# School: General Obligations



**\$8,580,000**  
VPSA School Bonds, Series 2004

FY	Coupon	Principal	Interest	Total
Total		3,850,000	881,025	4,731,025
2017	5.100%	430,000	185,385	615,385
2018	5.100%	430,000	163,455	593,455
2019	5.100%	430,000	141,525	571,525
2020	5.100%	430,000	119,595	549,595
2021	5.100%	430,000	97,665	527,665
2022	5.100%	425,000	75,863	500,863
2023	5.100%	425,000	54,188	479,188
2024	5.100%	425,000	32,513	457,513
2025	5.100%	425,000	10,838	435,838
2026				
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2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 4/30/2004      Next Call: Current  
100%

Purpose: 4th middle \$8.2MM, Insurance: n/a  
11th elem \$1MM

Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2024  
Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$8,550,000**  
VPSA School Bonds, Series 2004

FY	Coupon	Principal	Interest	Total
Total		3,825,000	790,547	4,615,547
2017	5.100%	425,000	169,894	594,894
2018	5.100%	425,000	148,219	573,219
2019	5.100%	425,000	126,644	551,644
2020	4.100%	425,000	104,869	529,869
2021	4.225%	425,000	85,319	510,319
2022	4.600%	425,000	67,628	492,628
2023	4.600%	425,000	48,875	473,875
2024	4.600%	425,000	29,325	454,325
2025	4.475%	425,000	9,775	434,775
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2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: #####      Next Call: Current  
100%

Purpose: BMS \$8.2MM, Insurance: n/a  
11th elem \$1MM

Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2024  
Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$5,995,000**  
VPSA School Bonds, Series 2005

FY	Coupon	Principal	Interest	Total
Total		2,995,000	731,059	3,726,059
2017	5.100%	300,000	139,883	439,883
2018	5.100%	300,000	124,583	424,583
2019	5.100%	300,000	109,283	409,283
2020	4.100%	300,000	95,483	395,483
2021	5.100%	300,000	81,683	381,683
2022	5.100%	300,000	66,383	366,383
2023	5.100%	300,000	51,083	351,083
2024	5.100%	300,000	35,783	335,783
2025	5.100%	300,000	20,483	320,483
2026	4.350%	295,000	6,416	301,416
2027				
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2032				
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2035				
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2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 5/12/2005      Next Call: Current  
100%

Purpose: \$1.560 4th middle, Insurance: n/a  
\$4.8 11th elem

Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2025  
Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

# School: General Obligations



**\$5,685,000**  
VPSA School Bonds, Series 2005

FY	Coupon	Principal	Interest	Total
Total		2,835,000	690,498	3,525,498
2017	5.100%	285,000	133,818	418,818
2018	5.100%	285,000	119,283	404,283
2019	5.100%	285,000	104,748	389,748
2020	5.100%	285,000	90,213	375,213
2021	5.100%	285,000	75,678	360,678
2022	5.100%	285,000	61,143	346,143
2023	5.100%	285,000	46,608	331,608
2024	4.600%	280,000	32,900	312,900
2025	4.850%	280,000	19,670	299,670
2026	4.600%	280,000	6,440	286,440
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2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: ##### Next Call: Current  
100%  
Purpose: \$5.685 11th elem Insurance: n/a  
Coupon Dates: 1/15, 7/15 Maturity Date: 7/15/2025  
Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$6,305,000**  
VPSA School Bonds, Series 2006

FY	Coupon	Principal	Interest	Total
Total		3,465,000	910,704	4,375,704
2017	5.100%	315,000	160,414	475,414
2018	5.100%	315,000	144,349	459,349
2019	5.100%	315,000	128,284	443,284
2020	5.100%	315,000	112,219	427,219
2021	5.100%	315,000	96,154	411,154
2022	4.475%	315,000	81,073	396,073
2023	4.600%	315,000	66,780	381,780
2024	4.600%	315,000	52,290	367,290
2025	4.600%	315,000	37,800	352,800
2026	4.600%	315,000	23,310	338,310
2027	5.100%	315,000	8,033	323,033
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2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 5/10/2006 Next Call: 8/1/2016  
100%  
Purpose: \$5.7 gaines, Insurance: n/a  
\$ .830 -11th elem  
Coupon Dates: 1/15, 7/15 Maturity Date: 7/15/2026  
Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$5,830,000**  
VPSA School Bonds, Series 2006

FY	Coupon	Principal	Interest	Total
Total		3,190,000	788,981	3,978,981
2017	5.100%	290,000	136,228	426,228
2018	4.225%	290,000	122,706	412,706
2019	4.350%	290,000	110,273	400,273
2020	4.350%	290,000	97,658	387,658
2021	4.350%	290,000	85,043	375,043
2022	4.600%	290,000	72,065	362,065
2023	4.400%	290,000	59,015	349,015
2024	4.475%	290,000	46,146	336,146
2025	4.475%	290,000	33,169	323,169
2026	4.600%	290,000	20,010	310,010
2027	4.600%	290,000	6,670	296,670
2028				
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\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/9/2006 Next Call: 8/1/2016  
100%  
Purpose: Replacement Insurance: n/a  
Gainesboro  
Coupon Dates: 1/15, 7/15 Maturity Date: 7/15/2026  
Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

# School: General Obligations



**\$4,370,000**

VPSA School Bonds, Series 2007

FY	Coupon	Principal	Interest	Total
<b>Total</b>		<b>2,610,000</b>	<b>750,872</b>	<b>3,360,872</b>
2017	5.100%	220,000	121,376	341,376
2018	5.100%	220,000	110,156	330,156
2019	5.100%	220,000	98,936	318,936
2020	5.100%	220,000	87,716	307,716
2021	4.100%	220,000	77,596	297,596
2022	5.100%	220,000	67,476	287,476
2023	5.100%	215,000	56,384	271,384
2024	4.475%	215,000	46,091	261,091
2025	4.500%	215,000	36,443	251,443
2026	4.500%	215,000	26,768	241,768
2027	5.100%	215,000	16,448	231,448
2028	5.100%	215,000	5,483	220,483
2029				
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2035				
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 4/30/2007      Next Call: 8/1/2017  
 100%  
 Purpose: Gainesboro Insurance: n/a  
 final borrowing  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2027  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$3,800,000**

VPSA School Bonds, Series 2007

FY	Coupon	Principal	Interest	Total
<b>Total</b>		<b>2,280,000</b>	<b>688,418</b>	<b>2,968,418</b>
2017	5.100%	190,000	110,010	300,010
2018	5.100%	190,000	100,320	290,320
2019	5.100%	190,000	90,630	280,630
2020	5.100%	190,000	80,940	270,940
2021	5.100%	190,000	71,250	261,250
2022	5.100%	190,000	61,560	251,560
2023	4.350%	190,000	52,583	242,583
2024	5.100%	190,000	43,605	233,605
2025	5.100%	190,000	33,915	223,915
2026	5.100%	190,000	24,225	214,225
2027	5.100%	190,000	14,535	204,535
2028	5.100%	190,000	4,845	194,845
2029				
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2035				
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/4/2007      Next Call: 8/1/2017  
 100%  
 Purpose: 12th Elementary School Insurance: n/a  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2027  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$13,450,000**

VPSA School Bonds, Series 2008

FY	Coupon	Principal	Interest	Total
<b>Total</b>		<b>8,725,000</b>	<b>2,846,638</b>	<b>11,571,638</b>
2017	5.100%	675,000	424,413	1,099,413
2018	5.100%	675,000	389,988	1,064,988
2019	5.100%	675,000	355,563	1,030,563
2020	5.100%	670,000	321,265	991,265
2021	5.100%	670,000	287,095	957,095
2022	5.100%	670,000	252,925	922,925
2023	5.100%	670,000	218,755	888,755
2024	5.100%	670,000	184,585	854,585
2025	5.100%	670,000	150,415	820,415
2026	5.100%	670,000	116,245	786,245
2027	5.100%	670,000	82,075	752,075
2028	5.100%	670,000	47,905	717,905
2029	4.600%	670,000	15,410	685,410
2030				
2031				
2032				
2033				
2034				
2035				
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 4/30/2008      Next Call: 8/1/2018  
 100%  
 Purpose: 12th elem, transportation, Insurance: n/a  
 APR, Replacement FCMS  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2028  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

# School: General Obligations



## \$5,720,000 VPSA School Bonds, Series 2008

FY	Coupon	Principal	Interest	Total
Total		3,705,000	1,260,626	4,965,626
2017	5.100%	285,000	186,675	471,675
2018	5.100%	285,000	172,140	457,140
2019	5.100%	285,000	157,605	442,605
2020	5.350%	285,000	142,714	427,714
2021	5.350%	285,000	127,466	412,466
2022	5.250%	285,000	112,219	397,219
2023	5.250%	285,000	96,971	381,971
2024	5.250%	285,000	81,724	366,724
2025	5.250%	285,000	66,476	351,476
2026	5.250%	285,000	51,229	336,229
2027	5.100%	285,000	36,338	321,338
2028	5.100%	285,000	21,803	306,803
2029	5.100%	285,000	7,268	292,268
2030				
2031				
2032				
2033				
2034				
2035				
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/25/2008      Next Call: 8/1/2018  
 100%  
 Purpose: Schools      Insurance: n/a  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2028  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

