

Maryland Prepaid College Trust

Actuarial Soundness Valuation Report as of
June 30, 2022





November 14, 2022

Mr. Peter Tsirigotis
Board Chair
Maryland 529
217 E. Redwood Street, Suite 1350
Baltimore, Maryland 21202

Re: Maryland Prepaid College Trust Actuarial Valuation as of June 30, 2022

Dear Mr. Tsirigotis:

Gabriel, Roeder, Smith & Company (“GRS”) has performed an actuarial soundness valuation of the Maryland Prepaid College Trust (“MPCT”) as of June 30, 2022. Although the term “actuarial soundness” is not specifically defined, the purpose of this actuarial valuation is to evaluate the financial status of the program as of June 30, 2022.

This report presents the principal results of the June 30, 2022 actuarial valuation of the MPCT including the following:

- A comparison of the actuarial present value of the obligations for prepaid tuition contracts purchased through June 30, 2022, with the value of the assets associated with the Trust as of that same date;
- An analysis of the factors which caused the deficit/surplus to change since the prior actuarial valuation;
- Sensitivity testing; and
- A summary of the actuarial assumptions and methods utilized in the actuarial calculations.

This report was prepared at the request of the Maryland 529 (“MD529”) Board and is intended for use by the MD529 Board and those designated or approved by the MD529 Board. This report may be provided to parties other than the MD529 Board only in its entirety and only with the permission of the MD529 Board. GRS is not responsible for unauthorized use of this report. This report should not be relied on for any purpose other than the purpose described above.

The actuarial soundness valuation results set forth in this report are based upon data and information, furnished by MD529 and Intuition, concerning program benefits, financial transactions and beneficiaries of the MPCT. We reviewed this information for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by

Mr. Peter Tsirigotis
Board Chair
Maryland 529
November 14, 2022
Page 2

MD529 and Intuition. Further, the data and information provided is through June 30, 2022, and does not reflect subsequent market volatility.

The actuarial soundness valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The actuarial assumptions used in the actuarial valuation as of June 30, 2022 were based on an experience review for the period from July 1, 2015 to June 30, 2019, and were adopted for first use commencing with the June 30, 2020 actuarial soundness valuation. The major actuarial assumptions used in this analysis were provided by and are the responsibility of MD529.

Given the current asset allocation and liquidity requirements, the net investment rate of return assumption of 6.00 percent is reasonable based on applicable Actuarial Standards of Practice. However, other assumptions could also be reasonable, and could result in materially different results.

Beginning November 1, 2021, the same interest crediting will be used in calculations performed for the Minimum Benefit, rollovers and refunds. Interest will be credited on contract payments made to the Trust prior to November 1, 2021 at the since inception rate of return as of June 30, 2021 (6.00 percent) for periods both before and after November 1, 2021. Contract payments made on or after November 1, 2021 will be credited interest based on the 10-year Treasury note rate as of June 30, compounded monthly.

On October 27, 2022, the Maryland 529 Board voted to retroactively change the method for calculating the minimum benefit from a “net contribution” formula to a ledger balance method. The actuarial soundness valuation results summarized in this report do not reflect this change. Future actuarial measurements incorporating this change may differ significantly from the current measurements presented in this report. Prior to the Board making this change, GRS was not asked to evaluate the impact of this change and/or to provide any consultation regarding the change. Recalculated minimum benefits as of June 30, 2022 under the ledger balance method are required to incorporate this change into the actuarial valuation and are not available at the time this report is being issued.

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; and changes in plan provisions or applicable law. We have performed an analysis of the sensitivity of certain changes in future actuarial assumptions.

We believe that the actuarial methods used in this report are reasonable and appropriate for the purpose for which they have been used. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial.



Mr. Peter Tsirigotis
Board Chair
Maryland 529
November 14, 2022
Page 3

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation, and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

This report is not a recommendation to anyone to participate in the MPCT. GRS makes no representations or warranties to any person participating in or considering participation in the MPCT.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Maryland Prepaid College Trust as of June 30, 2022. All calculations have been made in conformity with generally accepted actuarial principles and practices commonly applicable to similar types of arrangements.

There are currently no Actuarial Standards of Practice which specifically relate to prepaid tuition programs. We have looked to the Actuarial Standards of Practice related to pensions for guidance due to their similar nature.

This report reflects the impact of COVID-19 through June 30, 2022. However, this report does not reflect the longer-term and still developing future impact of COVID-19, which is likely to further influence demographic experience and economic expectations. We will continue to monitor these developments and their impact.

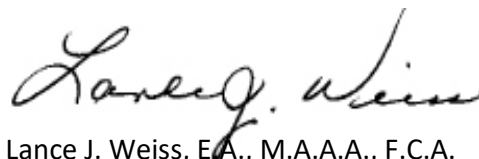
Amy Williams and Lance J. Weiss are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of MD529.

Respectfully submitted,

Gabriel, Roeder, Smith & Company



Amy Williams, A.S.A., M.A.A.A., F.C.A.
Senior Consultant



Lance J. Weiss, E.A., M.A.A.A., F.C.A.
Senior Consultant and Team Leader



Table of Contents

	<u>Pages</u>
Section A	Executive Summary
	Summary of Results 1-3
	Discussion..... 4-7
Section B	Actuarial Soundness Valuation Results
	Exhibit I – Principal Actuarial Soundness Valuation Results 1-2
	Exhibit II – Gain/Loss Summary..... 3
	Exhibit III – Closed Group Cash Flow Projection (No New Entrants) 4
	Exhibit IV – Sensitivity Testing Results 5-6
Section C	Fund Assets
	Statement of Plan Net Assets 1
	Reconciliation of Plan Assets 2-3
Section D	Historical Information 1-4
Section E	Participant Data 1-6
Section F	Methods and Assumptions 1-4
Section G	Plan Provisions 1-4

SECTION A

EXECUTIVE SUMMARY

Summary of Results

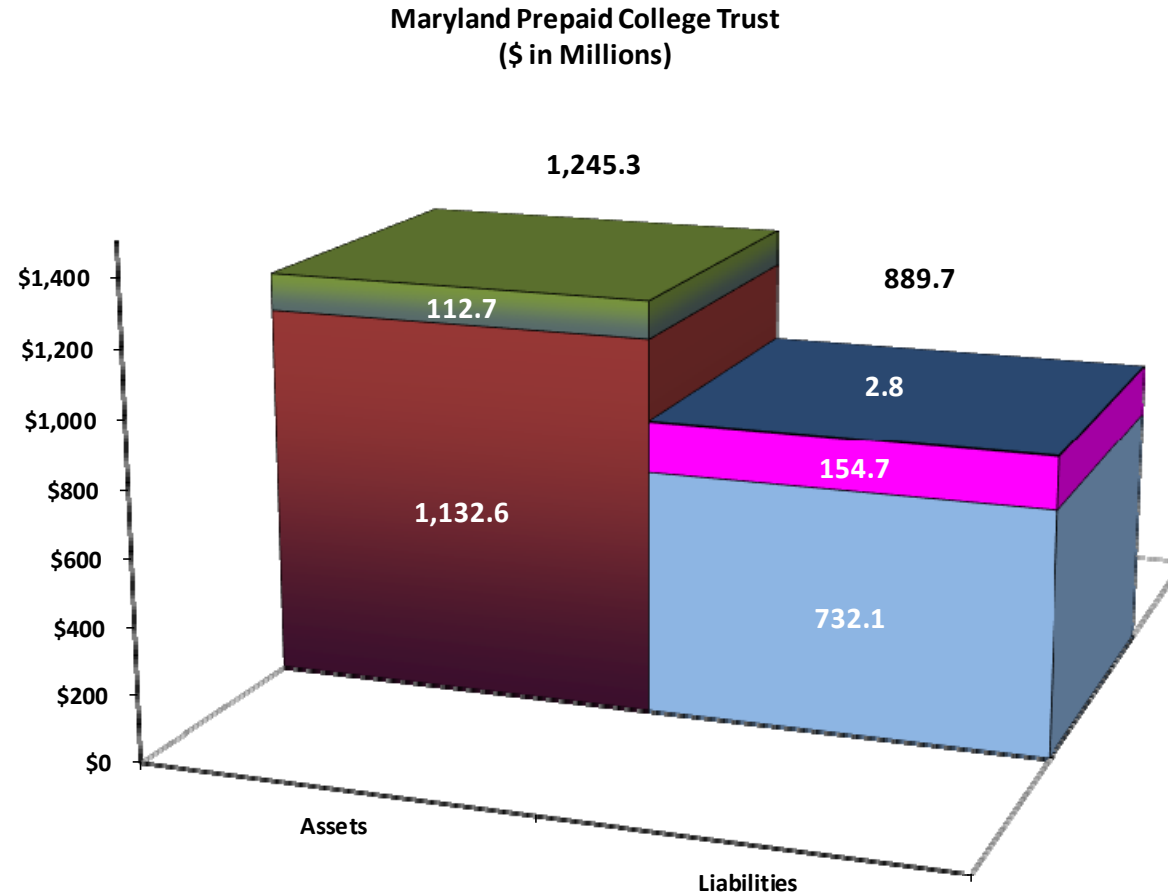
Principal Actuarial Soundness Valuation Results

Valuation Date:	June 30, 2022
Membership Summary:	
Counts	
Not yet Matriculating	22,989
Matriculating	<u>7,427</u>
Total	30,416
Average years until Enrollment if Not yet Matriculating	5.3
Assets	
· Market Value of Assets (MVA) ¹	\$1,245,297,686
· Estimated Return on MVA	-8.05%
Actuarial Liabilities (Present Value of Future Tuition Payments, Fees, and Administrative Expenses)	\$889,677,523
Unfunded Liabilities (Surplus)	(\$355,620,163)
Funded Ratio	140.0%

¹ Asset values include present value of expected future contributions from current members.

Results do not reflect recalculated minimum benefits as of June 30, 2022 under the change to the ledger balance method that was adopted October 27, 2022.

Summary of Assets and Liabilities as of June 30, 2022



ASSETS	LIABILITIES
PV Future Contract Receivables	PV Administrative Fees
Net Market Value of Assets	PV Benefits Matriculating
	PV Benefits Not Yet Matriculating

Numbers may not add due to rounding.

