



## MEMORANDUM

To: Board of School Directors  
Robert O'Donnell  
Randy Brown  
Donna Watson

From: Tom Beckett & Dave Eckhart, NW Financial Group, LLC.

Date: October 6, 2014

Re: Initial Financing Analysis – State College High Project

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On October 6, we will begin evaluating alternative financing plans for the State College High Project. We feel it important to emphasize that this is a starting point. The final financing plan will be a product of the requirements of the Referendum; market conditions at the time of sale(s); cash needs for construction and, importantly, feedback from the Board, Administration and Community. This memo will define terms and outline common assumptions underlying alternative financing scenarios. We have created six scenarios which examine variables such as timing, amortization, term and form of bond or loan.

### *Definitions*

- **Gross Bond/Loan Proceeds** is the amount, before issue costs, that your financing generates. If the bonds are priced as premium bonds the Gross Proceeds will be greater than the face or par amount of bonds issued. The converse is true as well; bonds priced at a discount will generate Gross Proceeds that are less than the par amount of bonds issued. Market conditions as of the moment of sale will determine the original issue price of your bonds. In either case, we will need to generate approximately \$105 million of bond proceeds.
- **Term** is the number of years after issuance until final maturity.
- **Average Life** is the weighted average of years outstanding of all financings. For example, a 30 year term bond issue with level debt service payments will have an average life of about 17 years.
- **Total Debt Service** is the amount of principal and interest the District will pay from issuance to final maturity.
- **Total Interest** is the portion of Total Debt Service that is interest.
- **All-In True Interest Cost** measures the cost of money. These are discount rates that equate future bond payments with amounts realized at closing. This is similar to an Internal Rate of Return and combines the up-front and annual periodic costs required to issue and service bonds.

- **Average Annual Debt Service** is the average of annual payments after any initial interest only or phased principal. We only measure the Referendum Bonds in this way since the Non-Referendum Bonds are likely to be structured to mature around (wrap) existing district debt and any average could be misleading.
- **Referendum Millage Impact** is the amount of millage required to service the District's Referendum Debt. We have set the value of one mill equal to \$2.1 million and keep that constant.

### *Common Assumptions*

Each of the scenarios outlined below share some common underlying assumptions. It is important to note that these are assumptions utilized for the purposes of developing this analysis and ensuring a consistent basis for comparison between scenarios. These costs and terms may change when the District issues its debt.

- **Payment Dates** – The bonds are structured with annual principal on May 15<sup>th</sup> of each year. Interest is assumed payable on May 15<sup>th</sup> and November 15<sup>th</sup> of each year.
- **Interest Rates (Bonds)** – We have utilized market interest rates as of last week. We have assumed no increase or decrease in interest rates for bonds issued in different years. Appendix C sets out our interest rate assumptions for the District's Bonds. Market conditions at the time of sale as well as the District's rating will determine actual interest rates.
- **Fixed Cost of Issue** – These costs don't vary with the size of the issue. The costs for legal counsel, rating fees, financial advisory fees, etc are assumed to total \$80,000 per issue of bonds. We also assumed similar costs for a bank loan.
- **Underwriting Spread** – We have assumed an underwriter's discount/spread of \$5.00/\$1,000 or ½ % of the par amount of the bonds. This could be lower or higher depending on method of sale, market conditions and the process used to choose an underwriter.
- **Optional Call Feature** – We have assumed a 5 year call at par (100%) as is generally typical for Pennsylvania School District issues.
- **Construction Draw** – Appendix D shows the amounts and timing of construction costs.

### *Scenario Construction*

In developing our initial set of financing scenarios, we looked at three primary variables; the number and timing of issuance, the amortization of both the Referendum Bonds and the District's Non-Referendum Bonds and utilizing a bank loan with a drawdown feature to fund early construction costs. The following table describes our six financing scenarios.

<b>Scenario/ Shorthand</b>	<b>Variable</b>	<b>Referendum Bonds</b>	<b>Non-Referendum Bonds</b>
<b>IA “Phased”</b>	Issue Date(s)	March 1, 2015 June 15, 2016	May 15, 2017
	Term	30 years (5/15/2045)	13 Years (5/15/30)
	Amortization	Interest Only through 2017. Level debt service to Term.	Wrap existing +1/2 mill.
	Cash Application	\$10 mm spent last.	
<b>IB “Phased -accelerated amortization”</b>	Term	25 Years (5/15/2040)	NO Change from IA
	Amortization	Interest Only through 2017. Level to get to a max annual debt service of \$5.5 mm	NO Change from IA
<b>II “Single Issue”</b>	Issue Date(s)	March 1, 2015	NO Change from IA
	Term	30 years (5/15/2045)	NO Change from IA
	Amortization	Interest Only through 2017. Level debt service to Term.	NO Change from IA
	Cash Application	\$7 mm spent first. \$3 mm spent last.	
<b>III “Bank Drawdown”</b>	Issue Dates	3/1/15 Bank Draws Quarterly per draw schedule. Issue Balance of Referendum Bonds as needed in one series in early 2016.	NO Change from IA
	Amortization	Bank Loan through 2030. Wrap Balance to level debt service.	NO Change from IA
	Cash Application	\$7 mm spent first. \$3 mm spent later.	NO Change from IA

Scenario/ Shorthand	Variable	Referendum Bonds	Non-Referendum Bonds
<b>IV</b> “Phased, Longer Wrap”	Issue Date(s)	Same as IA	May 15, 2017
	Term	Same as IA	30 years (5/15/2045)
	Amortization	Same as IA	Nominal amortization through 2026 level thereafter.
	Cash Application	Same as IA	
<b>V</b> “Single Issue, Longer Wrap”	Issue Date(s)	Same as II	Same as IV
	Term	Same as II	Same as IV
	Amortization	Same as II	Same as IV
	Cash Application	Same as II	

Appendix A provides summary results for our six initial scenarios. Appendix B provides summary fiscal year cash flow for existing debt, District/Non-Referendum and Referendum Debt as well as the annual millage impact through maturity.

### Interest Rate Risk

The District runs interest rate risk in the Scenarios (1A, 1B, III and IV) that contemplate phased issuance. Since phasing issuance decreases overall total interest cost, we looked at how much interest rates would have to increase on the second issue to eliminate the advantage gained in phasing interest rates. For example, the difference in present value cost between Scenarios 1A and II is approximately \$1.8 million. The present value of a 1 basis point (.01%) change in rate on the *second issue* in Scenario 1A is approximately \$46,000. Therefore the all-in rate on the second issue in Scenario 1A would have to increase by about 40 basis points (.40%) or from about 3.72% to 4.12%.

Another way to assess the benefit/risk tradeoff in phasing issuance is to see how much a second issue would have to increase to take total debt service up to the referendum projection level of \$5.5 million. In this case rates would have to increase by approximately 2% or from 3.72% to 5.72% on the second issue.

The rate risk cushion is even higher in the bank loan scenario.

## Method of Sale

As we discussed last time we met, there are two ways to sell municipal bonds. In a competitive sale, the District sets the terms of the financing and a sale date and invites interested bidders to provide a single price at which they will purchase the bonds. The highest price bid wins the obligation to buy the bonds. Our presentation to the Board on September 22<sup>nd</sup> listed some of the factors supporting a competitive sale.

In a negotiated sale of bonds, the District would hire one or more underwriting firms, naming one as the lead, or “book running”, manager and over a period of a day or two negotiate the terms and pricing of your bonds. The selection of an underwriter usually occurs through a Request for Proposals process several weeks or months prior to the sale of bonds. The District would negotiate a single underwriting discount with the underwriter prior to the sale date. Some advantages of negotiated sales are:

- **Institutional Participation** - For larger issues, a negotiated sale may make it more likely that institutional buyers participate. Institutional buyers must spend time researching your credit and can only ensure that this effort pays off if they know that their orders will be filled by a known underwriter.
- **Local Retail Sales** – Issuers often set a policy goal to ensure maximum local distribution of their bonds to accommodate local investors. In order to do this, the District could have what is known as a “retail only order period”. This would be a window of time, usually a day before the bonds are offered to the wider market, which allows underwriters to take orders from “retail” accounts. The District could narrow the retail definition further by specifying that only retail orders from specified local ZIP codes would be filled during this time. This process requires negotiation with your underwriters of syndicate rules in advance of the sale date and therefore rules out a competitive sale. If the District wants to afford local residents the opportunity to purchase the bonds during a special “retail” order period, a negotiated sale is the only manner in which this can be done.
- **Timing** – With a pre-selected underwriter, an issuer may be able to enter the market one or more weeks sooner than with a competitive sale.

