

Michigan Education Trust - Plan D

Actuarial Soundness Valuation Report as of
September 30, 2019



December 23, 2019

Ms. Robin Lott
Executive Director
Michigan Education Trust
430 W. Allegan Street
P.O. Box 30198
Lansing, Michigan 48933

Re: Michigan Education Trust – Plan D Actuarial Valuation as of September 30, 2019

Dear Ms. Lott:

Gabriel, Roeder, Smith & Company (“GRS”) has performed an actuarial soundness valuation of the Michigan Education Trust – Plan D (“MET”) as of September 30, 2019. 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 September 30, 2019.

This report presents the principal results of the actuarial soundness valuation of MET including the following:

- A comparison of the actuarial present value of the obligations for prepaid tuition contracts purchased through September 30, 2019, with the value of the assets associated with the program as of that same date;
- An analysis of the factors which caused the deficit/surplus to change since the prior actuarial valuation; and
- A summary of the actuarial assumptions and methods utilized in the actuarial calculations.

This report was prepared at the request of the MET Board and is intended for use by the MET Board and those designated or approved by the MET Board. This report may be provided to parties other than the MET Board only in its entirety and only with the permission of the MET 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 MET, concerning program benefits, financial transactions and beneficiaries of MET. 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 MET. Further, the data and information provided is through September 30, 2019 and does not reflect subsequent market changes. There were no program changes subsequent to September 30, 2019.

The actuarial soundness valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The actuarial assumptions used in this analysis were based on an experience review for the period from October 1, 2012 to September 30, 2017, and were adopted for use commencing with the September 30, 2018 valuation.

Given the current asset allocation and liquidity requirements, the net investment rate of return assumption of 5.50 percent appears to be reasonable. However, other assumptions could also be reasonable, and could result in materially different results.

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.

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.

This report is not a recommendation to anyone to participate in MET. GRS makes no representations or warranties to any person participating in or considering participation in MET. Current and future participants should be aware that the promises of MET will only be met if the assets of MET are sufficient to pay its obligations.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Michigan Education Trust – Plan D as of September 30, 2019. All calculations have been made in conformity with generally accepted actuarial principles and practices commonly applicable to similar types of arrangements.



Ms. Robin Lott
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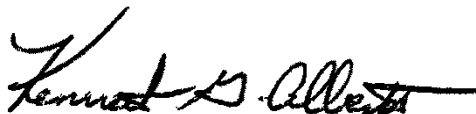
Paul T. Wood is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein.

The signing individuals are independent of MET.

Respectfully submitted,



Paul T. Wood, ASA, MAAA, FCA
Consultant



Kenneth G. Alberts
Consultant



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SECTION A

EXECUTIVE SUMMARY

Summary of Results

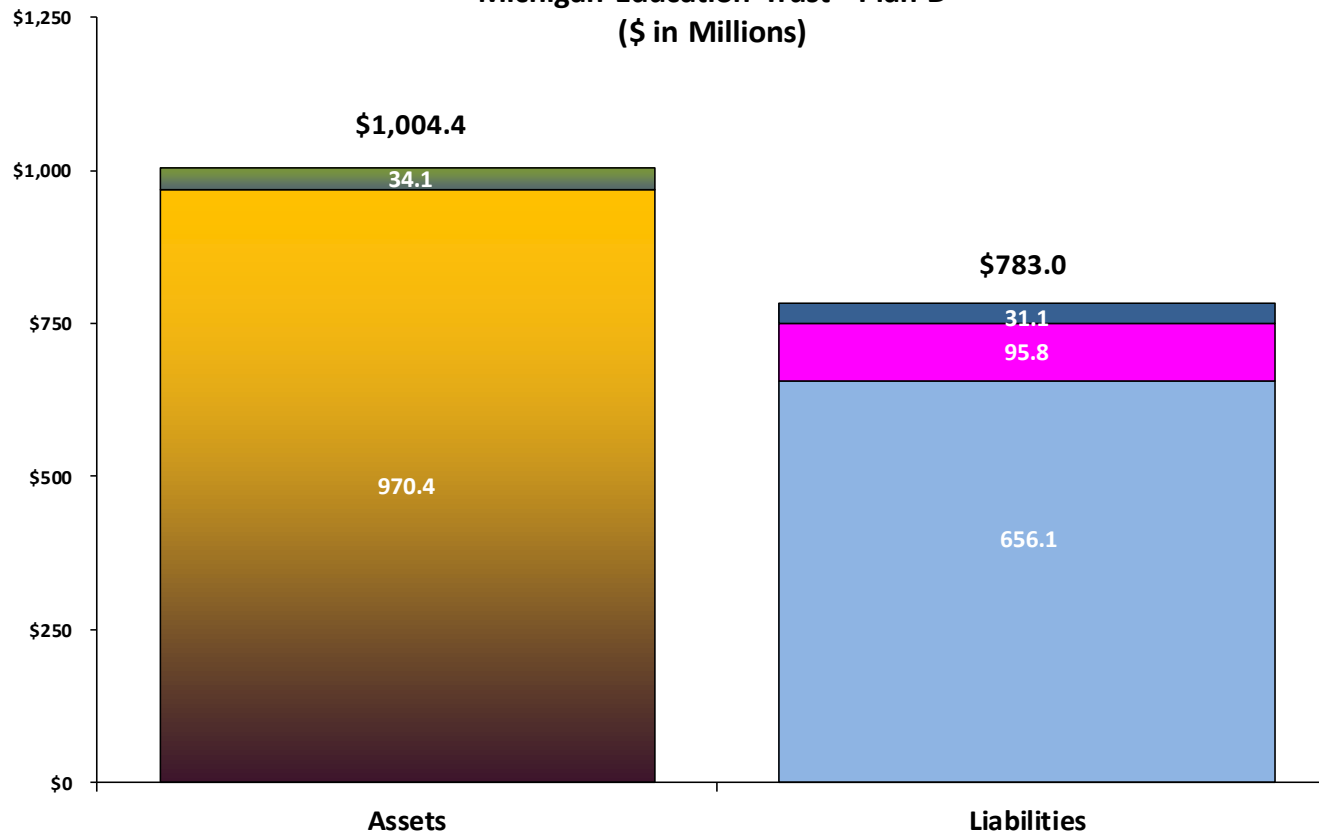
Principal Valuation Results

Valuation Date:	September 30, 2019
Contract Summary:	
Counts	
Not yet in Payment Status	25,829
In Payment Status or Termination in Progress*	9,793
Total	35,622
Average Years until Enrollment if not yet in Payment Status or Not Using Contract	6.7
Assets	
Valuation Assets	\$1,004,415,400
Approximate Return on Valuation Assets for Year Ended September 30, 2019	6.05%
Actuarial Liabilities (Present Value of Future Tuition Payments, Fees, and Administrative Expenses)	\$783,030,397
Surplus/(Deficit)	\$221,385,003
Funded Ratio	128.3%

* Counts include 4,307 contracts that are classified as "In Payment Status" but have not used any credits within the past year.