Summary of Results

Funded Status as of June 30, 2022 (Based on Market Value of Assets)

	June 30, 2022
Actuarial Present Value of Future Tuition Payments, Fees and Expenses	\$ 889,677,523
Market Value of Assets (Including the Present Value of Installment Contract Receivables)	\$ 1,245,297,686
Deficit/(Surplus) as of June 30, 2022	\$ (355,620,163)

Gain/Loss Summary

	Unfunded Liability (Surplus)
Values at June 30, 2021	\$ (525,356,351)
Expected Values at June 30, 2022 (Closed Group)	\$ (556,877,733)
New Contract Sales	\$ (6,205,947)
Total Expected Values at June 30, 2022	\$ (563,083,680)
(Gain)/Loss Due to:	
Asset Experience	\$ 176,357,427
Tuition/Fee Experience	305,436
Assumption Change	-
Other Demographic Experience*	9,787,736
Total	\$ 186,450,599
PV Administrative Expense Change	\$ (44,945,494)
Change Due to Interest Crediting	\$ 65,958,412
Actual Values at June 30, 2022	\$ (355,620,163)

Results do not reflect recalculated minimum benefits as of June 30, 2022 under the change to the ledger balance method that was adopted October 27, 2022.

* *Other Demographic Experience includes deviations in actual contract beneficiary experience from the assumptions related to rates of enrollment and utilization of benefits and contract terminations and refunds.*



Discussion

Actuarial Soundness Valuation

Gabriel, Roeder, Smith & Company (“GRS”) has performed an actuarial soundness valuation of the Maryland Prepaid College Trust (“MPCT”) as of June 30, 2022.

The primary purposes of the actuarial soundness valuation are to:

- Determine the actuarial present value of the obligations for prepaid tuition contracts purchased through June 30, 2022, and compare such liabilities with the value of the assets associated with the program as of that same date;
- Sensitivity testing; and
- Analyze the factors which caused the deficit/surplus to change since the prior actuarial soundness valuation.

This report summarizes those results and also presents a closed group projection (assuming no new contracts). Finally, the report also presents the impact of variances in the rate of tuition and fee increases as well as the rate of investment return on assets.

In addition, the report provides summaries of the member data, financial data, plan provisions and actuarial assumptions and methods.

Background

The Maryland General Assembly created the Maryland 529 as an independent State agency in 1997 to establish a Qualified Tuition Program under Section 529 of the Internal Revenue Code. The Maryland 529’s first Qualified Tuition Program, the Prepaid College Trust, was also created by the General Assembly in 1997 to provide families with an affordable, convenient way to pay in advance for the cost of college and reduce future reliance on debt. Subject to the Governor’s approval, the General Assembly may amend the 1997 statute that created the Prepaid College Trust by passing new legislation.

The Maryland Prepaid College Trust allows Account Holders to purchase contracts that will cover future tuition at a public Maryland school, and the participant’s Account may be used to finance tuition costs at nearly any college nationwide. The Account Holder is also eligible for certain federal and Maryland State tax advantages. The Prepaid College Trust is backed by certain Maryland Legislative Guarantees in the event that the Trust experiences a financial shortfall.

Three different program options are available. The University Plan can be purchased for one semester up to seven years, with no more than five years purchased on a single Account. The Community College Plan can be purchased for one or two years. The Two-Plus-Two Plan combines the first two years of the Community College Plan with two subsequent years of the University Plan.

The Prepaid College Trust is open to children from newborn through 12th grade.

Accounts must be open for at least three years before tuition benefits can be paid.



Discussion

Either the Account Holder or the Beneficiary must be a resident of Maryland or the District of Columbia at the time of enrollment and both the Account Holder and Beneficiary must be a U.S. citizen or resident non-citizen.

MPCT Legislative Guarantee

The Enabling Legislation provides that in the event funds in the Prepaid College Trust are insufficient to pay full benefits in any given year, the Governor is required to include an amount in the following year's State budget to fully pay benefits. As with the entire State budget, the Maryland General Assembly determines the final amount of the appropriation. If the Maryland General Assembly does not fully fund the budget request, the Board may adjust the terms of subsequent or current Contracts to ensure continued actuarial soundness of the Prepaid College Trust. Subject to the rights of Account Holders, any amount paid to the Prepaid College Trust from the State must be repaid to the State without interest in equal amounts over the following two fiscal years.

There is a provision in Maryland law that permits the Board to provide rebates to account holders, after an annual review, if the market value funded ratio is greater than 130 percent.

Actuarial Assumptions

The actuarial soundness valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The actuarial assumptions used in the actuarial valuation as of June 30, 2022, as approved by MD529, were based on an experience review for the period from July 1, 2015 to June 30, 2019, and were adopted for first use commencing with the June 30, 2020 actuarial soundness valuation. The major actuarial assumptions used in this analysis were provided by and are the responsibility of MD529.

The calculation of the present value of future administrative expenses was changed as of June 30, 2022 to reflect the portion of administrative expenses that is expected to be paid from future payments from current contract holders. 2.5 percent of contract holder payments are transferred to the administrative/operating account, which along with program fees from the Maryland College Investment Plan (MCIP), are used to pay administrative expenses.

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; and changes in plan provisions or applicable law. We have performed an analysis of the sensitivity of certain changes in future assumptions.

Benefit Provisions

Beginning November 1, 2021, the same interest crediting will be used in calculations performed for the Minimum Benefit, rollovers and refunds. Interest will be credited on contract payments made to the Trust prior to November 1, 2021 at the since inception rate of return as of June 30, 2021 (6.00 percent) for periods both before and after November 1, 2021. Contract payments made on or after November 1, 2021 will be credited interest based on the 10-year Treasury note rate as of June 30,



Discussion

compounded monthly. The 10-year Treasury note rate as of June 30, 2022 is 2.98 percent and will be updated annually.

There was a change in the actuarial valuation as of June 30, 2022 to reflect future interest crediting (after November 1, 2021) of 6.00 percent on contract holder payments made prior to November 1, 2021 (compared to assumed future interest crediting of 2.50 percent reflected in the last actuarial valuation as of June 30, 2021).

The Weighted Average Tuition (WAT) is \$10,608 for 4-year public colleges and \$4,890 for 2-year public community colleges for the 2022-2023 school year. The Differential tuition (additional tuition charged for students majoring in Business, Engineering and Computer Science at certain schools) is \$2,971 for the 2022-2023 school year.

On October 27, 2022, the Maryland 529 Board voted to retroactively change the method for calculating the minimum benefit from a “net contribution” formula to a ledger balance method. The actuarial soundness valuation results summarized in this report do not reflect this change. Future actuarial measurements incorporating this change may differ significantly from the current measurements presented in this report. Prior to the Board making this change, GRS was not asked to evaluate the impact of this change and/or to provide any consultation regarding the change. Recalculated minimum benefits as of June 30, 2022 under the ledger balance method are required to incorporate this change into the actuarial valuation and are not available at the time this report is being issued.

Financial Status of Program as of June 30, 2022

As of June 30, 2022, the present value of all future tuition obligations under contracts outstanding (and including future administrative expenses) at that date is \$889.7 million. Fund assets as of June 30, 2022, including the market value of program assets and the present value of installment contract receivables, is \$1,245.3 million.

The difference between the market value of assets of \$1,245.3 million and program obligations of \$889.7 million represents a program surplus of \$355.6 million. The comparable program surplus as of the last actuarial soundness valuation as of June 30, 2021, was \$525.4 million.

The funded ratio is currently greater than 130 percent and has been greater than 130 percent since the actuarial valuation as of June 30, 2014.

Gain/Loss Analysis

If all assumptions are realized, the program surplus attributable to current contract holders is expected to increase annually by the assumed investment return. As described above, the program surplus decreased by \$169.8 million, from \$525.4 million as of June 30, 2021, to \$355.6 million as of June 30, 2022. The primary factors which caused the surplus to decrease were unfavorable investment experience and the interest crediting benefit provision change, which decreased the surplus by \$66.0 million. This decrease was partially offset by the present value of administrative expense change, the expected increase in the surplus, and tuition and fee increases that were less than expected. The actual investment return was approximately (8.05) percent, which was lower than the assumption of 6.00 percent.



Discussion

Assets

MPCT assets are held in trust. MD529 provided the asset information used in the June 30, 2022 actuarial soundness valuation.

This report contains several exhibits summarizing the plan's assets, including a summary of the market value of assets broken down by asset category and a reconciliation of the assets from the last valuation date to the current valuation date.

Closed Group (No New Entrants) Cash Flow Projection Scenario

Exhibit III presents the results of a closed group scenario assuming no additional new contracts. This exhibit illustrates the program results based on an investment return assumption of 6.00 percent. Under this Scenario, the MPCT funded status is projected to be more than adequately funded.

SECTION B

ACTUARIAL SOUNDNESS VALUATION RESULTS

Exhibit I

Principal Actuarial Soundness Valuation Results

	<u>June 30, 2022</u>	<u>June 30, 2021</u>
1 Number of Members		
a. Not yet Matriculating	22,989	22,924
b. Matriculating	7,427	7,029
c. Total	30,416	29,953
 Average Years until Enrollment if Not Yet Matriculating	 5.3	 5.5
2 Assets		
a. Market Value of Assets (in Trust)	\$ 1,132,621,604	\$ 1,269,014,328
b. PV Future Member Contributions	112,676,082	112,361,610
c. Total Market Value of Assets (MVA)	\$ 1,245,297,686	\$ 1,381,375,938
3 Actuarial Results		
Liabilities - Tuition and Fees		
a. Not yet Matriculating	\$ 732,124,514	\$ 658,645,313
b. Matriculating	154,736,107	149,315,259
c. Total	\$ 886,860,621	\$ 807,960,572
 Liabilities - Present Value of Future Administrative Expenses ^a	 \$ 2,816,902	 \$ 48,059,015
 Liabilities Total	 \$ 889,677,523	 \$ 856,019,587
 Unfunded Liability (Surplus)	 \$ (355,620,163)	 \$ (525,356,351)
 Funded Ratio	 140.0%	 161.4%
 Rollover Liability ^b	 \$ 920,425,576	 NA
Liabilities - Present Value of Future Administrative Expenses ^a	2,816,902	NA
Total Rollover Liability ^b	\$ 923,242,478	NA

^a Present value of future administrative expenses was changed as of June 30, 2022 to reflect the portion of administrative expenses that is expected to be paid from future payments from current contract holders. 2.5% of contract holder payments are transferred to the administrative/operating account, which along with program fees from the Maryland College Investment Plan (MCIP), are used to pay administrative expenses.

