



Matthew A. Strom FSA, MAAA, EA
 Senior Vice President, Actuary
 mstrom@segalco.com

101 North Wacker Drive
 Suite 500
 Chicago, IL 60606-1724
 www.segalco.com

September 7, 2021

Via Email CRupe@leg.state.vt.us

Mr. Chris Rupe
 Fiscal Analyst
 Joint Fiscal Office

Re: Requests 2 & 3 – Impact of Additional Funds for VSERS and VSTRS

Dear Chris:

As requested by the Pension Task Force, we have calculated the impact on the projected amortization payments and funded ratios for VSERS and VSTRS if additional recurring or one-time revenue sources were allocated to each System, as indicated in the requests summarized below.

Request 2:

Assume that additional recurring revenue sources under the following scenarios (in order as received) are enacted and that the proceeds are applied toward the unfunded liabilities. Note, in scenarios 2-2a, 2-2b, and 2-2c, the total revenue is allocated to either VSERS or VSTRS; not both:

Scenario	VSERS Revenue	VSTRS Revenue	Total Revenue
2-1a	\$15M	\$15M	\$30M
2-1b	25M	25M	50M
2-1c	37.5M	37.5M	75M
2-2a	\$30M	\$30M	\$30M
2-2b	50M	50M	50M
2-2c	75M	75M	75M
2-3a	\$10.5M	\$19.5M	\$30M
2-3b	17.5M	32.5M	50M
2-3c	26.25M	48.75M	75M

Assumptions:

- Revenue enacted during 2022 Legislative Session will take effect January 1, 2023
- Only 5/12ths of annual revenue collected in FYE June 30, 2023
- First full year of annual revenue in FYE June 30, 2024, with 2% annual increases thereafter
- All future actuarially determined contributions (ADCs) are fully funded
- Additional funds paid annually on June 30th, and are in addition to ADCs

- Additional funds factored into all subsequent ADCs
- No additional funds after each respective System achieves 100% funding

Request 3:

Assume that additional one-time revenue sources under the following scenarios (in order as received) are enacted and that the proceeds are applied toward the unfunded liabilities. Note, in scenarios 3-1, 3-2, 3-4, 3-5, and 3-8, the total revenue is allocated to either VSERS or VSTRS; not both:

Scenario	VSERS Revenue	VSTRS Revenue	Total Revenue
3-1	\$50M	\$50M	\$50M
3-2	75M	75M	75M
3-3	52.5M	97.5M	150M
3-4	150M	150M	150M
3-5	250M	250M	250M
3-6	125M	125M	250M
3-7	87.5M	162.5M	250M
3-8	400M	400M	400M
3-9	200M	200M	400M
3-10	140M	260M	400M

Assumptions:

- Additional funds paid July 1, 2022, and are in addition to ADCs
- Additional funds factored into all subsequent ADCs

Methodology

ADCs for a given fiscal year are determined based on the actuarial valuation from two years prior. For example, the actuarial valuation as of July 1, 2021 will determine the ADC for the fiscal year ending June 30, 2023. Since the first payments under Request 2 are made during fiscal 2023 and included in the assets as of June 30, 2023, the exhibits that illustrate projected amortization payments show the first decrease in the row corresponding to fiscal 2025. Similarly, in the later years of the projections, there are some scenarios where an amortization payment is calculated for a given fiscal year, yet the additional revenue amount made for the interim year causes the funded ratio to exceed 100%.

For example, in VSERS Scenario 2-1b, the funded ratio as of July 1, 2036 is 98.2% and the resulting amortization payment calculated for fiscal 2038 is \$50.7M. However, the additional revenue amount of \$32.3M scheduled to be made on June 30, 2037 results in the funded ratio as of July 1, 2037 exceeding 100% (projected to be 100.1%). For purposes of this projection (and others with a similar situation), no adjustment is made to the ADC for fiscal 2038 (or earlier, where applicable).

Disclosure

This analysis was prepared in accordance with generally accepted actuarial principles and practices at the request of the Pension Task Force. Please refer to our June 30, 2020 Actuarial Valuation and Review reports for both VSERS and VSTRS for the assumptions and plan of benefits underlying these calculations.

The measurements shown in these actuarial calculations may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

The actuarial calculations were directed under my supervision. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this report is complete and accurate. In my opinion, each assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

Please let me know if you have any questions or need any additional information.

Sincerely,



Matthew A. Strom, FSA, MAAA, EA
Senior Vice President and Actuary

cc: Kathleen Riley, Segal

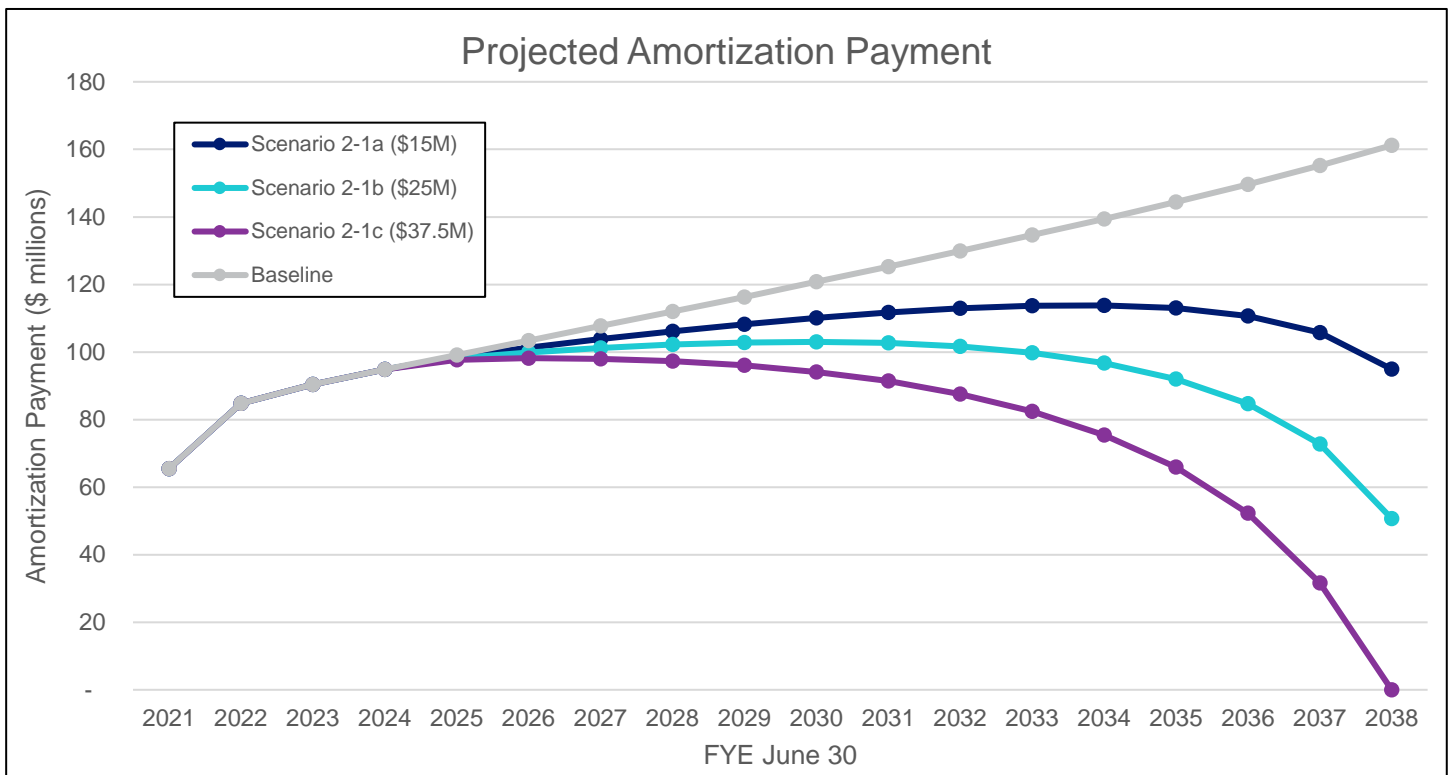
Appendix

VSERS – Request 2 – Additional Revenue Amounts

June 30	Additional Revenue Amounts (\$ millions) ¹								
	2-1a	2-1b	2-1c	2-2a	2-2b	2-2c	2-3a	2-3b	2-3c
	\$15.00M First Full Year of Revenue	\$25.00M First Full Year of Revenue	\$37.50M First Full Year of Revenue	\$30.00M First Full Year of Revenue	\$50.00M First Full Year of Revenue	\$75.00M First Full Year of Revenue	\$10.50M First Full Year of Revenue	\$17.50M First Full Year of Revenue	\$26.25M First Full Year of Revenue
2021	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-
2023	\$6.3	\$10.4	\$15.6	\$12.5	\$20.8	\$31.3	\$4.4	\$7.3	\$10.9
2024	15.0	25.0	37.5	30.0	50.0	75.0	10.5	17.5	26.3
2025	15.3	25.5	38.3	30.6	51.0	76.5	10.7	17.9	26.8
2026	15.6	26.0	39.0	31.2	52.0	78.0	10.9	18.2	27.3
2027	15.9	26.5	39.8	31.8	53.1	79.6	11.1	18.6	27.9
2028	16.2	27.1	40.6	32.5	54.1	81.2	11.4	18.9	28.4
2029	16.6	27.6	41.4	33.1	55.2	82.8	11.6	19.3	29.0
2030	16.9	28.2	42.2	33.8	56.3	84.5	11.8	19.7	29.6
2031	17.2	28.7	43.1	34.5	57.4	86.2	12.1	20.1	30.2
2032	17.6	29.3	43.9	35.1	58.6	87.9	12.3	20.5	30.8
2033	17.9	29.9	44.8	35.9	59.8	89.6	12.5	20.9	31.4
2034	18.3	30.5	45.7	36.6	60.9	-	12.8	21.3	32.0
2035	18.7	31.1	46.6	37.3	62.2	-	13.1	21.8	32.6
2036	19.0	31.7	47.6	38.0	-	-	13.3	22.2	33.3
2037	19.4	32.3	-	38.8	-	-	13.6	22.6	34.0
2038	19.8	-	-	-	-	-	13.9	23.1	-

¹ Once a System is projected to become 100% funded, we assumed that no additional revenue amounts will be paid for all subsequent years.

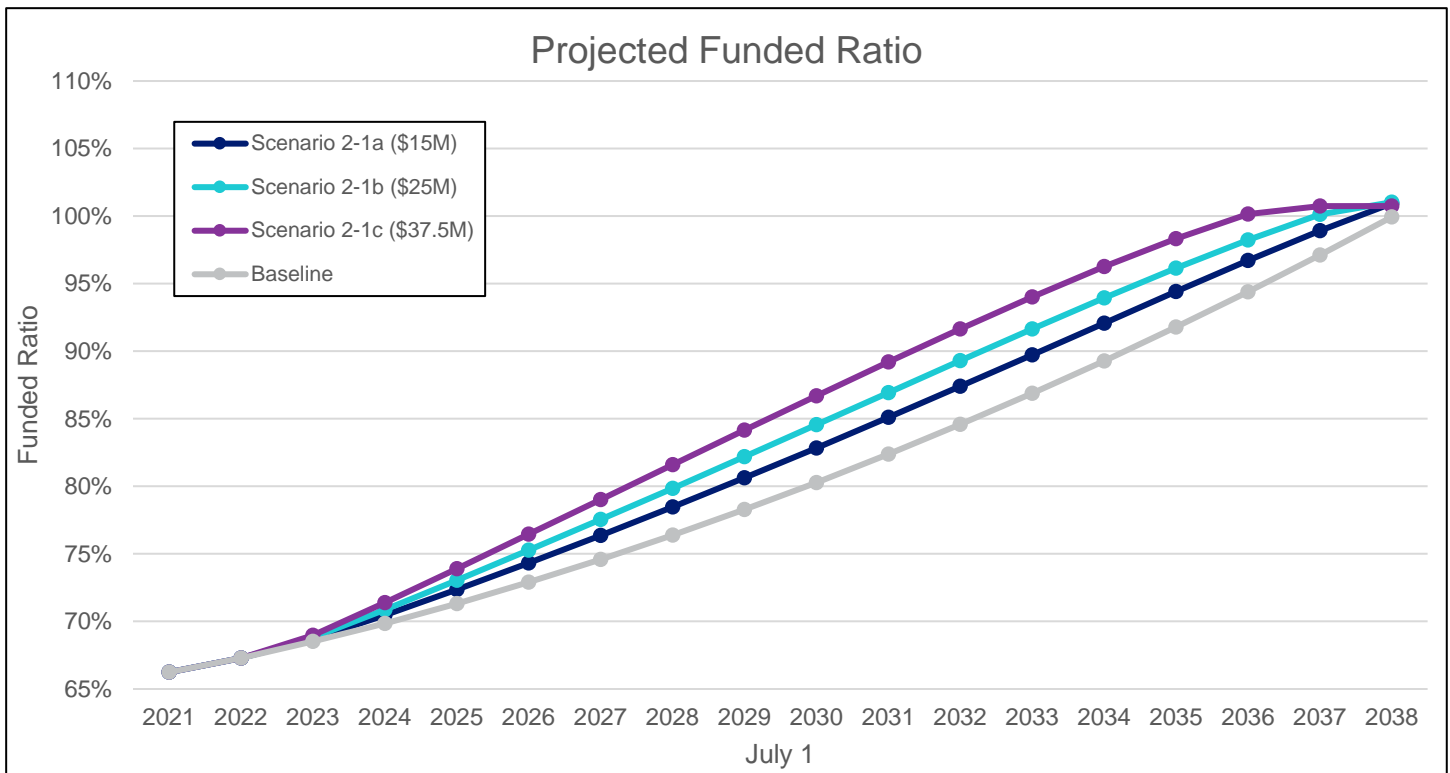
VSERS Scenarios 2-1a, 2-1b, 2-1c



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

Year	Baseline	Scenario 2-1a	Scenario 2-1b	Scenario 2-1c
		\$15M First Full Year of Revenue	\$25M First Full Year of Revenue	\$37.5M First Full Year of Revenue
2021	\$65.5	\$65.5	\$65.5	\$65.5
2022	84.8	84.8	84.8	84.8
2023	90.4	90.4	90.4	90.4
2024	94.8	94.8	94.8	94.8
2025	99.1	98.5	98.2	97.7
2026	103.4	101.3	99.9	98.2
2027	107.7	103.8	101.2	98.0
2028	112.0	106.1	102.2	97.3
2029	116.3	108.2	102.8	96.1
2030	120.8	110.1	103.0	94.1
2031	125.3	111.7	102.7	91.4
2032	129.9	112.9	101.7	87.5
2033	134.6	113.7	99.8	82.4
2034	139.4	113.8	96.7	75.4
2035	144.4	113.0	92.0	65.9
2036	149.6	110.7	84.7	52.3
2037	155.2	105.7	72.8	31.6
2038	161.2	94.9	50.7	-