Summary of Assets and Liabilities as of September 30, 2019

Michigan Education Trust - Plan D
(\$ in Millions)



ASSETS	LIABILITIES
PV Future Contributions	PV Administrative Fees
Net Market Value of Assets	PV Benefits (in Payment Status or Termination in Progress)
	PV Benefits (Not in Payment Status or Not Using Contract)

Funded Status as of September 30, 2019

	September 30, 2019
Actuarial Present Value of Future Tuition Payments, Fees and Expenses	\$783,030,397
Market Value of Assets (Including the Present Value of Installment Contract Receivables)	\$1,004,415,400
Surplus/(Deficit) as of September 30, 2019	\$221,385,003

Gain/Loss Summary

	Surplus/(Deficit)
(1.) Value at September 30, 2018	\$ 194,965,420
(2.) Interest on (1.) at Assumed Rate from Previous Valuation	\$ 10,723,097
(3.) New Enrollment Group	\$ (622,181)
(4.) Projected Value at September 30, 2019 [(1.) + (2.) + (3.)]	\$ 205,066,336
(5.) Change Due to:	
a. Asset Experience	\$ 468,157
b. Tuition/Fee Inflation	\$ 20,922,436
c. Assumption Changes	\$ -
d. Other Experience	(5,071,926)
(6.) Total [(5.)a. + (5.)b. + (5.)c. + (5.)d.]	\$ 16,318,667
(7.) Actual Value at September 30, 2019 [(4.) + (6.)]	\$ 221,385,003

Discussion

Actuarial Valuation

Gabriel, Roeder, Smith & Company (“GRS”) has performed an actuarial soundness valuation of the Michigan Education Trust – Plan D (“MET”) as of September 30, 2019.

The primary purposes of the actuarial soundness valuation are to:

- Determine the actuarial present value of the obligations for prepaid tuition contracts purchased through September 30, 2019 and compare such liabilities with the value of the assets associated with the program as of that same date; and
- Analyze the factors which caused the deficit/surplus to change since the prior actuarial valuation.

This report summarizes the results under the current assumptions and 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 beneficiary data, financial data, plan provisions and actuarial assumptions and methods.

Background

MET is a public body created by Michigan’s Legislature (Public Act 316 of 1986) and housed within the Michigan Department of Treasury. MET must operate and finance its activities only through its assets. To protect those assets from other uses by the State, only MET, and not the State, controls its assets.

MET allows beneficiaries to mitigate some future tuition and fee increase risks. The beneficiaries are also eligible for certain federal and state tax advantages.

Three different plan options are available. The **Full Benefits Plan** provides full in-state tuition and mandatory fees at any Michigan public university, or tuition and mandatory fees at Michigan public community colleges (in-district or out-of-district) up to the number of credit hours required for a standard four-year baccalaureate degree (usually 120 semester credit hours). Individuals may purchase the Full Benefits Plan in semester increments up to 10 semesters (five years) of tuition.

The **Limited Benefits Plan** provides in-state tuition and mandatory fees at Michigan public universities, or tuition and mandatory fees at Michigan public community colleges (in-district or out-of-district) up to 105 percent of the weighted average tuition of all Michigan public four-year universities. If a student decides to attend a Michigan public college where tuition costs are higher than average, the number of credits allowed will be prorated based on the number of credit hours MET can purchase with 105 percent of the weighted average cost of Michigan public four-year universities. This plan might not cover the full cost of Michigan’s most expensive institutions.

Students who attend a school where tuition is not fully covered under the Limited Benefits Plan will receive the number of credit hours MET can purchase at the time of college enrollment.

For example, on a preliminary basis, in the 2019/2020 school year:

- If a student with a four-year Limited Benefits Plan contract attends the University of Michigan-Ann Arbor, MET will pay for 108 credit hours.
- If a student attends Michigan Technological University, MET will pay for 108 credit hours.

Individuals may purchase the Limited Benefits Plan in semester increments up to 10 semesters (five years).

The **Community College Plan** provides in-district tuition and mandatory fees at Michigan public community colleges. Some areas of the State are not within a community college district. Students who attend a community college out of their district will be responsible for paying the difference between the out-of-district and in-district tuition cost. Individuals may purchase the Community College Plan in semester increments up to ten semesters (five years) under this contract.

For contracts sold during and after the 2012/2013 enrollment period, the mandatory fees paid cannot exceed the 2012 rate charged by the Public Educational Institutions.

MET Plan D is open to children from newborn through adult. The Beneficiary must be a resident of the State of Michigan and must have a valid Social Security Number.

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 this analysis were based on an experience review for the period from October 1, 2012 to September 30, 2017, and were adopted for use commencing with the September 30, 2018 actuarial soundness valuation. The major actuarial assumptions (discount rate and rates of future tuition increase) used in this analysis were provided by and are the responsibility of MET.

In the previous actuarial soundness valuation as of September 30, 2018, a discount rate assumption of 5.50 percent and a tuition increase assumption of 6.0 percent for the first year, 5.5 percent for the second year, 5.0 percent for the third year, and 4.5 percent thereafter were used. Each year, the discount rate and tuition increase assumption are reviewed for reasonableness. Staff at the Department of Treasury then recommends updated assumptions to the MET Board. The recommended assumptions for the actuarial soundness valuation as of September 30, 2019, are as follows:

- Discount Rate: 5.50% percent.
- Tuition Increase Assumption: 5.5 percent for the first year, 5.0 percent for the second year, and 4.5 percent thereafter.

In summary, the discount rate remained 5.50 percent. The tuition increase assumption schedule was maintained, resulting in an assumed increase of 5.5 percent in the first year, 5.0 percent in the second year, and 4.5 percent thereafter.

The MET Board approved these assumptions for use in the September 30, 2019 actuarial soundness valuation at its August 1, 2019 meeting.

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.

Financial Status of Program

As of September 30, 2019, the present value of all future tuition obligations under contracts outstanding (and including estimated future administrative expenses) at that date is \$783.0 million. Fund assets as of September 30, 2019, including the market value of program assets and the present value of installment contract receivables, are \$1.00 billion.