<u># Weeks Elapsed</u>			
<b>Competitive Sale</b>	<b>Negotiated Sale</b>		<b>Task</b>
0	0		Notice to Proceed by Board
1	1		Submission of Data to Rating agencies
1	NA		Preparation of Notice of Sale, Bid Forms
2	2		Complete Preliminary Official Statement
3	3		Receive Rating
3	3		Post Official Statement, NOS, Bid Forms
NA	4		Pre-Marketing of Bonds
NA	5		Pricing Bonds
6	NA		Competitive Sale

**Appendix A**  
**Summary Analysis**

**State College Area School District  
Analysis Summary**

		Scenario							
		I A	I B	II	III	IV	V	VI	VII
Issue Dates		3/1/2015	3/1/2015	3/1/2015	3/1/2015	3/1/2015	3/1/2015	3/1/2015	3/1/2015
		6/15/2016	6/15/2016	5/15/2017	3/1/2016	6/15/2016	5/15/2017	5/15/2017	6/15/2016
		5/15/2017	5/15/2017		5/15/2017	5/15/2017			5/15/2017
Issue Amounts (Proceeds)	1	\$ 47,497,616	\$ 47,497,169	\$ 84,995,217	\$ 25,000,000	\$ 47,497,618	\$ 84,995,217	\$ 84,997,965	\$ 84,995,989
	2	\$ 37,495,451	\$ 37,498,881	\$ 19,997,137	\$ 59,995,309	\$ 37,495,450	\$ 19,996,305	\$ 19,998,697	\$ 19,998,697
	3	\$ 19,997,137	\$ 19,997,137		\$ 19,997,137	\$ 19,996,305			
Gross Bond/Loan Proceeds		\$ 104,990,207	\$ 104,993,188	\$ 104,992,355	\$ 104,992,445	\$ 104,989,374	\$ 104,991,522	\$ 104,996,663	\$ 104,994,686
Term		30	25	30	30	30	30	20	20
Final Maturity		2045	2040	2045	2045	2045	2045	2035	2035
Average Life		17.75	15.075	17.757	17.75	19.636	19.644	13.604	13.6
Total Debt Service									
Referendum		\$ 143,806,511	\$ 130,331,592	\$ 145,735,641	\$ 141,383,208	\$ 143,806,509	\$ 145,735,640	\$ 120,115,755	\$ 118,344,195
District (Non-Referendum)		\$ 26,104,950	\$ 26,104,950	\$ 26,104,950	\$ 26,104,950	\$ 35,356,550	\$ 35,356,550	\$ 31,313,000	\$ 31,313,000
Total DS		\$ 169,911,461	\$ 156,436,541	\$ 171,840,590	\$ 167,488,158	\$ 179,163,060	\$ 181,092,191	\$ 151,428,755	\$ 149,657,195
Total Interest Cost									
Referendum		\$ 58,936,510	\$ 46,361,591	\$ 60,870,640	\$ 57,308,208	\$ 58,936,510	\$ 60,870,641	\$ 37,395,754	\$ 35,534,195
District (Non-Referendum)		\$ 6,884,950	\$ 6,884,950	\$ 6,884,950	\$ 6,884,950	\$ 15,706,550	\$ 15,706,550	\$ 11,828,000	\$ 11,828,000
Total Interest		\$ 65,821,460	\$ 53,246,541	\$ 67,755,590	\$ 64,193,158	\$ 74,643,060	\$ 76,577,191	\$ 49,223,754	\$ 47,362,195
Total Costs of Issue									
All-In True Interest Cost (AIC)		\$ 760,450	\$ 755,950	\$ 680,425	\$ 631,475	\$ 762,600	\$ 682,575	\$ 671,025	\$ 751,475
		3.7234%	3.5345%	3.7232%	3.5000%	3.8150%	3.8115%	3.4427%	3.4420%
Average Annual DS - Referendum after phase in									
		\$ 4,952,855	\$ 5,452,248	\$ 4,957,420	\$ 4,913,778	\$ 4,952,855	\$ 4,957,420	\$ 6,313,988	\$ 6,309,652
Referendum Millage Impact									
	FY'16	1.01	0.97	1.80	0.19	1.01	1.80	1.68	0.94
	FY'17	1.43	1.38	1.50	1.66	1.43	1.50	1.40	1.33
	FY'18	2.36	2.60	2.36	2.34	2.36	2.36	3.01	3.01
	FY'19	2.36	2.60	2.36	2.34	2.36	2.36	3.01	3.00
	FY'20 -'45	2.36	2.60	2.36	2.34	2.36	2.36	3.01	3.00

## **Appendix B**

### **Scenario Debt Service Cash Flow and Millage Impact**



State College Area School District  
General Obligation Bonds Debt Service Cash Flows & Millage  
Scenario I A

A	B	C	D	F	G	H	I	J
Period Ending	Existing Debt Service	General Obligation Bonds, Series of 2017	Total District Non-Referendum Debt	Obligation Bonds, Series of 2015 (Referendum)	Obligation Bonds, Series of 2016 (Referendum)	Aggregate Debt Service	State High Project Debt Service	Millage Impact (1) Referendum Mills
06/30/2015	5,362,868		5,362,868			5,362,868	-	
06/30/2016	5,255,695	-	5,255,695	2,116,134		7,371,829	2,116,134	1.008
06/30/2017	5,336,801	-	5,336,801	1,755,319	1,254,264	8,346,384	3,009,582	1.433
06/30/2018	5,106,674	1,131,400	6,238,074	2,770,319	2,183,288	11,191,680	6,085,006	2.359
06/30/2019	5,099,184	1,137,300	6,236,484	2,769,869	2,181,988	11,188,340	6,089,156	2.358
06/30/2020	5,009,876	1,227,900	6,237,776	2,768,519	2,182,088	11,188,383	6,178,506	2.357
06/30/2021	4,988,286	1,245,800	6,234,086	2,771,269	2,181,438	11,186,793	6,198,506	2.358
06/30/2022	4,965,623	1,272,650	6,238,273	2,767,969	2,185,038	11,191,279	6,225,656	2.359
06/30/2023	4,881,638	1,353,150	6,234,788	2,772,369	2,182,738	11,189,894	6,308,256	2.360
06/30/2024	4,893,218	1,345,650	6,238,868	2,769,769	2,185,338	11,193,974	6,300,756	2.360
06/30/2025	4,893,188	1,345,050	6,238,238	2,770,369	2,181,338	11,189,944	6,296,756	2.358
06/30/2026	4,881,256	1,353,250	6,234,506	2,768,969	2,180,938	11,184,413	6,303,156	2.357
06/30/2027	3,853,406	2,384,850	6,238,256	2,770,569	2,183,938	11,192,763	7,339,356	2.359
06/30/2028	3,850,019	2,388,850	6,238,869	2,769,969	2,185,138	11,193,975	7,343,956	2.360
06/30/2029	1,275,100	4,959,650	6,234,750	2,771,619	2,184,538	11,190,906	9,915,806	2.360
06/30/2030	1,276,963	4,959,450	6,236,413	2,770,056	2,183,988	11,190,456	9,913,494	2.359
06/30/2031			-	2,770,169	2,180,863	4,951,031	4,951,031	2.358
06/30/2032			-	2,772,713	2,181,938	4,954,650	4,954,650	2.359
06/30/2033			-	2,768,081	2,181,438	4,949,519	4,949,519	2.357
06/30/2034			-	2,771,456	2,184,363	4,955,819	4,955,819	2.360
06/30/2035			-	2,772,475	2,180,538	4,953,013	4,953,013	2.359
06/30/2036			-	2,771,138	2,180,138	4,951,275	4,951,275	2.358
06/30/2037			-	2,772,706	2,182,400	4,955,106	4,955,106	2.360
06/30/2038			-	2,771,369	2,182,338	4,953,706	4,953,706	2.359
06/30/2039			-	2,772,125	2,184,950	4,957,075	4,957,075	2.361
06/30/2040			-	2,769,781	2,180,044	4,949,825	4,949,825	2.357
06/30/2041			-	2,769,338	2,182,813	4,952,150	4,952,150	2.358
06/30/2042			-	2,770,600	2,182,869	4,953,469	4,953,469	2.359
06/30/2043			-	2,768,375	2,180,213	4,948,588	4,948,588	2.356
06/30/2044			-	2,767,663	2,184,844	4,952,506	4,952,506	2.358
06/30/2045			-	2,768,269	2,181,375	4,949,644	4,949,644	2.357
	70,929,793	26,104,950	97,034,743	81,439,341	62,367,170	240,841,253	169,911,461	

(1) 1 mill is a constant \$2.1 million

State College Area School District  
 General Obligation Bonds Debt Service Cash Flows & Millage  
 Scenario I B