^b Equal to the total minimum benefit for all contract beneficiaries as of the actuarial valuation date, as calculated and provided by Intuition. The Unfunded Liability (Surplus) based on the Rollover Liability is \$(322,055,208) and the funded ratio is 134.9%.

Results do not reflect recalculated minimum benefits as of June 30, 2022 under the change to the ledger balance method that was adopted October 27, 2022.



Exhibit I

Principal Actuarial Soundness Valuation Results

	<u>June 30, 2022</u>	<u>June 30, 2021</u>
1 Assets		
a. Market Value of Assets (in Trust)	\$ 1,132,621,604	\$ 1,269,014,328
b. PV Future Member Contributions (Short Term) ^a	26,488,805	26,842,995
c. PV Future Member Contributions (Long Term) ^b	86,187,277	85,518,615
d. Total Market Value of Assets (MVA)	\$ 1,245,297,686	\$ 1,381,375,938
2 Actuarial Present Value of Tuition, Fees and Admin Expenses		
a. Short Term ^a	\$ 111,597,536	\$ 104,937,287
b. Long Term ^b	778,079,987	751,082,300
c. Total	\$ 889,677,523	\$ 856,019,587
Unfunded Liability (Surplus)	\$ (355,620,163)	\$ (525,356,351)
Funded Ratio	140.0%	161.4%

^a Present value of amounts in following year.

^b Present value of amounts after first year.

Results do not reflect recalculated minimum benefits as of June 30, 2022 under the change to the ledger balance method that was adopted October 27, 2022.

Exhibit II Gain/Loss Summary

	Present Value of Benefits	Market Value of Assets	Unfunded Liability (Surplus)
Values at June 30, 2021	\$ 856,019,587	\$ 1,381,375,938	\$ (525,356,351)
Expected Values at June 30, 2022 (Closed Group)	\$ 831,547,220	\$ 1,388,424,953	\$ (556,877,733)
New Contract Sales	\$ 28,472,002	\$ 34,677,949	\$ (6,205,947)
Total Expected Values at June 30, 2022	\$ 860,019,222	\$ 1,423,102,902	\$ (563,083,680)
(Gain)/Loss Due to:			
Asset Experience	\$ -	\$ 176,357,427	\$ 176,357,427
Tuition/Fee Experience	305,436	-	305,436
Other Demographic Experience*	8,339,947	1,447,789	9,787,736
Total	\$ 8,645,383	\$ 177,805,216	\$ 186,450,599
PV Administrative Expense Change	\$ (44,945,494)	\$ -	\$ (44,945,494)
Change Due to Interest Crediting	\$ 65,958,412	\$ -	\$ 65,958,412
Actual Values at June 30, 2022	\$889,677,523	\$ 1,245,297,686	\$ (355,620,163)

Results do not reflect recalculated minimum benefits as of June 30, 2022 under the change to the ledger balance method that was adopted October 27, 2022.

* *Other Demographic Experience includes deviations in actual contract beneficiary experience from the assumptions related to rates of enrollment, utilization of benefits, contract terminations and refunds. "Other Demographic Experience" also includes the impact of data changes based on the transition of data maintenance to Intuition.*

Exhibit III

Closed Group Cash Flow Projection (No New Entrants)

Closed Group Projections (No New Contracts)

Projection Based on Data as of June 30, 2022

Assumptions Based on Those Used in Actuarial Valuation as of June 30, 2022

6.00% Assumed Net Investment Return

0 New Contracts Per Year

Year Ending 6/30	Assumed			Assets								Liabilities				Unfunded Liability (Surplus)	Funded Ratio
	Net Rate of Return	Annual New Contracts		Tuition Payments and Fees	Administrative Expenses ¹	Net Investment Return	Market Value of Assets (EOY)	Present Value of Future Contributions Current Members	Present Value of Future Contributions Future Members	Total Present Value of Future Contributions	Total Fund Assets (MVA + PVFC)	Total Present Value of Future Benefits	Present Value of Future Admin Expenses	Total Present Value of Future Benefits, Fees, and Expenses			
2022				\$36,763,924	\$73,656,047	\$0	(\$101,102,313)	\$1,132,621,604	\$112,676,082	\$0	\$112,676,082	\$1,245,297,686	\$886,860,621	\$2,816,902	\$889,677,523	(\$355,620,163)	140.0%
2023	6.00%	0		27,271,894	114,214,899	681,797	65,366,843	1,110,363,644	91,358,514	0	91,358,514	1,201,722,158	822,480,824	2,283,963	824,764,787	(376,957,371)	145.7%
2024	6.00%	0		21,192,083	92,194,173	529,802	64,507,120	1,103,338,873	75,021,439	0	75,021,439	1,178,360,313	776,909,963	1,875,536	778,785,499	(399,574,814)	151.3%
2025	6.00%	0		17,171,805	90,836,891	429,295	64,009,879	1,093,254,372	61,843,270	0	61,843,270	1,155,097,642	730,002,258	1,546,082	731,548,340	(423,549,302)	157.9%
2026	6.00%	0		14,590,931	93,176,067	364,773	63,261,265	1,077,565,728	50,531,584	0	50,531,584	1,128,097,312	677,871,761	1,263,290	679,135,051	(448,962,261)	166.1%
2027	6.00%	0		12,666,548	87,041,980	316,664	62,445,820	1,065,319,453	40,522,469	0	40,522,469	1,105,841,922	628,928,864	1,013,062	629,941,926	(475,899,996)	175.5%
2028	6.00%	0		9,915,188	86,055,925	247,880	61,660,889	1,050,591,725	32,745,507	0	32,745,507	1,083,337,232	578,064,598	818,638	578,883,236	(504,453,996)	187.1%
2029	6.00%	0		8,608,168	83,598,326	215,204	60,812,206	1,036,198,569	25,847,586	0	25,847,586	1,062,046,155	526,678,729	646,190	527,324,919	(534,721,236)	201.4%
2030	6.00%	0		7,078,622	83,700,963	176,966	59,901,495	1,019,300,758	20,110,553	0	20,110,553	1,039,411,312	472,104,037	502,764	472,606,801	(566,804,511)	219.9%
2031	6.00%	0		5,849,732	79,708,625	146,243	58,970,231	1,004,265,852	15,294,519	0	15,294,519	1,019,560,371	418,365,228	382,363	418,747,591	(600,812,780)	243.5%
2032	6.00%	0		4,822,572	74,524,640	120,564	58,191,784	992,635,004	11,247,048	0	11,247,048	1,003,882,052	366,739,328	281,176	367,020,504	(636,861,548)	273.5%
2033	6.00%	0		3,803,972	70,557,052	95,099	57,581,867	983,368,691	8,005,442	0	8,005,442	991,374,133	316,100,756	200,136	316,300,892	(675,073,241)	313.4%
2034	6.00%	0		3,009,004	62,697,507	75,225	57,235,326	980,840,288	5,387,810	0	5,387,810	986,228,098	270,515,767	134,695	270,650,462	(715,577,636)	364.4%
2035	6.00%	0		2,281,930	57,977,541	57,048	57,202,201	982,289,829	3,361,687	0	3,361,687	985,651,516	227,055,181	84,042	227,139,223	(758,512,293)	433.9%
2036	6.00%	0		1,656,935	52,294,004	41,423	57,439,181	989,050,517	1,857,470	0	1,857,470	990,907,987	186,838,520	46,437	186,884,957	(804,023,030)	530.2%
2037	6.00%	0		1,087,385	46,558,390	27,185	57,997,967	1,001,550,295	849,387	0	849,387	1,002,399,682	150,114,035	21,235	150,135,270	(852,264,412)	667.7%
2038	6.00%	0		681,829	40,226,628	17,046	58,923,450	1,020,911,901	198,364	0	198,364	1,021,110,265	117,705,028	4,959	117,709,987	(903,400,278)	867.5%
2039	6.00%	0		204,228	34,859,178	5,106	60,230,058	1,046,481,903	0	0	0	1,046,481,903	88,877,609	0	88,877,609	(957,604,294)	+1000%
2040	6.00%	0		0	29,146,903	0	61,927,244	1,079,262,244	0	0	0	1,079,262,244	64,201,692	0	64,201,692	(1,015,060,552)	+1000%
2041	6.00%	0		0	22,198,643	0	64,099,476	1,121,163,077	0	0	0	1,121,163,077	45,198,892	0	45,198,892	(1,075,964,185)	+1000%
2042	6.00%	0		0	16,771,959	0	66,773,955	1,171,165,073	0	0	0	1,171,165,073	30,643,037	0	30,643,037	(1,140,522,036)	+1000%
2043	6.00%	0		0	11,686,124	0	69,924,427	1,229,403,377	0	0	0	1,229,403,377	20,450,018	0	20,450,018	(1,208,953,359)	+1000%
2044	6.00%	0		0	7,809,511	0	73,533,330	1,295,127,195	0	0	0	1,295,127,195	13,636,635	0	13,636,635	(1,281,490,560)	+1000%
2045	6.00%	0		0	5,467,513	0	77,545,996	1,367,205,678	0	0	0	1,367,205,678	8,825,685	0	8,825,685	(1,358,379,993)	+1000%
2046	6.00%	0		0	3,820,282	0	81,919,402	1,445,304,798	0	0	0	1,445,304,798	5,422,005	0	5,422,005	(1,439,882,793)	+1000%
2047	6.00%	0		0	2,722,365	0	86,637,807	1,529,220,239	0	0	0	1,529,220,239	2,944,479	0	2,944,479	(1,526,275,760)	+1000%
2048	6.00%	0		0	1,736,146	0	91,701,889	1,619,185,982	0	0	0	1,619,185,982	1,333,676	0	1,333,676	(1,617,852,306)	+1000%
2049	6.00%	0		0	1,038,608	0	97,120,455	1,715,267,829	0	0	0	1,715,267,829	344,384	0	344,384	(1,714,923,445)	+1000%
2050	6.00%	0		0	354,565	0	102,905,588	1,817,818,851	0	0	0	1,817,818,851	0	0	0	(1,817,818,851)	0.0%
2051	6.00%	0		0	0	0	109,069,131	1,926,887,982	0	0	0	1,926,887,982	0	0	0	(1,926,887,982)	0.0%

Results do not reflect recalculated minimum benefits as of June 30, 2022 under the change to the ledger balance method that was adopted October 27, 2022.