The difference between the market value of assets of \$1.00 billion and program obligations of \$783.0 million represents a program surplus of \$221.4 million. The comparable program surplus as of the last actuarial soundness valuation as of September 30, 2018 was \$195.0 million.

Under the approved assumptions, the program is 128.3 percent funded and is expected to pay all contracted benefits. It should be noted that new contracts are being offered in 2020 and are intended to be offered in future years.

Gain/Loss Analysis

As previously described, the program surplus increased from \$195.0 million as of September 30, 2018 to \$221.4 million as of September 30, 2019.

Benefit Provisions

We understand there were no changes in program provisions since the last actuarial valuation as of September 30, 2018.

Assets

MET assets are held in trust. MET provided the asset information used in the September 30, 2019 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.

SECTION B

ACTUARIAL SOUNDNESS VALUATION RESULTS

Exhibit I

Principal Valuation Results as of September 30,

	2019	2018
1 Number of Contracts		
a. Not yet in Payment Status:	25,829	26,692
b. In Payment Status or Termination in Progress*	9,793	9,695
c. Total	35,622	36,387
Average Years until Enrollment if Not Yet In Payment Status	6.7	6.8
2 Assets		
a. Market Value of Assets (in Trust)	\$ 970,362,162	\$ 967,734,739
b. PV Future Contract Contributions	\$ 34,053,238	\$ 40,793,668
c. Total Market Value of Assets (MVA)	\$ 1,004,415,400	\$ 1,008,528,407
3 Actuarial Results		
Liabilities - Tuition and Fees		
a. Not yet in Payment Status or Not Using Contract	\$ 656,147,726	\$ 686,194,927
b. In Payment Status or Termination in Progress	\$ 95,821,669	\$ 98,628,611
c. Total	\$ 751,969,395	\$ 784,823,538
Liabilities - Present Value of Future Administrative Expenses	\$ 31,061,002	\$ 28,739,449
Liabilities Total	\$ 783,030,397	\$ 813,562,987
Surplus/(Deficit)	\$ 221,385,003	\$ 194,965,420
Funded Ratio	128.3%	124.0%

*Counts for 2019 include 4,307 contracts that are classified as "In Payment Status" but have not used any credits within the past year.

Exhibit I

Principal Valuation Results as of September 30, (Concluded)

	<u>2019</u>	<u>2018</u>
1. Assets		
a. Market Value of Assets (in Trust)	\$ 970,362,162	\$ 967,734,739
b. PV Future Contract Contributions (Short Term) ^a	\$ 7,707,022	\$ 9,320,249
c. PV Future Contract Contributions (Long Term) ^b	\$ 26,346,216	\$ 31,473,419
d. Total Market Value of Assets (MVA)	<u>\$ 1,004,415,400</u>	<u>\$ 1,008,528,407</u>
2. Actuarial Present Value of Tuition, Fees and Admin Expenses		
a. Short Term ^a	\$ 62,699,977	\$ 64,995,413
b. Long Term ^b	<u>\$ 720,330,420</u>	<u>\$ 748,567,574</u>
c. Total	\$ 783,030,397	\$ 813,562,987
Surplus/(Deficit)	\$ 221,385,003	\$ 194,965,420
Funded Ratio	128.3%	124.0%

^a Present value of amounts in following year.

^b Present value of amounts after first year.

Exhibit II Gain/Loss Summary

	Present Value of Benefits	PV Future Member Contributions	Market Value of Assets	Surplus/(Deficit)
(1.) Values at September 30, 2018	\$ 813,562,987	\$ 40,793,668	\$ 967,734,739	\$ 194,965,420
(2.) Contributions/Miscellaneous Income (Not including New Enrollment Group)	\$ -	\$ (9,866,674)	\$ 9,866,674	\$ -
(3.) Benefit Payments and Administrative Expenses	\$ (80,686,584)	\$ -	\$ (80,686,584)	\$ -
(4.) Interest on (1.), (2.), and (3.) at Assumed Rate from Previous Valuation	\$ 42,556,782	\$ 1,975,950	\$ 51,303,929	\$ 10,723,097
(5.) New Enrollment Group	\$ 25,664,797	\$ 3,367,369	\$ 21,675,247	\$ (622,181)
(6.) Projected Values at September 30, 2019 [(1.) + (2.) + (3.) + (4.) + (5.)]	\$ 801,097,982	\$ 36,270,313	\$ 969,894,005	\$ 205,066,336
(7.) Change Due to:				
a. Asset Experience	\$ -	\$ -	\$ 468,157	\$ 468,157
b. Tuition/Fee Inflation	(20,922,436)	-	-	20,922,436
c. Assumption Changes	-	-	-	-
d. Other Experience	2,854,851	(2,217,075)	-	(5,071,926)
(8.) Total [(7.)a. + (7.)b. + (7.)c. + (7.)d.]	\$ (18,067,585)	\$ (2,217,075)	\$ 468,157	\$ 16,318,667
(9.) Actual Values at September 30, 2019 [(6.) + (8.)]	\$ 783,030,397	\$ 34,053,238	\$ 970,362,162	\$ 221,385,003

Exhibit III 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 MET. In our opinion, the actuarial assumptions prescribed to us are reasonable for the purpose of the measurement. However, no one knows with certainty what the future holds with respect to economic and other contingencies. For example, while it is assumed that the assets of the fund will earn 5.50 percent each year throughout the life of the contracts, actual returns are expected to vary from year to year. Therefore, we have projected MET results under alternative assumptions for future investment income and tuition increases, as follows:

1. Current actuarial soundness valuation assumptions approved by the MET Board (5.50 percent investment return, 5.5/5.0/4.5 percent tuition increases).
2. Tuition increases are 100 basis points higher/lower in each future year than assumed in this year's actuarial soundness valuation.
3. The investment return is 100 basis points higher/lower in each future year than assumed in this year's actuarial soundness valuation.
4. Tuition increases are 100 basis points higher and the investment return is 100 basis points lower in each future year than assumed in this year's actuarial soundness valuation.
5. Tuition increases are 100 basis points lower and the investment return is 100 basis points higher in each future year than assumed in this year's actuarial soundness valuation.

The impact of each of these scenarios on the principal actuarial soundness valuation results is presented on the following page.