## \$7,975,000 VPSA School Bonds, Series 2011

FY	Coupon	Principal	Interest	Total
Total		6,375,000	2,181,088	8,556,088
2017	5.100%	400,000	280,100	680,100
2018	5.100%	400,000	259,900	659,900
2019	5.100%	400,000	239,700	639,700
2020	5.100%	400,000	219,500	619,500
2021	5.100%	400,000	199,300	599,300
2022	5.100%	400,000	179,100	579,100
2023	5.100%	400,000	158,900	558,900
2024	5.100%	400,000	138,700	538,700
2025	4.100%	400,000	118,500	518,500
2026	4.100%	400,000	101,800	501,800
2027	4.100%	400,000	87,100	487,100
2028	4.100%	395,000	71,001	466,001
2029	4.100%	395,000	55,498	450,498
2030	4.225%	395,000	39,994	434,994
2031	4.350%	395,000	23,996	418,996
2032	4.350%	395,000	7,999	402,999
2033				
2034				
2035				
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/9/2011      Next Call: 8/1/2021  
 100%  
 Purpose: Schools New Transportation      Insurance: n/a  
 Facility & Land for High/Middle School  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2031  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

## \$7,000,000 VPSA School Bonds, Series 2011 (QSCBS)

FY	Coupon	Principal	Interest	Total
Total		5,540,000	4,313,750	9,853,750
2017	5.100%	365,000	297,500	662,500
2018	5.100%	365,000	297,500	662,500
2019	5.100%	370,000	297,500	667,500
2020	5.100%	370,000	297,500	667,500
2021	5.100%	370,000	297,500	667,500
2022	5.100%	370,000	297,500	667,500
2023	5.100%	370,000	297,500	667,500
2024	5.100%	370,000	297,500	667,500
2025	5.100%	370,000	297,500	667,500
2026	3.350%	370,000	297,500	667,500
2027	4.100%	370,000	297,500	667,500
2028	4.100%	370,000	297,500	667,500
2029	3.850%	370,000	297,500	667,500
2030	4.100%	370,000	297,500	667,500
2031	4.100%	370,000	148,750	518,750
2032				
2033				
2034				
2035				
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 12/1/2011      Next Call: 8/1/2021  
 100%  
 Purpose: Schools      Insurance: n/a  
 New Transportation Facility  
 Coupon Dates: 6/1, 12/1      Maturity Date: 12/1/2030  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

# School: General Obligations



## \$4,435,000 VPSA School Bonds, Series 2012

FY	Coupon	Principal	Interest	Total
Total		3,760,000	1,025,215	4,785,215
2017	5.100%	225,000	130,199	355,199
2018	5.100%	225,000	118,836	343,836
2019	4.100%	225,000	108,599	333,599
2020	4.100%	225,000	99,486	324,486
2021	5.100%	220,000	89,375	309,375
2022	5.100%	220,000	78,265	298,265
2023	4.100%	220,000	68,255	288,255
2024	3.100%	220,000	60,445	280,445
2025	2.100%	220,000	54,835	274,835
2026	2.350%	220,000	50,050	270,050
2027	2.350%	220,000	44,990	264,990
2028	4.100%	220,000	38,005	258,005
2029	3.100%	220,000	30,195	250,195
2030	3.100%	220,000	23,485	243,485
2031	3.100%	220,000	16,775	236,775
2032	3.100%	220,000	10,065	230,065
2033	3.100%	220,000	3,355	223,355
2034				
2035				
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/4/2012      Next Call: 8/1/2022  
 100%  
 Purpose: JWHS Wall, Full Day KG, Insurance: n/a  
 Design 4HS & Rep. MS  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2032  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

## \$5,025,000 VPSA School Bonds, Series 2013

FY	Coupon	Principal	Interest	Total
Total		4,515,000	1,676,503	6,191,503
2017	5.100%	255,000	186,431	441,431
2018	5.100%	255,000	173,554	428,554
2019	5.100%	250,000	160,803	410,803
2020	5.100%	250,000	148,178	398,178
2021	5.100%	250,000	135,553	385,553
2022	5.100%	250,000	122,928	372,928
2023	2.350%	255,000	113,683	368,683
2024	3.100%	250,000	106,938	356,938
2025	4.100%	250,000	98,063	348,063
2026	4.100%	250,000	87,938	337,938
2027	3.100%	250,000	79,063	329,063
2028	4.350%	250,000	69,875	319,875
2029	4.350%	250,000	59,125	309,125
2030	4.350%	250,000	48,375	298,375
2031	4.350%	250,000	37,625	287,625
2032	4.350%	250,000	26,875	276,875
2033	4.350%	250,000	16,125	266,125
2034	4.350%	250,000	5,375	255,375
2035				
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/4/2013      Next Call: 8/1/2023  
 100%  
 Purpose: Schools Elementary Insurance: n/a  
 additions for full-day kindergarten & FCMS replacement  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2033  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

## \$4,390,000 VPSA School Bonds, Series 2014

FY	Coupon	Principal	Interest	Total
Total		4,170,000	1,434,087	5,604,087
2017	5.100%	220,000	163,661	383,661
2018	5.100%	220,000	152,551	372,551
2019	5.100%	220,000	141,441	361,441
2020	5.100%	220,000	130,331	350,331
2021	5.100%	220,000	119,221	339,221
2022	5.100%	220,000	108,111	328,111
2023	5.100%	220,000	97,001	317,001
2024	5.100%	220,000	85,891	305,891
2025	5.100%	220,000	74,781	294,781
2026	2.725%	220,000	66,284	286,284
2027	2.850%	220,000	60,261	280,261
2028	3.100%	220,000	53,826	273,826
2029	3.100%	220,000	47,116	267,116
2030	3.225%	220,000	40,269	260,269
2031	3.225%	220,000	33,284	253,284
2032	3.350%	220,000	26,161	246,161
2033	3.475%	220,000	18,764	238,764
2034	3.475%	215,000	11,314	226,314
2035	3.600%	215,000	3,816	218,816
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 4/30/2014      Next Call: 8/1/2024  
 100%  
 Purpose: Schools FCMS, Insurance: n/a  
 design of 4th high school  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2034  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

# School: General Obligations



**\$13,375,000**

VPSA School Bonds, Series 2014

FY	Coupon	Principal	Interest	Total
<b>Total</b>		<b>12,705,000</b>	<b>5,001,271</b>	<b>17,706,271</b>
2017	4.100%	665,000	551,436	1,216,436
2018	5.100%	670,000	521,053	1,191,053
2019	5.100%	670,000	487,218	1,157,218
2020	5.100%	670,000	453,383	1,123,383
2021	5.100%	670,000	419,548	1,089,548
2022	5.100%	670,000	385,713	1,055,713
2023	5.100%	670,000	351,878	1,021,878
2024	5.100%	670,000	318,043	988,043
2025	5.100%	670,000	284,208	954,208
2026	5.100%	670,000	250,373	920,373
2027	5.100%	670,000	216,538	886,538
2028	5.100%	670,000	182,703	852,703
2029	3.600%	670,000	153,893	823,893
2030	3.600%	670,000	130,108	800,108
2031	3.600%	670,000	106,323	776,323
2032	3.600%	665,000	82,626	747,626
2033	3.600%	665,000	59,019	724,019
2034	3.600%	665,000	35,411	700,411
2035	3.600%	665,000	11,804	676,804
2036				
2037				

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/4/2014      Next Call: 8/1/2024  
 Purpose: Schools FCMS      Insurance: n/a  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2034  
 Source: 2015 CAFR, schedules from Staff, and VPSA official statement.

**\$18,535,000**

VPSA School Bonds, Series 2015

FY	Coupon	Principal	Interest	Total
<b>Total</b>		<b>18,535,000</b>	<b>7,032,829</b>	<b>25,567,829</b>
2017	5.000%	930,000	883,109	1,813,109
2018	5.000%	930,000	685,045	1,615,045
2019	5.000%	930,000	638,080	1,568,080
2020	5.000%	930,000	591,115	1,521,115
2021	2.000%	930,000	558,100	1,488,100
2022	5.000%	930,000	525,085	1,455,085
2023	5.000%	930,000	478,120	1,408,120
2024	5.000%	925,000	431,281	1,356,281
2025	5.000%	925,000	384,569	1,309,569
2026	5.000%	925,000	337,856	1,262,856
2027	3.000%	925,000	300,394	1,225,394
2028	4.000%	925,000	267,556	1,192,556
2029	4.000%	925,000	230,094	1,155,094
2030	4.000%	925,000	192,631	1,117,631
2031	3.000%	925,000	159,794	1,084,794
2032	3.000%	925,000	131,581	1,056,581
2033	3.000%	925,000	103,369	1,028,369
2034	3.125%	925,000	74,578	999,578
2035	3.125%	925,000	45,209	970,209
2036	3.250%	925,000	15,263	940,263
2037				-

\* Coupons and Interest include VPSA Annual Admin Fee.

Dated Date: 11/4/2015      Next Call: 8/1/2025  
 Purpose: Schools FCMS      Insurance: n/a  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2035  
 Source: Schedules from Staff.