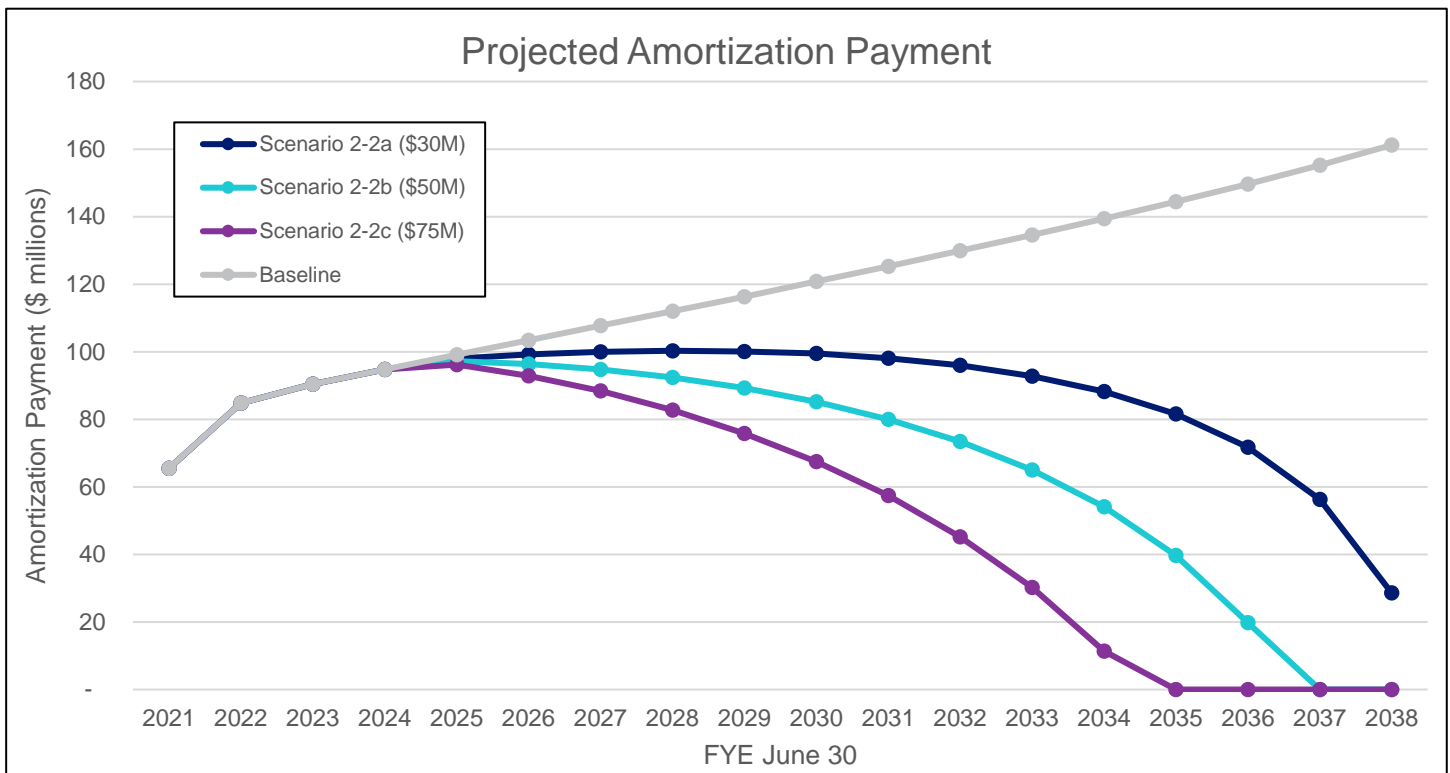
VSERS Scenarios 2-1a, 2-1b, 2-1c



Projected Funded Ratio

Year	Baseline	Scenario 2-1a	Scenario 2-1b	Scenario 2-1c
		\$15M	\$25M	\$37.5M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	66.2%	66.2%	66.2%	66.2%
2022	67.3%	67.3%	67.3%	67.3%
2023	68.5%	68.7%	68.8%	69.0%
2024	69.9%	70.5%	70.9%	71.4%
2025	71.3%	72.3%	73.0%	73.9%
2026	72.9%	74.3%	75.3%	76.4%
2027	74.6%	76.4%	77.5%	79.0%
2028	76.4%	78.5%	79.8%	81.6%
2029	78.3%	80.6%	82.2%	84.2%
2030	80.3%	82.8%	84.6%	86.7%
2031	82.4%	85.1%	86.9%	89.2%
2032	84.6%	87.4%	89.3%	91.7%
2033	86.9%	89.7%	91.6%	94.0%
2034	89.3%	92.1%	93.9%	96.3%
2035	91.8%	94.4%	96.1%	98.3%
2036	94.4%	96.7%	98.2%	100.2%
2037	97.1%	98.9%	100.1%	100.7%
2038	100.0%	100.9%	101.0%	100.7%

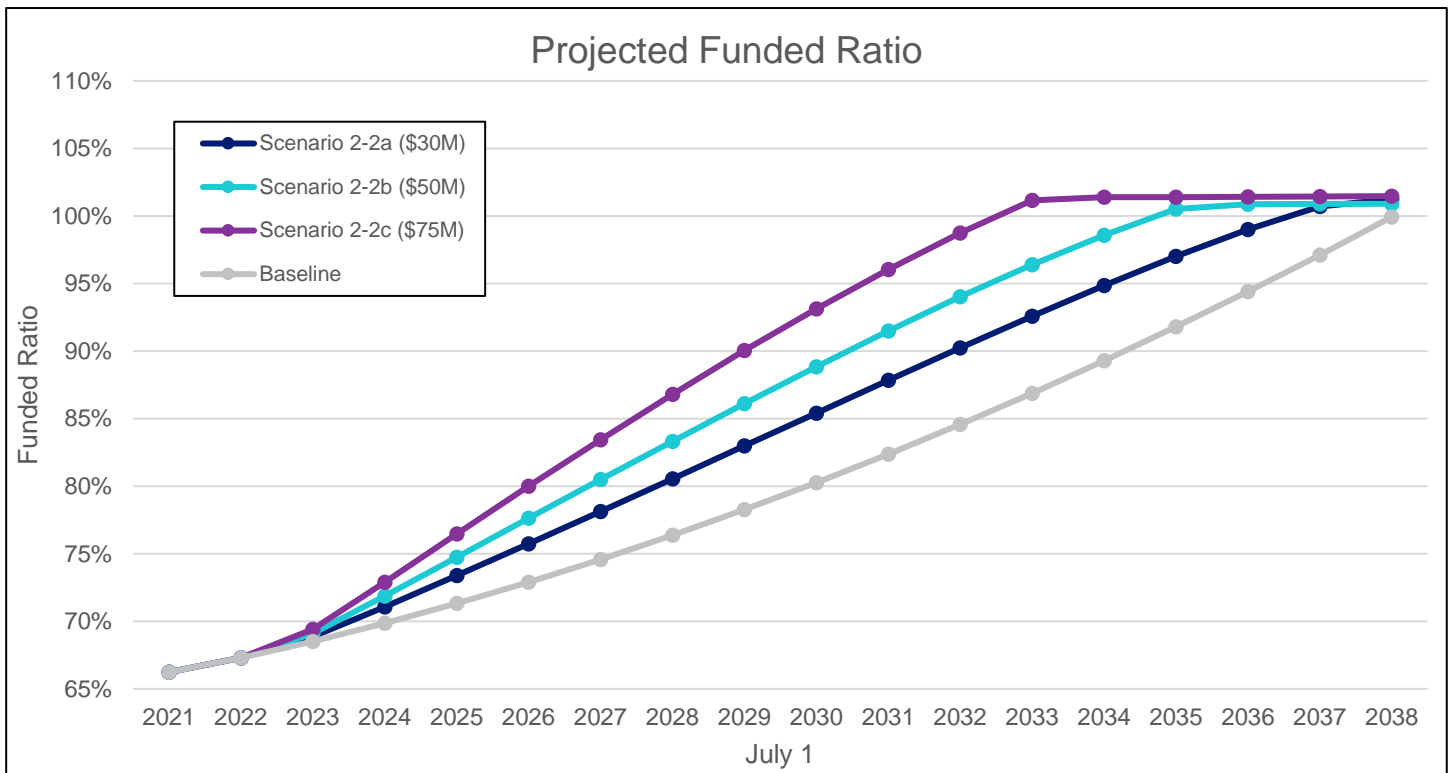
VSERS Scenarios 2-2a, 2-2b, 2-2c



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

Year	Baseline	Scenario 2-2a	Scenario 2-2b	Scenario 2-2c
		\$30M	\$50M	\$75M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	\$65.5	\$65.5	\$65.5	\$65.5
2022	84.8	84.8	84.8	84.8
2023	90.4	90.4	90.4	90.4
2024	94.8	94.8	94.8	94.8
2025	99.1	98.0	97.2	96.2
2026	103.4	99.2	96.4	92.9
2027	107.7	100.0	94.8	88.4
2028	112.0	100.3	92.4	82.7
2029	116.3	100.1	89.3	75.8
2030	120.8	99.5	85.2	67.5
2031	125.3	98.1	80.0	57.4
2032	129.9	96.0	73.4	45.2
2033	134.6	92.8	65.0	30.2
2034	139.4	88.2	54.1	11.4
2035	144.4	81.6	39.7	-
2036	149.6	71.7	19.8	-
2037	155.2	56.3	-	-
2038	161.2	28.6	-	-

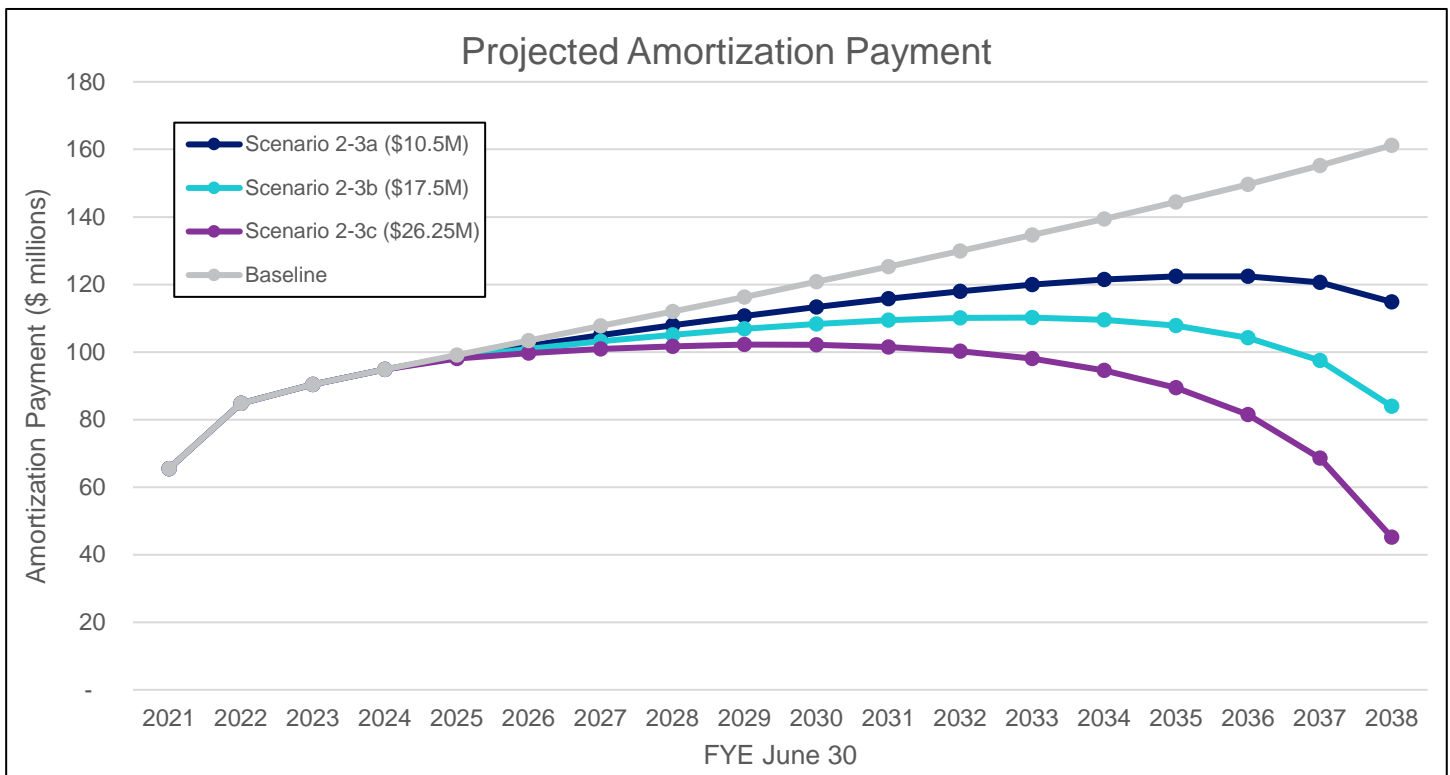
VSERS Scenarios 2-2a, 2-2b, 2-2c



Projected Funded Ratio

Year	Baseline	Scenario 2-2a	Scenario 2-2b	Scenario 2-2c
		\$30M	\$50M	\$75M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	66.2%	66.2%	66.2%	66.2%
2022	67.3%	67.3%	67.3%	67.3%
2023	68.5%	68.9%	69.1%	69.4%
2024	69.9%	71.1%	71.9%	72.9%
2025	71.3%	73.4%	74.8%	76.5%
2026	72.9%	75.7%	77.6%	80.0%
2027	74.6%	78.1%	80.5%	83.4%
2028	76.4%	80.5%	83.3%	86.8%
2029	78.3%	83.0%	86.1%	90.0%
2030	80.3%	85.4%	88.8%	93.1%
2031	82.4%	87.8%	91.5%	96.0%
2032	84.6%	90.2%	94.0%	98.7%
2033	86.9%	92.6%	96.4%	101.2%
2034	89.3%	94.9%	98.6%	101.4%
2035	91.8%	97.0%	100.5%	101.4%
2036	94.4%	99.0%	100.9%	101.4%
2037	97.1%	100.7%	100.9%	101.4%
2038	100.0%	101.2%	100.9%	101.5%