Exhibit III

Sensitivity Testing Results (Concluded)

\$ in Millions

	Current Valuation Assumptions	Assumed Tuition Increases +100 Basis Points	Assumed Tuition Increases -100 Basis Points	Assumed Investment Return +100 Basis Points	Assumed Investment Return -100 Basis Points	Assumed Tuition Increases +100 Basis Points and Investment Return -100 Basis Points	Assumed Tuition Increases -100 Basis Points and Investment Return +100 Basis Points
Assumed Investment Return	5.50%	5.50%	5.50%	6.50%	4.50%	4.50%	6.50%
Assumed Tuition Increases*	5.5%/4.5%	6.5%/5.5%	4.5%/3.5%	5.5%/4.5%	5.5%/4.5%	6.5%/5.5%	4.5%/3.5%
1 Assets							
a. Market Value of Assets (in Trust)	\$970.4	\$970.4	\$970.4	\$970.4	\$ 970.4	\$ 970.4	\$970.4
b. PV Future Contract Contributions	\$ 34.1	\$ 34.1	\$ 34.1	\$ 33.0	\$ 35.1	\$ 35.1	\$ 33.0
c. Total Market Value of Assets (MVA)	\$1,004.4	\$1,004.4	\$1,004.4	\$1,003.3	\$1,005.4	\$1,005.4	\$1,003.3
2 Actuarial Results							
Liabilities - Tuition and Fees							
a. Not yet in Payment Status or Not Using Contract	\$656.1	\$704.3	\$612.4	\$607.6	\$710.9	\$765.1	\$568.4
b. In Payment Status or Termination in Progress	\$95.8	\$96.5	\$95.1	\$94.4	\$97.3	\$98.0	\$93.7
c. Total	\$751.9	\$800.8	\$707.5	\$702.0	\$ 808.2	\$ 863.1	\$662.1
Liabilities - PV of Future Admin. Expenses	\$ 31.1	\$ 31.1	\$ 31.1	\$ 29.4	\$ 32.9	\$ 32.9	\$ 29.4
Liabilities Total	\$783.0	\$831.9	\$738.6	\$731.4	\$ 841.1	\$ 896.0	\$691.5
Surplus/(Deficit)	\$221.4	\$ 172.5	\$265.8	\$271.9	\$ 164.3	\$ 109.4	\$311.8
Funded Ratio	128.3%	120.7%	136.0%	137.2%	119.5%	112.2%	145.1%
Difference From Results Based on Current Assumptions							
Deficit	\$ 0.0	\$(48.9)	\$ 44.4	\$ 50.5	\$ (57.1)	\$(112.0)	\$ 90.4
Funded Ratio	0.0%	(7.6%)	7.7%	8.9%	(8.8%)	(16.1%)	16.8%

*Graded schedule 5.5% for one year, 5.0% for the second year, and 4.5% thereafter.

SECTION C

FUND ASSETS

Statement of Plan Assets (Assets at Market Value)

Michigan Education Trust - Plan D Statement of Plan Net Assets Year ended September 30, 2019

1. Cash and cash equivalents	\$	41,058,318
2. Investments		
a. Short-term Investments	\$	31,710,453
b. Unamortized discount on short-term investments		(697,117)
c. Bonds		183,928,515
d. Equity mutual funds		714,302,288
Total investments	\$	929,244,139
3. Deferred Outflows of Resources		
	\$	\$1,049,529
4. Receivables		
a. Advances to state general fund	\$	\$2,133,443
b. Interest and dividends receivable		1,257,537
c. Tuition contracts receivable		34,053,238
d. Due from Plans B&C		1,867,317
Total receivables	\$	39,311,535
5. Liabilities		
a. Net Pension Payable	\$	2,197,730
b. Life Insurance OPEB Payable		425,656
c. Healthcare OPEB Payable		2,870,421
d. Due to vendors and contract purchasers		184,764
e. Due to Plans B&C		-
Total liabilities	\$	5,678,571
6. Deferred Inflows of Resources		
	\$	569,549
7. Net assets = (1) + (2) + (3) + (4) - (5) - (6)		
	\$	1,004,415,400

Numbers may not add due to rounding.

Reconciliation of Plan Assets

Michigan Education Trust - Plan D
Statement of Changes in Plan Net Assets
Twelve Month Period ended September 30, 2019

1. Value of assets at beginning of year	\$ \$1,008,528,407
2. Changes during year	
a. Additions	
(1) Investment income	\$ 32,603,033
(2) Miscellaneous income	764,750
(3) Net gain on sale of security	22,496,844
(4) Prepaid tuition of 2019 enrollments	11,550,436
(5) Other contracts receipts	<u>19,226,735</u>
Total Additions = (1) + (2) + (3) + (4) + (5)	\$ 86,641,798
b. Deductions	
(1) Administrative and other expenses	\$ \$4,347,856
(2) Amounts paid under contracts	
(a) Tuition benefits	\$ 57,342,277
(b) Termination benefits	
[1] Paid to colleges	\$ 10,709,206
[2] Loan defaults/Death refunds	405,310
[3] Paid to refund designee	<u>7,881,935</u>
Total termination benefits	\$ 18,996,451
Total paid under contracts = (a) + (b)	<u>76,338,728</u>
Total Deductions = (1) + (2)	\$ 80,686,584
c. Unrealized appreciation (depreciation)	<u>\$ (10,068,221)</u>
Net increases (decreases) during year = a - b + c	<u>\$ (4,113,007)</u>
Net value of assets at end of year = 1 + 2	<u><u>\$ \$1,004,415,400</u></u>

SECTION D

PARTICIPANT DATA

Historical Summary as of September 30, 2019

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
<u>Number of Contracts</u>					
Lump Sum					
Full benefits	16,990	17,654	18,263	18,732	19,081
Limited benefits	4,777	4,929	5,095	5,197	5,219
Community college	1,930	2,047	2,120	2,166	2,169
Monthly Purchase					
Full benefits	5,735	6,063	6,371	6,630	6,882
Limited benefits	1,936	2,092	2,176	2,274	2,327
Community college	1,616	1,672	1,697	1,711	1,737
Pay As You Go					
Full benefits	1,545	1,174	815	323	0
Limited benefits	887	617	414	187	0
Community college	<u>206</u>	<u>139</u>	<u>101</u>	<u>38</u>	<u>0</u>
Total	<u>35,622</u>	<u>36,387</u>	<u>37,052</u>	<u>37,258</u>	<u>37,415</u>
<u>Assets</u>					
Market value	<u>\$1,004,415,400</u>	<u>\$1,008,528,407</u>	<u>\$1,001,048,960</u>	<u>\$934,410,686</u>	<u>\$883,583,213</u>