**\$8,100,000**

VPSA School Bonds, Series 2016

FY	Coupon	Principal	Interest	Total
<b>Total</b>		<b>8,100,000</b>	<b>2,973,251</b>	<b>11,073,251</b>
2017			224,314	224,314
2018	5.050%	405,000	307,699	712,699
2019	5.050%	405,000	287,246	692,246
2020	5.050%	405,000	266,794	671,794
2021	5.050%	405,000	246,341	651,341
2022	5.050%	405,000	225,889	630,889
2023	5.050%	405,000	205,436	610,436
2024	5.050%	405,000	184,984	589,984
2025	5.050%	405,000	164,531	569,531
2026	5.050%	405,000	144,079	549,079
2027	5.050%	405,000	123,626	528,626
2028	2.050%	405,000	109,249	514,249
2029	3.050%	405,000	98,921	503,921
2030	2.300%	405,000	88,088	493,088
2031	3.050%	405,000	77,254	482,254
2032	2.550%	405,000	65,914	470,914
2033	3.050%	405,000	54,574	459,574
2034	2.800%	405,000	42,728	447,728
2035	3.050%	405,000	30,881	435,881
2036	3.050%	405,000	18,529	423,529
2037	3.050%	405,000	6,176	411,176

Dated Date: 5/1/2016      Next Call: 8/1/2026  
 Purpose: Schools FCMS      Insurance: n/a  
 Coupon Dates: 1/15, 7/15      Maturity Date: 7/15/2036  
 Source: Schedules from Staff.

# School: Literary Loans



\$5,000,000

Literary Loan 1997

FY	Coupon	Principal	Interest	Total
Total		250,000	7,500	257,500
2017	3.000%	250,000	7,500	257,500
2018				
2019				
2020				
2021				
2022				
2023				
2024				

Dated Date: 5/30/1997      Next Call: unknown  
 Purpose: Redbud Run Elementary      Insurance: n/a  
 Coupon Dates: Jul 1      Maturity Date: 7/1/2017  
Source: 2015 CAFR and schedules from Staff.

\$1,500,052

Literary Loan 1997

FY	Coupon	Principal	Interest	Total
Total		75,014	2,250	77,264
2017	3.000%	75,014	2,250	77,264
2018				
2019				
2020				
2021				
2022				
2023				
2024				

Dated Date: 5/30/1997      Next Call: unknown  
 Purpose: Sherando High School      Insurance: n/a  
 Coupon Dates: Jul 1      Maturity Date: 7/1/2017  
Source: 2015 CAFR and schedules from Staff.

\$2,142,948

Literary Loan 1997

FY	Coupon	Principal	Interest	Total
Total		107,155	3,215	110,370
2017	3.000%	107,155	3,215	110,370
2018				
2019				
2020				
2021				
2022				
2023				
2024				

Dated Date: 5/30/1997      Next Call: unknown  
 Purpose: James Wood Ridge Campus      Insurance: n/a  
 Coupon Dates: Jul 1      Maturity Date: 7/1/2017  
Source: 2015 CAFR and schedules from Staff.



# School: Literary Loans



**\$3,000,000**  
Literary Loan 1997

FY	Coupon	Principal	Interest	Total
Total		300,000	13,500	313,500
2017	3.000%	150,000	9,000	159,000
2018	3.000%	150,000	4,500	154,500
2019				
2020				
2021				
2022				
2023				
2024				

Dated Date: [9/2/1997](#)      Next Call: [unknown](#)  
 Purpose: [Senseny Road Elementary](#)      Insurance: [n/a](#)  
 Coupon Dates: [Sep 2](#)      Maturity Date: [9/2/2017](#)  
Source: 2015 CAFR and schedules from Staff.

**\$4,640,000**  
Literary Loan 1997

FY	Coupon	Principal	Interest	Total
Total		464,000	20,880	484,880
2017	3.000%	232,000	13,920	245,920
2018	3.000%	232,000	6,960	238,960
2019				
2020				
2021				
2022				
2023				
2024				

Dated Date: [9/2/1997](#)      Next Call: [unknown](#)  
 Purpose: [New Stonewall Elementary](#)      Insurance: [n/a](#)  
 Coupon Dates: [Sep 2](#)      Maturity Date: [9/2/2017](#)  
Source: 2015 CAFR and schedules from Staff.

# Non-School: General Obligations



**\$2,759,400**  
**General Obligation Refunding Bonds, Series 2012**

FY	Coupon	Principal	Interest	Total
Total		1,803,582	157,776	1,961,357
2017	2.450%	282,705	44,188	326,893
2018	2.450%	289,631	37,261	326,893
2019	2.450%	296,727	30,166	326,893
2020	2.450%	303,997	22,896	326,893
2021	2.450%	311,445	15,448	326,893
2022	2.450%	319,075	7,817	326,893
2023				
2024				
2025				
2026				
2027				
2028				
2029				
2030				
2031				
2032				
2033				
2034				
2035				
2036				

Dated Date: [4/5/2012](#)      Next Call: [Unknown](#)  
 Purpose: [Bowman Library](#)      Insurance: [Unknown](#)  
 Coupon Dates: [1/15, 7/15](#)      Maturity Date: [1/15/2022](#)  
Source: 2016 CAFR and schedules from Staff.



# Non-School: Lease/Revenue Obligations

\$9,245,000

VRA Infrastructure Revenue Bonds, Series 2011A

FY	Coupon	Principal	Interest	Total
Total	<i>Interp.</i>	7,726,500	3,611,324	11,337,824
2017	4.927%	356,250	380,657	736,907
2018	4.973%	371,250	366,511	737,761
2019	5.026%	386,250	351,769	738,019
2020	5.088%	401,250	336,431	737,681
2021	5.160%	420,000	320,496	740,496
2022	5.246%	440,000	303,823	743,823
2023	5.270%	460,000	282,022	742,022
2024	5.270%	487,500	257,780	745,280
2025	5.270%	513,750	232,087	745,837
2026	5.270%	542,500	205,013	747,513
2027	5.270%	568,750	176,424	745,174
2028	5.270%	601,250	146,448	747,698
2029	5.270%	632,500	114,764	747,264
2030	5.270%	666,250	81,429	747,679
2031	5.269%	701,250	46,314	747,564
2032	5.263%	177,750	9,355	187,105
2033				
2034				
2035				
2036				

\* Coupons and Interest include VRA Annual Admin Fee.

Dated Date: 4/15/2011 Next Call: 11/1/2021  
100%  
Purpose: Lake Holiday Sanitary Dist. Insurance: n/a  
Coupon Dates: 9/20,12/20,3/20,6/20 Maturity Date: 9/20/2031  
Source: 2016 CAFR, schedules from Staff, and VRA official statement.

\$5,010,000

VRA Infrastructure Revenue Bonds, Series 2014

FY	Coupon	Principal	Interest	Total
Total	<i>Interp.</i>	5,010,000	2,399,100	7,409,100
2017	4.308%	155,000	215,828	370,828
2018	4.304%	160,000	208,981	368,981
2019	4.281%	170,000	201,000	371,000
2020	4.255%	180,000	192,556	372,556
2021	3.871%	200,561	168,192	368,753
2022	3.882%	208,399	160,892	369,291
2023	3.874%	216,543	152,498	369,041
2024	3.852%	225,005	143,273	368,278
2025	3.951%	233,798	138,077	371,875
2026	3.892%	242,934	126,897	369,831
2027	3.994%	252,428	120,519	372,947
2028	3.937%	262,292	108,879	371,172
2029	3.849%	272,543	96,342	368,884
2030	3.939%	283,193	87,863	371,056
2031	3.838%	294,260	74,740	369,000
2032	4.054%	305,759	67,019	372,778
2033	3.954%	317,708	53,276	370,984
2034	3.747%	330,124	38,573	368,697
2035	3.991%	343,025	27,913	370,938
2036	4.427%	356,430	15,780	372,209

\* Coupons and Interest include VRA Annual Admin Fee.

Dated Date: 8/12/2014 Next Call: 11/1/2024  
100%  
Purpose: Round Hill Fire Insurance: n/a  
County 65%, RH 35%  
Coupon Dates: 4/1, 10/1 Maturity Date: 10/1/2035  
Source: 2016 CAFR, schedules from Staff, and VRA official statement.

\$17,160,000

VRA Revenue Refunding Bonds, Series 2015A

FY	Coupon	Principal	Interest	Total
Total		16,605,000	8,264,157	24,869,157
2017	4.426%	515,000	726,478	1,241,478
2018	4.431%	540,000	703,119	1,243,119
2019	5.125%	570,000	676,550	1,246,550
2020	3.730%	595,000	650,847	1,245,847
2021	5.125%	620,000	623,863	1,243,863
2022	5.125%	655,000	591,191	1,246,191
2023	5.125%	690,000	556,725	1,246,725
2024	5.125%	720,000	520,594	1,240,594
2025	5.125%	760,000	482,669	1,242,669
2026	5.125%	795,000	442,822	1,237,822
2027	5.125%	840,000	400,925	1,240,925
2028	3.125%	880,000	365,650	1,245,650
2029	5.125%	915,000	328,453	1,243,453
2030	3.287%	955,000	289,309	1,244,309
2031	3.413%	990,000	256,719	1,246,719
2032	3.450%	1,015,000	222,316	1,237,316
2033	4.825%	1,065,000	179,116	1,244,116
2034	3.663%	1,115,000	133,006	1,248,006
2035	4.748%	1,160,000	85,050	1,245,050
2036	4.753%	1,210,000	28,756	1,238,756

\* Coupons and Interest include VRA Annual Admin Fee.