¹Fiscal year 2022 administrative expenses were paid from the operating surplus account and therefore did not affect the Trust assets.

The projections assume that all assumptions listed in Section F are realized in each future year.

There is a provision in Maryland law that permits the Board to provide rebates to account holders, after an annual review, if the market value funded ratio is greater than 130%. Other restrictions apply.



Exhibit IV

Sensitivity Testing Results

The actuarial assumptions regarding future increases in tuition costs and fees and the future rate of investment return were prescribed to us by MD529. In our opinion, the actuarial assumptions prescribed to us are reasonable for the purpose of the measurement. However, no one really knows what the future holds with respect to economic conditions and other related contingencies. For example, while it is now assumed that the assets of the fund will earn 6.00 percent each year throughout the life of the contracts, actual returns are expected to vary from year to year. Therefore, we have projected MPCT results under alternative assumptions for future investment income, tuition increases and fee increases.

1. Tuition increases are 100 basis points higher/lower in each future year than assumed in the baseline valuation (measurement of soundness).
2. Fee increases are 100 basis points higher/lower in each future year than assumed in the baseline valuation (measurement of soundness).
3. The investment return is 100 basis points higher/lower in each future year than assumed in the baseline valuation (measurement of soundness).
4. Tuition and fee increases are 100 basis points lower in each future year than assumed in the baseline valuation (measurement of soundness).
5. Tuition and fee increases are 200 basis points lower in each future year than assumed in the baseline valuation (measurement of soundness).
6. Tuition increases are 100 basis points higher and the investment return is 100 basis points lower in each future year than assumed in the baseline valuation (measurement of soundness).
7. Tuition increases are 100 basis points lower and the investment return is 100 basis points higher in each future year than assumed in the baseline valuation (measurement of soundness).

The impact of each of these scenarios on the principal actuarial soundness valuation results is presented on the following page. Under all scenarios, the funded ratio remains above 100%.

Exhibit IV Sensitivity Testing Results

Based on Actuarial Soundness Valuation as of June 30, 2022
\$ in Millions

	Baseline	Unfavorable Scenarios					Favorable Scenarios					
	Current Valuation Assumptions	Assumed Fee Increases +100 Basis Points	Assumed Tuition Increases +100 Basis Points	Assumed Investment Return -100 Basis Points	Assumed Tuition Increases +100 Basis Points and Investment Return -100 Basis Points	Assumed Fee Increases -100 Basis Points	Assumed Tuition Increases -100 Basis Points	Assumed Investment Return +100 Basis Points	Assumed Tuition Increases -100 Basis Points and Investment Return +100 Basis Points	Assumed Tuition and Fee Increases -200 Basis Points	Assumed Tuition and Fee Increases -100 Basis Points	
Investment Return Rate Assumption	6.00%	6.00%	6.00%	5.00%	5.00%	6.00%	6.00%	7.00%	7.00%	6.00%	6.00%	
Tuition Rate Assumption ¹	3.00%/5.00%	3.00%/5.00%	4.00%/6.00%	3.00%/5.00%	4.00%/6.00%	3.00%/5.00%	2.00%/4.00%	3.00%/5.00%	2.00%/4.00%	1.00%/3.00%	2.00%/4.00%	
Fee Rate Assumption	6.00%	7.00%	6.00%	6.00%	6.00%	5.00%	6.00%	6.00%	6.00%	4.00%	5.00%	
1 Assets												
a. Market Value of Assets (in Trust)	\$1,132.6	\$1,132.6	\$1,132.6	\$1,132.6	\$1,132.6	\$1,132.6	\$1,132.6	\$1,132.6	\$1,132.6	\$1,132.6	\$1,132.6	
b. PV Future Member Contributions	112.7	112.7	112.7	116.7	116.7	112.7	112.7	108.9	108.9	112.7	112.7	
c. Total Market Value of Assets (MVA)	\$1,245.3	\$1,245.3	\$1,245.3	\$1,249.3	\$1,249.3	\$1,245.3	\$1,245.3	\$1,241.6	\$1,241.6	\$1,245.3	\$1,245.3	
2 Actuarial Results												
Liabilities - Tuition and Fees												
a. Not yet Matriculating	\$732.1	\$734.3	\$740.6	\$786.2	\$796.1	\$730.5	\$726.7	\$683.7	\$679.0	\$722.1	\$725.4	
b. Matriculating	154.7	154.8	154.9	157.7	157.9	154.7	154.6	151.9	151.8	\$154.5	\$154.6	
c. Total	\$886.9	\$889.0	\$895.5	\$943.9	\$954.0	\$885.2	\$881.3	\$835.6	\$830.8	\$876.5	\$880.0	
Liabilities - PV of Future Admin. Expenses	\$2.8	\$2.8	\$2.8	\$2.9	\$2.9	\$2.8	\$2.8	\$2.7	\$2.7	\$2.8	\$2.8	
Liabilities Total	\$889.7	\$891.8	\$898.3	\$946.9	\$956.9	\$888.0	\$884.2	\$838.3	\$833.5	\$879.3	\$882.8	
Unfunded Liability (Surplus)	(\$355.6)	(\$353.5)	(\$347.0)	(\$302.4)	(\$292.4)	(\$357.3)	(\$361.1)	(\$403.3)	(\$408.1)	(\$366.0)	(\$362.5)	
Funded Ratio	140.0%	139.6%	138.6%	131.9%	130.6%	140.2%	140.8%	148.1%	149.0%	141.6%	141.1%	
Difference From Current Assumptions												
Unfunded Liability	\$0.0	\$2.2	\$8.6	\$53.2	\$63.2	-\$1.7	-\$5.5	-\$47.7	-\$52.5	-\$10.4	-\$6.9	
Funded Ratio	0.0%	-0.4%	-1.4%	-8.1%	-9.4%	0.2%	0.8%	8.1%	9.0%	1.6%	1.1%	

¹The tuition rate assumption for the current valuation is 3.00% for the first three years and 5.00% thereafter.

Numbers may not add due to rounding.

Results do not reflect recalculated minimum benefits as of June 30, 2022 under the change to the ledger balance method that was adopted October 27, 2022.

The results above do not assume any changes in future interest crediting for purposes of calculating minimum benefits. (Future interest on contributions made prior to November 1, 2021 is assumed to be 6.0% and future interest on contributions made on or after November 1, 2021 is assumed to be 2.5% for all scenarios.)

The surplus based on the rollover liability is \$322.1 million and the funded ratio is 134.9%.



SECTION C

FUND ASSETS

Statement of Plan Net Assets (Assets at Market or Fair Value)

Maryland Prepaid College Trust

Statement of Plan Net Assets

Year Ended June 30, 2022

Cash	\$	7,815,916
Investments		
Intermediate Duration Fixed Income	\$	229,056,312
Senior Secured Loans		55,242,595
High Yield Fixed Income		55,373,869
Emerging Market Debt		45,681,162
Private Credit		5,000,574
Domestic Large Cap Core		78,600,843
Domestic Mid Cap Core		77,780,482
Domestic Small Cap Value		17,481,634
Low Volatility US Equity		53,341,363
Developed Markets Equity - Large Cap Core		51,668,714
Developed Markets Equity - Large Cap Growth		37,521,258
Developed Markets Equity - Large Cap Value		47,262,139
Developed Markets Equity - Small Cap		41,010,270
Emerging Markets Equity		45,241,625
Private Real Estate		153,337,533
Global Private Infrastructure		58,979,464
Private Equity		62,778,863
Total Investments	\$	<u>1,115,358,700</u>
Accounts Receivable (Intuition)		14,234,626
Other Assets Including Interest Receivable		727,092
Total Assets (in Trust)	\$	<u>1,138,136,334</u>
Operating Surplus from prior years excluded from Trust		(1,127,093)
Prepayments ²		(4,387,637)
Net Market Value of Assets	\$	<u>1,132,621,605</u>
Present Value of Future Contributions (Current Contracts) ¹		112,676,082
Final Valuation Assets	\$	<u><u>1,245,297,686</u></u>

¹ Present Value of Future Contributions was calculated by GRS based on data provided by Intuition.

² The prepayment amount was provided by Intuition.

All other line items in this exhibit were provided by Maryland 529.



Reconciliation of Plan Assets

Maryland Prepaid College Trust Statement of Changes in Plan Assets

Market Value of Investments 7/1/2021	\$	1,272,429,271
Change in Investments FY 2022		<u>(157,070,571)</u>
Market Value of Investments 6/30/2022	\$	1,115,358,700
Cash		7,815,916
Interest Receivable		727,092
Accounts Receivable (Intuition)		14,234,626
Tuition Contract Receivable within one year		26,488,805
Tuition Contract Receivable over one year		<u>86,187,277</u>
Total Assets including Investments	\$	1,250,812,416
Operating Surplus from prior years excluded from Trust	\$	(1,127,093)
Prepayments		(4,387,637)
Accrued Tuition Benefits within one year		(111,597,536)
Accrued Tuition Benefits over one year		<u>(778,079,987)</u>
Total Liabilities	\$	(895,192,253)
Funded Surplus as of 06/30/2022	\$	355,620,163

Reconciliation of Plan Assets

Total Assets (in Trust) as of June 30, 2021 ¹	\$	1,278,385,271
Contributions received ²	\$	36,763,924
Tuition Payments ²		(73,656,047)
Net Investment Income ²		(101,102,313)
Change in Interest Receivable		5,712
Other ³		(2,260,213)
Total Assets (in Trust) as of June 30, 2022 ²	\$	1,138,136,334

¹ Amount provided last year and shown in the actuarial valuation as of June 30, 2021.