Contract Data Summary

	Lump Sum			Monthly Purchase			Pay As You Go			Total
	Full Benefits	Limited Benefits	Community College	Full Benefits	Limited Benefits	Community College	Full Benefits	Limited Benefits	Community College	
Total as of 9/30/2018	17,654	4,929	2,047	6,063	2,092	1,672	1,174	617	139	36,387
Adjustment for prior years	93	41	14	27	11	3	18	1	1	209
New contracts issued	457	188	62	65	31	39	370	274	67	1,553
Contracts paid in full	<u>(1,214)</u>	<u>(381)</u>	<u>(193)</u>	<u>(420)</u>	<u>(198)</u>	<u>(98)</u>	<u>(17)</u>	<u>(5)</u>	<u>(1)</u>	<u>(2,527)</u>
Total as of 9/30/2019	<u>16,990</u>	<u>4,777</u>	<u>1,930</u>	<u>5,735</u>	<u>1,936</u>	<u>1,616</u>	<u>1,545</u>	<u>887</u>	<u>206</u>	<u>35,622</u>

Contracts in Payment Status as of September 30, 2019

	Full Benefits Contracts	Limited Benefits Contracts	Community College Contracts	Total
1. Michigan Public 4-Year College				
Central Michigan University	199	95	0	294
Eastern Michigan University	161	44	0	205
Ferris State University	97	47	0	144
Kendall Art & Design of Ferris	0	0	0	0
Grand Valley State University	343	147	0	490
Lake Superior State University	23	5	0	28
Michigan State University	1,677	346	0	2,023
Michigan Technological University	85	29	0	114
Northern Michigan University	53	21	0	74
Oakland University	269	111	0	380
Saginaw Valley State University	52	32	0	84
University of Michigan-Dearborn	120	37	0	157
University of Michigan-Flint	44	17	0	61
University of Michigan-Ann Arbor	1,770	168	0	1,938
Wayne State University	270	88	0	358
Western Michigan University	<u>242</u>	<u>89</u>	<u>1</u>	<u>332</u>
Total Michigan Public 4-Year College	<u>5,405</u>	<u>1,276</u>	<u>1</u>	<u>6,682</u>

Contracts in Payment Status as of September 30, 2019 (Continued)

	Full Benefits <u>Contracts</u>	Limited Benefits <u>Contracts</u>	Community College <u>Contracts</u>	<u>Total</u>
2. Michigan Community College				
Alpena Community College	0	0	4	4
Bay De Noc Community College	0	0	3	3
Delta College	4	2	16	22
Glen Oaks Community College	1	0	2	3
Gogebic Community College	0	0	3	3
Grand Rapids Community College	29	5	37	71
Henry Ford Community College	19	9	29	57
Jackson Community College	8	0	22	30
Kalamazoo Valley Community College	8	4	22	34
Kellogg Community College	1	2	11	14
Kirtland Community College	1	0	4	5
Lake Michigan Community College	4	3	5	12
Lansing Community College	38	14	63	115
Macomb County Community College	29	12	79	120
Mid-Michigan Community College	5	6	3	14
Monroe Community College	4	1	4	9
Montcalm Community College	2	2	1	5
Mott Community College	14	3	38	55
Muskegon Community College	3	1	11	15
North Central Michigan College	5	0	4	9
Northwestern Michigan College	10	6	13	29
Oakland Community College	64	9	56	129
Schoolcraft College	57	19	57	133
Southwestern Michigan College	2	2	2	6
St. Clair County Community College	10	1	20	31
Washtenaw Community College	34	6	28	68
Wayne County Community College	3	0	15	18
West Shore Community College	<u>2</u>	<u>0</u>	<u>2</u>	<u>4</u>
Total Michigan Community College	<u>357</u>	<u>107</u>	<u>554</u>	<u>1,018</u>
Total Active Contracts (1.) + (2.)	<u>5,762</u>	<u>1,383</u>	<u>555</u>	<u>7,700</u>

Contracts in Payment Status as of September 30, 2019 (Concluded)

	Full Benefits <u>Contracts</u>	Limited Benefits <u>Contracts</u>	Community College <u>Contracts</u>	<u>Total</u>
3. Terminations in Progress				
Reason:				
Michigan Independent College	254	74	25	353
Out-of-State/Pay College	827	167	47	1,041
Out-of-State/Pay Refund Designee	47	25	3	75
Full Scholarship	54	12	4	70
Not Attending College	146	74	9	229
Attending Community College with Full/Limited Benefits Contract	54	35	0	89
Attending 4-year College with Community College Contract	0	0	189	189
Other (Military)	<u>7</u>	<u>3</u>	<u>2</u>	<u>12</u>
Total Terminations in Progress	<u>1,389</u>	<u>390</u>	<u>279</u>	<u>2,058</u>
4. Inactive Students	<u>29</u>	<u>2</u>	<u>4</u>	<u>35</u>
Grand Total, Contracts in Payment Status (1.) + (2.) + (3.) + (4.)	<u>7,180</u>	<u>1,775</u>	<u>838</u>	<u>9,793</u>
5. Not Yet in Payment Status	<u>17,090</u>	<u>5,825</u>	<u>2,914</u>	<u>25,829</u>
Grand Total, Active Contracts (1.) + (2.) + (3.) + (4.) + (5.)	<u>24,270</u>	<u>7,600</u>	<u>3,752</u>	<u>35,622</u>

Contracts Paid in Full in the Year Ending September 30, 2019

	Lump Sum			Monthly Purchase			Pay As You Go			Total
	Full Benefits	Limited Benefits	Community College	Full Benefits	Limited Benefits	Community College	Full Benefits	Limited Benefits	Community College	
1. Attended Public Colleges	833	305	54	239	135	16	16	5	1	1,604
2. Terminations										
Michigan Independent College	99	30	12	48	10	4	0	0	0	203
Out-of-State/Pay College	176	15	17	57	12	9	0	0	0	286
Out-of-State/Pay Refund Designee	13	3	1	10	6	3	0	0	0	36
Full Scholarship	16	4	3	7	6	3	0	0	0	39
Not Attending College	49	15	18	42	18	20	1	0	0	163
Disability/Death	4	0	0	8	3	5	0	0	0	20
Attending Community College with Full/Limited Benefits Contract	23	9	0	8	7	0	0	0	0	47
Attending 4-year College with Community College Contract	0	0	88	0	0	36	0	0	0	124
Other (Military)	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>2</u>	0	0	0	5
Total Terminations	<u>381</u>	<u>76</u>	<u>139</u>	<u>181</u>	<u>63</u>	<u>82</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>923</u>
Total Contracts Paid in Full	<u>1,214</u>	<u>381</u>	<u>193</u>	<u>420</u>	<u>198</u>	<u>98</u>	<u>17</u>	<u>5</u>	<u>1</u>	<u>2,527</u>