Dated Date: 5/28/2015 Next Call: 11/1/2025  
100%  
Purpose: Public Safety, Insurance: n/a  
Animal Shelter  
Coupon Dates: 4/1, 10/1 Maturity Date: 10/1/2035  
Source: 2016 CAFR, schedules from Staff, and VRA official statement.

# Non-School: Lease/Revenue Obligations



\$2,485,000

VRA Revenue Refunding Bonds, Series 2015B

FY	Coupon	Principal	Interest	Total
Total		2,380,000	1,345,844	3,725,844
2017	2.125%	75,000	112,628	187,628
2018	3.125%	75,000	110,659	185,659
2019	4.125%	80,000	107,838	187,838
2020	5.125%	85,000	104,009	189,009
2021	5.125%	85,000	99,653	184,653
2022	5.125%	90,000	95,169	185,169
2023	5.125%	95,000	90,428	185,428
2024	5.125%	100,000	85,431	185,431
2025	5.125%	105,000	80,178	185,178
2026	5.125%	110,000	74,669	184,669
2027	5.125%	120,000	68,775	188,775
2028	5.125%	125,000	62,497	187,497
2029	5.125%	130,000	55,963	185,963
2030	5.125%	135,000	49,172	184,172
2031	4.125%	145,000	42,722	187,722
2032	4.250%	150,000	36,544	186,544
2033	5.125%	155,000	29,384	184,384
2034	4.375%	165,000	21,803	186,803
2035	5.125%	175,000	13,709	188,709
2036	5.125%	180,000	4,613	184,613

\* Coupons and Interest include VRA Annual Admin Fee.

Dated Date: 7/13/2015      Next Call: 11/1/2025  
 100%  
 Purpose: Millwood Fire Station      Insurance: n/a  
 Coupon Dates: 4/1, 10/1      Maturity Date: 10/1/2035

Source: 2015 CAFR, schedules from Staff, and VRA official statement.



# Non-School: Other Obligations

\$723,269

Intergovernmental Loan (City of Winchester, VA)

FY	Coupon	Principal	Interest	Total
Total		112,196	17,631	129,827
2017	3.666%	13,726	4,113	17,839
2018	3.670%	14,119	3,614	17,733
2019	3.670%	14,751	3,096	17,847
2020	3.664%	15,184	2,550	17,734
2021	3.083%	12,991	1,678	14,669
2022	3.083%	13,391	1,277	14,669
2023	3.083%	13,804	864	14,669
2024	3.083%	14,230	439	14,669
2025				
2026				
2027				
2028				
2029				
2030				
2031				
2032				
2033				
2034				
2035				
2036				


Dated Date: unknown      Next Call: n/a  
 Purpose: City/County Joing      Insurance: n/a  
           Courtthouse Renovation  
 Coupon Dates: 3/1, 9/1      Maturity Date: 3/1/2024  
 Source: 2015 CAFR and schedules from Staff.

Capital Lease

IBM - AS400

FY	Coupon	Principal	Interest	Total
Total		25,375	541	25,916
2017	3.220%	20,502	516	21,018
2018	3.220%	4,873	25	4,898
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
2027				
2028				
2029				
2030				
2031				
2032				
2033				
2034				
2035				
2036				

Dated Date: 9/1/2012      Next Call: n/a  
 Purpose: IBM - AS400      Insurance: n/a  
 Coupon Dates: Monthly      Maturity Date: 9/1/2017  
 Source: 2015 CAFR and schedules from Staff.



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# Discussion Materials

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Frederick County, Virginia



October 18, 2016





# Analysis of Selected Capital Project

## Key Funding & Project Assumptions

### Base Case: School Project (Original Dating Scheme)

- 12<sup>th</sup> Elementary School and Armel Elementary School Addition
  - \* Note – Total Project Amount is spread over 4 bond issuances as follows:
    - Issue Date of 11/1/2016                      \$8,800,000 (at 4.0%)
    - Issue Date of 5/1/2017                      \$8,800,000 (at 4.0%)
    - Issue Date of 11/1/2017                      \$8,900,000 (at 4.50%)
    - Issue Date of 5/1/2018                      \$4,400,000 (at 4.50%)
    - **Total Estimated Project Amount**                      **\$30,900,000\***
    - Incremental Operating Costs                      \$2,300,000\*
    - Operating Impact Commences at Open                      FY 2019
    - Term/Amortization                      20 Years (Level Principal)

### Scenario 1: School Project (Delayed 12 Months)

- 12<sup>th</sup> Elementary School and Armel Elementary School Addition
  - \* Note – Total Project Amount is spread over 4 bond issuances as follows:
    - Issue Date of 11/1/2017                      \$8,800,000 (at 4.50%)
    - Issue Date of 5/1/2018                      \$8,800,000 (at 4.50%)
    - Issue Date of 11/1/2018                      \$8,900,000 (at 4.50%)
    - Issue Date of 5/1/2019                      \$4,400,000 (at 5.0%)
    - **Total Estimated Project Amount**                      **\$30,900,000\***
    - Incremental Operating Costs                      \$2,300,000\*
    - Operating Impact Commences at Open                      FY 2020
    - Term/Amortization                      20 Years (Level Principal)

### Scenario 2: School Project (Delayed 24 Months)

- 12<sup>th</sup> Elementary School and Armel Elementary School Addition
  - \* Note – Total Project Amount is spread over 4 bond issuances as follows:
    - Issue Date of 11/1/2018                      \$8,800,000 (at 4.50%)
    - Issue Date of 5/1/2019                      \$8,800,000 (at 5.0%)
    - Issue Date of 11/1/2019                      \$8,900,000 (at 5.0%)
    - Issue Date of 5/1/2020                      \$4,400,000 (at 5.0%)
    - **Total Estimated Project Amount**                      **\$30,900,000\***
    - Incremental Operating Costs                      \$2,300,000\*
    - Operating Impact Commences at Open                      FY 2021
    - Term/Amortization                      20 Years (Level Principal)

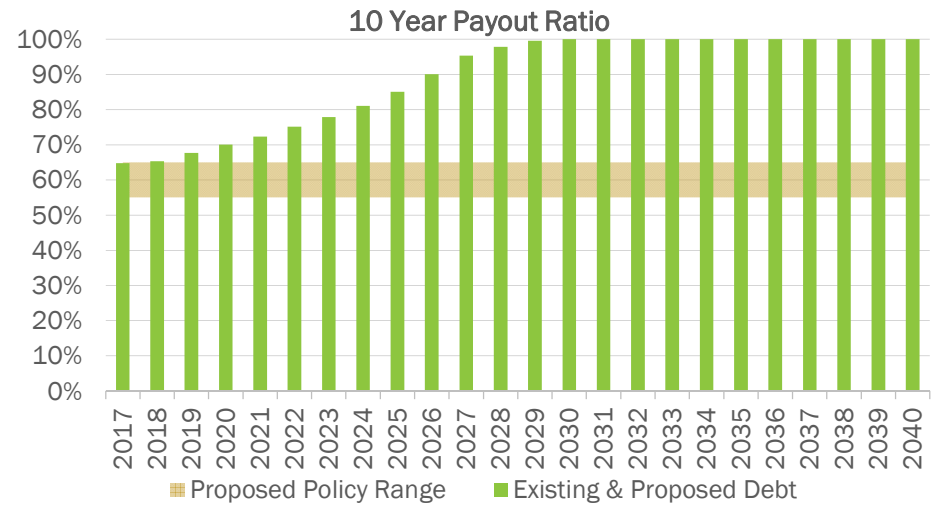
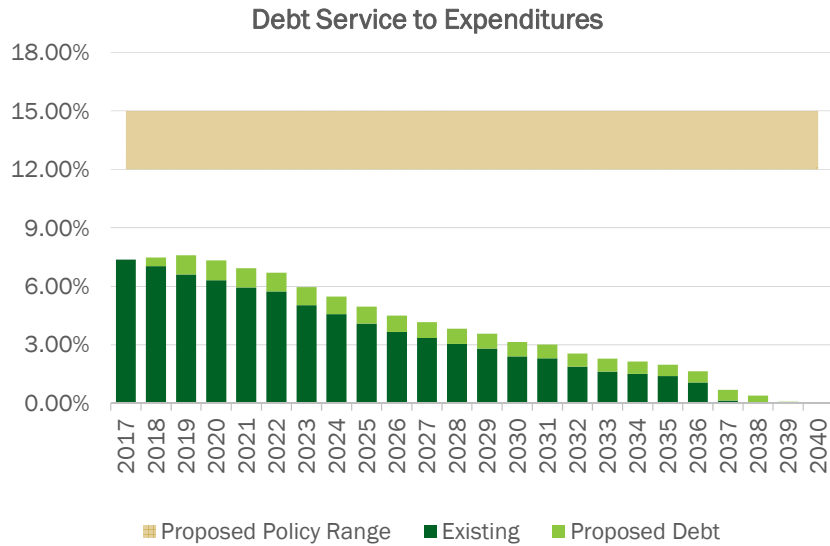
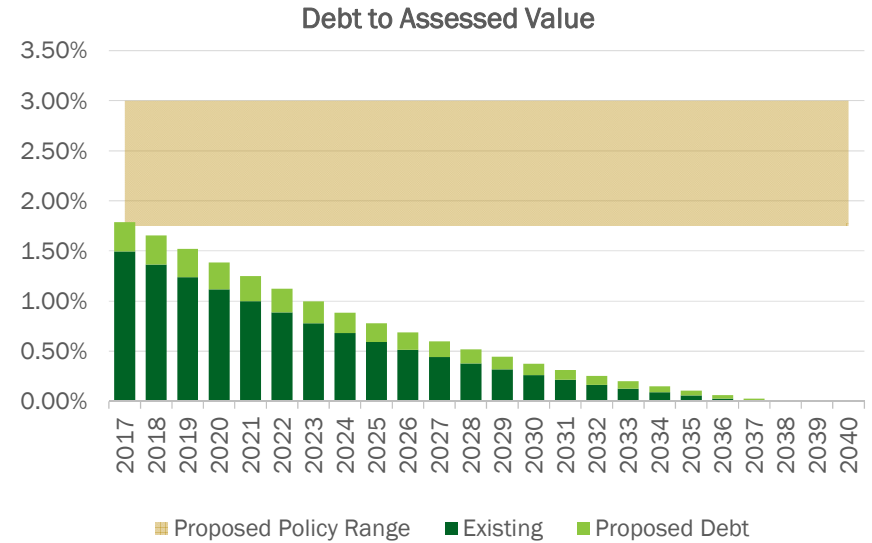
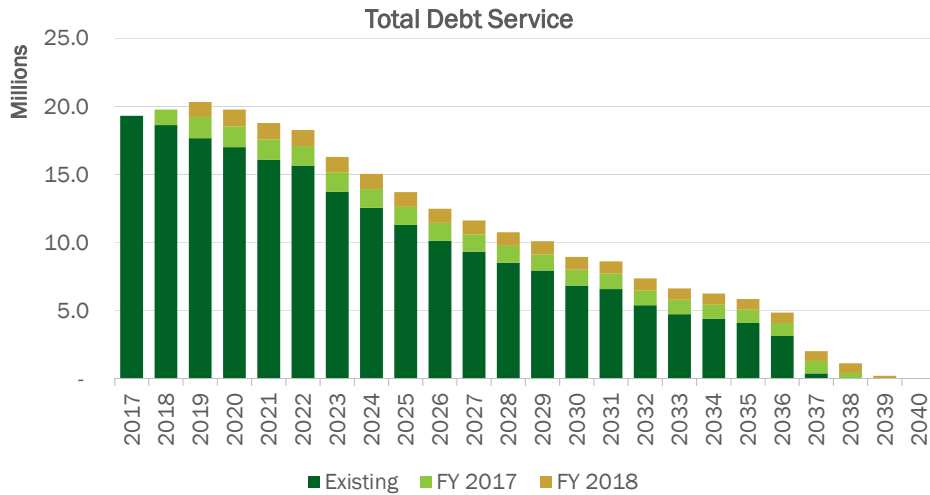