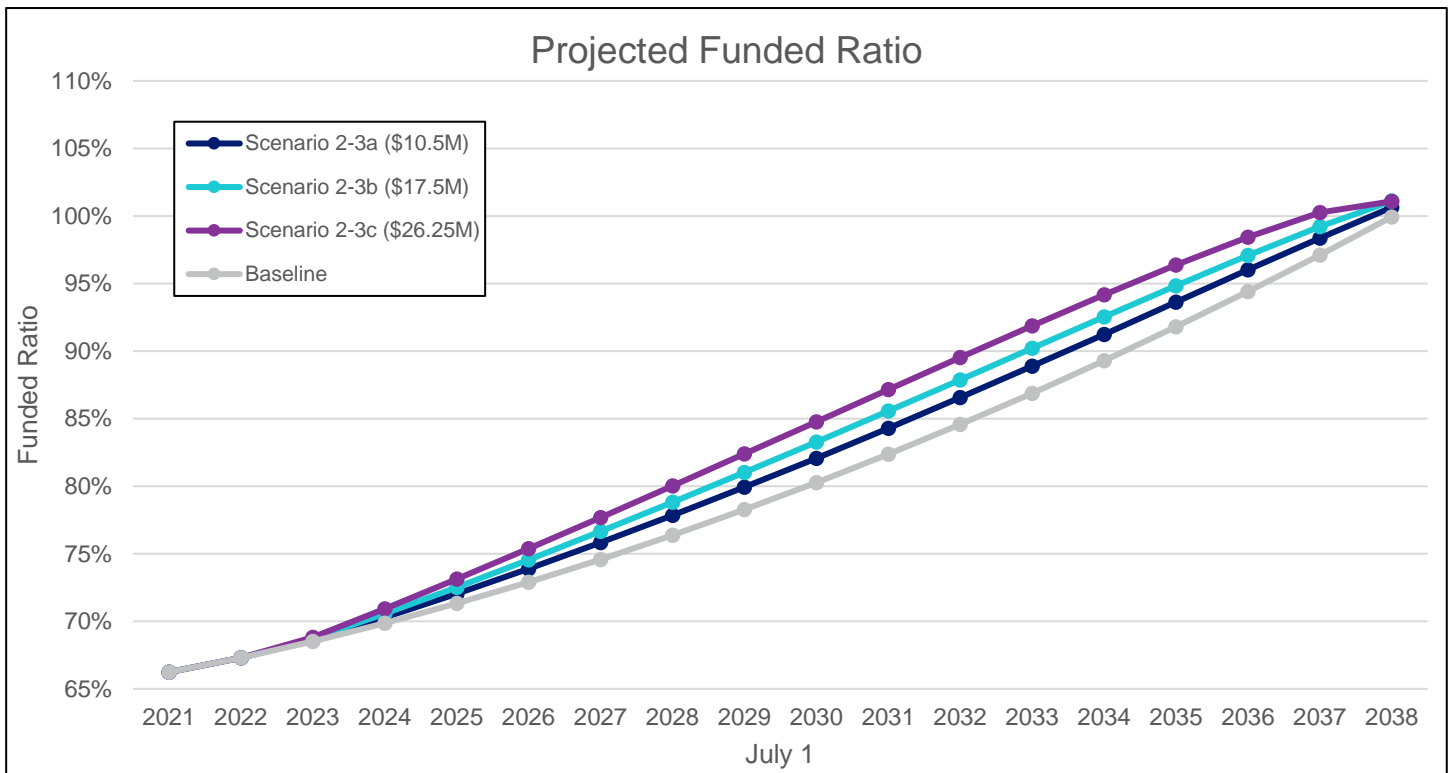
VSERS Scenarios 2-3a, 2-3b, 2-3c



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

Year	Baseline	Scenario 2-3a	Scenario 2-3b	Scenario 2-3c
		\$10.5M	\$17.5M	\$26.25M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	\$65.5	\$65.5	\$65.5	\$65.5
2022	84.8	84.8	84.8	84.8
2023	90.4	90.4	90.4	90.4
2024	94.8	94.8	94.8	94.8
2025	99.1	98.7	98.4	98.1
2026	103.4	101.9	100.9	99.7
2027	107.7	105.0	103.2	100.9
2028	112.0	107.9	105.1	101.7
2029	116.3	110.7	106.9	102.2
2030	120.8	113.3	108.3	102.1
2031	125.3	115.8	109.4	101.5
2032	129.9	118.0	110.1	100.2
2033	134.6	120.0	110.2	98.1
2034	139.4	121.5	109.5	94.6
2035	144.4	122.4	107.8	89.4
2036	149.6	122.4	104.2	81.5
2037	155.2	120.6	97.5	68.6
2038	161.2	114.8	83.9	45.2

VSERS Scenarios 2-3a, 2-3b, 2-3c



Projected Funded Ratio

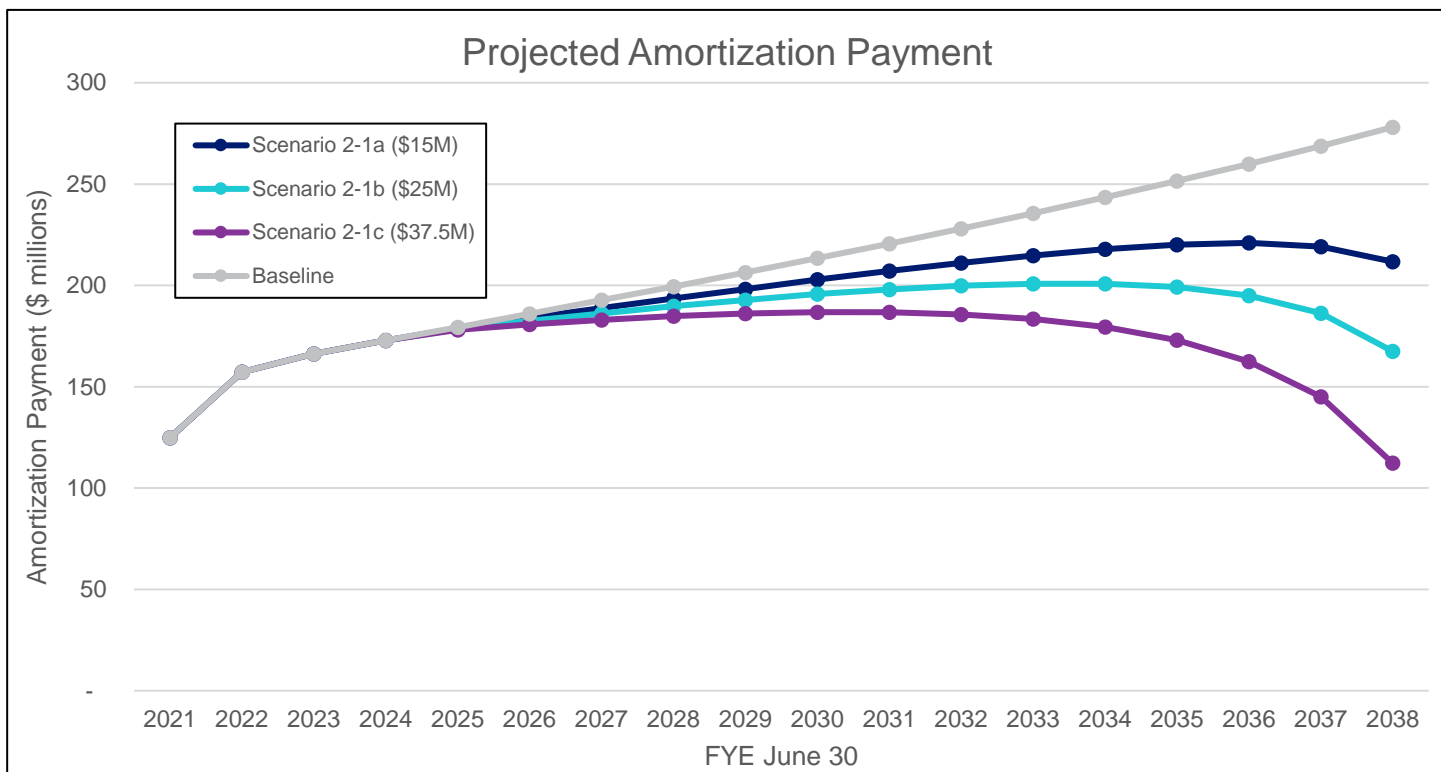
Year	Baseline	Scenario 2-3a	Scenario 2-3b	Scenario 2-3c
		\$10.5M	\$17.5M	\$26.25M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	66.2%	66.2%	66.2%	66.2%
2022	67.3%	67.3%	67.3%	67.3%
2023	68.5%	68.6%	68.7%	68.8%
2024	69.9%	70.3%	70.6%	70.9%
2025	71.3%	72.0%	72.5%	73.1%
2026	72.9%	73.9%	74.6%	75.4%
2027	74.6%	75.8%	76.6%	77.7%
2028	76.4%	77.8%	78.8%	80.0%
2029	78.3%	79.9%	81.0%	82.4%
2030	80.3%	82.1%	83.3%	84.8%
2031	82.4%	84.3%	85.6%	87.2%
2032	84.6%	86.6%	87.9%	89.5%
2033	86.9%	88.9%	90.2%	91.9%
2034	89.3%	91.2%	92.5%	94.2%
2035	91.8%	93.6%	94.8%	96.4%
2036	94.4%	96.0%	97.1%	98.4%
2037	97.1%	98.4%	99.2%	100.3%
2038	100.0%	100.6%	101.1%	101.1%

VSTRS – Request 2 – Additional Revenue Amounts

June 30	Additional Revenue Amounts (\$ millions) ¹								
	2-1a	2-1b	2-1c	2-2a	2-2b	2-2c	2-3a	2-3b	2-3c
	\$15.00M First Full Year of Revenue	\$25.00M First Full Year of Revenue	\$37.50M First Full Year of Revenue	\$30.00M First Full Year of Revenue	\$50.00M First Full Year of Revenue	\$75.00M First Full Year of Revenue	\$19.50M First Full Year of Revenue	\$32.50M First Full Year of Revenue	\$48.75M First Full Year of Revenue
2021	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-
2023	\$6.3	\$10.4	\$15.6	\$12.5	\$20.8	\$31.3	\$8.1	\$13.5	\$20.3
2024	15.0	25.0	37.5	30.0	50.0	75.0	19.5	32.5	48.8
2025	15.3	25.5	38.3	30.6	51.0	76.5	19.9	33.2	49.7
2026	15.6	26.0	39.0	31.2	52.0	78.0	20.3	33.8	50.7
2027	15.9	26.5	39.8	31.8	53.1	79.6	20.7	34.5	51.7
2028	16.2	27.1	40.6	32.5	54.1	81.2	21.1	35.2	52.8
2029	16.6	27.6	41.4	33.1	55.2	82.8	21.5	35.9	53.8
2030	16.9	28.2	42.2	33.8	56.3	84.5	22.0	36.6	54.9
2031	17.2	28.7	43.1	34.5	57.4	86.2	22.4	37.3	56.0
2032	17.6	29.3	43.9	35.1	58.6	87.9	22.8	38.1	57.1
2033	17.9	29.9	44.8	35.9	59.8	89.6	23.3	38.8	58.3
2034	18.3	30.5	45.7	36.6	60.9	91.4	23.8	39.6	59.4
2035	18.7	31.1	46.6	37.3	62.2	93.3	24.2	40.4	60.6
2036	19.0	31.7	47.6	38.0	63.4	95.1	24.7	41.2	61.8
2037	19.4	32.3	48.5	38.8	64.7	-	25.2	42.0	63.1
2038	19.8	33.0	49.5	39.6	-	-	25.7	42.9	-

¹ Once a System is projected to become 100% funded, we assumed that no additional revenue amounts will be paid for all subsequent years.