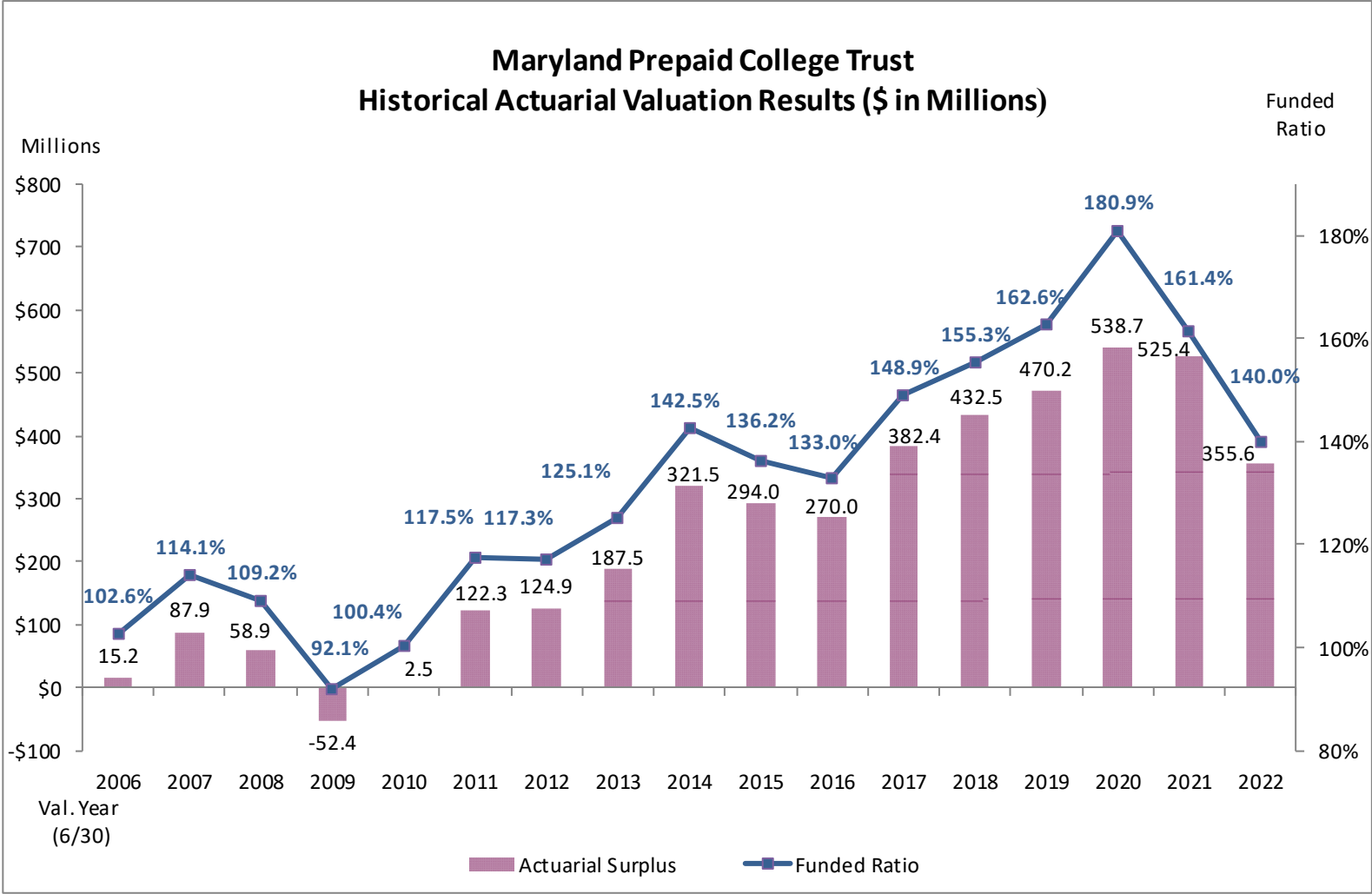
² Amounts provided by MD529 for the actuarial valuation as of June 30, 2022.

³ Balancing item calculated by GRS in order to reconcile asset value from June 30, 2021 to June 30, 2022.

SECTION D

HISTORICAL INFORMATION

Historical Actuarial Valuation Results



Results do not reflect recalculated minimum benefits as of June 30, 2022 under the change to the ledger balance method that was adopted October 27, 2022.



(Gain)/Loss History

	Year Ending June 30, 2018	Year Ending June 30, 2019	Year Ending June 30, 2020	Year Ending June 30, 2021	Year Ending June 30, 2022	Total 5-Year Change
Deficit/(Surplus) Beginning of Year	\$ (382,424,175)	\$ (432,512,732)	\$ (470,236,443)	\$ (538,705,161)	\$ (525,356,351)	
Assumption Changes	\$ -	\$ -	\$ (45,790,612)	\$ -	\$ -	\$ (45,790,612)
Expected Change	(24,092,723)	(27,248,303)	(29,624,897)	(32,322,310)	(31,521,382)	(144,809,615)
New Contract Sales	(3,174,876)	(2,881,943)	(294,764)	(4,971,884)	(6,205,947)	(17,529,414)
(Gain)/Loss Due to:						
Asset Experience	(13,565,953)	7,128,993	50,226,768	(161,520,497)	176,357,427	58,626,738
Tuition/Fee Experience	(28,898,709)	(26,627,587)	(40,484,191)	(9,049,489)	305,436	(104,754,540)
Other Demographic Experience*	19,643,704	11,905,129	(2,501,022)	14,201,927	9,787,736	53,037,474
Total Change	\$ (50,088,557)	\$ (37,723,711)	\$ (68,468,718)	\$ (193,662,253)	\$ 148,723,270	\$(201,219,969)
PV Administrative Expense Change	\$ -	\$ -	\$ -	\$ -	\$ (44,945,494)	\$ (44,945,494)
Change Due to Interest Crediting	\$ -	\$ -	\$ -	\$ 207,011,063	\$ 65,958,412	\$ 272,969,475
Deficit/(Surplus) End of Year	\$ (432,512,732)	\$ (470,236,443)	\$ (538,705,161)	\$ (525,356,351)	\$ (355,620,163)	

* "Other Demographic Experience" includes deviations in actual contract beneficiary experience from the assumptions related to rates of enrollment and utilization of benefits and contract terminations and refunds. For FY 2022, "Other Demographic Experience" also includes the impact of data changes based on the transition of data maintenance to Intuition.

Assumption Changes

The investment return assumption was decreased from 6.30 percent to 6.00 percent, the fee increase assumption was decreased from 8.00 percent to 6.00 percent, and the tuition increase assumption was decreased from 6.00 percent to 3.00 percent for 5 years and 5.00 percent thereafter for the actuarial valuation as of June 30, 2020. Additional assumptions were changed as a result of the experience study for the period from July 1, 2015 to June 30, 2019 and were first adopted for use in the June 30, 2020 actuarial valuation.

Other Changes

Beginning November 1, 2021, the same interest crediting will be used in calculations performed for the Minimum Benefit, rollovers and refunds. Interest will be credited on contract payments made to the Trust prior to November 1, 2021 at the since inception rate of return as of June 30, 2021 (6.00 percent) for periods both before and after November 1, 2021. Contract payments made on or after November 1, 2021 will be credited interest based on the 10-year Treasury note rate as of June 30, compounded monthly. The June 30, 2022 actuarial valuation reflects future interest crediting (after November 1, 2021) of 6.00 percent on contract holder payments made prior to November 1, 2021 (compared to assumed future interest crediting of 2.50 percent reflected in the last actuarial valuation as of June 30, 2021).

Results do not reflect recalculated minimum benefits as of June 30, 2022 under the change to the ledger balance method that was adopted October 27, 2022.

Numbers may not add due to rounding.



Tuition and Fee History

Contract Type	Tuition		Fees		Total Tuition Plus Fees	
	University	Community College	University	Community College	University	Community College
2022-2023 WAT	\$ 8,301	\$ 3,809	\$ 2,307	\$ 1,081	\$ 10,608	\$ 4,890
2021-2022 WAT	8,151	3,752	2,056	1,073	10,207	4,825
2020-2021 WAT	8,018	4,195	2,000	1,061	10,018	5,256
2019-2020 WAT	7,984	3,676	2,028	1,055	10,012	4,731
2018-2019 WAT	7,813	3,610	2,001	1,009	9,814	4,619
2017-2018 WAT	7,650	3,543	1,977	931	9,627	4,474
2016-2017 WAT	7,455	3,495	1,973	890	9,428	4,385
2015-2016 WAT	7,278	3,380	1,963	878	9,241	4,258
2014-2015 WAT	6,863	3,274	1,897	848	8,760	4,122
Increase in WAT						
From 2021-2022 to 2022-2023	1.84%	1.51%	12.23%	0.82%	3.93%	1.35%
From 2020-2021 to 2021-2022	1.66%	-10.56%	2.82%	1.09%	1.89%	-8.20%
From 2019-2020 to 2020-2021	0.42%	14.11%	-1.41%	0.54%	0.06%	11.10%
From 2018-2019 to 2019-2020	2.20%	1.85%	1.34%	4.64%	2.02%	2.42%
From 2017-2018 to 2018-2019	2.13%	1.88%	1.23%	8.34%	1.94%	3.24%
From 2016-2017 to 2017-2018	2.62%	1.37%	0.20%	4.61%	2.11%	2.03%
From 2015-2016 to 2016-2017	2.43%	3.40%	0.51%	1.37%	2.02%	2.98%
From 2014-2015 to 2015-2016	6.05%	3.24%	3.48%	3.54%	5.49%	3.30%

Historical Investment Return Rate, WAT Increases and Enrollment

Year Ending June 30*	Estimated Rate of Return on Market Value of Assets	WAT Increases For University	WAT Increases For Community College	Number of University Enrollments	Number of Community College Enrollments	Number of Combination Enrollments	Total Number of Enrollments
2014	18.38 %	3.08 %	4.86 %	1,866	144	72	2,082
2015	2.21 %	5.49 %	3.30 %	1,879	132	66	2,077
2016	(0.91)%	2.02 %	2.98 %	1,619	122	46	1,787
2017	12.31 %	2.11 %	2.03 %	1,541	100	76	1,717
2018	7.20 %	1.94 %	3.24 %	1,381	117	76	1,574
2019	5.66 %	2.02 %	2.42 %	1,037	93	42	1,312
2020	1.69 %	0.06 %	11.10 %	1,063	74	43	1,180
2021	21.12 %	1.89 %	(8.20)%	1,251	100	64	1,415
2022	(8.05)%	3.93 %	1.35 %	956	85	45	1,086
8-Year Average**	8.20 %	2.32 %	2.59 %	1,455	110	61	1,643
9-Year Average	6.26 %	2.49 %	2.46 %	1,399	107	59	1,581

* WAT increases are for tuition and fees for the upcoming year. Enrollments are for the calendar year and are measured as of June 30 of the following year. Enrollments for the most recent year will be restated based on the number included in the next actuarial valuation.