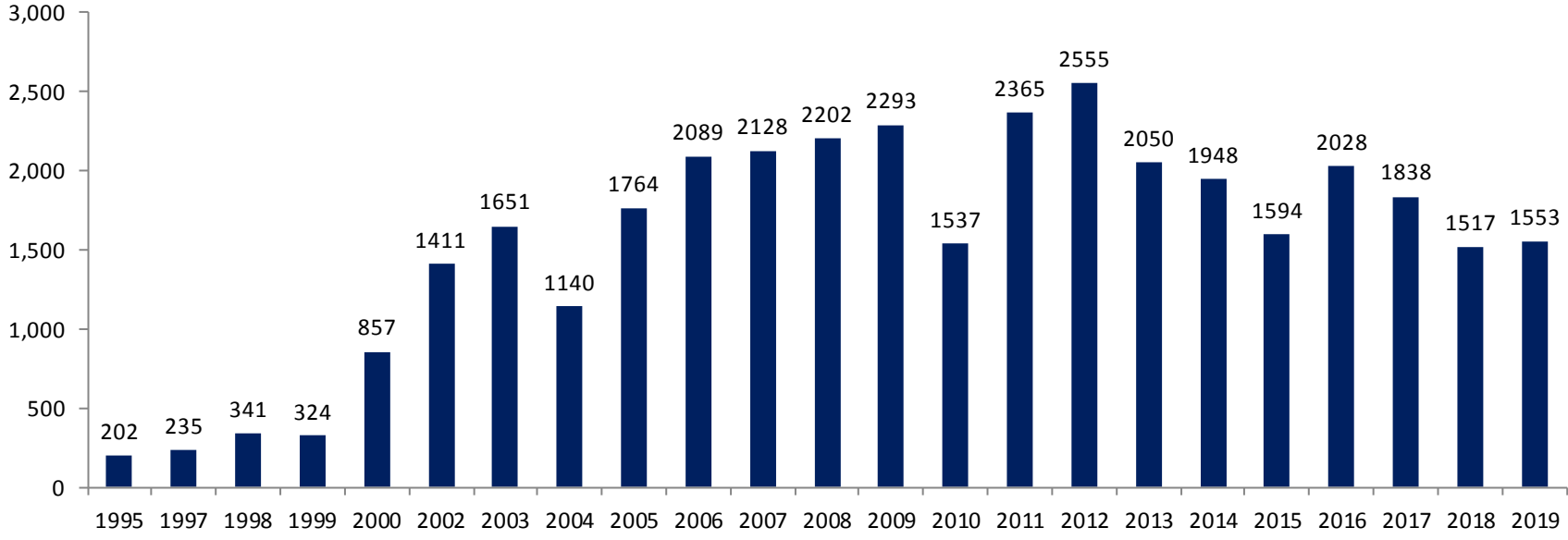
Active Monthly Purchase Contracts

	Full Benefits	Limited Benefits	Community College	Total
Active Purchasers as of 9/30/2018	1,469	629	621	2,719
Adjustment for prior years	5	(2)	(4)	(1)
Contracts issued in 2019	65	31	39	135
Purchases completed	(283)	(104)	(72)	(459)
Discontinued	<u>(52)</u>	<u>(22)</u>	<u>(15)</u>	<u>(89)</u>
Active Purchasers as of 9/30/2019	<u>1,204</u>	<u>532</u>	<u>569</u>	<u>2,305</u>