A	B	C	D	F	G	H	I	J
Period Ending	Existing Debt Service	General Obligation Bonds, Series of 2017	Total District Non-Referendum Debt	Obligation Bonds, Series of 2015 (Referendum)	Obligation Bonds, Series of 2016 (Referendum)	Aggregate Debt Service	State High Project Debt Service	Millage Impact (1) Referendum Mills
06/30/2015	5,362,868		5,362,868			5,362,868	-	
06/30/2016	5,255,695	-	5,255,695	2,037,728		7,293,423	2,037,728	0.970
06/30/2017	5,336,801	-	5,336,801	1,690,281	1,202,564	8,229,646	2,892,845	1.378
06/30/2018	5,106,674	1,131,400	6,238,074	3,050,281	2,401,888	11,690,243	6,583,569	2.596
06/30/2019	5,099,184	1,137,300	6,236,484	3,049,481	2,405,088	11,691,053	6,591,869	2.597
06/30/2020	5,009,876	1,227,900	6,237,776	3,052,481	2,401,638	11,691,895	6,682,019	2.597
06/30/2021	4,988,286	1,245,800	6,234,086	3,049,131	2,402,288	11,685,505	6,697,219	2.596
06/30/2022	4,965,623	1,272,650	6,238,273	3,049,581	2,401,888	11,689,741	6,724,119	2.596
06/30/2023	4,881,638	1,353,150	6,234,788	3,048,381	2,400,438	11,683,606	6,801,969	2.595
06/30/2024	4,893,218	1,345,650	6,238,868	3,049,781	2,400,438	11,689,086	6,795,869	2.595
06/30/2025	4,893,188	1,345,050	6,238,238	3,048,581	2,403,438	11,690,256	6,797,069	2.596
06/30/2026	4,881,256	1,353,250	6,234,506	3,049,781	2,404,238	11,688,525	6,807,269	2.597
06/30/2027	3,853,406	2,384,850	6,238,256	3,048,181	2,402,838	11,689,275	7,835,869	2.596
06/30/2028	3,850,019	2,388,850	6,238,869	3,048,781	2,404,238	11,691,888	7,841,869	2.597
06/30/2029	1,275,100	4,959,650	6,234,750	3,050,731	2,403,238	11,688,719	10,413,619	2.597
06/30/2030	1,276,963	4,959,450	6,236,413	3,048,388	2,400,688	11,685,488	10,408,525	2.595
06/30/2031			-	3,051,600	2,404,750	5,456,350	5,456,350	2.598
06/30/2032			-	3,049,569	2,400,775	5,450,344	5,450,344	2.595
06/30/2033			-	3,049,819	2,404,875	5,454,694	5,454,694	2.597
06/30/2034			-	3,052,169	2,401,700	5,453,869	5,453,869	2.597
06/30/2035			-	3,051,438	2,401,425	5,452,863	5,452,863	2.597
06/30/2036			-	3,047,625	2,403,875	5,451,500	5,451,500	2.596
06/30/2037			-	3,047,563	2,403,875	5,451,438	5,451,438	2.596
06/30/2038			-	3,048,938	2,401,063	5,450,000	5,450,000	2.595
06/30/2039			-	3,051,563	2,400,438	5,452,000	5,452,000	2.596
06/30/2040			-	3,050,250	2,401,813	5,452,063	5,452,063	2.596
06/30/2041			-			-	-	-
06/30/2042			-			-	-	-
06/30/2043			-			-	-	-
06/30/2044			-			-	-	-
06/30/2045			-			-	-	-
	70,929,793	26,104,950	97,034,743	73,872,103	56,459,489	227,366,334	156,436,542	

(1) 1 mill is a constant \$2.1 million

**State College Area School District**  
**General Obligation Bonds Debt Service Cash Flows & Millage**  
**Scenario II**

A	B	C	D	F	G	H	I
Period	Existing Debt	General	Total District	Obligation	Aggregate Debt	State High	Millage Impact (1)
Ending	Service	Obligation	Non-	Bonds, Series	Service	Project Debt	Referendum
		Bonds, Series of	Referendum	of 2015		Service	Mills
		2017	Debt	(Referendum)			
06/30/2015	5,362,868		5,362,868		5,362,868	-	
06/30/2016	5,255,695	-	5,255,695	3,786,778	9,042,473	3,786,778	1.803
06/30/2017	5,336,801	-	5,336,801	3,141,106	8,477,908	3,141,106	1.496
06/30/2018	5,106,674	1,131,400	6,238,074	4,956,106	11,194,180	6,087,506	2.360
06/30/2019	5,099,184	1,137,300	6,236,484	4,956,656	11,193,140	6,093,956	2.360
06/30/2020	5,009,876	1,227,900	6,237,776	4,955,556	11,193,333	6,183,456	2.360
06/30/2021	4,988,286	1,245,800	6,234,086	4,957,806	11,191,893	6,203,606	2.361
06/30/2022	4,965,623	1,272,650	6,238,273	4,958,256	11,196,529	6,230,906	2.361
06/30/2023	4,881,638	1,353,150	6,234,788	4,956,456	11,191,244	6,309,606	2.360
06/30/2024	4,893,218	1,345,650	6,238,868	4,956,456	11,195,324	6,302,106	2.360
06/30/2025	4,893,188	1,345,050	6,238,238	4,958,056	11,196,294	6,303,106	2.361
06/30/2026	4,881,256	1,353,250	6,234,506	4,956,056	11,190,563	6,309,306	2.360
06/30/2027	3,853,406	2,384,850	6,238,256	4,960,456	11,198,713	7,345,306	2.362
06/30/2028	3,850,019	2,388,850	6,238,869	4,955,856	11,194,725	7,344,706	2.360
06/30/2029	1,275,100	4,959,650	6,234,750	4,958,306	11,193,056	9,917,956	2.361
06/30/2030	1,276,963	4,959,450	6,236,413	4,960,025	11,196,438	9,919,475	2.362
06/30/2031			-	4,955,650	4,955,650	4,955,650	2.360
06/30/2032			-	4,957,881	4,957,881	4,957,881	2.361
06/30/2033			-	4,956,306	4,956,306	4,956,306	2.360
06/30/2034			-	4,955,925	4,955,925	4,955,925	2.360
06/30/2035			-	4,956,556	4,956,556	4,956,556	2.360
06/30/2036			-	4,958,019	4,958,019	4,958,019	2.361
06/30/2037			-	4,956,656	4,956,656	4,956,656	2.360
06/30/2038			-	4,960,256	4,960,256	4,960,256	2.362
06/30/2039			-	4,958,431	4,958,431	4,958,431	2.361
06/30/2040			-	4,956,181	4,956,181	4,956,181	2.360
06/30/2041			-	4,958,313	4,958,313	4,958,313	2.361
06/30/2042			-	4,959,438	4,959,438	4,959,438	2.362
06/30/2043			-	4,959,363	4,959,363	4,959,363	2.362
06/30/2044			-	4,957,894	4,957,894	4,957,894	2.361
06/30/2045			-	4,954,838	4,954,838	4,954,838	2.359
	70,929,793	26,104,950	97,034,743	145,735,641	242,770,383	171,840,591	

(1) 1 mill is a constant \$2.1 million

State College Area School District  
 General Obligation Bonds Debt Service Cash Flows & Millage  
 Scenario III

A	B	C	D	F	G	H	I	J
Period Ending	Existing Debt Service	General Obligation Bonds, Series of 2017	Total District Non-Referendum Debt	Obligation Bank Note, Series of 2015 (Referendum)	Obligation Bonds, Series of 2016 (Referendum)	Aggregate Debt Service	State High Project Debt Service	Millage Impact (1) Referendum Mills
06/30/2015	5,362,868		5,362,868			5,362,868	-	
06/30/2016	5,255,695	-	5,255,695	395,241		5,650,936	395,241	0.188
06/30/2017	5,336,801	-	5,336,801	705,000	2,788,239	8,830,040	3,493,239	1.663
06/30/2018	5,106,674	1,131,400	6,238,074	705,000	4,207,825	11,150,899	6,044,225	2.339
06/30/2019	5,099,184	1,137,300	6,236,484	2,458,100	2,449,925	11,144,509	6,045,325	2.337
06/30/2020	5,009,876	1,227,900	6,237,776	2,458,100	2,454,675	11,150,552	6,140,675	2.339
06/30/2021	4,988,286	1,245,800	6,234,086	2,458,100	2,454,125	11,146,312	6,158,025	2.339
06/30/2022	4,965,623	1,272,650	6,238,273	2,458,100	2,453,425	11,149,798	6,184,175	2.339
06/30/2023	4,881,638	1,353,150	6,234,788	2,458,100	2,452,575	11,145,463	6,263,825	2.338
06/30/2024	4,893,218	1,345,650	6,238,868	2,458,100	2,454,575	11,151,543	6,258,325	2.339
06/30/2025	4,893,188	1,345,050	6,238,238	2,458,100	2,451,175	11,147,513	6,254,325	2.338
06/30/2026	4,881,256	1,353,250	6,234,506	2,458,100	2,452,575	11,145,182	6,263,925	2.338
06/30/2027	3,853,406	2,384,850	6,238,256	2,458,100	2,453,575	11,149,932	7,296,525	2.339
06/30/2028	3,850,019	2,388,850	6,238,869	2,458,100	2,454,175	11,151,144	7,301,125	2.339
06/30/2029	1,275,100	4,959,650	6,234,750	2,458,100	2,454,375	11,147,225	9,872,125	2.339
06/30/2030	1,276,963	4,959,450	6,236,413	2,458,100	2,451,725	11,146,238	9,869,275	2.338
06/30/2031			-		4,908,600	4,908,600	4,908,600	2.337
06/30/2032			-		4,909,600	4,909,600	4,909,600	2.338
06/30/2033			-		4,911,200	4,911,200	4,911,200	2.339
06/30/2034			-		4,908,200	4,908,200	4,908,200	2.337
06/30/2035			-		4,910,600	4,910,600	4,910,600	2.338
06/30/2036			-		4,913,000	4,913,000	4,913,000	2.340
06/30/2037			-		4,910,200	4,910,200	4,910,200	2.338
06/30/2038			-		4,912,200	4,912,200	4,912,200	2.339
06/30/2039			-		4,908,600	4,908,600	4,908,600	2.337
06/30/2040			-		4,909,400	4,909,400	4,909,400	2.338
06/30/2041			-		4,909,200	4,909,200	4,909,200	2.338
06/30/2042			-		4,907,800	4,907,800	4,907,800	2.337
06/30/2043			-		4,910,000	4,910,000	4,910,000	2.338
06/30/2044			-		4,910,400	4,910,400	4,910,400	2.338
06/30/2045			-		4,908,800	4,908,800	4,908,800	2.338
	70,929,793	26,104,950	97,034,743	31,302,444	110,080,764	238,417,951	167,488,158	