** Average excludes the most recent year.



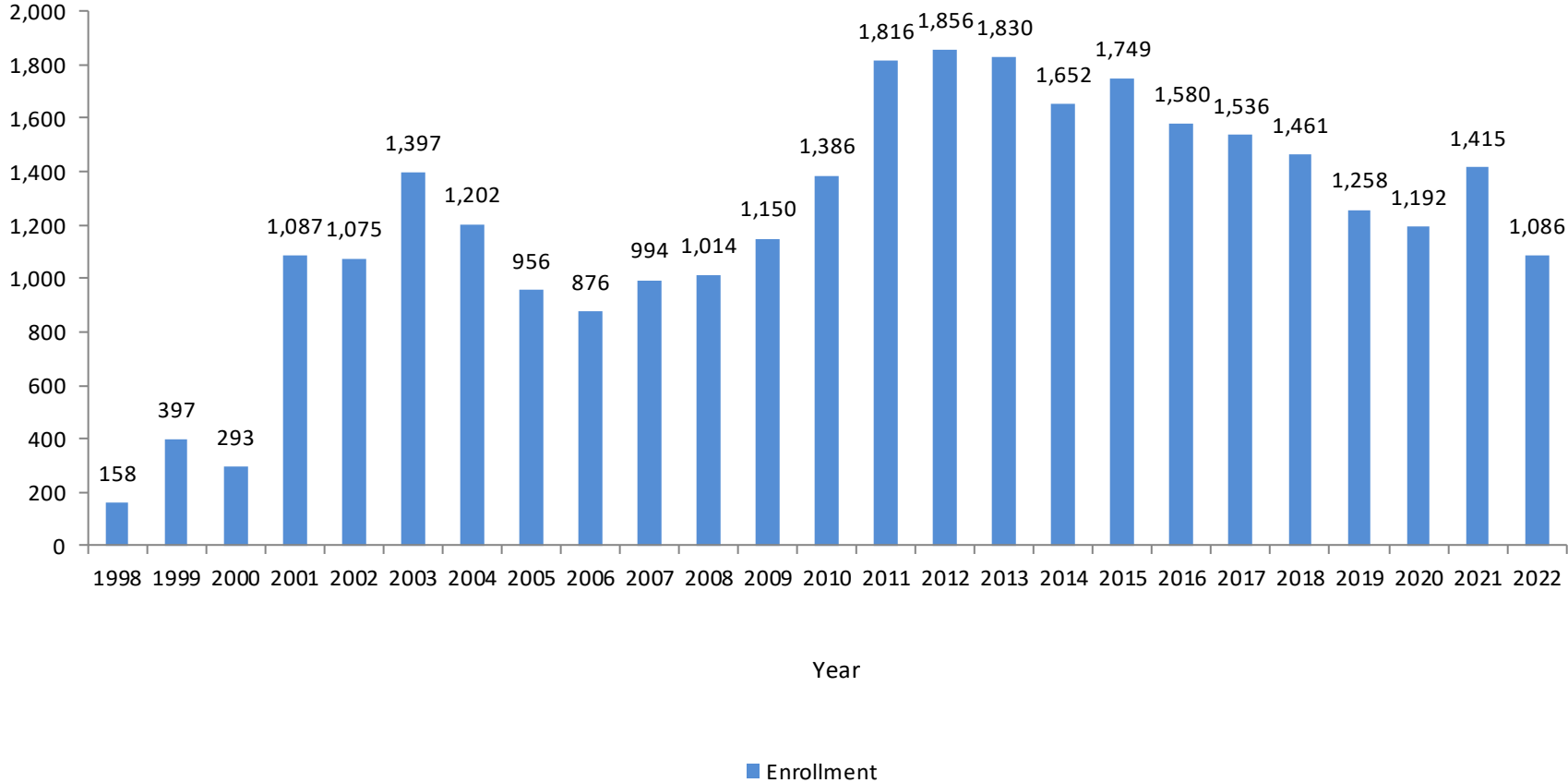
SECTION E

PARTICIPANT DATA

Maryland Prepaid College Trust Counts by Enrollment Year Current Members

Number

30,416 Total



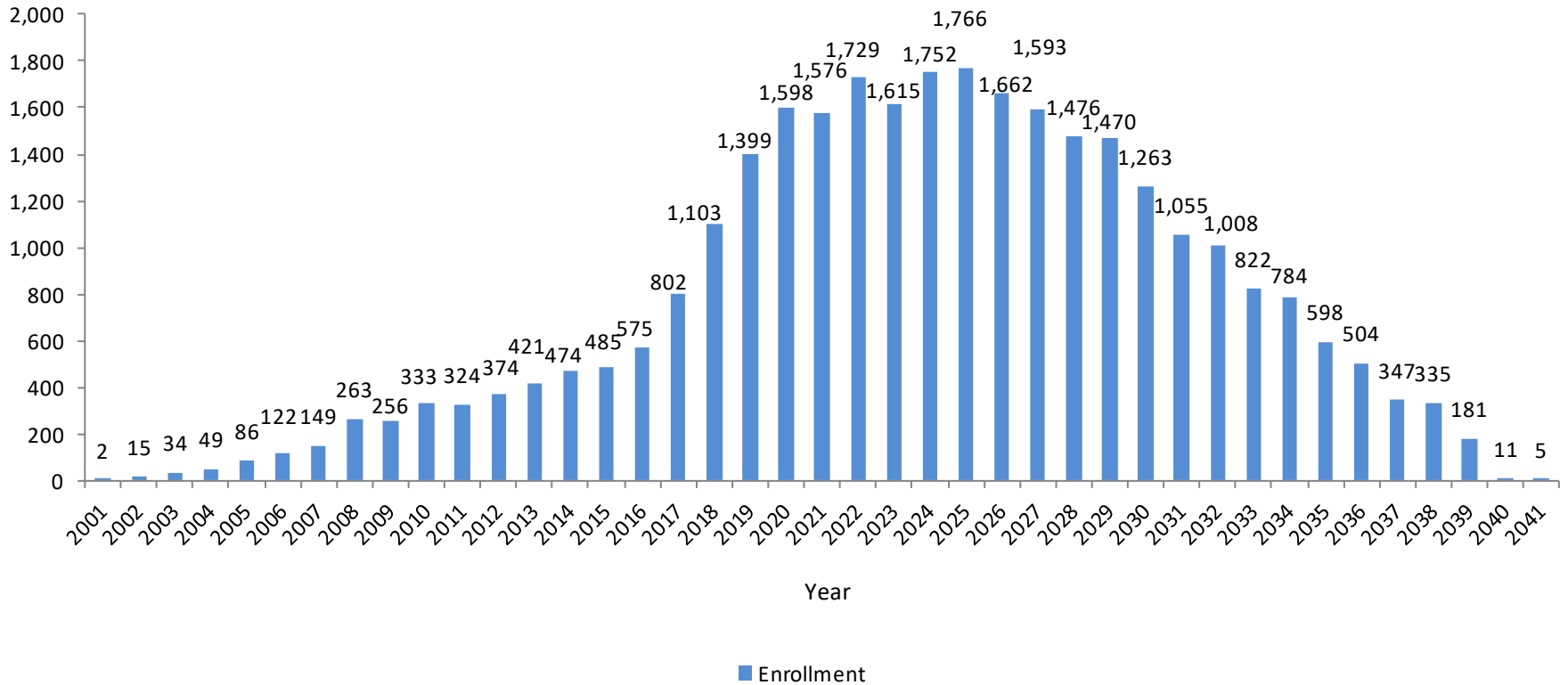
There were 1,086 total enrollments in 2022 through June 30, 2022.



Maryland Prepaid College Trust Counts by Projected College Entrance Year Current Members

Number

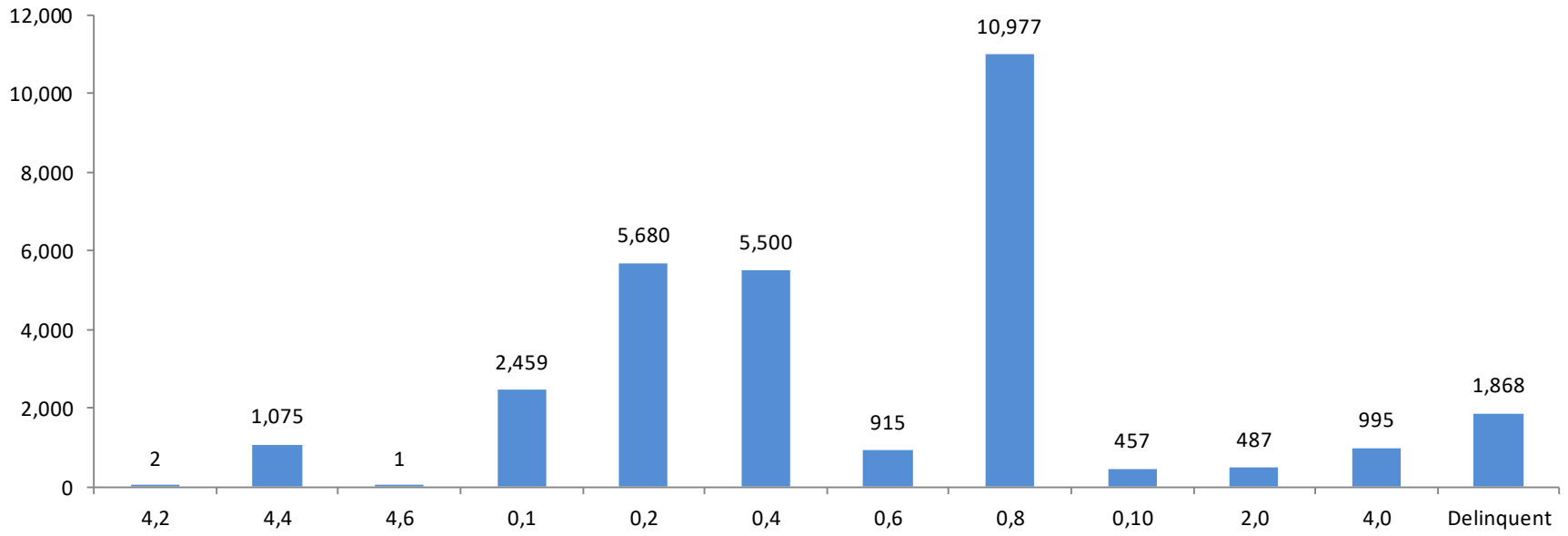
30,416 Total



Maryland Prepaid College Trust Counts by Semesters Purchased Current Members

30,416 Total

Number



Semesters Purchased (Community College, University)