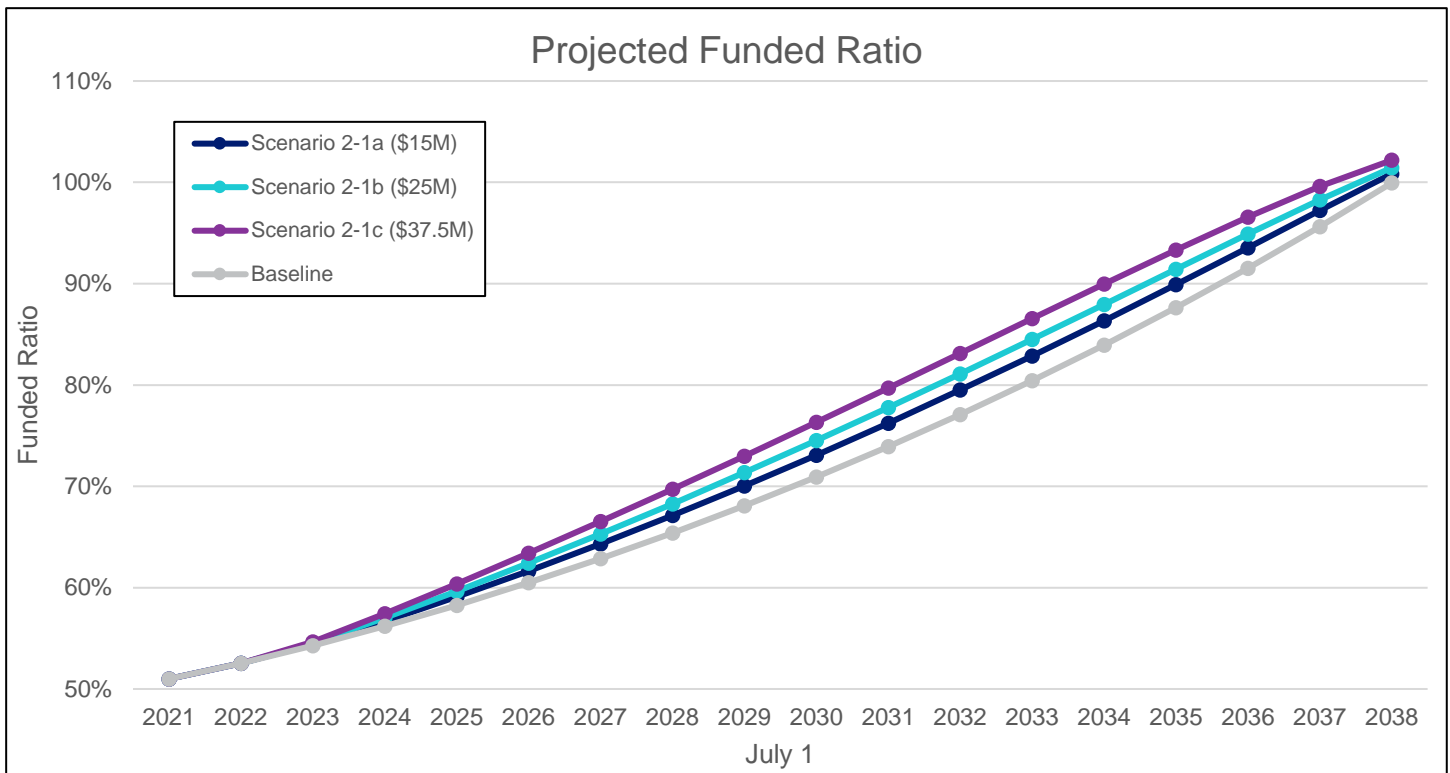
VSTRS Scenarios 2-1a, 2-1b, 2-1c



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

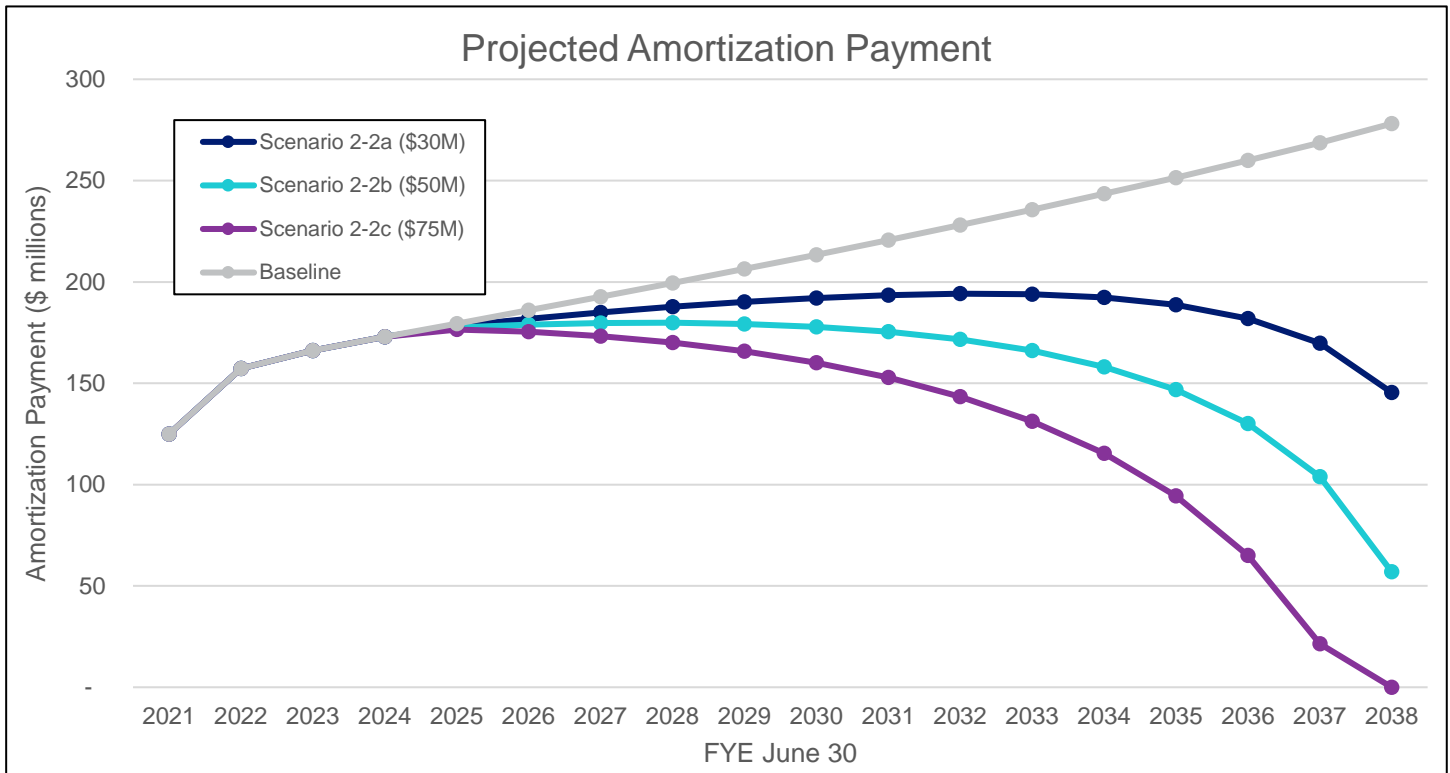
Year	Baseline	Scenario 2-1a	Scenario 2-1b	Scenario 2-1c
		\$15M	\$25M	\$37.5M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	\$124.9	\$124.9	\$124.9	\$124.9
2022	157.3	157.3	157.3	157.3
2023	166.2	166.2	166.2	166.2
2024	172.9	172.9	172.9	172.9
2025	179.4	178.8	178.4	178.0
2026	186.0	183.9	182.5	180.8
2027	192.7	188.8	186.2	183.0
2028	199.4	193.6	189.7	184.8
2029	206.4	198.2	192.8	186.1
2030	213.4	202.8	195.7	186.8
2031	220.6	207.1	198.0	186.7
2032	228.0	211.1	199.8	185.7
2033	235.6	214.8	200.8	183.4
2034	243.5	217.9	200.8	179.5
2035	251.5	220.1	199.2	173.0
2036	259.9	221.0	195.0	162.5
2037	268.7	219.2	186.3	145.1
2038	278.1	211.8	167.5	112.3

VSTRS Scenarios 2-1a, 2-1b, 2-1c



Year	Projected Funded Ratio			
	Baseline	Scenario 2-1a \$15M First Full Year of Revenue	Scenario 2-1b \$25M First Full Year of Revenue	Scenario 2-1c \$37.5M First Full Year of Revenue
2021	51.0%	51.0%	51.0%	51.0%
2022	52.5%	52.5%	52.5%	52.5%
2023	54.3%	54.4%	54.5%	54.6%
2024	56.2%	56.7%	57.0%	57.4%
2025	58.3%	59.1%	59.7%	60.4%
2026	60.5%	61.6%	62.4%	63.4%
2027	62.9%	64.3%	65.3%	66.5%
2028	65.4%	67.1%	68.3%	69.7%
2029	68.1%	70.0%	71.4%	73.0%
2030	70.9%	73.1%	74.5%	76.3%
2031	73.9%	76.2%	77.8%	79.7%
2032	77.1%	79.5%	81.1%	83.1%
2033	80.4%	82.9%	84.5%	86.5%
2034	83.9%	86.3%	88.0%	90.0%
2035	87.6%	89.9%	91.4%	93.3%
2036	91.5%	93.5%	94.9%	96.6%
2037	95.6%	97.2%	98.3%	99.6%
2038	100.0%	100.8%	101.4%	102.2%

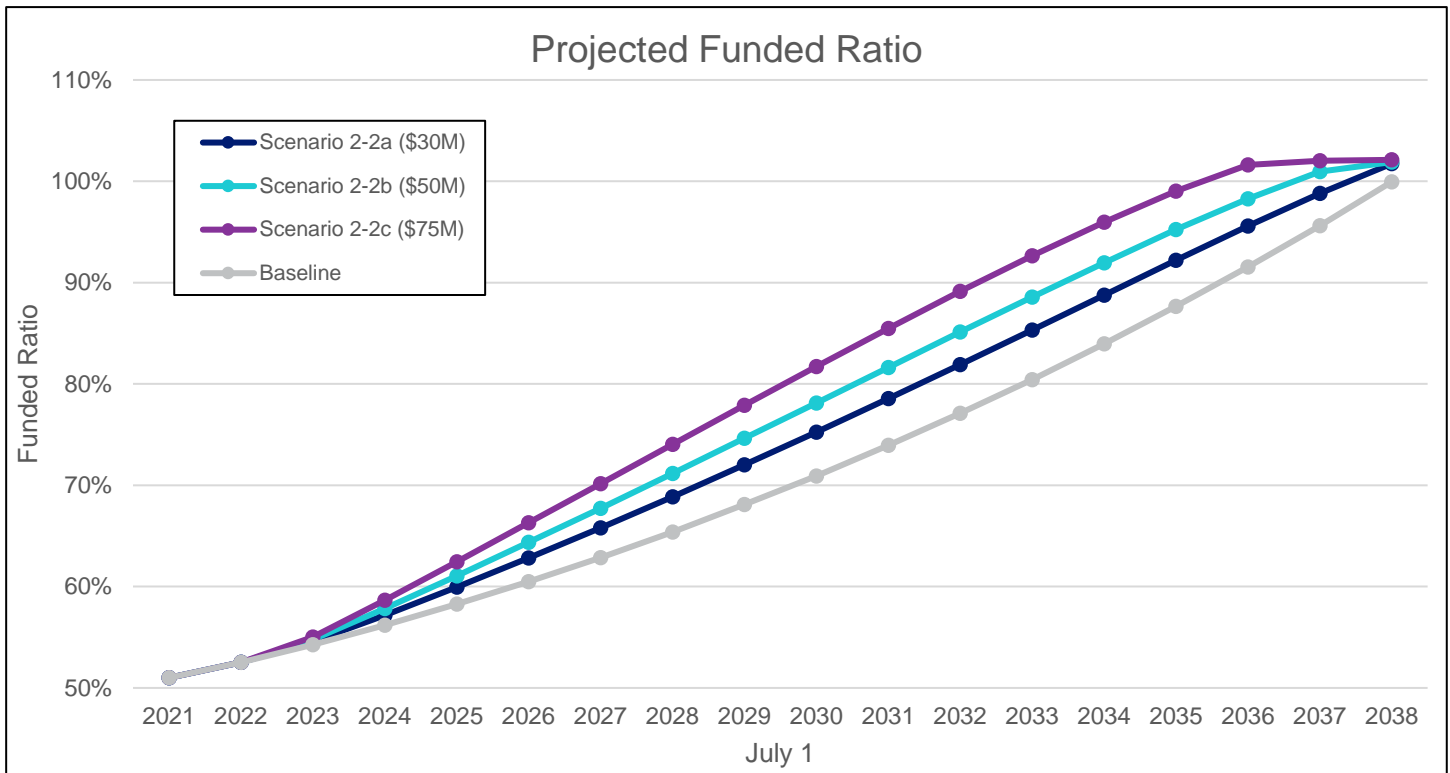
VSTRS Scenarios 2-2a, 2-2b, 2-2c



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

Year	Baseline	Scenario 2-2a	Scenario 2-2b	Scenario 2-2c
		\$30M	\$50M	\$75M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	\$124.9	\$124.9	\$124.9	\$124.9
2022	157.3	157.3	157.3	157.3
2023	166.2	166.2	166.2	166.2
2024	172.9	172.9	172.9	172.9
2025	179.4	178.3	177.5	176.5
2026	186.0	181.8	179.0	175.5
2027	192.7	184.9	179.8	173.3
2028	199.4	187.7	179.9	170.1
2029	206.4	190.1	179.3	165.8
2030	213.4	192.1	177.9	160.1
2031	220.6	193.5	175.4	152.8
2032	228.0	194.2	171.6	143.4
2033	235.6	193.9	166.1	131.3
2034	243.5	192.3	158.1	115.5
2035	251.5	188.7	146.8	94.4
2036	259.9	182.0	130.1	65.1
2037	268.7	169.8	103.9	21.5
2038	278.1	145.4	57.0	-