(1) 1 mill is a constant \$2.1 million

State College Area School District  
General Obligation Bonds Debt Service Cash Flows & Millage  
Scenario IV

A	B	C	D	F	G	H	I	J
Period Ending	Existing Debt Service	General Obligation Bonds, Series of 2017	Total District Non-Referendum Debt	Obligation Bonds, Series of 2015 (Referendum)	Obligation Bonds, Series of 2016 (Referendum)	Aggregate Debt Service	State High Project Debt Service	Millage Impact (1) Referendum Mills
06/30/2015	5,362,868		5,362,868			5,362,868	-	
06/30/2016	5,255,695	-	5,255,695	2,116,134		7,371,829	2,116,134	1.008
06/30/2017	5,336,801	-	5,336,801	1,755,319	1,254,264	8,346,384	3,009,582	1.433
06/30/2018	5,106,674	782,550	5,889,224	2,770,319	2,183,288	10,842,830	5,736,156	2.359
06/30/2019	5,099,184	782,450	5,881,634	2,769,869	2,181,988	10,833,490	5,734,306	2.358
06/30/2020	5,009,876	782,350	5,792,226	2,768,519	2,182,088	10,742,833	5,732,956	2.357
06/30/2021	4,988,286	782,200	5,770,486	2,771,269	2,181,438	10,723,193	5,734,906	2.358
06/30/2022	4,965,623	782,050	5,747,673	2,767,969	2,185,038	10,700,679	5,735,056	2.359
06/30/2023	4,881,638	781,900	5,663,538	2,772,369	2,182,738	10,618,644	5,737,006	2.360
06/30/2024	4,893,218	781,750	5,674,968	2,769,769	2,185,338	10,630,074	5,736,856	2.360
06/30/2025	4,893,188	781,550	5,674,738	2,770,369	2,181,338	10,626,444	5,733,256	2.358
06/30/2026	4,881,256	781,350	5,662,606	2,768,969	2,180,938	10,612,513	5,731,256	2.357
06/30/2027	3,853,406	1,491,150	5,344,556	2,770,569	2,183,938	10,299,063	6,445,656	2.359
06/30/2028	3,850,019	1,492,550	5,342,569	2,769,969	2,185,138	10,297,675	6,447,656	2.360
06/30/2029	1,275,100	1,492,750	2,767,850	2,771,619	2,184,538	7,724,006	6,448,906	2.360
06/30/2030	1,276,963	1,491,750	2,768,713	2,770,056	2,183,988	7,722,756	6,445,794	2.359
06/30/2031		1,487,600	1,487,600	2,770,169	2,180,863	6,438,631	6,438,631	2.358
06/30/2032		1,489,600	1,489,600	2,772,713	2,181,938	6,444,250	6,444,250	2.359
06/30/2033		1,490,200	1,490,200	2,768,081	2,181,438	6,439,719	6,439,719	2.357
06/30/2034		1,489,400	1,489,400	2,771,456	2,184,363	6,445,219	6,445,219	2.360
06/30/2035		1,492,200	1,492,200	2,772,475	2,180,538	6,445,213	6,445,213	2.359
06/30/2036		1,488,400	1,488,400	2,771,138	2,180,138	6,439,675	6,439,675	2.358
06/30/2037		1,488,200	1,488,200	2,772,706	2,182,400	6,443,306	6,443,306	2.360
06/30/2038		1,491,400	1,491,400	2,771,369	2,182,338	6,445,106	6,445,106	2.359
06/30/2039		1,487,800	1,487,800	2,772,125	2,184,950	6,444,875	6,444,875	2.361
06/30/2040		1,487,600	1,487,600	2,769,781	2,180,044	6,437,425	6,437,425	2.357
06/30/2041		1,490,600	1,490,600	2,769,338	2,182,813	6,442,750	6,442,750	2.358
06/30/2042		1,491,600	1,491,600	2,770,600	2,182,869	6,445,069	6,445,069	2.359
06/30/2043		1,490,600	1,490,600	2,768,375	2,180,213	6,439,188	6,439,188	2.356
06/30/2044		1,492,600	1,492,600	2,767,663	2,184,844	6,445,106	6,445,106	2.358
06/30/2045		1,492,400	1,492,400	2,768,269	2,181,375	6,442,044	6,442,044	2.357
	70,929,793	35,356,550	106,286,343	81,439,341	62,367,170	250,092,853	179,163,061	

(1) 1 mill is a constant \$2.1 million

**State College Area School District**  
**General Obligation Bonds Debt Service Cash Flows & Millage**  
**Scenario V**

A	B	C	D	F	G	H	I
Period	Existing Debt	General	Total District	Obligation	Aggregate Debt	State High	Millage Impact (1)
Ending	Service	Obligation	Non-	Bonds, Series	Service	Project Debt	Referendum
		Bonds, Series of	Referendum	of 2015		Service	Mills
		2017	Debt	(Referendum)			
06/30/2015	5,362,868		5,362,868		5,362,868	-	
06/30/2016	5,255,695	-	5,255,695	3,786,778	9,042,473	3,786,778	1.803
06/30/2017	5,336,801	-	5,336,801	3,141,106	8,477,908	3,141,106	1.496
06/30/2018	5,106,674	782,550	5,889,224	4,956,106	10,845,330	5,738,656	2.360
06/30/2019	5,099,184	782,450	5,881,634	4,956,656	10,838,290	5,739,106	2.360
06/30/2020	5,009,876	782,350	5,792,226	4,955,556	10,747,783	5,737,906	2.360
06/30/2021	4,988,286	782,200	5,770,486	4,957,806	10,728,293	5,740,006	2.361
06/30/2022	4,965,623	782,050	5,747,673	4,958,256	10,705,929	5,740,306	2.361
06/30/2023	4,881,638	781,900	5,663,538	4,956,456	10,619,994	5,738,356	2.360
06/30/2024	4,893,218	781,750	5,674,968	4,956,456	10,631,424	5,738,206	2.360
06/30/2025	4,893,188	781,550	5,674,738	4,958,056	10,632,794	5,739,606	2.361
06/30/2026	4,881,256	781,350	5,662,606	4,956,056	10,618,663	5,737,406	2.360
06/30/2027	3,853,406	1,491,150	5,344,556	4,960,456	10,305,013	6,451,606	2.362
06/30/2028	3,850,019	1,492,550	5,342,569	4,955,856	10,298,425	6,448,406	2.360
06/30/2029	1,275,100	1,492,750	2,767,850	4,958,306	7,726,156	6,451,056	2.361
06/30/2030	1,276,963	1,491,750	2,768,713	4,960,025	7,728,738	6,451,775	2.362
06/30/2031		1,487,600	1,487,600	4,955,650	6,443,250	6,443,250	2.360
06/30/2032		1,489,600	1,489,600	4,957,881	6,447,481	6,447,481	2.361
06/30/2033		1,490,200	1,490,200	4,956,306	6,446,506	6,446,506	2.360
06/30/2034		1,489,400	1,489,400	4,955,925	6,445,325	6,445,325	2.360
06/30/2035		1,492,200	1,492,200	4,956,556	6,448,756	6,448,756	2.360
06/30/2036		1,488,400	1,488,400	4,958,019	6,446,419	6,446,419	2.361
06/30/2037		1,488,200	1,488,200	4,956,656	6,444,856	6,444,856	2.360
06/30/2038		1,491,400	1,491,400	4,960,256	6,451,656	6,451,656	2.362
06/30/2039		1,487,800	1,487,800	4,958,431	6,446,231	6,446,231	2.361
06/30/2040		1,487,600	1,487,600	4,956,181	6,443,781	6,443,781	2.360
06/30/2041		1,490,600	1,490,600	4,958,313	6,448,913	6,448,913	2.361
06/30/2042		1,491,600	1,491,600	4,959,438	6,451,038	6,451,038	2.362
06/30/2043		1,490,600	1,490,600	4,959,363	6,449,963	6,449,963	2.362
06/30/2044		1,492,600	1,492,600	4,957,894	6,450,494	6,450,494	2.361
06/30/2045		1,492,400	1,492,400	4,954,838	6,447,238	6,447,238	2.359
	70,929,793	35,356,550	106,286,343	145,735,641	252,021,983	181,092,191	

(1) 1 mill is a constant \$2.1 million

**State College Area School District**  
**General Obligation Bonds Debt Service Cash Flows & Millage**  
**Scenario VI**