# Base Case: School Project (Original Dating Scheme)



# Debt Profile and Key Debt Ratios

## Base Case: School Project (Original Dating Scheme)





# Debt Affordability Analysis

## Base Case: School Project (Original Dating Scheme)

\* The figures in the table below are based upon preliminary planning estimates and are subject to change.

A FY	C Debt Service Requirements					G Revenue Available for DS							N Debt Service Cash Flow Surplus (Deficit)					
	B Existing Debt Service	C Joint & Non-Schools CIP Debt Service	D 12th & Armel Elementary Schools Only	E CIP Operating Impact <sup>(1)</sup>	F Total	G General Fund Budgeted Debt Service	H General Fund Budgeted for Pay-Go Cash	I Other Available Revenues	J Round Hill Fire (35.35% of VFPF 2014)	K Millwood Fire Reimbursement <sup>(2)</sup>	L Credits for Series 2011 QSCBs <sup>(3)</sup>	M Total Revenues Available	N Surplus/ (Deficit)	O Revenue From Prior Tax Impact	P Capital Reserve Utilized	Q Adjusted Surplus/ (Deficit)	R Estimated Incremental Tax Equivalent	S Capital Reserve Fund Balance
2017	19,313,841	-	-	-	19,313,841	18,830,782	-	-	131,088	74,999	276,973	19,313,841	-	-	-	-	-	-
2018	18,638,796	-	1,135,200	-	19,773,996	18,830,782	-	-	130,435	74,999	276,973	19,313,188	(460,808)	-	-	(460,808)	0.57¢	-
2019	17,682,401	-	2,632,913	2,300,000	22,615,314	18,830,782	-	-	131,149	74,999	276,973	19,313,902	(3,301,412)	465,416	-	(2,835,996)	3.48¢	-
2020	17,023,811	-	2,742,113	2,300,000	22,065,923	18,830,782	-	-	131,699	74,999	276,973	19,314,452	(2,751,472)	3,334,426	-	582,955	-	582,955
2021	16,104,360	-	2,676,988	2,300,000	21,081,347	18,830,782	-	-	130,354	74,999	276,973	19,313,107	(1,768,240)	3,367,771	-	1,599,531	-	2,182,485
2022	15,659,094	-	2,611,863	2,300,000	20,570,957	18,830,782	-	-	130,544	74,999	276,973	19,313,297	(1,257,659)	3,401,448	-	2,143,789	-	4,326,275
2023	13,756,534	-	2,546,738	2,300,000	18,603,272	18,830,782	-	-	130,456	74,999	276,973	19,313,209	709,937	3,435,463	-	4,145,400	-	8,471,675
2024	12,565,006	-	2,481,613	2,300,000	17,346,619	18,830,782	-	-	130,186	74,999	276,973	19,312,939	1,966,321	3,469,818	-	5,436,138	-	13,907,813
2025	11,296,528	-	2,416,488	2,300,000	16,013,015	18,830,782	-	-	131,458	74,999	276,973	19,314,211	3,301,196	3,504,516	-	6,805,711	-	20,713,524
2026	10,150,356	-	2,351,363	2,300,000	14,801,719	18,830,782	-	-	130,735	74,999	276,973	19,313,488	4,511,770	3,539,561	-	8,051,330	-	28,764,854
2027	9,346,389	-	2,286,238	2,300,000	13,932,627	18,830,782	-	-	131,837	74,999	276,973	19,314,590	5,381,963	3,574,956	-	8,956,919	-	37,721,774
2028	8,536,767	-	2,221,113	2,300,000	13,057,879	18,830,782	-	-	131,209	74,999	276,973	19,313,962	6,256,083	3,610,706	-	9,866,789	-	47,588,563
2029	7,950,583	-	2,155,988	2,300,000	12,406,571	18,830,782	-	-	130,401	74,999	276,973	19,313,154	6,906,583	3,646,813	-	10,553,396	-	58,141,959
2030	6,862,666	-	2,090,863	2,300,000	11,253,528	18,830,782	-	-	131,168	74,999	276,973	19,313,921	8,060,393	3,683,281	-	11,743,674	-	69,885,634
2031	6,609,805	-	2,025,738	2,300,000	10,935,542	18,830,782	-	-	130,442	74,999	276,973	19,313,195	8,377,652	3,720,114	-	12,097,766	-	81,983,400
2032	5,414,964	-	1,960,613	2,300,000	9,675,576	18,830,782	-	-	131,777	74,999	138,486	19,176,044	9,500,468	3,757,315	-	13,257,783	-	95,241,183
2033	4,739,689	-	1,895,488	2,300,000	8,935,177	18,830,782	-	-	131,143	74,999	-	19,036,924	10,101,747	3,794,888	-	13,896,635	-	109,137,818
2034	4,432,913	-	1,830,363	2,300,000	8,563,275	18,830,782	-	-	130,334	74,999	-	19,036,115	10,472,840	3,832,837	-	14,305,677	-	123,443,495
2035	4,106,408	-	1,765,238	2,300,000	8,171,645	18,830,782	-	-	131,126	74,999	-	19,036,907	10,865,262	3,871,166	-	14,736,428	-	138,179,922
2036	3,159,369	-	1,700,113	2,300,000	7,159,482	18,830,782	-	-	131,576	74,999	-	19,037,357	11,877,875	3,909,877	-	15,787,752	-	153,967,674
2037	411,176	-	1,634,988	2,300,000	4,346,164	18,830,782	-	-	-	74,999	-	18,905,781	14,559,617	3,948,976	-	18,508,593	-	172,476,267
2038	-	-	1,138,663	2,300,000	3,438,663	18,830,782	-	-	-	74,999	-	18,905,781	15,467,118	3,988,466	-	19,455,584	-	191,931,851
2039	-	-	224,950	2,300,000	2,524,950	18,830,782	-	-	-	74,999	-	18,905,781	16,380,831	4,028,350	-	20,409,181	-	212,341,032
2040	-	-	-	2,300,000	2,300,000	18,830,782	-	-	-	74,999	-	18,905,781	16,605,781	4,068,634	-	20,674,415	-	233,015,446
<b>Total</b>	<b>213,761,456</b>	<b>-</b>	<b>44,525,625</b>	<b>50,600,000</b>	<b>308,887,081</b>								<b>Total</b>	<b>-</b>	<b>-</b>	<b>Total Tax Effect</b>	<b>4.05¢</b>	