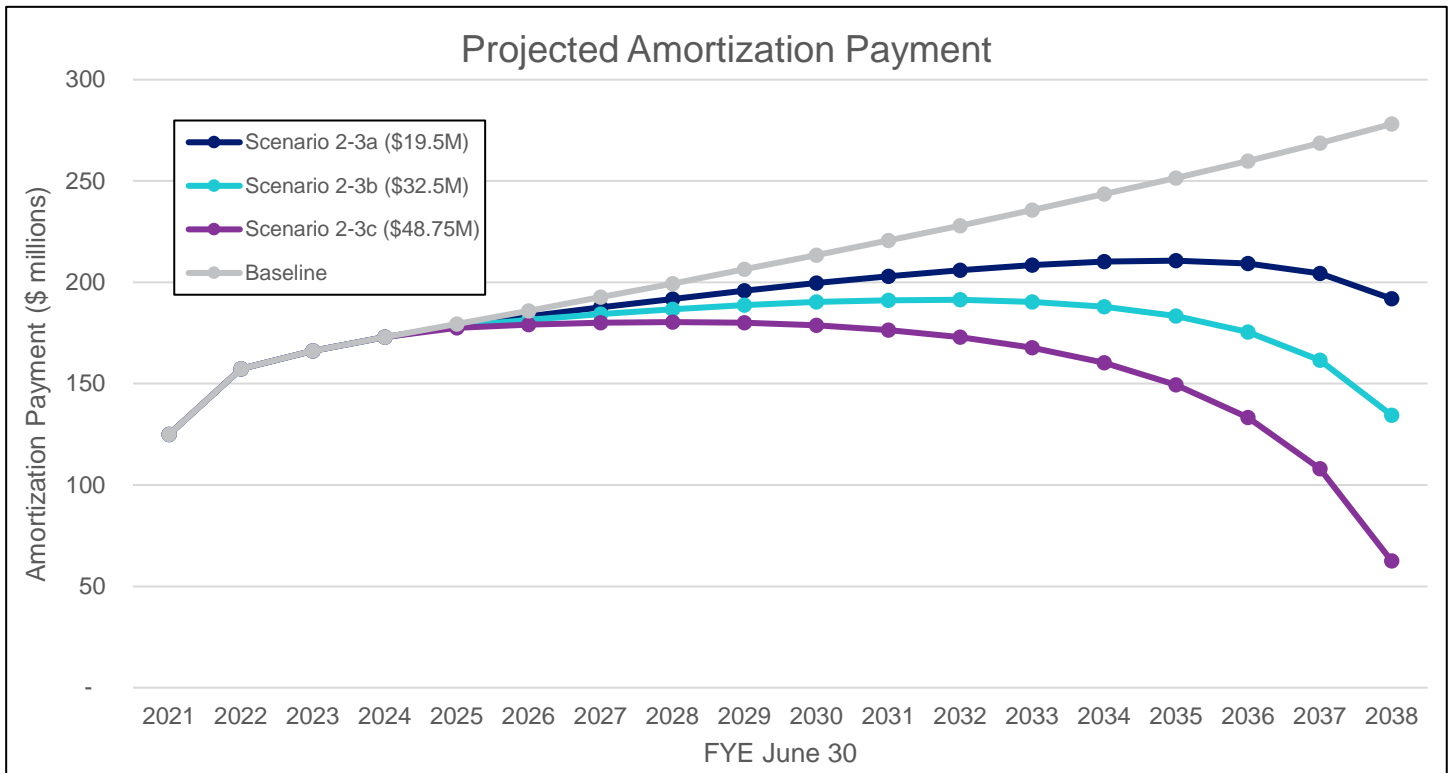
VSTRS Scenarios 2-2a, 2-2b, 2-2c



Projected Funded Ratio

Year	Baseline	Scenario 2-2a	Scenario 2-2b	Scenario 2-2c
		\$30M	\$50M	\$75M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	51.0%	51.0%	51.0%	51.0%
2022	52.5%	52.5%	52.5%	52.5%
2023	54.3%	54.6%	54.8%	55.0%
2024	56.2%	57.2%	57.8%	58.7%
2025	58.3%	59.9%	61.1%	62.5%
2026	60.5%	62.8%	64.4%	66.3%
2027	62.9%	65.8%	67.7%	70.2%
2028	65.4%	68.9%	71.2%	74.0%
2029	68.1%	72.0%	74.6%	77.9%
2030	70.9%	75.2%	78.1%	81.7%
2031	73.9%	78.5%	81.6%	85.5%
2032	77.1%	81.9%	85.1%	89.1%
2033	80.4%	85.3%	88.6%	92.7%
2034	83.9%	88.8%	92.0%	96.0%
2035	87.6%	92.2%	95.2%	99.0%
2036	91.5%	95.6%	98.3%	101.6%
2037	95.6%	98.8%	100.9%	102.0%
2038	100.0%	101.7%	101.9%	102.1%

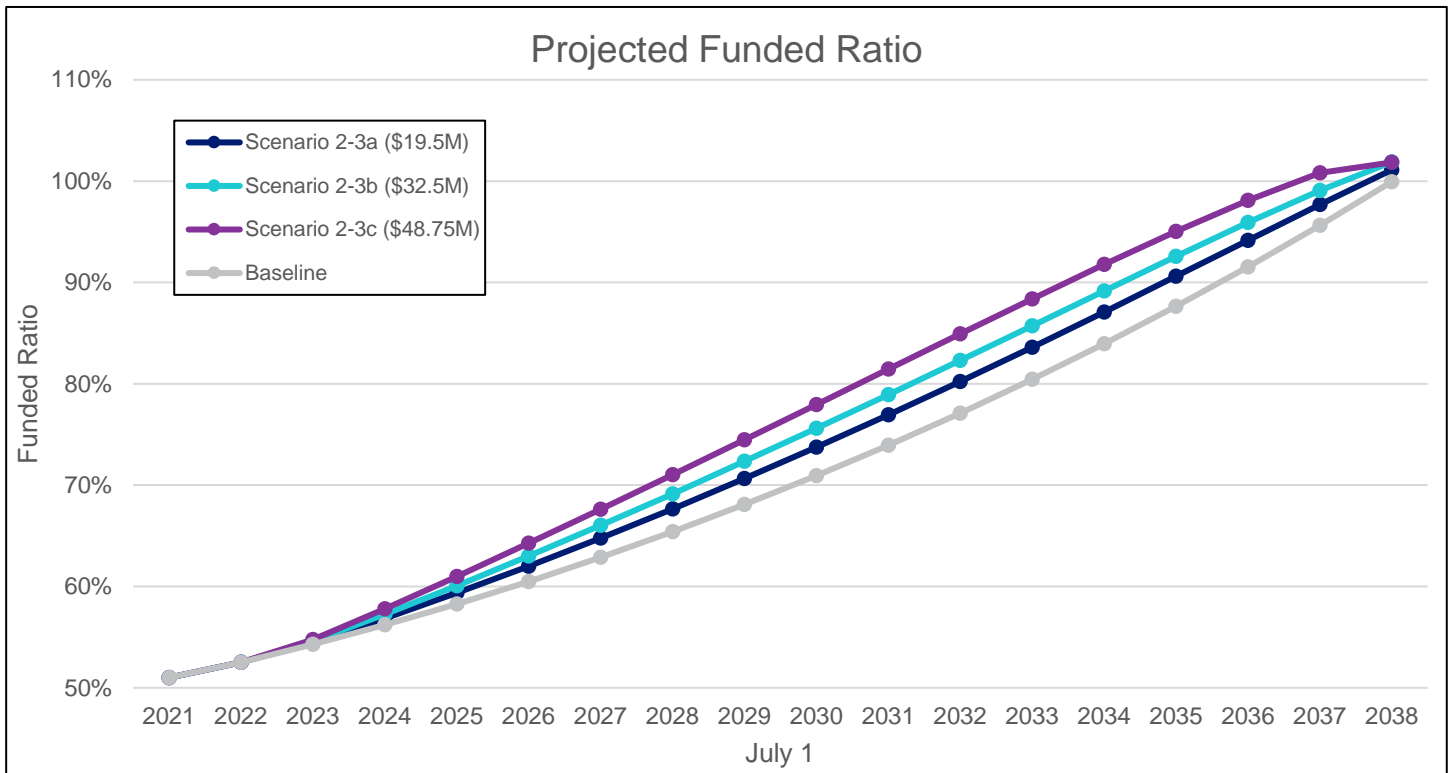
VSTRS Scenarios 2-3a, 2-3b, 2-3c



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

Year	Baseline	Scenario 2-3a	Scenario 2-3b	Scenario 2-3c
		\$19.5M	\$32.5M	\$48.75M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	\$124.9	\$124.9	\$124.9	\$124.9
2022	157.3	157.3	157.3	157.3
2023	166.2	166.2	166.2	166.2
2024	172.9	172.9	172.9	172.9
2025	179.4	178.7	178.2	177.5
2026	186.0	183.3	181.5	179.2
2027	192.7	187.6	184.3	180.1
2028	199.4	191.8	186.7	180.4
2029	206.4	195.8	188.8	180.0
2030	213.4	199.6	190.3	178.8
2031	220.6	203.0	191.2	176.5
2032	228.0	206.0	191.4	173.0
2033	235.6	208.5	190.4	167.8
2034	243.5	210.2	188.0	160.3
2035	251.5	210.7	183.4	149.4
2036	259.9	209.3	175.5	133.3
2037	268.7	204.4	161.6	108.0
2038	278.1	191.9	134.4	62.5

VSTRS Scenarios 2-3a, 2-3b, 2-3c



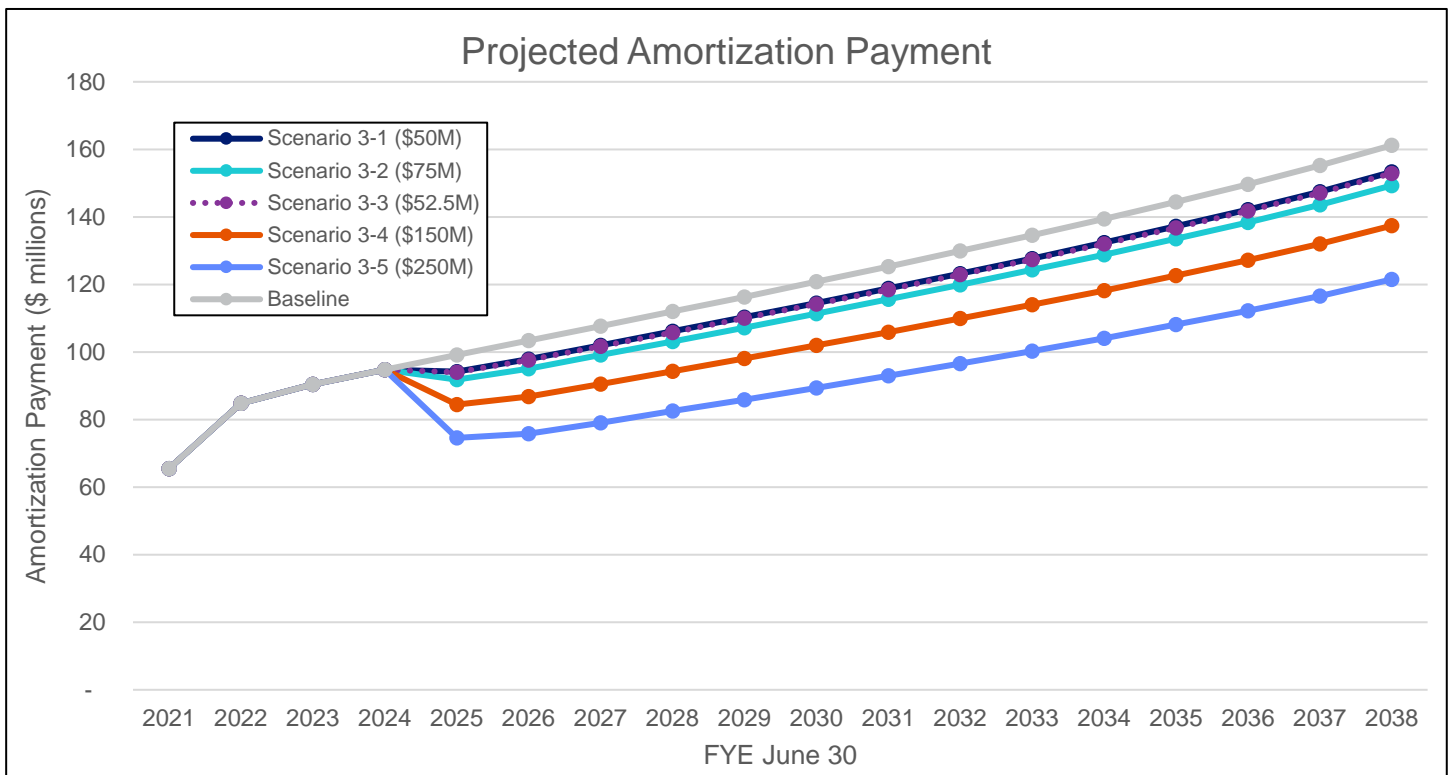
Projected Funded Ratio

Year	Baseline	Scenario 2-3a	Scenario 2-3b	Scenario 2-3c
		\$19.5M	\$32.5M	\$48.75M
		First Full Year of Revenue	First Full Year of Revenue	First Full Year of Revenue
2021	51.0%	51.0%	51.0%	51.0%
2022	52.5%	52.5%	52.5%	52.5%
2023	54.3%	54.5%	54.6%	54.8%
2024	56.2%	56.8%	57.3%	57.8%
2025	58.3%	59.4%	60.1%	61.0%
2026	60.5%	62.0%	63.0%	64.3%
2027	62.9%	64.8%	66.0%	67.6%
2028	65.4%	67.6%	69.1%	71.0%
2029	68.1%	70.6%	72.3%	74.5%
2030	70.9%	73.7%	75.6%	77.9%
2031	73.9%	76.9%	78.9%	81.4%
2032	77.1%	80.2%	82.3%	84.9%
2033	80.4%	83.6%	85.7%	88.4%
2034	83.9%	87.1%	89.2%	91.8%
2035	87.6%	90.6%	92.6%	95.0%
2036	91.5%	94.2%	95.9%	98.1%
2037	95.6%	97.7%	99.1%	100.8%
2038	100.0%	101.1%	101.9%	101.8%