A	B	C	D	F	G	H	I
Period	Existing Debt	General	Total District	Obligation	Aggregate Debt	State High	Millage Impact (1)
Ending	Service	Obligation	Non-	Bonds, Series	Service	Project Debt	Referendum
		Bonds, Series of	Referendum	of 2015		Service	Mills
		2017	Debt	(Referendum)			
06/30/2015	5,362,868		5,362,868		5,362,868	-	
06/30/2016	5,255,695	-	5,255,695	3,533,205	8,788,900	3,533,205	1.682
06/30/2017	5,336,801	-	5,336,801	2,930,769	8,267,570	2,930,769	1.396
06/30/2018	5,106,674	767,400	5,874,074	6,315,769	12,189,843	7,083,169	3.008
06/30/2019	5,099,184	767,300	5,866,484	6,314,219	12,180,703	7,081,519	3.007
06/30/2020	5,009,876	767,200	5,777,076	6,314,669	12,091,745	7,081,869	3.007
06/30/2021	4,988,286	767,050	5,755,336	6,311,969	12,067,305	7,079,019	3.006
06/30/2022	4,965,623	766,900	5,732,523	6,316,119	12,048,641	7,083,019	3.008
06/30/2023	4,881,638	766,750	5,648,388	6,313,719	11,962,106	7,080,469	3.007
06/30/2024	4,893,218	766,600	5,659,818	6,315,319	11,975,136	7,081,919	3.007
06/30/2025	4,893,188	766,400	5,659,588	6,315,519	11,975,106	7,081,919	3.007
06/30/2026	4,881,256	766,200	5,647,456	6,314,119	11,961,575	7,080,319	3.007
06/30/2027	3,853,406	766,000	4,619,406	6,315,919	10,935,325	7,081,919	3.008
06/30/2028	3,850,019	765,800	4,615,819	6,315,519	10,931,338	7,081,319	3.007
06/30/2029	1,275,100	2,355,600	3,630,700	6,310,919	9,941,619	8,666,519	3.005
06/30/2030	1,276,963	2,356,800	3,633,763	6,310,919	9,944,681	8,667,719	3.005
06/30/2031		3,632,000	3,632,000	6,314,681	9,946,681	9,946,681	3.007
06/30/2032		3,632,600	3,632,600	6,313,100	9,945,700	9,945,700	3.006
06/30/2033		3,633,400	3,633,400	6,314,631	9,948,031	9,948,031	3.007
06/30/2034		3,634,200	3,634,200	6,313,913	9,948,113	9,948,113	3.007
06/30/2035		3,634,800	3,634,800	6,310,763	9,945,563	9,945,563	3.005
06/30/2036			-		-	-	-
06/30/2037			-		-	-	-
06/30/2038			-		-	-	-
06/30/2039			-		-	-	-
06/30/2040			-		-	-	-
06/30/2041			-		-	-	-
06/30/2042			-		-	-	-
06/30/2043			-		-	-	-
06/30/2044			-		-	-	-
06/30/2045			-		-	-	-
	70,929,793	31,313,000	102,242,793	120,115,755	222,358,547	151,428,755	

(1) 1 mill is a constant \$2.1 million

State College Area School District  
 General Obligation Bonds Debt Service Cash Flows & Millage  
 Scenario VII

A	B	C	D	F	G	H	I	J
Period Ending	Existing Debt Service	General Obligation Bonds, Series of 2017	Total District Non-Referendum Debt	Obligation Bonds, Series of 2015 (Referendum)	Obligation Bonds, Series of 2016 (Referendum)	Aggregate Debt Service	State High Project Debt Service	Millage Impact (1) Referendum Mills
06/30/2015	5,362,868		5,362,868			5,362,868	-	
06/30/2016	5,255,695	-	5,255,695	1,974,444		7,230,139	1,974,444	0.940
06/30/2017	5,336,801	-	5,336,801	1,637,788	1,158,220	8,132,809	2,796,007	1.331
06/30/2018	5,106,674	767,400	5,874,074	3,527,788	2,783,513	12,185,374	7,078,700	3.005
06/30/2019	5,099,184	767,300	5,866,484	3,526,088	2,783,113	12,175,684	7,076,500	3.004
06/30/2020	5,009,876	767,200	5,777,076	3,527,738	2,781,613	12,086,426	7,076,550	3.004
06/30/2021	4,988,286	767,050	5,755,336	3,527,588	2,783,763	12,066,686	7,078,400	3.005
06/30/2022	4,965,623	766,900	5,732,523	3,530,638	2,779,413	12,042,573	7,076,950	3.005
06/30/2023	4,881,638	766,750	5,648,388	3,530,438	2,778,713	11,957,538	7,075,900	3.004
06/30/2024	4,893,218	766,600	5,659,818	3,526,838	2,779,113	11,965,768	7,072,550	3.003
06/30/2025	4,893,188	766,400	5,659,588	3,529,838	2,781,713	11,971,138	7,077,950	3.006
06/30/2026	4,881,256	766,200	5,647,456	3,529,038	2,781,313	11,957,806	7,076,550	3.005
06/30/2027	3,853,406	766,000	4,619,406	3,529,438	2,782,913	10,931,756	7,078,350	3.006
06/30/2028	3,850,019	765,800	4,615,819	3,525,838	2,781,313	10,922,969	7,072,950	3.003
06/30/2029	1,275,100	2,355,600	3,630,700	3,530,138	2,781,513	9,942,350	8,667,250	3.006
06/30/2030	1,276,963	2,356,800	3,633,763	3,528,419	2,780,363	9,942,544	8,665,581	3.004
06/30/2031		3,632,000	3,632,000	3,530,469	2,779,425	9,941,894	9,941,894	3.005
06/30/2032		3,632,600	3,632,600	3,528,350	2,782,525	9,943,475	9,943,475	3.005
06/30/2033		3,633,400	3,633,400	3,527,425	2,782,650	9,943,475	9,943,475	3.005
06/30/2034		3,634,200	3,634,200	3,527,513	2,779,800	9,941,513	9,941,513	3.003
06/30/2035		3,634,800	3,634,800	3,528,431	2,778,975	9,942,206	9,942,206	3.004
06/30/2036			-			-	-	-
06/30/2037			-			-	-	-
06/30/2038			-			-	-	-
06/30/2039			-			-	-	-
06/30/2040			-			-	-	-
06/30/2041			-			-	-	-
06/30/2042			-			-	-	-
06/30/2043			-			-	-	-
06/30/2044			-			-	-	-
06/30/2045			-			-	-	-
	70,929,793	31,313,000	102,242,793	67,124,238	51,219,957	220,586,987	149,657,195	

(1) 1 mill is a constant \$2.1 million



## Appendix C

### Interest Rate Assumptions

<b>Maturity Date</b>	<b>Proposed Coupons</b>	<b>Proposed Yields</b>	<b>"AAA" Municipal Yields - MID Scale</b>	<b>Spread to MMD (Basis points)</b>
05/15/18	<b>3.000%</b>	<b>0.820%</b>	0.540%	<b>28</b>
05/15/19	<b>3.000%</b>	<b>1.140%</b>	0.820%	<b>32</b>
05/15/20	<b>3.000%</b>	<b>1.480%</b>	1.110%	<b>37</b>
05/15/21	<b>3.000%</b>	<b>1.800%</b>	1.400%	<b>40</b>
05/15/22	<b>4.000%</b>	<b>2.090%</b>	1.660%	<b>43</b>
05/15/23	<b>4.000%</b>	<b>2.440%</b>	1.930%	<b>51</b>
05/15/24	<b>4.000%</b>	<b>2.610%</b>	2.100%	<b>51</b>
05/15/25	<b>4.000%</b>	<b>2.690%</b>	2.180%	<b>51</b>
05/15/26	<b>4.000%</b>	<b>2.770%</b>	2.260%	<b>51</b>
05/15/27	<b>4.000%</b>	<b>2.850%</b>	2.340%	<b>51</b>
05/15/28	<b>3.000%</b>	<b>3.140%</b>	2.430%	<b>71</b>
05/15/29	<b>3.125%</b>	<b>3.240%</b>	2.530%	<b>71</b>
05/15/30	<b>3.250%</b>	<b>3.310%</b>	2.600%	<b>71</b>
05/15/35	<b>3.625%</b>	<b>3.690%</b>	2.890%	<b>80</b>
05/15/45	<b>3.875%</b>	<b>4.030%</b>	3.130%	<b>90</b>