■ Assumed FY2017 Value of a Penny<sup>(4)</sup>: \$800,000

■ Assumed Growth Rate: 1.00%

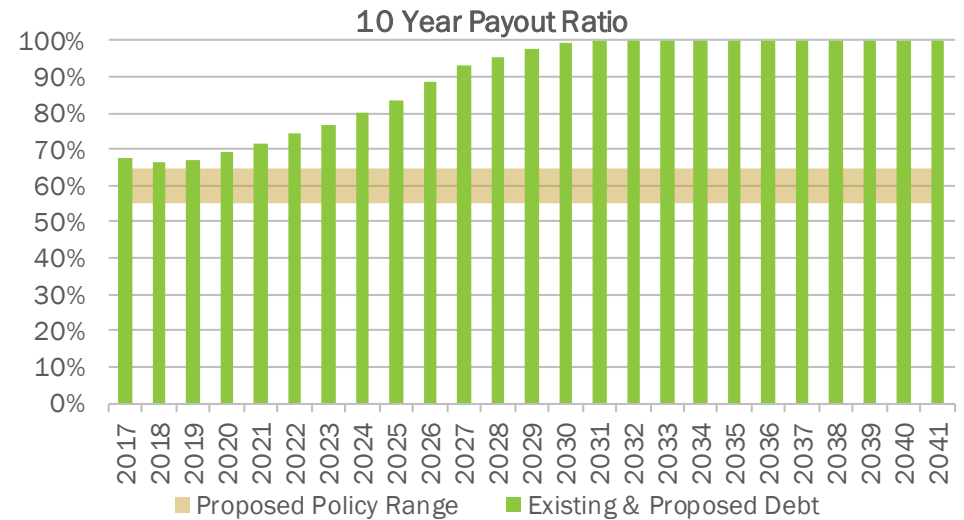
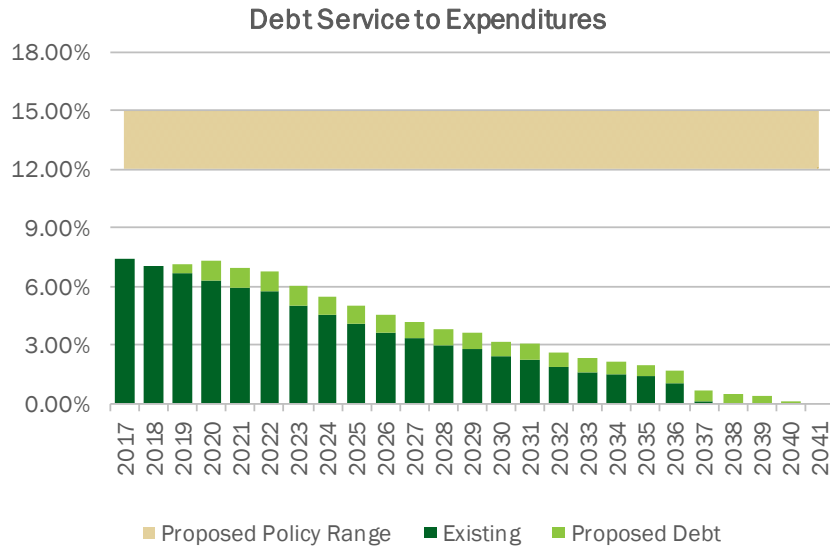
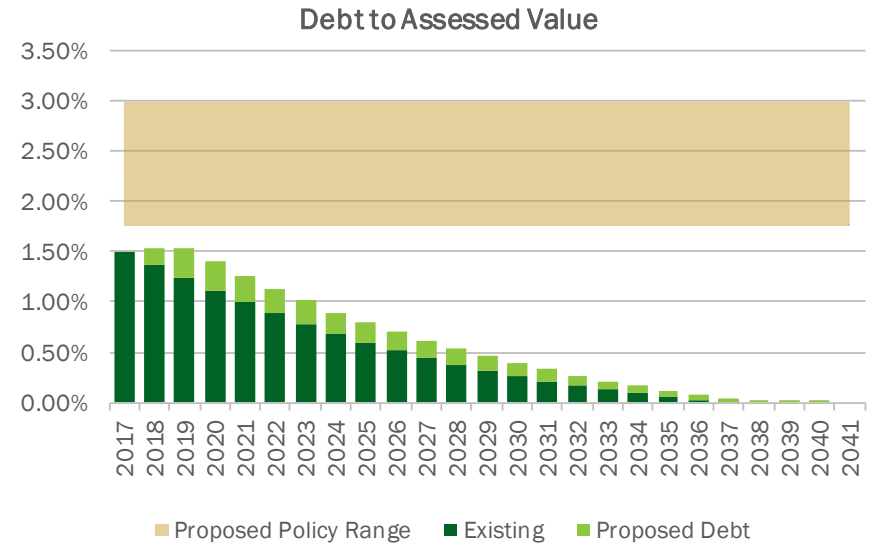
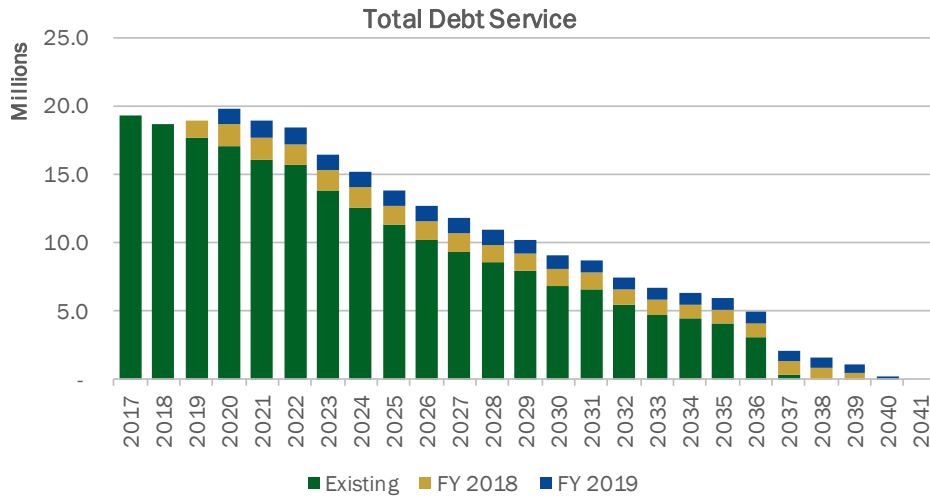
- (1) The CIP Operating Impact represents the estimated incremental increase to annual operating expenses related to the Selected Project: \$2.3 Million commencing FY 2019 for the 12<sup>th</sup> Elementary School and Armel Elementary School Addition.
- (2) The 2015B VRA debt service matures in FY 2036; however, the reimbursement schedule from the Millwood Fire Department allows for payments through FY 2042.
- (3) Note: 2011 QSCB debt service is shown per sinking fund requirements, gross of earnings and with gross interest expense. At the time of the issuance, the published QTCB (subsidy) rates were well above the stated coupon rates. Therefore, at issue, interest expense should be fully subsidized by the Federal Government. However, due to sequestration, a reduction in subsidy was implemented. For the period 10/1/2016 to 9/30/2017, the sequester reduction is 6.9%.
- (4) Provided by Staff.



# Scenario 1: School Project (Delayed 12 Months)

# Debt Profile and Key Debt Ratios

## Scenario 1: School Project (Delayed 12 Months)





# Debt Affordability Analysis

## Scenario 1: School Project (Delayed 12 Months)

\* The figures in the table below are based upon preliminary planning estimates and are subject to change.