VSERS – Request 3 – Additional Revenue Amounts

Additional Revenue Amounts (\$ millions)										
	3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9	3-10
July 1	One-Time \$50.00M	One-Time \$75.00M	One-Time \$52.50M	One-Time \$150.00M	One-Time \$250.00M	One-Time \$125.00M	One-Time \$87.50M	One-Time \$400.00M	One-Time \$200.00M	One-Time \$140.00M
2021	-	-	-	-	-	-	-	-	-	-
2022	\$50.0	\$75.0	\$52.5	\$150.0	\$250.0	\$125.0	\$87.5	\$400.0	\$200.0	\$140.0
2023	-	-	-	-	-	-	-	-	-	-
2024	-	-	-	-	-	-	-	-	-	-
2025	-	-	-	-	-	-	-	-	-	-
2026	-	-	-	-	-	-	-	-	-	-
2027	-	-	-	-	-	-	-	-	-	-
2028	-	-	-	-	-	-	-	-	-	-
2029	-	-	-	-	-	-	-	-	-	-
2030	-	-	-	-	-	-	-	-	-	-
2031	-	-	-	-	-	-	-	-	-	-
2032	-	-	-	-	-	-	-	-	-	-
2033	-	-	-	-	-	-	-	-	-	-
2034	-	-	-	-	-	-	-	-	-	-
2035	-	-	-	-	-	-	-	-	-	-
2036	-	-	-	-	-	-	-	-	-	-
2037	-	-	-	-	-	-	-	-	-	-
2038	-	-	-	-	-	-	-	-	-	-

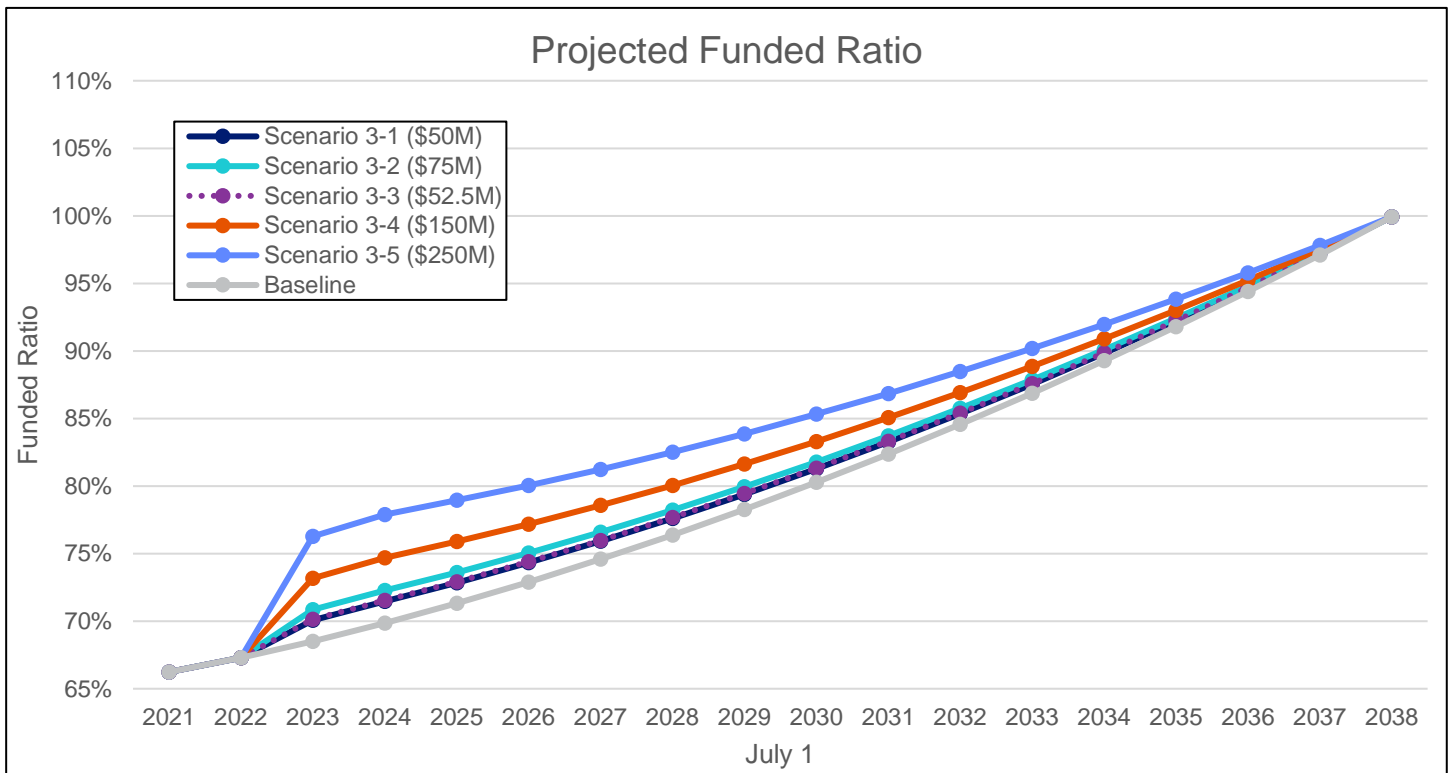
VSERS Scenarios 3-1, 3-2, 3-3, 3-4, 3-5



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

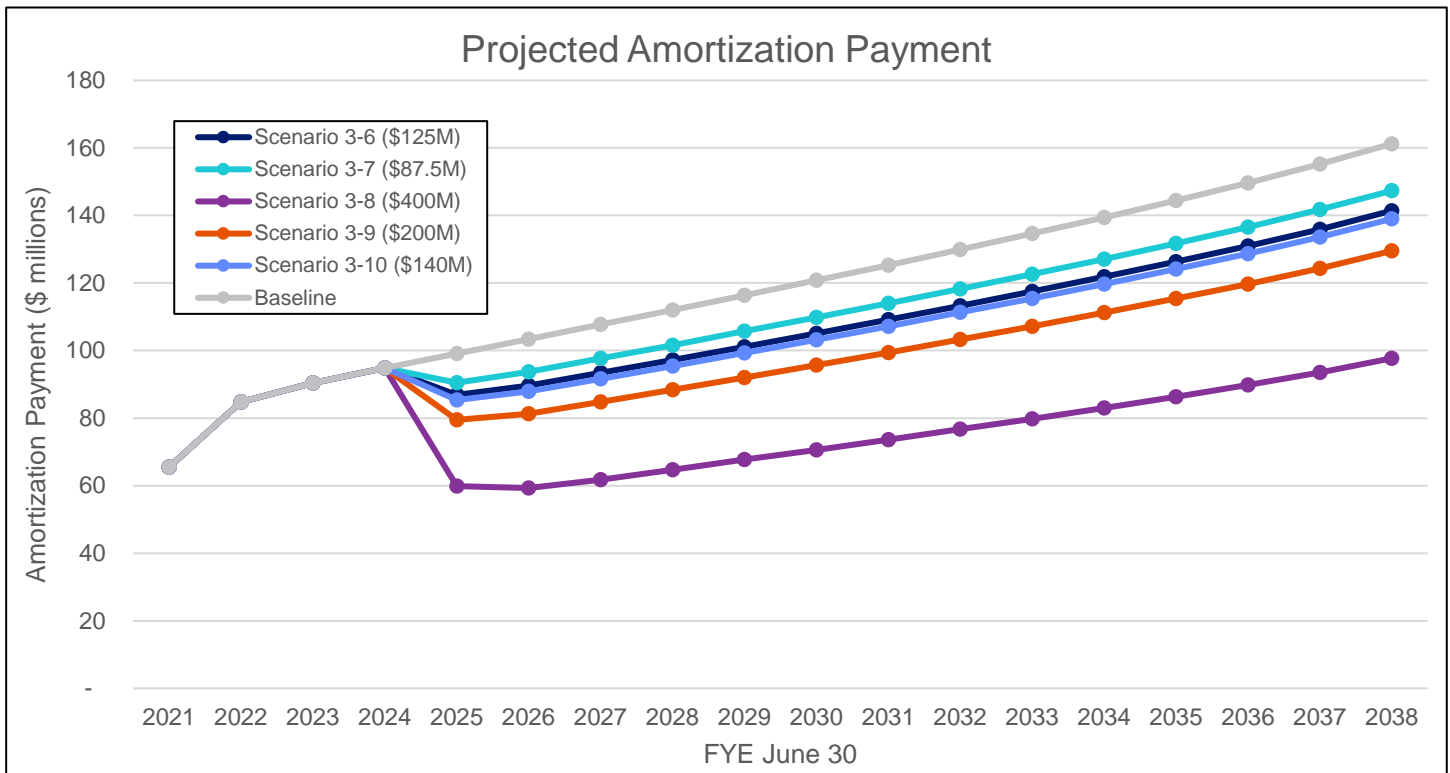
Year	Baseline	Scenario 3-1 \$50M	Scenario 3-2 \$75M	Scenario 3-3 \$52.5M	Scenario 3-4 \$150M	Scenario 3-5 \$250M
2021	\$65.5	\$65.5	\$65.5	\$65.5	\$65.5	\$65.5
2022	84.8	84.8	84.8	84.8	84.8	84.8
2023	90.4	90.4	90.4	90.4	90.4	90.4
2024	94.8	94.8	94.8	94.8	94.8	94.8
2025	99.1	94.2	91.8	94.0	84.4	74.6
2026	103.4	97.9	95.1	97.6	86.8	75.8
2027	107.7	102.0	99.1	101.7	90.5	79.0
2028	112.0	106.1	103.1	105.8	94.3	82.5
2029	116.3	110.3	107.2	110.0	98.1	85.9
2030	120.8	114.5	111.4	114.2	102.0	89.4
2031	125.3	118.8	115.6	118.5	105.9	93.0
2032	129.9	123.2	119.9	122.9	109.9	96.6
2033	134.6	127.7	124.3	127.4	114.0	100.3
2034	139.4	132.4	128.8	132.0	118.2	104.1
2035	144.4	137.2	133.5	136.8	122.6	108.1
2036	149.6	142.2	138.4	141.8	127.2	112.2
2037	155.2	147.5	143.6	147.1	132.0	116.6
2038	161.2	153.3	149.3	152.9	137.4	121.5

VSERS Scenarios 3-1, 3-2, 3-3, 3-4, 3-5



Year	Projected Funded Ratio					
	Baseline	Scenario 3-1 \$50M	Scenario 3-2 \$75M	Scenario 3-3 \$52.5M	Scenario 3-4 \$150M	Scenario 3-5 \$250M
2021	66.2%	66.2%	66.2%	66.2%	66.2%	66.2%
2022	67.3%	67.3%	67.3%	67.3%	67.3%	67.3%
2023	68.5%	70.1%	70.8%	70.1%	73.2%	76.3%
2024	69.9%	71.5%	72.3%	71.5%	74.7%	77.9%
2025	71.3%	72.8%	73.6%	72.9%	75.9%	78.9%
2026	72.9%	74.3%	75.0%	74.4%	77.2%	80.0%
2027	74.6%	75.9%	76.6%	76.0%	78.6%	81.2%
2028	76.4%	77.6%	78.2%	77.7%	80.1%	82.5%
2029	78.3%	79.4%	80.0%	79.4%	81.6%	83.9%
2030	80.3%	81.3%	81.8%	81.3%	83.3%	85.3%
2031	82.4%	83.3%	83.7%	83.3%	85.1%	86.9%
2032	84.6%	85.4%	85.7%	85.4%	86.9%	88.5%
2033	86.9%	87.5%	87.9%	87.6%	88.9%	90.2%
2034	89.3%	89.8%	90.1%	89.8%	90.9%	92.0%
2035	91.8%	92.2%	92.4%	92.2%	93.0%	93.8%
2036	94.4%	94.7%	94.8%	94.7%	95.2%	95.8%
2037	97.1%	97.2%	97.3%	97.3%	97.5%	97.8%
2038	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