*Indicative Rates as of September 24, 2014*

## **Appendix D**

### **Preliminary Construction Draw Schedule**

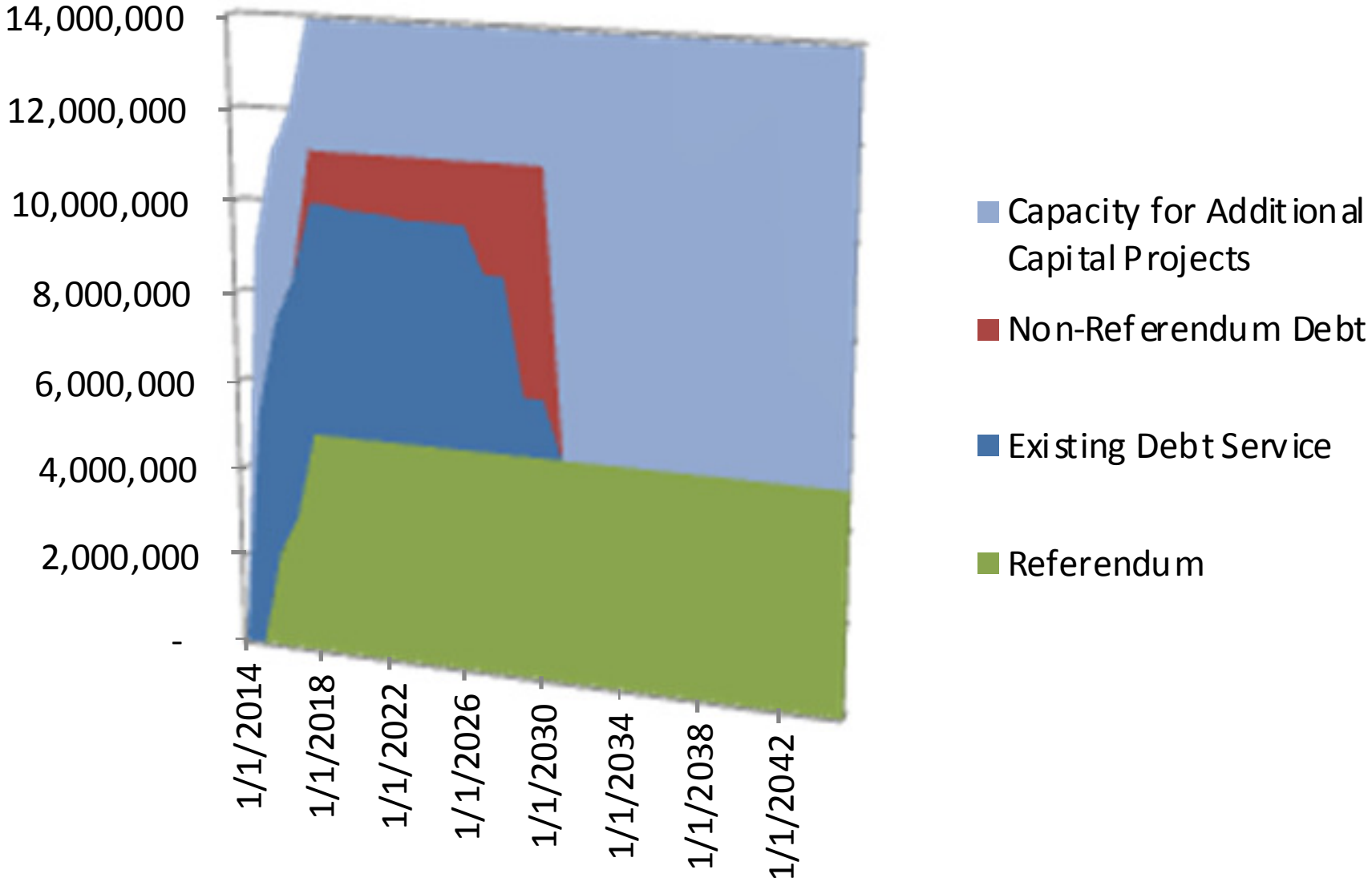
**State College Area School District  
State High Project  
Estimated Project Budget per CRA as of January 2014**

<b>Uses</b>		<b>Sources</b>	
Design & Engineering	\$ 7,019,711		
FF&E	\$ 2,336,114		
Financing Costs	\$ 922,119	Contributed Capital	\$ 10,000,000
Construction Related Costs	\$ 6,308,869	Referendum Bonds	\$ 85,000,000
Construction Amount	\$ 98,413,187	Non-Referendum Bonds	\$ 20,000,000
	\$ 115,000,000		\$ 115,000,000

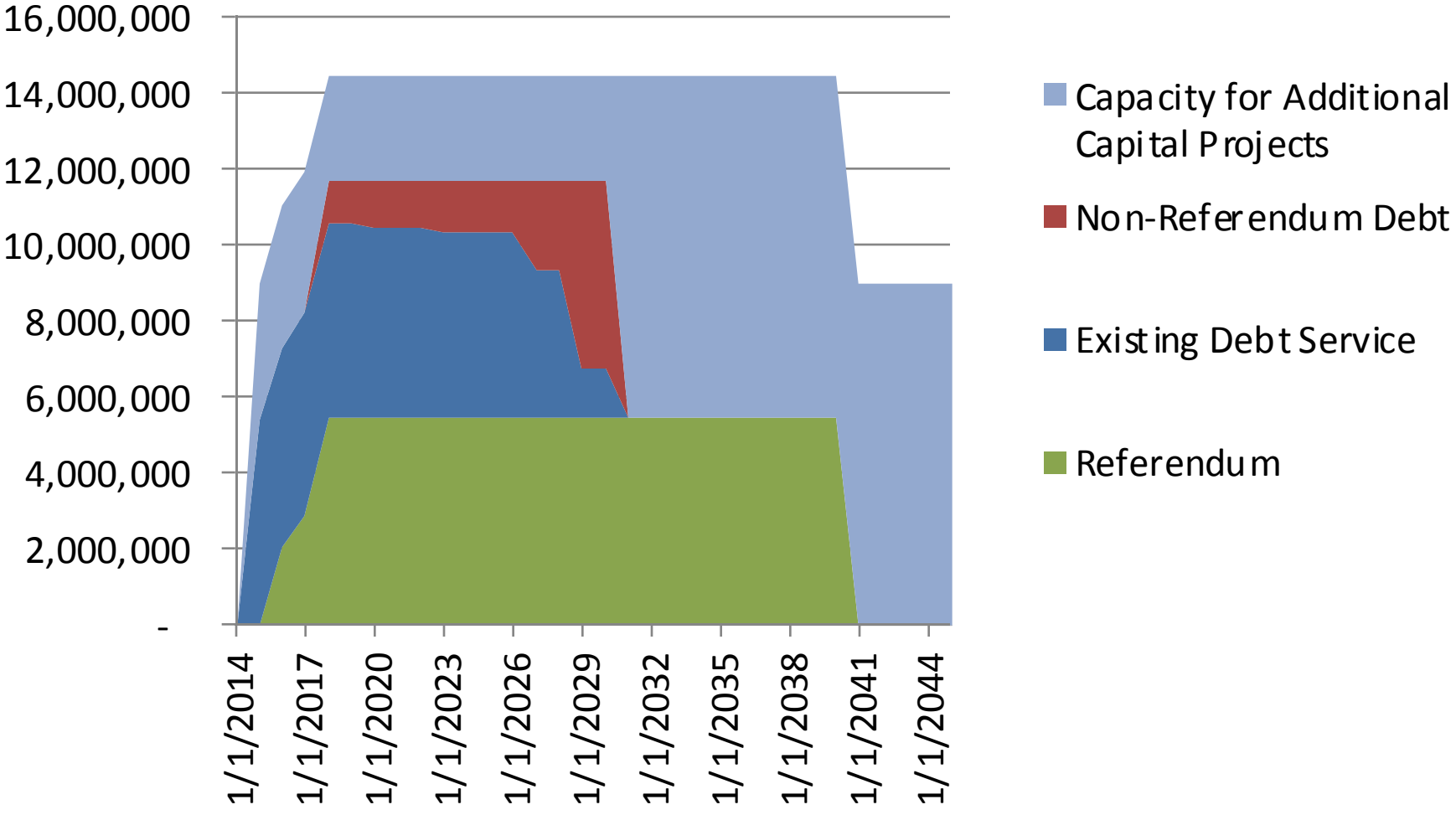
<b>Previous Expenditure</b>			<b>Construction Draw</b>	<b>Cumulative</b>
			\$ 7,019,711	\$ 7,019,711
Jul-15		1%	\$1,079,803	\$ 8,099,514
Aug-15		2%	\$2,159,606	\$ 10,259,120
Sep-15		2%	\$2,159,606	\$ 12,418,725
Oct-15		3%	\$3,239,409	\$ 15,658,134
Nov-15		3%	\$3,239,409	\$ 18,897,543
Dec-15		4%	\$4,319,212	\$ 23,216,754
Jan-16		4%	\$4,319,212	\$ 27,535,966
Feb-16		4%	\$4,319,212	\$ 31,855,177
Mar-16		4%	\$4,319,212	\$ 36,174,389
Apr-16		4%	\$4,319,212	\$ 40,493,601
May-16		4%	\$4,319,212	\$ 44,812,812
Jun-16		5%	\$5,399,014	\$ 50,211,827
Jul-16		5%	\$5,399,014	\$ 55,610,841
Aug-16		5%	\$5,399,014	\$ 61,009,856
Sep-16		5%	\$5,399,014	\$ 66,408,870
Oct-16		5%	\$5,399,014	\$ 71,807,884
Nov-16		4%	\$4,319,212	\$ 76,127,096
Dec-16		4%	\$4,319,212	\$ 80,446,308
Jan-17		4%	\$4,319,212	\$ 84,765,519
Feb-17		4%	\$4,319,212	\$ 89,084,731
Mar-17		4%	\$4,319,212	\$ 93,403,942
Apr-17		4%	\$4,319,212	\$ 97,723,154
May-17		4%	\$4,319,212	\$ 102,042,365
Jun-17		4%	\$4,319,212	\$ 106,361,577
Jul-17		2%	\$2,159,606	\$ 108,521,183
Aug-17		2%	\$2,159,606	\$ 110,680,788
Sep-17		2%	\$2,159,606	\$ 112,840,394
Oct-17		2%	\$2,159,606	\$ 115,000,000
100%			\$ 107,980,289	