A FY	B Debt Service Requirements					G Revenue Available for DS							N Debt Service Cash Flow Surplus (Deficit)					
	C Existing Debt Service	D Joint & Non-Schools CIP Debt Service	E 12th & Armel Elementary Schools Only	F CIP Operating Impact (1)	F Total	G General Fund Budgeted Debt Service	H General Fund Budgeted for Pay-Go Cash	I Other Available Revenues	J Round Hill Fire (35.35% of VFPF 2014)	K Millwood Fire Reimbursement (2)	L Credits for Series 2011 QSCBs (3)	M Total Revenues Available	N Surplus/ (Deficit)	O Revenue From Prior Tax Impact	P Capital Reserve Utilized	Q Adjusted Surplus/ (Deficit)	R Estimated Incremental Tax Equivalent	S Capital Reserve Fund Balance
2017	19,313,841	-	-	-	19,313,841	18,830,782	-	-	131,088	74,999	276,973	19,313,841	-	-	-	-	-	-
2018	18,638,796	-	-	-	18,638,796	18,830,782	-	-	130,435	74,999	276,973	19,313,188	674,392	-	-	674,392	-	674,392
2019	17,682,401	-	1,222,100	-	18,904,501	18,830,782	-	-	131,149	74,999	276,973	19,313,902	409,400	-	-	409,400	-	1,083,792
2020	17,023,811	-	2,733,013	2,300,000	22,056,823	18,830,782	-	-	131,699	74,999	276,973	19,314,452	(2,742,372)	-	(1,083,792)	(1,658,580)	2.01¢	-
2021	16,104,360	-	2,842,763	2,300,000	21,247,122	18,830,782	-	-	130,354	74,999	276,973	19,313,107	(1,934,015)	1,675,165	-	(258,850)	0.31¢	-
2022	15,659,094	-	2,772,138	2,300,000	20,731,232	18,830,782	-	-	130,544	74,999	276,973	19,313,297	(1,417,934)	1,953,355	-	535,421	-	535,421
2023	13,756,534	-	2,701,513	2,300,000	18,758,047	18,830,782	-	-	130,456	74,999	276,973	19,313,209	555,162	1,972,889	-	2,528,051	-	3,063,472
2024	12,565,006	-	2,630,888	2,300,000	17,495,894	18,830,782	-	-	130,186	74,999	276,973	19,312,939	1,817,046	1,992,618	-	3,809,663	-	6,873,135
2025	11,296,528	-	2,560,263	2,300,000	16,156,790	18,830,782	-	-	131,458	74,999	276,973	19,314,211	3,157,421	2,012,544	-	5,169,964	-	12,043,099
2026	10,150,356	-	2,489,638	2,300,000	14,939,994	18,830,782	-	-	130,735	74,999	276,973	19,313,488	4,373,495	2,032,669	-	6,406,164	-	18,449,263
2027	9,346,389	-	2,419,013	2,300,000	14,065,402	18,830,782	-	-	131,837	74,999	276,973	19,314,590	5,249,188	2,052,996	-	7,302,184	-	25,751,447
2028	8,536,767	-	2,348,388	2,300,000	13,185,154	18,830,782	-	-	131,209	74,999	276,973	19,313,962	6,128,808	2,073,526	-	8,202,334	-	33,953,781
2029	7,950,583	-	2,277,763	2,300,000	12,528,346	18,830,782	-	-	130,401	74,999	276,973	19,313,154	6,784,808	2,094,261	-	8,879,069	-	42,832,850
2030	6,862,666	-	2,207,138	2,300,000	11,369,803	18,830,782	-	-	131,168	74,999	276,973	19,313,921	7,944,118	2,115,204	-	10,059,322	-	52,892,172
2031	6,609,805	-	2,136,513	2,300,000	11,046,317	18,830,782	-	-	130,442	74,999	276,973	19,313,195	8,266,877	2,136,356	-	10,403,233	-	63,295,405
2032	5,414,964	-	2,065,888	2,300,000	9,780,851	18,830,782	-	-	131,777	74,999	138,486	19,176,044	9,395,193	2,157,719	-	11,552,912	-	74,848,317
2033	4,739,689	-	1,995,263	2,300,000	9,034,952	18,830,782	-	-	131,143	74,999	-	19,036,924	10,001,972	2,179,297	-	12,181,268	-	87,029,585
2034	4,432,913	-	1,924,638	2,300,000	8,657,550	18,830,782	-	-	130,334	74,999	-	19,036,115	10,378,565	2,201,089	-	12,579,654	-	99,609,240
2035	4,106,408	-	1,854,013	2,300,000	8,260,420	18,830,782	-	-	131,126	74,999	-	19,036,907	10,776,487	2,223,100	-	12,999,587	-	112,608,827
2036	3,159,369	-	1,783,388	2,300,000	7,242,757	18,830,782	-	-	131,576	74,999	-	19,037,357	11,794,600	2,245,331	-	14,039,931	-	126,648,758
2037	411,176	-	1,712,763	2,300,000	4,423,939	18,830,782	-	-	-	74,999	-	18,905,781	14,481,842	2,267,785	-	16,749,627	-	143,398,385
2038	-	-	1,642,138	2,300,000	3,942,138	18,830,782	-	-	-	74,999	-	18,905,781	14,963,643	2,290,463	-	17,254,106	-	160,652,490
2039	-	-	1,141,413	2,300,000	3,441,413	18,830,782	-	-	-	74,999	-	18,905,781	15,464,368	2,313,367	-	17,777,735	-	178,430,226
2040	-	-	225,500	2,300,000	2,525,500	18,830,782	-	-	-	74,999	-	18,905,781	16,380,281	2,336,501	-	18,716,781	-	197,147,007
2041	-	-	-	2,300,000	2,300,000	18,830,782	-	-	-	74,999	-	18,905,781	16,605,781	2,359,866	-	18,965,646	-	216,112,653
<b>Total</b>	<b>213,761,456</b>	<b>-</b>	<b>45,686,125</b>	<b>50,600,000</b>	<b>310,047,581</b>								<b>Total</b>		<b>(1,083,792)</b>	<b>Total Tax Effect</b>	<b>2.32¢</b>	

■ Assumed FY2017 Value of a Penny (4): \$800,000

■ Assumed Growth Rate: 1.00%

- (1) The CIP Operating Impact represents the estimated incremental increase to annual operating expenses related to the Selected Project: \$2.3 Million commencing FY 2020 for the 12<sup>th</sup> Elementary School and Armel Elementary School Addition.
- (2) The 2015B VRA debt service matures in FY 2036; however, the reimbursement schedule from the Millwood Fire Department allows for payments through FY 2042.
- (3) Note: 2011 QSCB debt service is shown per sinking fund requirements, gross of earnings and with gross interest expense. At the time of the issuance, the published QTCB (subsidy) rates were well above the stated coupon rates. Therefore, at issue, interest expense should be fully subsidized by the Federal Government. However, due to sequestration, a reduction in subsidy was implemented. For the period 10/1/2016 to 9/30/2017, the sequester reduction is 6.9%.
- (4) Provided by Staff.



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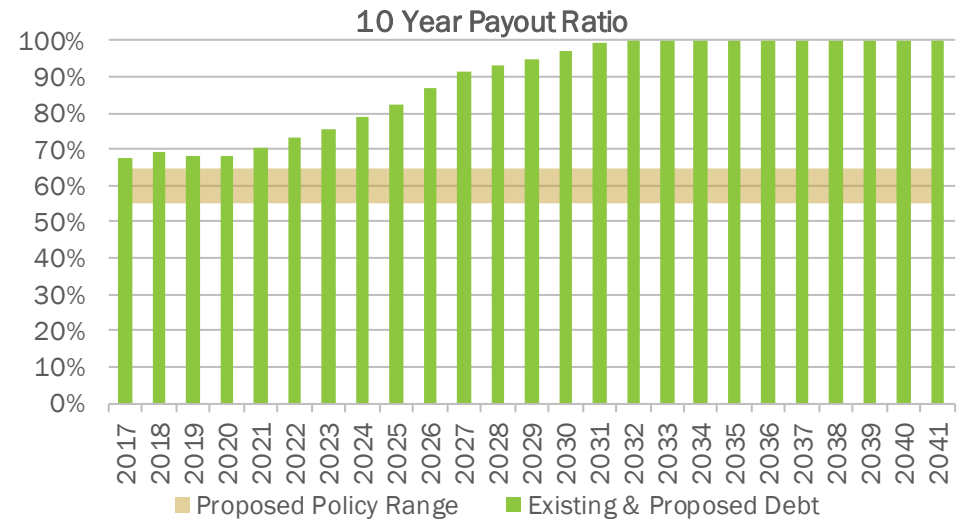
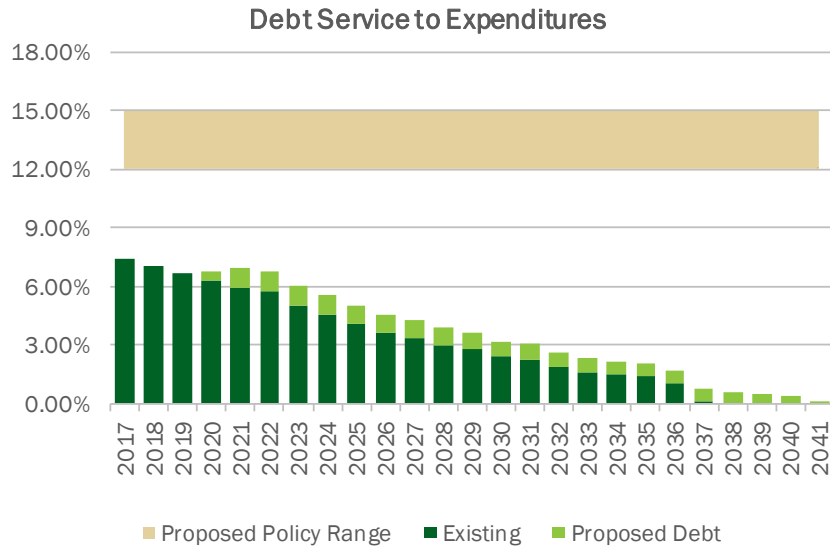
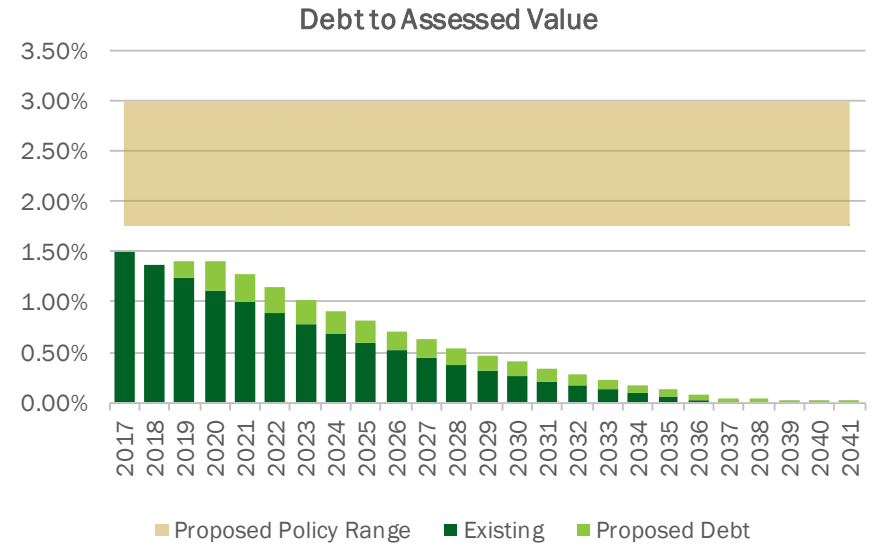
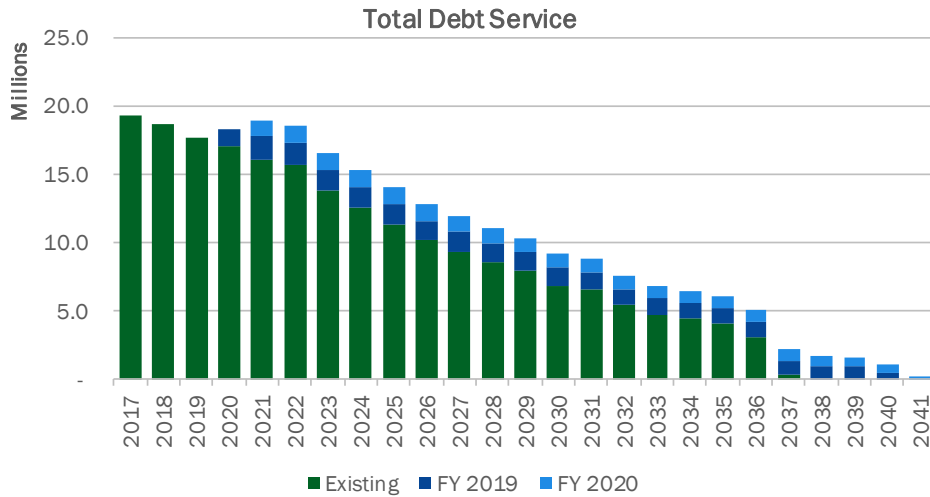
# Scenario 2: School Project (Delayed 24 Months)