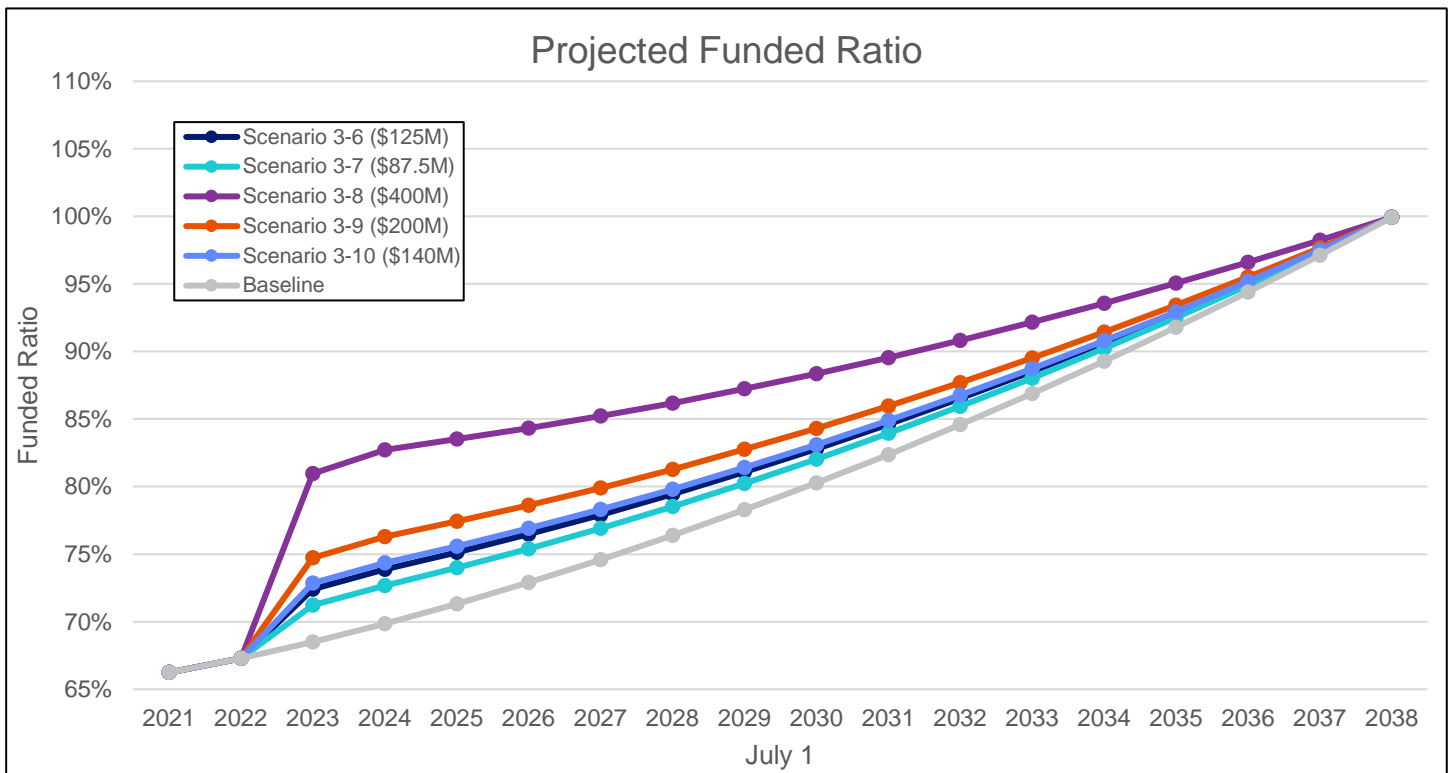
VSERS Scenarios 3-6, 3-7, 3-8, 3-9, 3-10



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

Year	Baseline	Scenario 3-6 \$125M	Scenario 3-7 \$87.5M	Scenario 3-8 \$400M	Scenario 3-9 \$200M	Scenario 3-10 \$140M
2021	\$65.5	\$65.5	\$65.5	\$65.5	\$65.5	\$65.5
2022	84.8	84.8	84.8	84.8	84.8	84.8
2023	90.4	90.4	90.4	90.4	90.4	90.4
2024	94.8	94.8	94.8	94.8	94.8	94.8
2025	99.1	86.9	90.5	59.9	79.5	85.4
2026	103.4	89.6	93.7	59.3	81.3	87.9
2027	107.7	93.4	97.7	61.8	84.8	91.6
2028	112.0	97.2	101.6	64.7	88.4	95.4
2029	116.3	101.1	105.7	67.7	92.0	99.3
2030	120.8	105.1	109.8	70.6	95.7	103.2
2031	125.3	109.1	114.0	73.6	99.4	107.2
2032	129.9	113.2	118.2	76.7	103.3	111.3
2033	134.6	117.5	122.6	79.8	107.2	115.4
2034	139.4	121.8	127.1	83.0	111.2	119.7
2035	144.4	126.3	131.7	86.3	115.4	124.1
2036	149.6	130.9	136.5	89.8	119.7	128.7
2037	155.2	135.9	141.7	93.5	124.3	133.6
2038	161.2	141.4	147.3	97.7	129.5	139.0

VSERS Scenarios 3-6, 3-7, 3-8, 3-9, 3-10

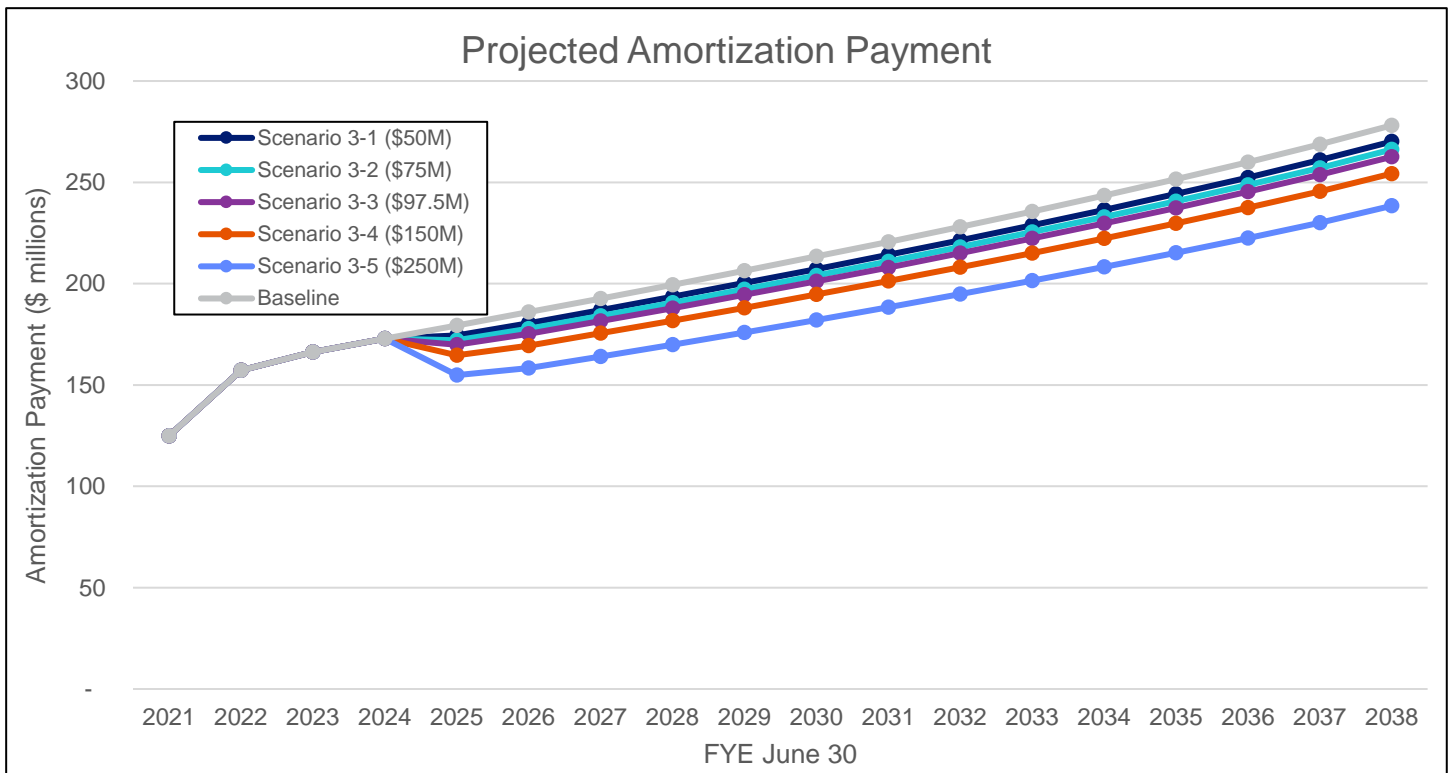


Year	Projected Funded Ratio					
	Baseline	Scenario 3-6 \$125M	Scenario 3-7 \$87.5M	Scenario 3-8 \$400M	Scenario 3-9 \$200M	Scenario 3-10 \$140M
2021	66.2%	66.2%	66.2%	66.2%	66.2%	66.2%
2022	67.3%	67.3%	67.3%	67.3%	67.3%	67.3%
2023	68.5%	72.4%	71.2%	81.0%	74.7%	72.9%
2024	69.9%	73.9%	72.7%	82.7%	76.3%	74.4%
2025	71.3%	75.1%	74.0%	83.5%	77.4%	75.6%
2026	72.9%	76.5%	75.4%	84.3%	78.6%	76.9%
2027	74.6%	77.9%	76.9%	85.2%	79.9%	78.3%
2028	76.4%	79.4%	78.5%	86.2%	81.3%	79.8%
2029	78.3%	81.1%	80.2%	87.2%	82.7%	81.4%
2030	80.3%	82.8%	82.0%	88.3%	84.3%	83.1%
2031	82.4%	84.6%	83.9%	89.5%	86.0%	84.9%
2032	84.6%	86.5%	85.9%	90.8%	87.7%	86.8%
2033	86.9%	88.5%	88.0%	92.2%	89.5%	88.7%
2034	89.3%	90.6%	90.2%	93.6%	91.4%	90.8%
2035	91.8%	92.8%	92.5%	95.1%	93.4%	92.9%
2036	94.4%	95.1%	94.9%	96.6%	95.5%	95.2%
2037	97.1%	97.5%	97.4%	98.2%	97.7%	97.5%
2038	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

VSTRS – Request 3 – Additional Revenue Amounts

		Additional Revenue Amounts (\$ millions)									
		3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9	3-10
July 1		One-Time \$50.00M	One-Time \$75.00M	One-Time \$97.50M	One-Time \$150.00M	One-Time \$250.00M	One-Time \$125.00M	One-Time \$162.50M	One-Time \$400.00M	One-Time \$200.00M	One-Time \$260.00M
2021		-	-	-	-	-	-	-	-	-	-
2022		\$50.0	\$75.0	\$97.5	\$150.0	\$250.0	\$125.0	\$162.5	\$400.0	\$200.0	\$260.0
2023		-	-	-	-	-	-	-	-	-	-
2024		-	-	-	-	-	-	-	-	-	-
2025		-	-	-	-	-	-	-	-	-	-
2026		-	-	-	-	-	-	-	-	-	-
2027		-	-	-	-	-	-	-	-	-	-
2028		-	-	-	-	-	-	-	-	-	-
2029		-	-	-	-	-	-	-	-	-	-
2030		-	-	-	-	-	-	-	-	-	-
2031		-	-	-	-	-	-	-	-	-	-
2032		-	-	-	-	-	-	-	-	-	-
2033		-	-	-	-	-	-	-	-	-	-
2034		-	-	-	-	-	-	-	-	-	-
2035		-	-	-	-	-	-	-	-	-	-
2036		-	-	-	-	-	-	-	-	-	-
2037		-	-	-	-	-	-	-	-	-	-
2038		-	-	-	-	-	-	-	-	-	-