■ Enrollment

Maryland Prepaid College Trust Counts by Semesters Purchased 2022 Enrollment Group

Projected College Entrance Year	Plan Type												Percent of Total	
	Semesters Purchased (Community College, University)													
	Combination			University						Comm. College		All		
	4,2	4,4	4,6	0,1	0,2	0,4	0,6	0,8	0,10	2,0	4,0	Total		
2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2025	0	4	0	42	39	21	9	18	0	6	6	145	13.4%	
2026	0	2	0	9	12	6	1	8	0	2	2	42	3.9%	
2027	0	2	0	19	11	14	2	14	0	3	5	70	6.4%	
2028	0	0	0	12	9	10	0	9	0	2	5	47	4.3%	
2029	0	3	0	19	18	9	4	13	0	2	6	74	6.8%	
2030	0	3	0	13	16	15	1	15	0	0	3	66	6.1%	
2031	0	5	0	15	17	7	0	27	0	3	2	76	7.0%	
2032	0	1	0	8	17	10	3	13	0	2	4	58	5.3%	
2033	0	2	0	8	11	12	3	24	0	1	2	63	5.8%	
2034	0	2	0	20	13	16	3	18	0	1	4	77	7.1%	
2035	0	2	0	3	9	8	0	21	0	1	2	46	4.2%	
2036	0	2	0	9	11	13	2	21	0	1	1	60	5.5%	
2037	0	4	0	7	9	7	1	19	0	0	3	50	4.6%	
2038	0	3	0	6	12	8	2	22	0	1	7	61	5.6%	
2039	0	10	0	15	15	24	5	74	0	5	3	151	13.9%	
2040	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
Total	0	45	0	205	219	180	36	316	0	30	55	1,086	100.0%	
	0.0%	4.1%	0.0%	18.9%	20.2%	16.6%	3.3%	29.1%	0.0%	2.8%	5.1%	100.0%		

There were 1,086 total enrollments in 2022 through June 30, 2022.



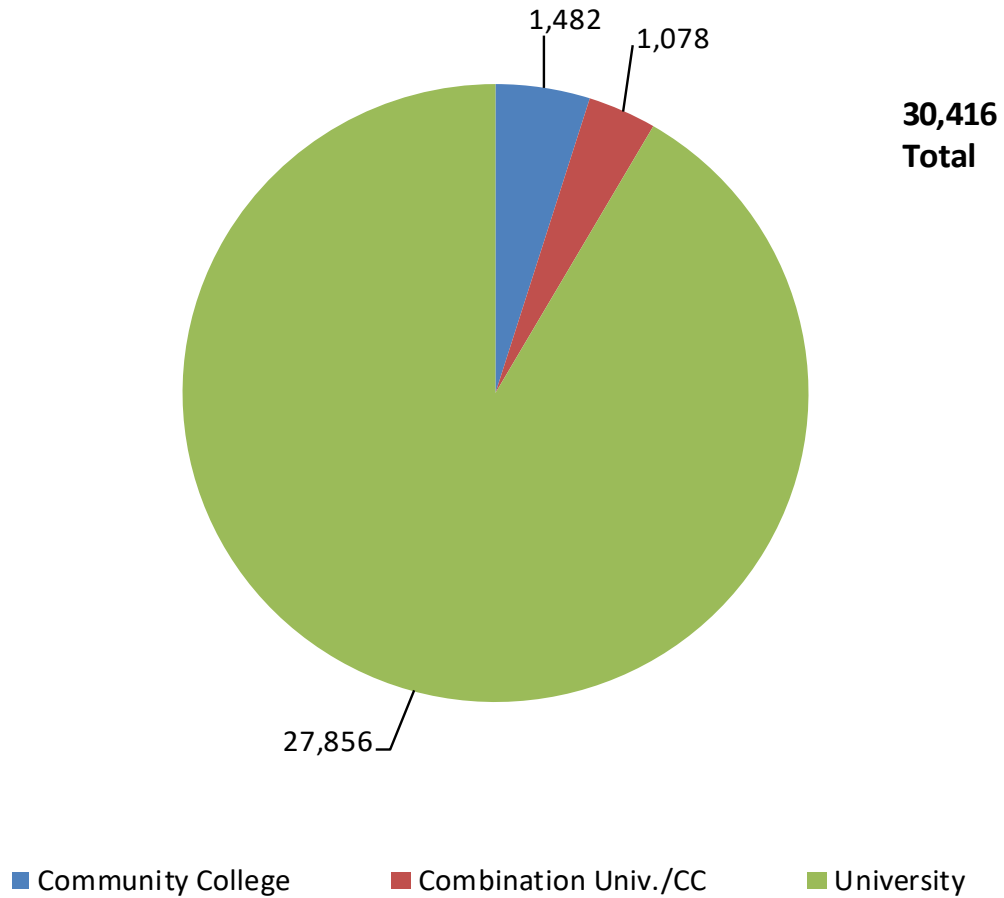
**Maryland Prepaid College Trust
Counts by Semesters Purchased
2021 Enrollment Group as of June 30, 2022**

Projected College Entrance Year	Plan Type												Percent of Total
	Semesters Purchased (Community College, University)												
	Combination			University						Comm. College		All	
	4,2	4,4	4,6	0,1	0,2	0,4	0,6	0,8	0,10	2,0	4,0	Total	
2024	0	5	0	27	37	13	2	20	0	4	4	112	7.9%
2025	0	2	0	9	14	11	1	20	0	2	3	62	4.4%
2026	0	6	0	15	19	10	1	15	0	1	2	69	4.9%
2027	0	2	0	12	22	16	2	31	0	3	7	95	6.7%
2028	0	3	0	7	24	12	2	23	0	2	2	75	5.3%
2029	0	2	0	16	22	9	2	27	0	5	4	87	6.1%
2030	0	0	0	12	22	19	3	23	0	0	8	87	6.1%
2031	0	5	0	11	29	12	0	28	0	2	3	90	6.4%
2032	0	5	0	18	16	10	2	23	0	2	4	80	5.7%
2033	0	3	0	13	26	8	2	23	0	4	3	82	5.8%
2034	0	4	0	15	23	15	0	27	0	2	1	87	6.1%
2035	0	6	0	10	16	9	6	24	0	2	1	74	5.2%
2036	0	5	0	12	18	8	2	21	0	3	0	69	4.9%
2037	0	3	0	7	17	11	2	22	0	5	2	69	4.9%
2038	0	13	0	17	50	31	3	122	0	9	9	254	18.0%
2039	0	0	0	2	5	3	0	1	0	1	0	12	0.8%
2040	0	0	0	4	0	5	0	0	0	0	0	9	0.6%
2041	0	0	0	2	0	0	0	0	0	0	0	2	0.1%
Total	0	64	0	209	360	202	30	450	0	47	53	1,415	100.0%
	0.0%	4.5%	0.0%	14.8%	25.4%	14.3%	2.1%	31.8%	0.0%	3.3%	3.7%	100.0%	

1,157 contracts were in good order as of June 30, 2021, and included in the actuarial soundness valuation as of June 30, 2021.



Maryland Prepaid College Trust Counts by Contract Type Current Members



SECTION F

METHODS AND ASSUMPTIONS

Methods and Assumptions

The actuarial assumptions used in the actuarial soundness valuation are shown in this section.

Valuation Methods

Actuarial Value of Assets – The Actuarial Value of Assets is equal to the Market Value of Assets.

Valuation Assumptions

The rationale for the assumptions (except as indicated) may be found in the experience study report covering the period July 1, 2015 through June 30, 2019, which was issued on April 14, 2020. The assumptions were adopted for first use in the actuarial soundness valuation as of June 30, 2020.

Measurement Date June 30, 2022

The Net Investment Return Rate 6.00 percent per annum, compounded annually
(net of assumed investment expenses)

Weighted Average Tuition and Increases by Contract Type

Contract Type	Tuition		Fees		Total Tuition Plus Fees	
	University	Community College	University	Community College	University	Community College
2022-2023 WAT	\$ 8,301	\$ 3,809	\$ 2,307	\$ 1,081	\$ 10,608	\$ 4,890
2021-2022 WAT	8,151	3,752	2,056	1,073	10,207	4,825
WAT Increase	1.84%	1.51%	12.23%	0.82%	3.93%	1.35%
Increase Assumption	3.00%	3.00%	6.00%	6.00%	3.61%	3.66%

With the actuarial valuation as of June 30, 2020, the tuition increase assumption was set to be 3.00 percent for 5 years and 5.00 percent thereafter and the fee increase assumption was set to be 6.00 percent for all years. The Tuition and Fee WAT increase assumptions were chosen by the MD529 Board and consider historical public tuition and fee inflation, typically over a 20-year horizon, as well as current economic and political conditions.

As of the actuarial valuation as of June 30, 2022, the tuition increase assumption is 3.00 percent for 3 years and 5.00 percent thereafter.

Bias Load

Community College Contracts:

A load of 2.5 percent was added to the Community College contract WAT to recognize the bias toward enrollment at more expensive schools.

Methods and Assumptions

University Contracts:

50 percent of University contract beneficiaries are assumed to attend Maryland public universities. A load of 9.0 percent was added to the University contract WAT to recognize this bias toward enrollment at more expensive schools.

50 percent of University contract beneficiaries are assumed to attend out-of-state or private schools. No bias load is applied in this case.

Utilization of Benefits

Contract beneficiaries are assumed to use program benefits according to the following schedule. The rates apply to all contract beneficiaries, including those who have already started using contract benefits. The usage rates are applied to the contract units remaining in each future year.

Contract Unit Usage Rates					
Years beyond Projected College Entrance Year	Number of Years Purchased				
	0.5, 1	2	3	4	5
0	40.00%	25.00%	20.00%	17.00%	13.00%
1	30.00%	30.00%	25.00%	20.00%	15.00%
2	30.00%	30.00%	35.00%	25.00%	18.00%
3	35.00%	30.00%	35.00%	35.00%	25.00%
4	50.00%	25.00%	25.00%	25.00%	25.00%
5	100.00%	35.00%	25.00%	20.00%	20.00%
6		50.00%	35.00%	20.00%	20.00%
7		100.00%	50.00%	25.00%	25.00%
8			100.00%	35.00%	35.00%
9				50.00%	50.00%
10				100.00%	100.00%

Methods and Assumptions

Contract Cancellations/Refunds

The following cancellation rates are applied to the contract units remaining in each future year.