Michigan Education Trust - Plan D Counts by Enrollment Year Active Contracts

35,622 Total

Number



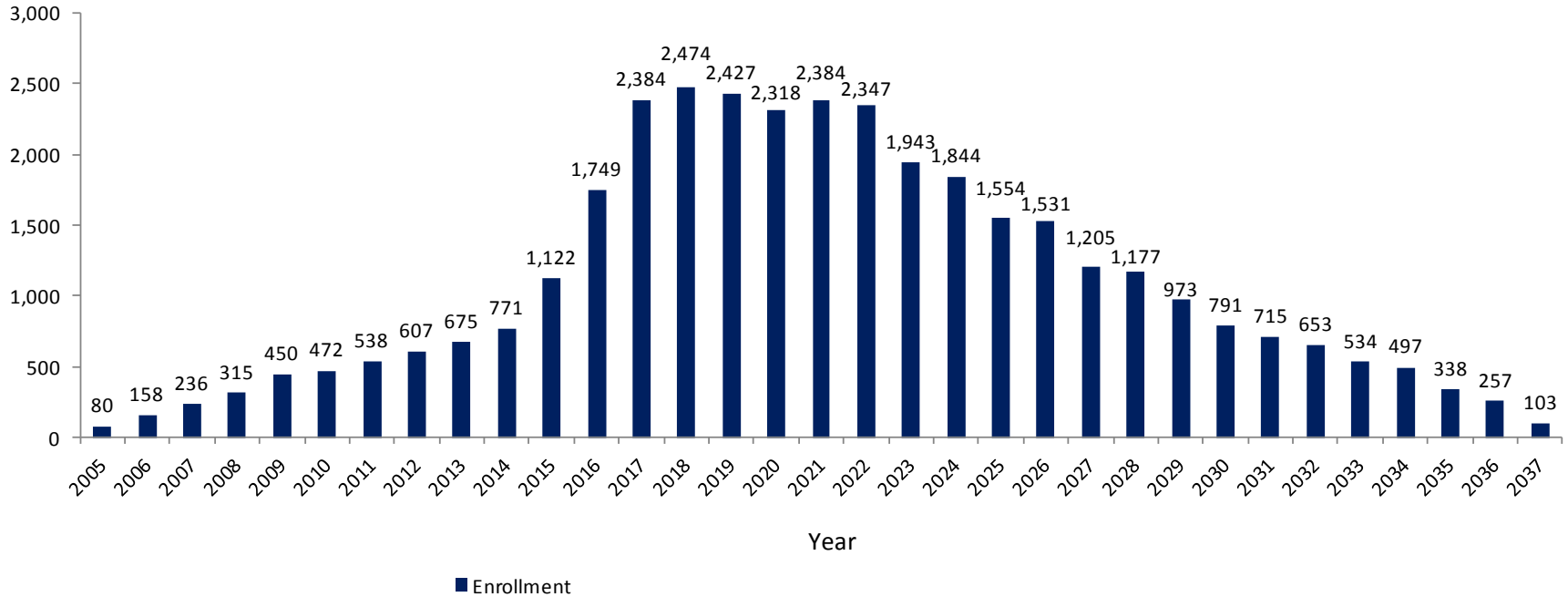
Year

■ Enrollment

Michigan Education Trust - Plan D Counts by Qualifying Year Active Contracts

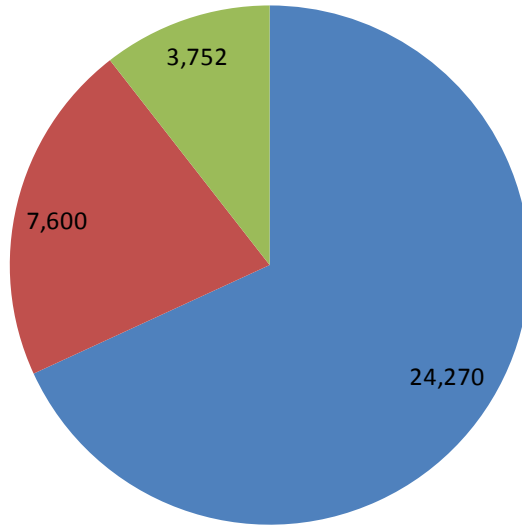
35,622 Total

Number



Michigan Education Trust - Plan D Counts by Contract Type Active Contracts

35,622 Total



■ Full Benefits Contract ■ Limited Benefits Contract ■ Community College Contract

SECTION E

ACTUARIAL SOUNDNESS VALUATION METHODS & ASSUMPTIONS

Valuation Methods & Assumptions

The *actuarial assumptions* used in the valuation are shown in this Section.

Measurement Date: September 30, 2018

The **net investment return rate:** 5.50 percent per annum, compounded annually

Weighted Average Tuition and Increases by Contract Type

	Four-Year Public College	Community College
Weighted Average Tuition and Fees	\$14,909	\$4,110
Average Tuition and Fees	\$14,324	\$4,482
Lowest Tuition and Fees	\$11,623	\$3,130
Tuition and Fees Increase Assumption - Year One	5.50%	5.50%
Tuition and Fees Increase Assumption - Year Two	5.00%	5.00%
Tuition and Fees Increase Assumption - Year Three	4.50%	4.50%

The Weighted Average Tuition and Fees used in the actuarial soundness valuation are based on preliminary tuition and fees for 2019/2020.

For contracts sold during and after the 2012/2013 enrollment period, the mandatory fees paid cannot exceed the 2012 rate charged by the Public Educational Institutions.

The Tuition and Fee increase assumptions were chosen by the Board and consider historical public tuition and fee inflation over a 5- to 10-year horizon, as well as current economic and political conditions.

Administrative Expenses

Administrative expenses of the Program are assumed to be paid through a combination of investment earnings and fees assessed on purchasers. Total administrative expenses budgeted for MET Plans B and C and MET Plan D net of advertising expenses is equal to \$4,393,841. This amount was prorated by the number of active contracts in MET Plans B and C vs. MET Plan D. Therefore, the amount budgeted for MET Plan D in 2017-2018 is \$4,022,136. This amount is assumed to increase by 2.25 percent per year. Furthermore, it is assumed that future contract purchases would cover advertising expenses. Advertising expenses for 2019/2020 were budgeted to be \$800,000. This amount is also assumed to increase by 2.25 percent per year.

Bias Load

A load of 8.0 percent was added for full benefits four-year public universities, 2.0 percent was added for limited benefits four-year public universities and zero percent for two-year community colleges is added to the WAT for all contract types to recognize the bias toward enrollment at more expensive schools.

Experience Load

Two features of the program may cause greater payments than expected. These two features are a) the ability of a beneficiary to attend a college for which block pricing is in effect, resulting in the possibility of having the program pay for more years than purchased and b) the ability of a beneficiary who purchased a contract prior to 2012 to have more than 120 hours covered (even though, for example, four years of coverage was purchased) due to being in a specific program requiring more than 120 hours for an undergraduate degree (e.g., Engineering). A load of 2.0 percent was added to all liabilities attributable to contracts sold prior to the 2013 enrollment period and no experience load for contracts sold during and after the 2013 enrollment period.

Future Contract Sales

MET Plan D is open to new entrants. This assumption does not impact the closed-group actuarial soundness valuation, but rather is used in analyzing pricing.

Rates of Matriculation and Refund at and Beyond Qualifying Year

Beneficiaries are assumed to either matriculate or receive a refund according to the following schedule:

<u>Years After Qualifying Year</u>	<u>Matriculation and Refund Rate</u>
0	45%
1	40%
2	40%
3	35%
4	20%
5	15%
6	15%
7	10%
8	10%
9	10%
10	10%
11	10%
12	10%
13	10%
14	10%
15	100%

Probability of Matriculation or Refund upon Transition to Payment Status

Years After Qualifying Year	Matriculation Rate	Refund Rate
0	75%	25%
1	75%	25%
2	75%	25%
3	75%	25%
4	75%	25%
5	60%	40%
6	50%	50%
7	40%	60%
8	40%	60%
9	40%	60%
10	25%	75%
11	25%	75%
12	25%	75%
13	25%	75%
14	25%	75%
15	0%	100%

Utilization of Benefits (applies only to members who have not begun utilizing benefits)

Beneficiaries are assumed to use the benefits as defined in the contract beginning in their qualifying year and subsequently according to the following schedule:

Distribution of Benefit Utilization				
Number of Years Since Benefit Utilization Begins	Number of Years Purchased			
	0 - 1	1 - 2	2 - 3	More Than 3
1	75%	38%	22%	17%
2	17%	34%	22%	17%
3	8%	17%	22%	17%
4		6%	17%	17%
5		6%	10%	17%
6			4%	7%
7			3%	5%
8				2%
9				2%

Utilization of Benefits (applies only to members who have begun utilizing benefits)

Once a beneficiary has begun using benefits, it is assumed that beneficiaries will utilize 20 credits per year until benefits are fully depleted.

If the contract beneficiary has matriculated, but the contract beneficiary has not used credits within the past year, the matriculation rates, refund rates and benefit utilization rates that apply to members who have not yet matriculated are assumed.