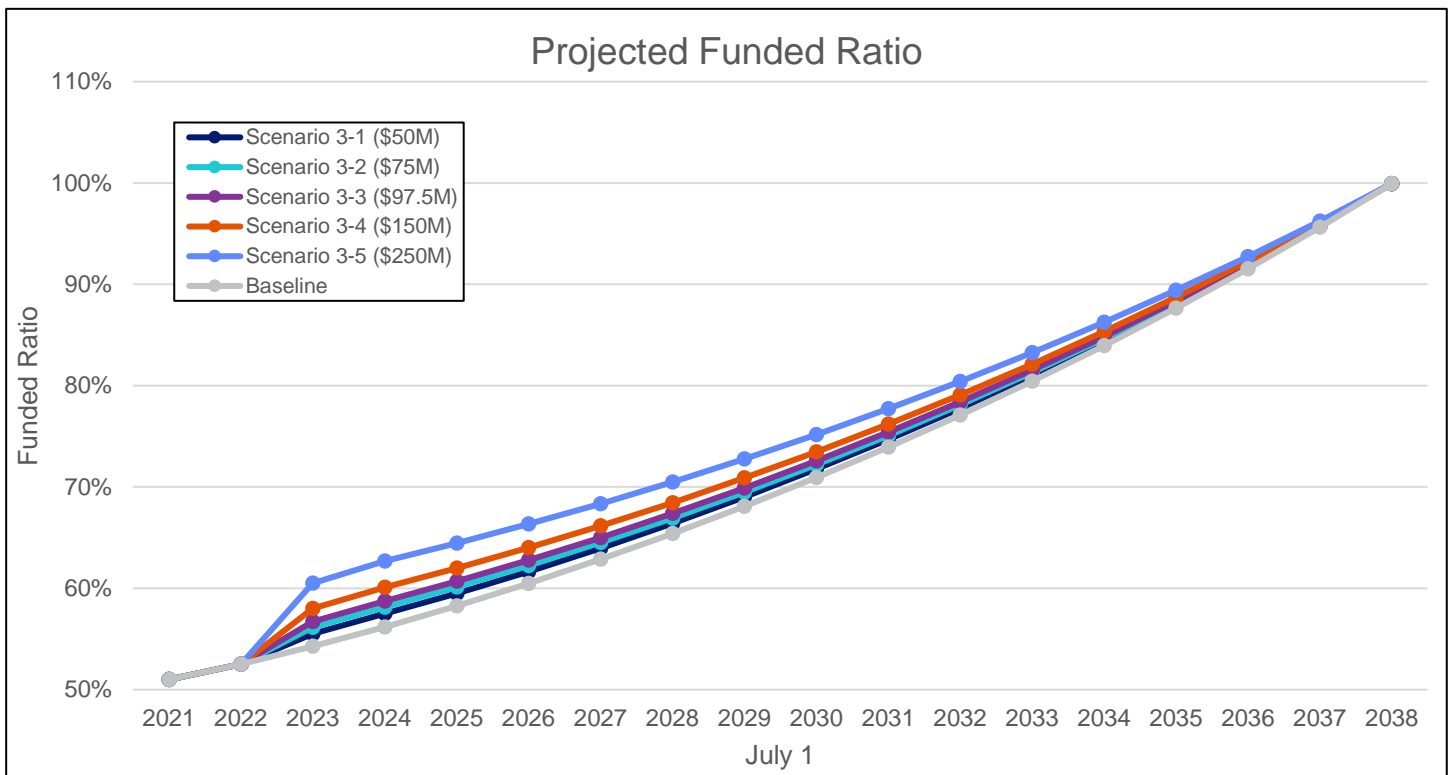
VSTRS Scenarios 3-1, 3-2, 3-3, 3-4, 3-5



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

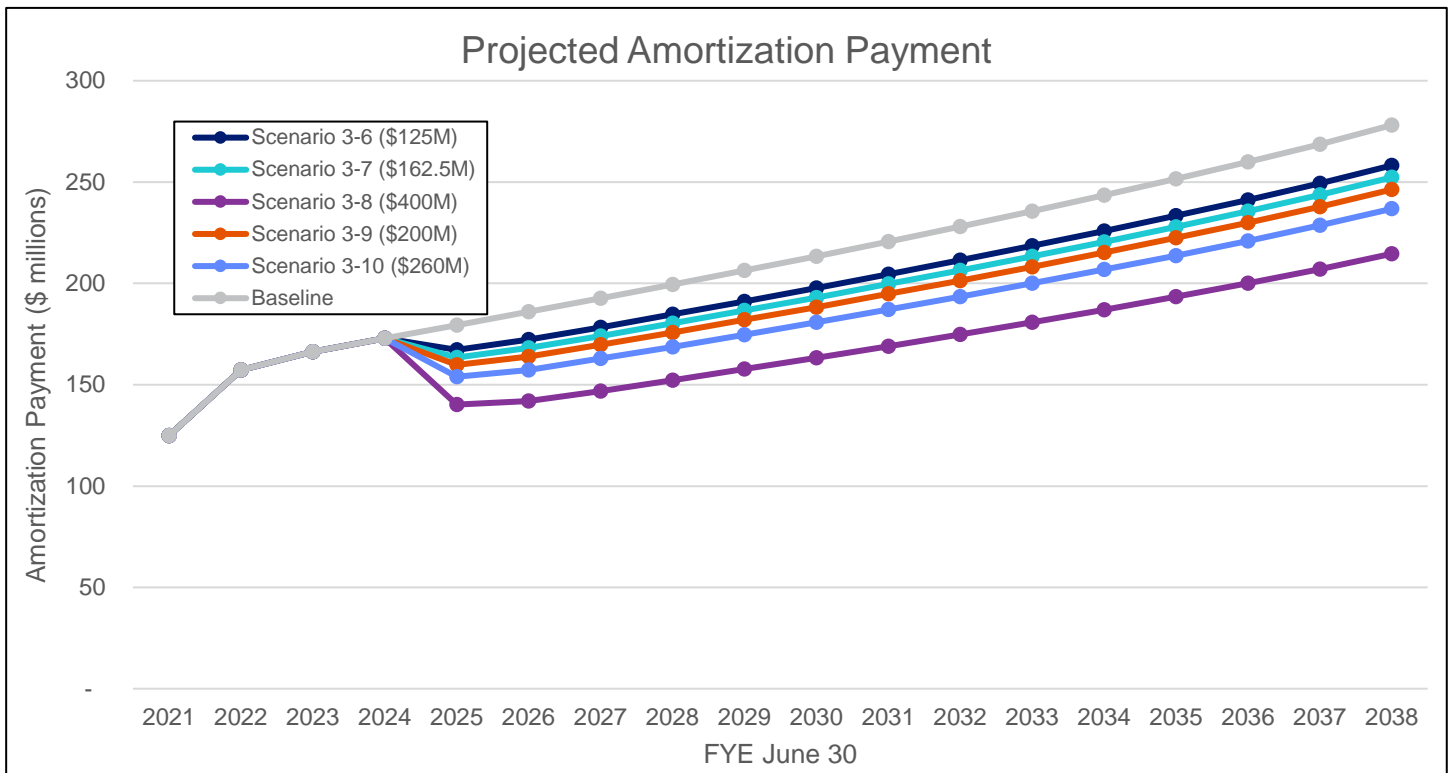
Year	Baseline	Scenario 3-1 \$50M	Scenario 3-2 \$75M	Scenario 3-3 \$97.5M	Scenario 3-4 \$150M	Scenario 3-5 \$250M
2021	\$124.9	\$124.9	\$124.9	\$124.9	\$124.9	\$124.9
2022	157.3	157.3	157.3	157.3	157.3	157.3
2023	166.2	166.2	166.2	166.2	166.2	166.2
2024	172.9	172.9	172.9	172.9	172.9	172.9
2025	179.4	174.5	172.1	169.8	164.7	154.9
2026	186.0	180.5	177.7	175.2	169.4	158.4
2027	192.7	186.9	184.1	181.5	175.5	164.0
2028	199.4	193.5	190.6	187.9	181.7	169.9
2029	206.4	200.3	197.2	194.5	188.1	175.9
2030	213.4	207.1	204.0	201.2	194.6	182.1
2031	220.6	214.2	211.0	208.0	201.3	188.4
2032	228.0	221.4	218.1	215.1	208.1	194.8
2033	235.6	228.8	225.4	222.3	215.1	201.4
2034	243.5	236.4	232.9	229.7	222.3	208.2
2035	251.5	244.3	240.6	237.4	229.7	215.2
2036	259.9	252.4	248.7	245.3	237.5	222.5
2037	268.7	261.0	257.1	253.7	245.6	230.1
2038	278.1	270.1	266.2	262.6	254.3	238.4

VSTRS Scenarios 3-1, 3-2, 3-3, 3-4, 3-5



Year	Projected Funded Ratio					
	Baseline	Scenario 3-1 \$50M	Scenario 3-2 \$75M	Scenario 3-3 \$97.5M	Scenario 3-4 \$150M	Scenario 3-5 \$250M
2021	51.0%	51.0%	51.0%	51.0%	51.0%	51.0%
2022	52.5%	52.5%	52.5%	52.5%	52.5%	52.5%
2023	54.3%	55.5%	56.1%	56.7%	58.0%	60.5%
2024	56.2%	57.5%	58.1%	58.7%	60.1%	62.7%
2025	58.3%	59.5%	60.1%	60.7%	62.0%	64.5%
2026	60.5%	61.7%	62.2%	62.8%	64.0%	66.3%
2027	62.9%	64.0%	64.5%	65.0%	66.2%	68.3%
2028	65.4%	66.4%	66.9%	67.4%	68.4%	70.5%
2029	68.1%	69.0%	69.5%	69.9%	70.9%	72.8%
2030	70.9%	71.8%	72.2%	72.6%	73.5%	75.2%
2031	73.9%	74.7%	75.1%	75.4%	76.2%	77.7%
2032	77.1%	77.8%	78.1%	78.4%	79.1%	80.4%
2033	80.4%	81.0%	81.3%	81.5%	82.1%	83.3%
2034	83.9%	84.4%	84.6%	84.8%	85.3%	86.3%
2035	87.6%	88.0%	88.2%	88.3%	88.7%	89.4%
2036	91.5%	91.8%	91.9%	92.0%	92.3%	92.7%
2037	95.6%	95.7%	95.8%	95.9%	96.0%	96.2%
2038	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

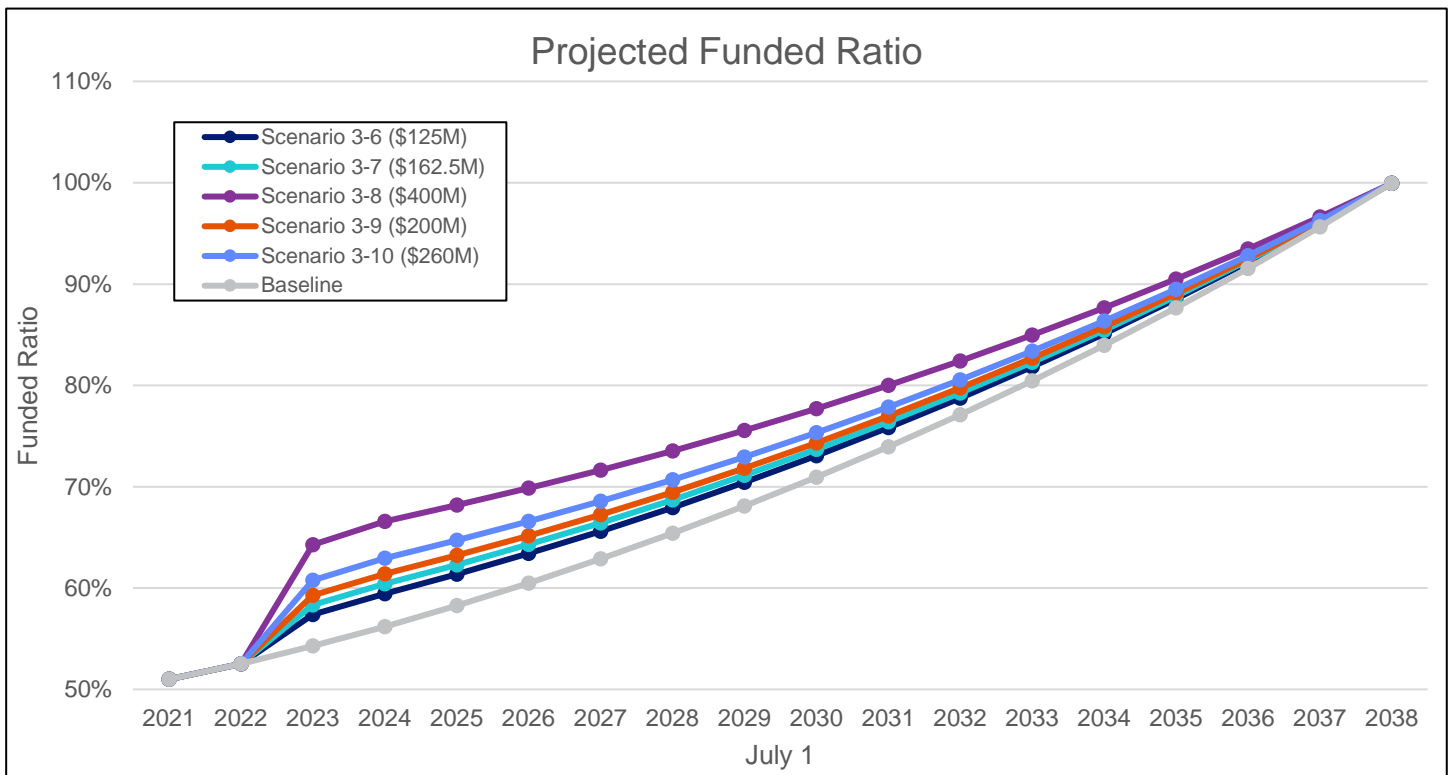
VSTRS Scenarios 3-6, 3-7, 3-8, 3-9, 3-10



Projected Amortization Payment for the Plan Year Ending June 30 (\$ millions)

Year	Baseline	Scenario 3-6 \$125M	Scenario 3-7 \$162.5M	Scenario 3-8 \$400M	Scenario 3-9 \$200M	Scenario 3-10 \$260M
2021	\$124.9	\$124.9	\$124.9	\$124.9	\$124.9	\$124.9
2022	157.3	157.3	157.3	157.3	157.3	157.3
2023	166.2	166.2	166.2	166.2	166.2	166.2
2024	172.9	172.9	172.9	172.9	172.9	172.9
2025	179.4	167.2	163.5	140.2	159.8	153.9
2026	186.0	172.2	168.1	141.9	163.9	157.3
2027	192.7	178.3	174.0	146.8	169.7	162.9
2028	199.4	184.7	180.3	152.2	175.8	168.7
2029	206.4	191.1	186.6	157.7	182.0	174.7
2030	213.4	197.7	193.0	163.3	188.3	180.8
2031	220.6	204.5	199.7	169.0	194.8	187.1
2032	228.0	211.4	206.4	174.8	201.4	193.5
2033	235.6	218.5	213.4	180.8	208.2	200.0
2034	243.5	225.8	220.5	187.0	215.2	206.8
2035	251.5	233.4	227.9	193.4	222.5	213.7
2036	259.9	241.2	235.6	200.0	230.0	221.0
2037	268.7	249.4	243.6	207.0	237.9	228.6
2038	278.1	258.2	252.3	214.6	246.3	236.8

VSTRS Scenarios 3-6, 3-7, 3-8, 3-9, 3-10



Projected Funded Ratio						
Year	Baseline	Scenario 3-6 \$125M	Scenario 3-7 \$162.5M	Scenario 3-8 \$400M	Scenario 3-9 \$200M	Scenario 3-10 \$260M
2021	51.0%	51.0%	51.0%	51.0%	51.0%	51.0%
2022	52.5%	52.5%	52.5%	52.5%	52.5%	52.5%
2023	54.3%	57.4%	58.3%	64.3%	59.3%	60.8%
2024	56.2%	59.4%	60.4%	66.6%	61.4%	62.9%
2025	58.3%	61.4%	62.3%	68.2%	63.2%	64.7%
2026	60.5%	63.4%	64.3%	69.8%	65.2%	66.6%
2027	62.9%	65.6%	66.4%	71.6%	67.2%	68.6%
2028	65.4%	67.9%	68.7%	73.5%	69.5%	70.7%
2029	68.1%	70.4%	71.1%	75.6%	71.8%	72.9%
2030	70.9%	73.0%	73.7%	77.7%	74.3%	75.3%
2031	73.9%	75.8%	76.4%	80.0%	77.0%	77.9%
2032	77.1%	78.8%	79.3%	82.4%	79.7%	80.5%
2033	80.4%	81.8%	82.3%	85.0%	82.7%	83.4%
2034	83.9%	85.1%	85.4%	87.6%	85.8%	86.3%
2035	87.6%	88.5%	88.8%	90.5%	89.1%	89.5%
2036	91.5%	92.1%	92.3%	93.5%	92.5%	92.8%
2037	95.6%	95.9%	96.0%	96.6%	96.1%	96.3%
2038	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%