1. Construction draw schedule provided by Crabtree Rohrbaugh & Associates.

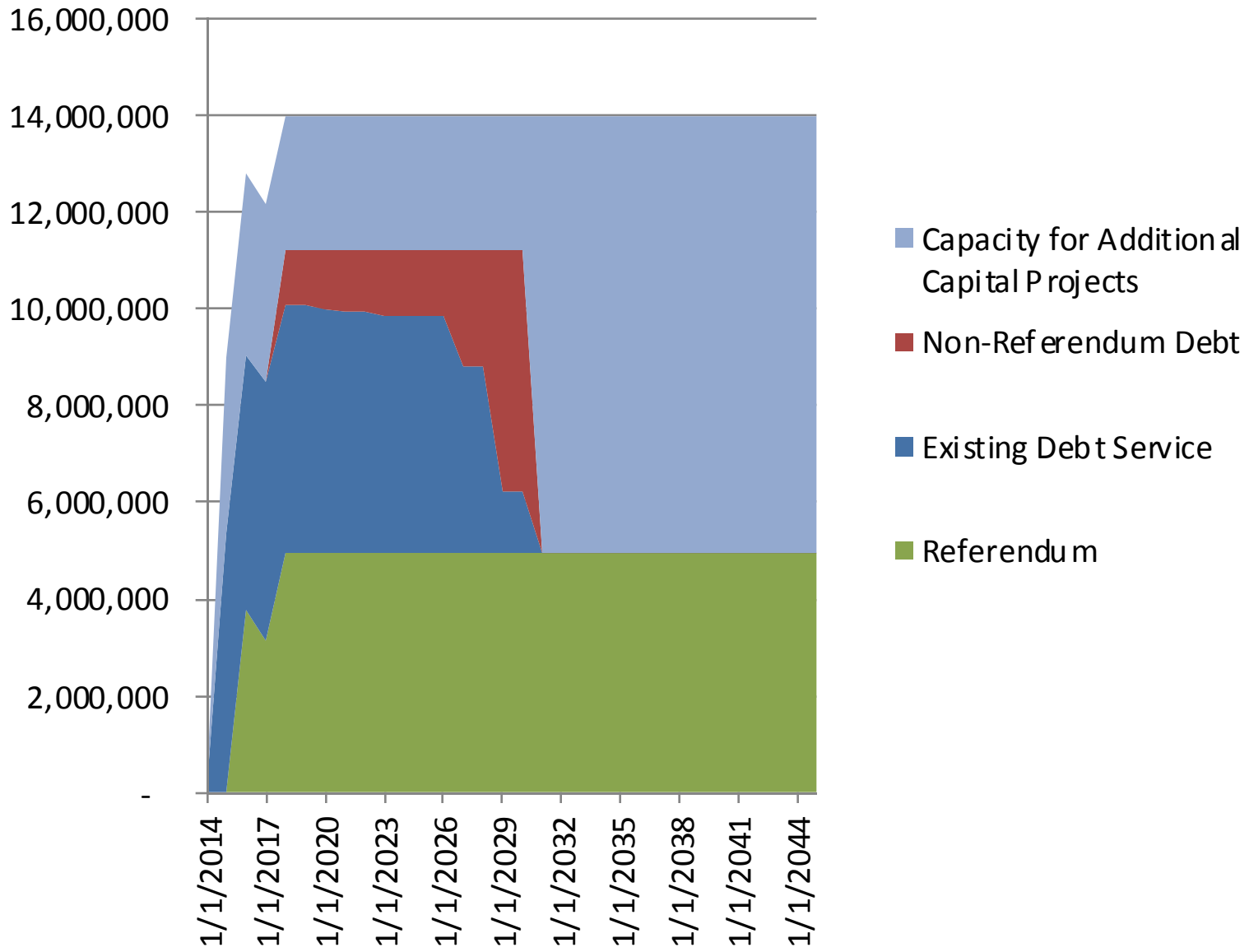
Scenario I-A



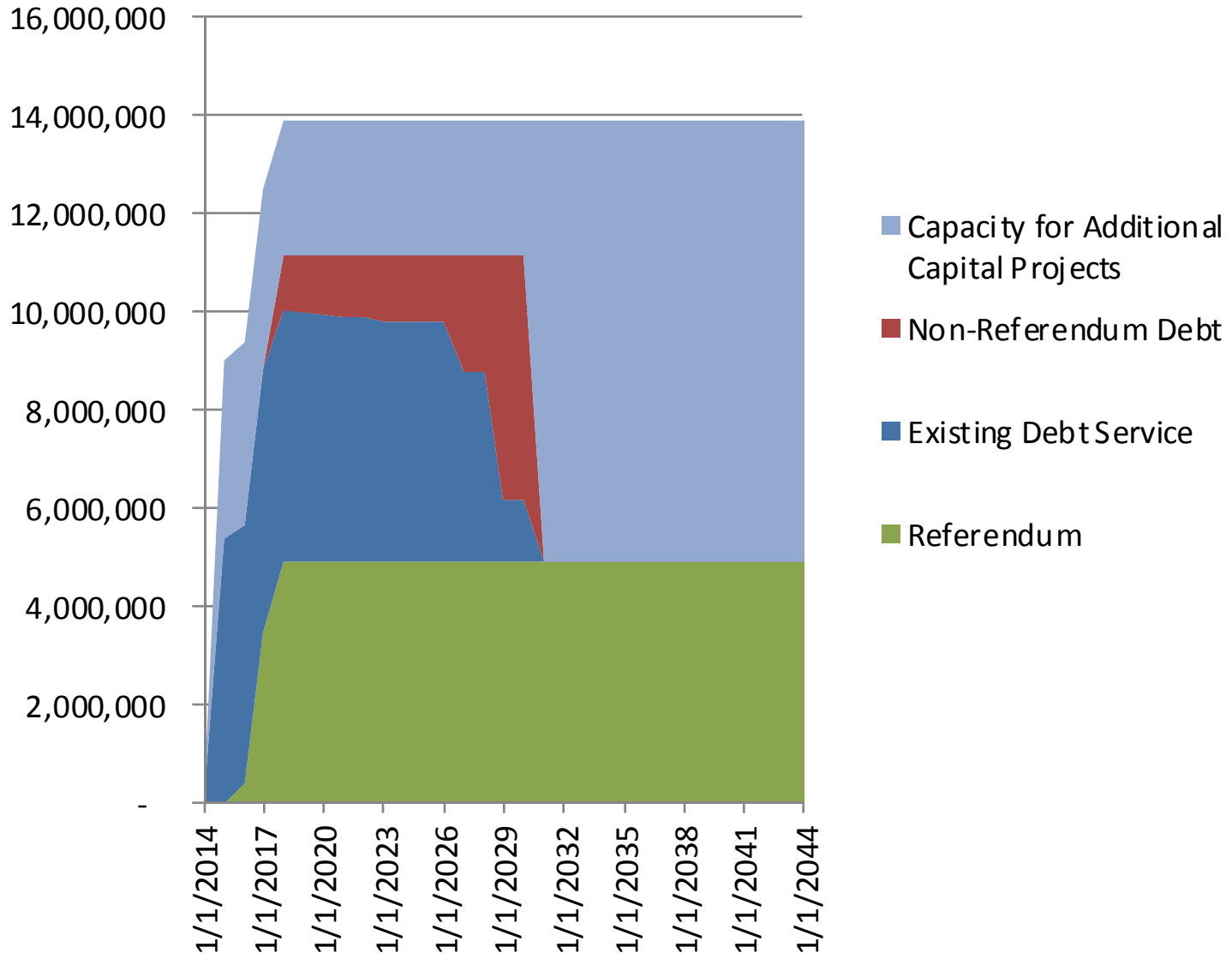
### Scenario I-B



### Scenario II