# Debt Profile and Key Debt Ratios

## Scenario 2: School Project (Delayed 24 Months)





# Debt Affordability Analysis

## Scenario 2: School Project (Delayed 24 Months)

\* The figures in the table below are based upon preliminary planning estimates and are subject to change.

A FY	C Debt Service Requirements					G Revenue Available for DS							N Debt Service Cash Flow Surplus (Deficit)					
	B Existing Debt Service	C Joint & Non-Schools CIP Debt Service	D 12th & Armel Elementary Schools Only	E CIP Operating Impact <sup>(1)</sup>	F Total	G General Fund Budgeted Debt Service	H General Fund Budgeted for Pay-Go Cash	I Other Available Revenues	J Round Hill Fire (35.35% of VFPF 2014)	K Millwood Fire Reimbursement <sup>(2)</sup>	L Credits for Series 2011 QSCBs <sup>(3)</sup>	M Total Revenues Available	N Surplus/ (Deficit)	O Revenue From Prior Tax Impact	P Capital Reserve Utilized	Q Adjusted Surplus/ (Deficit)	R Estimated Incremental Tax Equivalent	S Capital Reserve Fund Balance
2017	19,313,841	-	-	-	19,313,841	18,830,782	-	-	131,088	74,999	276,973	19,313,841	-	-	-	-	-	-
2018	18,638,796	-	-	-	18,638,796	18,830,782	-	-	130,435	74,999	276,973	19,313,188	674,392	-	-	674,392	-	674,392
2019	17,682,401	-	-	-	17,682,401	18,830,782	-	-	131,149	74,999	276,973	19,313,902	1,631,500	-	-	1,631,500	-	2,305,892
2020	17,023,811	-	1,255,100	-	18,278,911	18,830,782	-	-	131,699	74,999	276,973	19,314,452	1,035,541	-	-	1,035,541	-	3,341,433
2021	16,104,360	-	2,830,425	2,300,000	21,234,785	18,830,782	-	-	130,354	74,999	276,973	19,313,107	(1,921,678)	-	(1,921,678)	-	-	1,419,755
2022	15,659,094	-	2,924,625	2,300,000	20,883,719	18,830,782	-	-	130,544	74,999	276,973	19,313,297	(1,570,422)	-	(1,419,755)	(150,666)	0.18¢	-
2023	13,756,534	-	2,849,575	2,300,000	18,906,109	18,830,782	-	-	130,456	74,999	276,973	19,313,209	407,100	152,173	-	559,272	-	559,272
2024	12,565,006	-	2,774,525	2,300,000	17,639,531	18,830,782	-	-	130,186	74,999	276,973	19,312,939	1,673,408	153,695	-	1,827,103	-	2,386,375
2025	11,296,528	-	2,699,475	2,300,000	16,296,003	18,830,782	-	-	131,458	74,999	276,973	19,314,211	3,018,208	155,232	-	3,173,440	-	5,559,815
2026	10,150,356	-	2,624,425	2,300,000	15,074,781	18,830,782	-	-	130,735	74,999	276,973	19,313,488	4,238,707	156,784	-	4,395,491	-	9,955,306
2027	9,346,389	-	2,549,375	2,300,000	14,195,764	18,830,782	-	-	131,837	74,999	276,973	19,314,590	5,118,825	158,352	-	5,277,177	-	15,232,483
2028	8,536,767	-	2,474,325	2,300,000	13,311,092	18,830,782	-	-	131,209	74,999	276,973	19,313,962	6,002,871	159,935	-	6,162,806	-	21,395,289
2029	7,950,583	-	2,399,275	2,300,000	12,649,858	18,830,782	-	-	130,401	74,999	276,973	19,313,154	6,663,296	161,535	-	6,824,830	-	28,220,119
2030	6,862,666	-	2,324,225	2,300,000	11,486,891	18,830,782	-	-	131,168	74,999	276,973	19,313,921	7,827,031	163,150	-	7,990,181	-	36,210,300
2031	6,609,805	-	2,249,175	2,300,000	11,158,980	18,830,782	-	-	130,442	74,999	276,973	19,313,195	8,154,215	164,781	-	8,318,996	-	44,529,296
2032	5,414,964	-	2,174,125	2,300,000	9,889,089	18,830,782	-	-	131,777	74,999	138,486	19,176,044	9,286,955	166,429	-	9,453,384	-	53,982,680
2033	4,739,689	-	2,099,075	2,300,000	9,138,764	18,830,782	-	-	131,143	74,999	-	19,036,924	9,898,159	168,094	-	10,066,253	-	64,048,933
2034	4,432,913	-	2,024,025	2,300,000	8,756,938	18,830,782	-	-	130,334	74,999	-	19,036,115	10,279,177	169,774	-	10,448,952	-	74,497,885
2035	4,106,408	-	1,948,975	2,300,000	8,355,383	18,830,782	-	-	131,126	74,999	-	19,036,907	10,681,524	171,472	-	10,852,997	-	85,350,882
2036	3,159,369	-	1,873,925	2,300,000	7,333,294	18,830,782	-	-	131,576	74,999	-	19,037,357	11,704,062	173,187	-	11,877,249	-	97,228,131
2037	411,176	-	1,798,875	2,300,000	4,510,051	18,830,782	-	-	-	74,999	-	18,905,781	14,395,729	174,919	-	14,570,648	-	111,798,779
2038	-	-	1,723,825	2,300,000	4,023,825	18,830,782	-	-	-	74,999	-	18,905,781	14,881,956	176,668	-	15,058,624	-	126,857,402
2039	-	-	1,648,775	2,300,000	3,948,775	18,830,782	-	-	-	74,999	-	18,905,781	14,957,006	178,435	-	15,135,440	-	141,992,843
2040	-	-	1,143,625	2,300,000	3,443,625	18,830,782	-	-	-	74,999	-	18,905,781	15,462,156	180,219	-	15,642,375	-	157,635,217
2041	-	-	225,500	2,300,000	2,525,500	18,830,782	-	-	-	74,999	-	18,905,781	16,380,281	182,021	-	16,562,302	-	174,197,519
<b>Total</b>	<b>213,761,456</b>	<b>-</b>	<b>46,615,250</b>	<b>48,300,000</b>	<b>308,676,706</b>								<b>Total</b>		<b>(3,341,433)</b>	<b>Total Tax Effect</b>	<b>0.18¢</b>	

■ Assumed FY2017 Value of a Penny<sup>(4)</sup>: \$800,000

■ Assumed Growth Rate: 1.00%

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- (2) The 2015B VRA debt service matures in FY 2036; however, the reimbursement schedule from the Millwood Fire Department allows for payments through FY 2042.
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- (4) Provided by Staff.

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# *Sample*

## **Debt Management**

### *Introduction*

One of the keys to sound financial management is the development of a debt policy. The need is included in both recommended practices by the Government Finance Officers Association and by bond rating agencies.

### *Key Debt Ratio Guidelines*

- Tax Supported 10-year Payout Ratio should be greater than 65%. The 10-year payout ratio measures the amount of principal to be retired in 10 years.
- Debt to Assessed Value should be in a range not to exceed 0.75%-1.75%.
- Debt Service vs. Governmental Expenditures Ratio should be in a range not to exceed 8-12%. Governmental expenditures represent the ongoing operating expenditures of the County and School Board. In this calculation, debt service and capital expenditures are excluded from expenditures.