Contract Terminations

Refund Type	Refund	Amount of Refund - Full or Limited Benefits	Amount of Refund - Community College Benefits	Termination Code and Code Description	Distribution of Contract Termination		
					Full Benefits	Limited Benefits	Community College Benefits
1	Weighted Average Tuition	\$ 14,909	\$ 4,110	1 - Attend Mich. Independent college direct refund to college	28.0%	34.0%	17.0%
2	Average Tuition*	\$ 14,324	\$ 4,482	2 - Attend out of state college - direct refund to college 4 - Full scholarship	58.0%	35.0%	13.0%
3	Lowest Tuition	\$ 11,623	\$ 3,130	3 - Attend Mich. Independent or out of state college - direct refund to refund designee 5 - Will not attend college 10 - Other (military)	11.0%	22.0%	5.0%
4	Lowest Tuition	\$ 11,623	N/A	7 - Purchase full or limited benefit, but attend community college	3.0%	9.0%	0.0%
5	Community College WAT	N/A	\$ 4,110	8 - Purchase community college, but attend 4-year public college	0.0%	0.0%	65.0%
6	Lowest Tuition	\$ 11,623	\$ 3,130	6 - Death or disability	0.0%	0.0%	0.0%
Average Refund					\$ 14,110	\$ 13,686	\$ 4,109

**Not applicable to Limited Benefits Contracts.*

The Weighted Average Tuition and Fees used in the actuarial soundness valuation are based on preliminary tuition and fees for 2019/2020.

Refunds are paid out in accordance with the contract provisions over a period of four years for full and limited benefit contracts and two years for community college contracts.

Mortality and Disability

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

SECTION F

PLAN PROVISIONS

Plan Provisions

A. Issue Years: 1995, 1997, 1998, 1999, 2000, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, and 2019.

B. Benefit Provisions

1. Full Benefits Plan

- | | |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a. Michigan Public 4-Year College | Full benefits plan provides for tuition and mandatory fees for the number of years specified in the contract, from one to five years. |
| b. Community College | If the beneficiary elects to attend a community college, MET will pay the community college tuition cost or the lowest university tuition cost, depending on the options selected by the beneficiary. |
| c. Michigan Independent College | If the beneficiary elects to attend a Michigan independent college, the contract may be terminated and MET will pay tuition to the independent college based on the weighted average tuition cost. If the payment is not made to the college, the amount will be based on the lowest tuition. |
| d. Out-of-State College | If the beneficiary elects to attend an out-of-state college, the contract may be terminated and MET will pay to the college four annual installments based on the average tuition cost. If payment is not made to the college, the amount will be based on the lowest tuition. |
| e. Full Scholarship | If the beneficiary receives a full scholarship, the contract may be terminated and MET will pay four annual installments based on the average tuition cost. |
| f. Death or Disability | If the beneficiary dies or has a disability which renders the beneficiary incapable of attending college, the contract may be terminated and MET will pay one installment based on the lowest tuition cost. |
| g. No College | If the beneficiary does not attend college, the contract may be terminated and MET will pay four annual installments based on the lowest tuition cost. |

Plan Provisions (Continued)

2. Limited Benefits Plan

- | | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a. Michigan Public 4-Year College | Limited benefits plan provides for tuition and mandatory fees for the number of years specified in the contract, from one to four years not to exceed 105% of the WAT. However, if tuition and mandatory fees exceed 105% of the WAT, the beneficiary is provided a reduced number of credit hours. |
| b. Community College | If the beneficiary elects to attend a community college, MET will pay the community college tuition cost or the lowest university tuition cost, depending on options selected by the beneficiary. |
| c. Michigan Independent College | If the beneficiary elects to attend a Michigan independent college, the contract may be terminated and MET will provide funds to the independent college based on the weighted average tuition at the colleges with tuition less than 105% of the weighted average tuition. If payment is not made to the college, the amount will be based on the lowest tuition. |
| d. Out-of-State College | If the beneficiary elects to attend an out-of-state college, the contract may be terminated and MET will pay four annual installments based on the lowest tuition cost. |
| e. Full Scholarship | If the beneficiary receives a full scholarship, the contract may be terminated and MET will pay four annual installments based on the lowest tuition cost. |
| f. Death or Disability | If the beneficiary dies or has a disability which renders the beneficiary incapable of attending college, the contract may be terminated and MET will pay one installment based on the lowest tuition cost. |
| g. No College | If the beneficiary does not attend college, the contract may be terminated and MET will pay four annual installments based on the lowest tuition cost. |

Plan Provisions (Continued)

3. Community College Plan

- a. Community College
Community college plan provides for tuition and mandatory fees for the number of years specified in the contract, from one to two years.
- b. Other Michigan College
If the beneficiary elects to attend a Michigan four-year public college or a Michigan independent college, the contract may be terminated and MET will pay tuition to the college in two annual installments as needed based on the community college weighted average tuition cost in the year prior to the contract termination.
- c. Out-of-State College
If the beneficiary elects to attend an out-of-state college, the contract may be terminated and MET will pay to the college two annual installments based on the community college average tuition cost. If payment is not made to the college, the amount will be based on the lowest tuition.
- d. Full Scholarship
If the beneficiary receives a full scholarship, the contract may be terminated and MET will pay two annual installments based on the community college average tuition cost.
- e. Death or Disability
If the beneficiary dies or has a disability which renders the beneficiary incapable of attending college, the contract may be terminated and MET will pay one installment based on the community college lowest tuition cost.
- f. No College
If the beneficiary does not attend college, the contract may be terminated and MET will pay two annual installments based on the community college lowest tuition cost.

C. Transferability

If the contract is transferred to an older beneficiary, MET may charge additional costs, which include a transfer fee, the cost differential between beneficiary ages/grades and MET's loss of investment income. If the older beneficiary accepts the academic year of the original beneficiary, the additional cost can be waived.

Plan Provisions (Concluded)

D. Monthly Purchase

The purchaser of a monthly purchase contract purchases a percent of educational benefits with every monthly purchase amount which is received by MET. A purchaser may choose to make monthly payments over 4, 7, 10 or 15 years.

E. Mandatory Fees for Contracts Sold during and after the 2012/2013 Enrollment Period

For contracts sold during and after the 2012/2013 enrollment period, the mandatory fees paid cannot exceed the 2012 rate charged by the Public Educational Institutions.

F. Pay-As-You-Go

The Pay-As-You-Go purchase option allows contracts to be purchased by the credit hour rather than in semester increments. Contracts can be opened by purchasing a minimum of one credit hour. Once a contract is opened additional contributions can be made at any time, in any amount \$25 or greater. Every time a contribution is made credits, or fraction of credits, are purchased based upon the prices in effect at that time.