Years from Projected College Entrance Year	Cancellation Rate
-18 through -1	0.0%
0	1.0%
1	1.5%
2	2.0%
3	3.5%
4	5.0%
5	5.0%
6	5.0%
7	5.0%
8	5.0%
9	7.0%
10	7.0%
11	7.0%
12	100.0%

Differential Tuition

The following assumptions were made to value the differential tuition benefit provision.

- 50 percent of University contract beneficiaries are assumed to attend Maryland public universities.
 - 80 percent of contract beneficiaries with University contracts who are assumed to attend Maryland public universities will attend a school which charges differential tuition.
 - 30 percent of the contract beneficiaries who are assumed to attend a Maryland public university which charges differential tuition are assumed to major in Business, Engineering and Computer Science and will be required to pay the differential tuition in their junior and senior year.
- Differential tuition is assumed to be paid by the Trust for one year for contract beneficiaries with a one-year University contract and for two years for contract beneficiaries with University contracts for two or more years of tuition.
- Contract beneficiaries do not change their utilization of benefits from what is assumed in the actuarial soundness valuation.
- The amount of differential tuition that is charged is set through the Spring of 2023. Differential tuition is assumed to increase at the same rate as tuition (3 percent per year for 3 years and 5 percent thereafter) after the Spring of 2023.

Differential tuition is not included in the WAT and is separately accounted for in the actuarial valuation.

Methods and Assumptions

Mortality and Disability

No assumption is made for death or disability. Valuing the rate of incidence is expected to be immaterial.

Administrative Expenses

The calculation of the present value of future administrative expenses was changed as of June 30, 2022 to reflect the portion of administrative expenses that is expected to be paid from future payments from current contract holders. 2.5% of contract holder payments are transferred to the administrative/operating account, which along with program fees from the Maryland College Investment Plan (MCIP), are used to pay administrative expenses.

Interest Credited on Account Balances

Beginning November 1, 2021, the same interest crediting will be used in calculations performed for the Minimum Benefit, rollovers and refunds. Interest will be credited on contract payments made to the Trust prior to November 1, 2021 at the since inception rate of return as of June 30, 2021 (6.00%) for periods both before and after November 1, 2021. Contract payments made on or after November 1, 2021 will be credited interest based on the 10-year Treasury note rate as of June 30, compounded monthly. The rate is 2.98% through June 30, 2023, and is assumed to be 2.50% thereafter.

Minimum Benefits

The minimum benefit as of the actuarial valuation date was calculated and provided by Intuition. GRS projects the future minimum benefit based on the current minimum benefit, scheduled future contract payments, assumed interest of 6.00% on contract payments made before November 1, 2021, and interest of 2.98% for July 1, 2022 through June 30, 2023 and 2.50% assumed interest thereafter on contract payments made on or after November 1, 2021.

On October 27, 2022, the Maryland 529 Board voted to retroactively change the method for calculating the minimum benefit from a “net contribution” formula to a ledger balance method. The actuarial soundness valuation results summarized in this report do not reflect this change. Recalculated minimum benefits as of June 30, 2022 under the ledger balance method are required to incorporate this change into the actuarial valuation and are not available at the time this report is being issued.

SECTION G

PLAN PROVISIONS

Plan Provisions

A. Type of Contract

An Account Holder signs the Contract and acquires Benefits for a Beneficiary under the specified terms and conditions.

Three types of tuition plans are available for purchase under the terms of the Contract.

- The University Plans can be purchased for one semester up to seven years, with no more than five years purchased on a single Account.
- The Community College Plan can be purchased for one or two years.
- The Two-Plus-Two Plan that combines the first two years of the Community College Plan with two subsequent years of the University Plan.

Prior to using any Benefits, the Account Holder may convert the Contract from one tuition plan to another (i.e., a Community College Plan to University Plan and vice versa) upon written request to the Program manager and upon payment of any required fees. As a result of the conversion, the Program manager will revalue the Contract and the Account Holder may need to make additional payments, receive a refund or receive reduced Benefit payments.

B. Benefits

Benefits must be used to pay for a normal full-time (or half-time, as described below) course load for the number of semesters or years of undergraduate education specified in the tuition plan that the Account Holder pays and selects under the Contract. The Beneficiary can start using Benefits beginning with each fall semester of the projected enrollment year(s) purchased, as identified on the Certificate of Tuition Benefits.

If the Beneficiary enrolls in a Maryland four-year public college as a full-time student, the Prepaid College Trust will pay the full in-state Tuition for a University Plan or the full in-county Tuition if the Beneficiary enrolls in a two-year Maryland Community College for a Community College Plan or the Minimum Benefit, whichever is greater.

If the Beneficiary enrolls in an Eligible Institution that is private or out-of-state as a full-time student, the Prepaid College Trust will pay the actual Tuition each semester (or the equivalent) up to one half of the annual Weighted Average Tuition in the tuition plan purchased or the Minimum Benefit, whichever is greater.

Plan Provisions

The Minimum Benefit is based on the payments made under the contract, less operating expenses (2.5 percent of payments for contracts opened prior to December 1, 2021), accumulated at the applicable interest rate.

If the Beneficiary receives a Scholarship, grant or tuition remission, the Prepaid College Trust will pay any remaining Tuition up to the scheduled Benefit.

C. Account Holder Contributions

The Prepaid College Trust has four payment options:

- **Lump Sum Payment.** A one-time payment that covers the full amount of the Contract.
- **Annual Payment.** Equal yearly payments for a designated number of years.
- **Five-Year Monthly Payment.** 60 equal monthly payments.
- **Extended Monthly Payment.** Equal monthly payments made through July of the Beneficiary's projected year of high school graduation or year of Initial Eligibility.

The down payment option is no longer offered.

At any time, the Account Holder may elect to pay at least 25% of the outstanding balance of the tuition plan and reduce the amount or number of subsequent payments. This significant payment will not affect the Account Holder's next payment due date. The Account Holder may also make payments in advance or pay the Account in full at any time.

Account holder contributions (payments), less operating expenses (2.5 percent of payments for contracts opened prior to December 1, 2021), are accumulated at the applicable interest rate.

D. Death/Disability of Qualified Beneficiary

Beneficiary Enrolled at Eligible Institution. The refund will be the amount that would have otherwise been paid directly to the Eligible Institution.

Beneficiary Not Enrolled at Eligible Institution. If the Beneficiary has finished high school, the refund will be equal to the Weighted Average Tuition within the tuition plan. If the Beneficiary has not yet graduated from high school or the death or disability occurs prior to the year of Initial Eligibility, the refund will be equal to the payments made under the contract, less operating expenses, accumulated at the applicable interest rate.



Plan Provisions

Beginning November 1, 2021, the same interest crediting will be used for the Minimum Benefit, rollovers and refunds. Prior to November 1, 2021, a different interest crediting method was used in calculating the Minimum Benefit and for certain refunds.

E. Weighted Average Tuition

The Weighted Average Tuition (WAT) equals (1) the sum of the in-state or in-county tuition at each Maryland public college multiplied by the number of full-time equivalent students at each college, divided by (2) the sum of the number of full-time equivalent students at each college. Separate WATs are calculated for 4-year public colleges and 2-year public community colleges in Maryland. The WAT for the 2022-2023 Academic Year is shown below:

2022-2023 WAT	4-year Public Colleges	2-year Community Colleges
Tuition	\$ 8,301	\$ 3,809
Mandatory Fees	2,307	1,081
Total	10,608	4,890

Differential tuition is not included in the WATs shown above.

F. Legislative Guarantee

In the event that the Trust experiences a financial shortfall, Maryland law requires the Governor to include funds in the State budget to allow the Trust to pay the Beneficiary's full Benefit. If the Maryland General Assembly does not fully fund the budget request, the Board may adjust the terms of subsequent or current contracts to ensure continued actuarial soundness of the Prepaid College Trust. Subject to the rights of the Account Holders, any amount paid to the Prepaid College Trust by the State must be repaid to the State without interest in equal amounts over the following two fiscal years.

G. Differential Tuition

Beginning in the Fall of 2015, differential tuition is charged for students with 60 or more credits majoring in Business, Engineering and Computer Science at certain Maryland public universities and is included in contract benefits. The amount of differential tuition that would be charged is set through the Spring of 2023 and the annual amounts are as follows:

- \$700 in total for the Fall 2015/Spring 2016 school year
- \$1,400 in total for the Fall 2016/Spring 2017 school year
- \$2,800 in total for the Fall 2017/Spring 2018 school year
- \$2,800 in total for the Fall 2018/Spring 2019 school year
- \$2,856 in total for the Fall 2019/Spring 2020 school year

Plan Provisions

- \$2,856 in total for the Fall 2020/Spring 2021 school year
- \$2,913 in total for the Fall 2021/Spring 2022 school year
- \$2,971 in total for the Fall 2022/Spring 2023 school year

H. Interest Crediting

Beginning November 1, 2021, the same interest crediting will be used in calculations performed for the Minimum Benefit, rollovers and refunds. Interest will be credited on contract payments made to the Trust prior to November 1, 2021 at the since inception rate of return as of June 30, 2021 (6.00%) for periods both before and after November 1, 2021. Contract payments made on or after November 1, 2021 will be credited interest based on the 10-year Treasury note rate as of June 30, compounded monthly.

Following are the historical interest crediting rates:

Treasury Rate Measurement Date	10-Year Treasury Rate
June 30, 2021	1.45%
June 30, 2022	2.98%

The treasury note rate as of June 30, 2021 was applicable from November 1, 2021 through June 30, 2022. Subsequent rates are applicable from July 1 through June 30.

On October 27, 2022, the Maryland 529 Board voted to retroactively change the method for calculating the minimum benefit from a “net contribution” formula to a ledger balance method. The actuarial soundness valuation results summarized in this report do not reflect this change. Recalculated minimum benefits as of June 30, 2022 under the ledger balance method are required to incorporate this change into the actuarial valuation and are not available at the time this report is being issued.