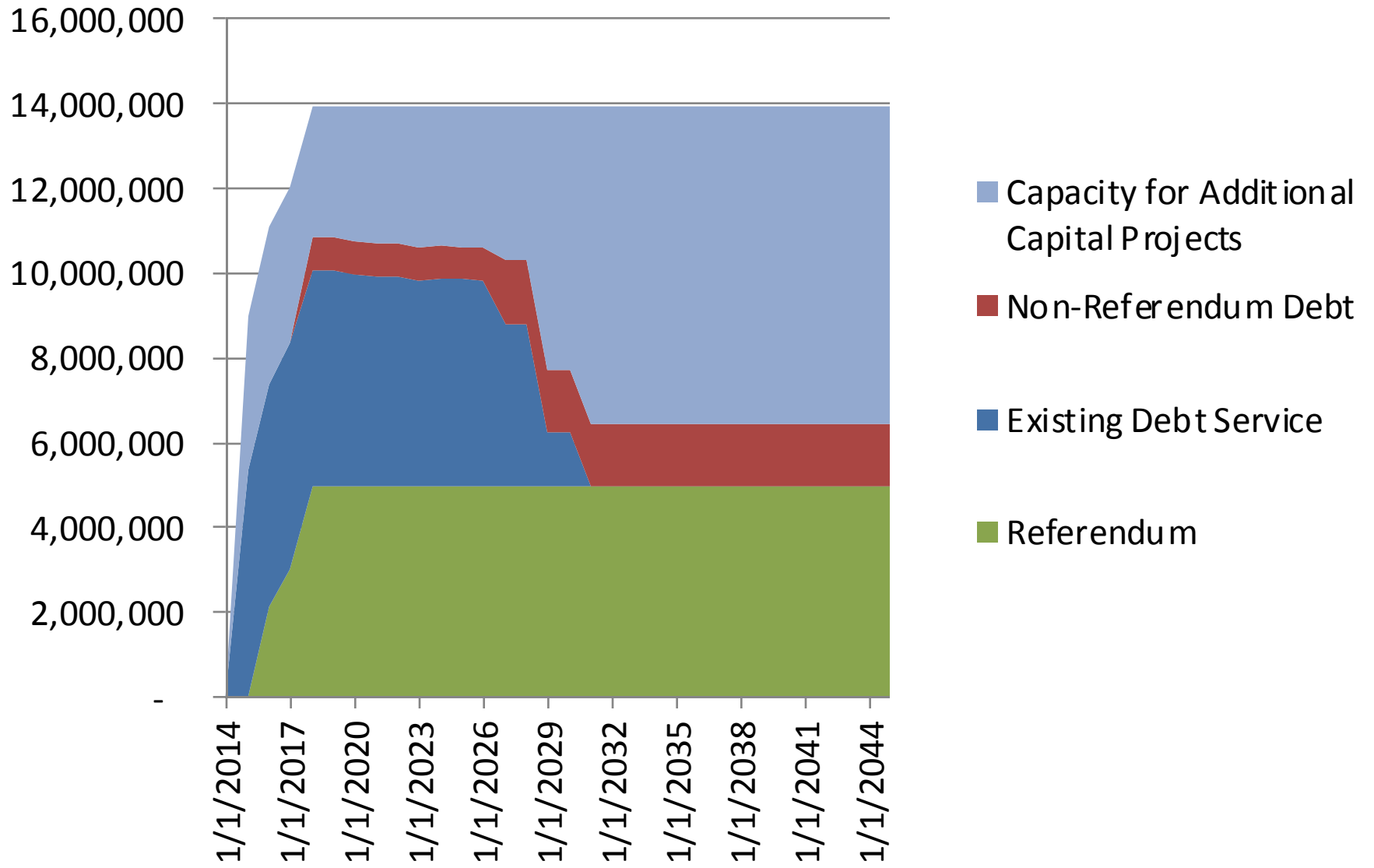


### Scenario III

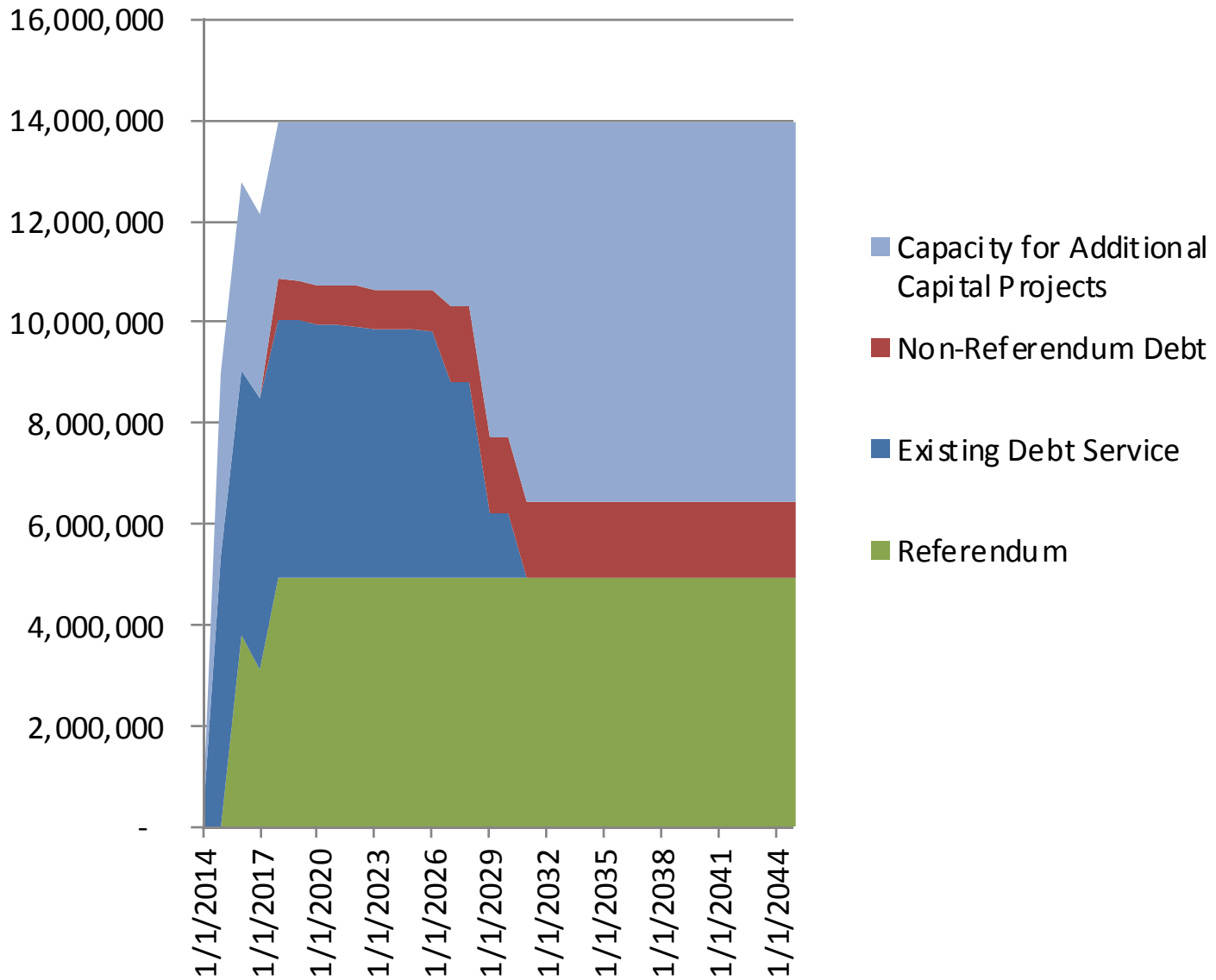




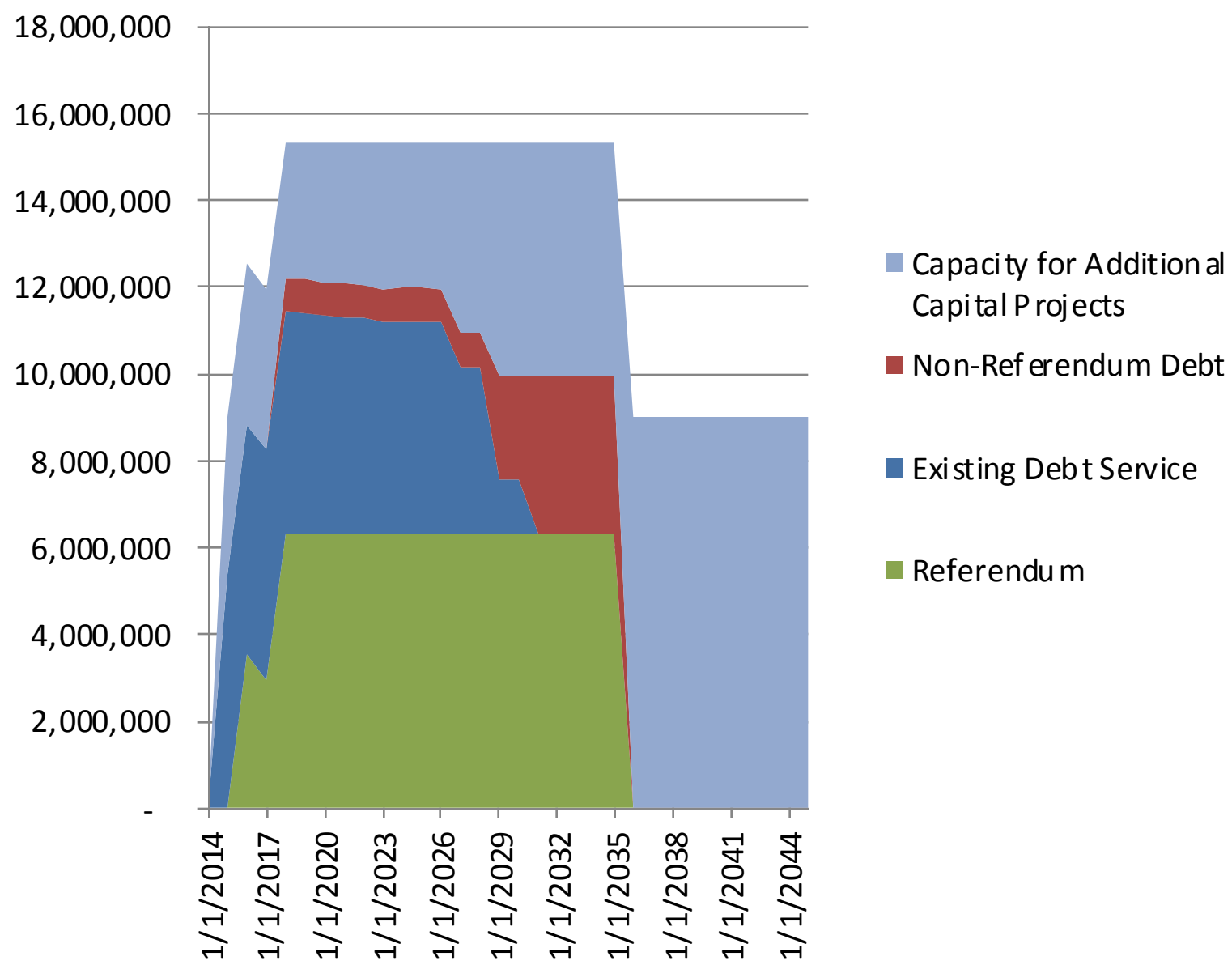
### Scenario IV



### Scenario V



### Scenario VI



### Scenario VII

