Office of the State Actuary

"Supporting financial security for generations."

2020 ACTUARIAL VALUATION REPORT

Guaranteed Education Tuition Program

NOVEMBER 2020

DRAFT

DRAFT

Office of the State Actuary

"Supporting financial security for generations."

Acknowledgements

Matthew M. Smith, FCA, EA, MAAA
State Actuary

Melinda Aslakson

Sarah Baker

Kelly Burkhart

Mitch DeCamp

Graham Dyer

Katie Gross

Aaron Gutierrez, MPA, JD

Beth Halverson

Michael Harbour, ASA, MAAA

Luke Masselink, ASA, EA, MAAA

Darren Painter

Lindsey Russell

Frank Serra

Kyle Stineman, ASA, MAAA

Keri Wallis

Lisa Won, ASA, FCA, MAAA

Additional Assistance

WA529 Staff

Legislative Staff

The University of Washington

Washington State Investment Board

Legislative Support Services

Contact Information

Mailing Address:
Office of the State Actuary
PO Box 40914
Olympia, Washington 98504-0914

Physical Address:
2100 Evergreen Park Dr. SW
Suite 150

Telephone:
Reception: 360.786.6140
TDD: 711

Electronic Contact:
state.actuary@leg.wa.gov
leg.wa.gov/osa

To obtain a copy of this report in alternative format call 360.786.6140 or 711 for TDD.

DRAFT

DRAFT

TABLE OF CONTENTS

ACKNOWLEDGEMENTS iii
TABLE OF CONTENTS v
LETTER OF INTRODUCTION 1
EXECUTIVE SUMMARY 3
Intended Use 5
Comments on 2020 Results 5
Funded Status of Current Contracts 6
Risks Inherent in Actuarial Measurements 6
Projection of Current Contracts 7
Key Assumptions 8
Contract Data 8
ACTUARIAL CERTIFICATION LETTER 9
BACKGROUND 13
Program History and Goals 15
Plan Description 17
BEST ESTIMATE RESULTS 19
Participant Data 22
Actuarial Liabilities 23
Program Assets 25
Funded Status 29
Program Projections 30
SENSITIVITY OF BEST ESTIMATE RESULTS 33
Closed Program Scenario Sensitivity 35
Actuarial Fund Value Sensitivity 36
Terminated Program Scenario Cash Flows 36
Terminated Program Scenario Sensitivity 38
APPENDICES 39
Appendix A ★ Assumptions, Methods, and Data 41
Economic Assumptions 41
Behavioral Assumptions 43
Miscellaneous 43
Methods 43
Data 44
Appendix B ★ Assets 45
Appendix C ★ Contract Data 47
Appendix D ★ Price-Setting Guidelines 49

DRAFT

DRAFT

Letter of Introduction
Guaranteed Education Tuition Program
Actuarial Valuation Report
As of June 30, 2020

November 2020

This report documents the results of an actuarial valuation of the Guaranteed Education Tuition (GET) program. The primary purpose of this report is to update the annual financial status of the program through the calculation of the funded status for current contracts, in combination with the projection of the expected funded status in future years. This report also provides information on the sensitivity of the valuation results to key assumptions and developments in the program since the last valuation.

This report is organized in the following sections:

- Executive Summary.
- Actuarial Certification Letter.
- Background.
- Best Estimate Results.
- Sensitivity of Best Estimate Results.
- Appendices.

The **Executive Summary** provides the key results for this actuarial valuation. The **Background** section explains how this valuation complements annual Washington College Savings Plans (WA529) communications, how the Office of the State Actuary (OSA) supports the GET program, and provides a general understanding of the GET program. The next two sections provide detailed actuarial asset, liability, and cash flow information over the next 25 years. The **Appendices** describe the key assumptions and methods, assets, participant data, and additional information used to prepare this valuation. It also includes information on the most recently adopted unit price including the assumptions and methods that went into the best estimate unit price calculation.

We encourage you to submit any questions you might have concerning this report to our mailing address or our e-mail address at state.actuary@leg.wa.gov. We also invite you to visit WA529's website for further information regarding Washington's GET program.

Sincerely,

Matthew M. Smith, FCA, EA, MAAA
State Actuary

Sarah Baker
Actuarial Analyst

DRAFT

DRAFT

Executive Summary

DRAFT

DRAFT

EXECUTIVE SUMMARY

INTENDED USE

The purpose of this report is to provide an annual update of the financial status of the GET program based on a June 30, 2020, measurement date. This report provides valuation results of the funded status for current contracts, the projected funded status, and developments in the program over the past year. This report also discloses the data, assumptions, and methods we – OSA – used to develop the valuation results and shows the sensitivity of the valuation results to key assumptions.

All this information should be used together to understand the current status of the GET program.

This report is one of several key documents related to the GET program throughout a fiscal year. This report is not intended to replace program information supplied by WA529 staff or other analysis supplied by OSA, including analysis provided for the Comprehensive Annual Financial Report. Please replace this report when a more recent report becomes available.

COMMENTS ON 2020 RESULTS

Many factors can influence how actuarial valuation results change from one measurement date to the next. Those factors include – changes in the covered population; changes in program provisions, assumptions, and methods; and experience that varies from our expectations.

Significant factors for this year's valuation include the following:

- Investment returns of 7.40 percent exceeding the expected 5.25 percent for the plan year ending June 30, 2020, (increase to funded status);
- Reduction to the prospective assumed rate of investment return from 5.25 percent to 4.75 percent (decrease to funded status); and
- The addition of new units purchased after last year's actuarial valuation.

This valuation reflects unredeemed purchased or contracted units at June 30, 2020. Please see the Gain/Loss Analysis in the **Best Estimate Results** Section for information on other factors.

The WA529 Committee, at their September 2020 meeting, adopted a new unit price of $133 for the 2020-21 enrollment period. We will include the impact of new units purchased or contracted during the next enrollment period in next year's actuarial valuation report.

DRAFT

EXECUTIVE SUMMARY

COMMENTS ON 2020 RESULTS *continued*

The results of the valuation exclude the impacts of differential, or tiered tuition. If differential tuition were implemented and included in the GET unit payout value, the results of this valuation could materially change.

FUNDED STATUS OF CURRENT CONTRACTS

The following table summarizes the key measures of the program's funded status as of the current and prior year's valuation dates. This table provides a point-in-time estimate of the health of the program and should not be considered in isolation or as the sole measure of the program's status.

Funded Status Summary		
(Dollars in Millions)	2020	2019
Present Value of Future Obligations	$1,190	$1,108
Present Value of Fund	$1,559	$1,456
Funded Status	131.0%	131.3%
Reserve/(Deficit)	$369	$347

RISKS INHERENT IN ACTUARIAL MEASUREMENTS

Readers should exercise caution when interpreting and reaching conclusions based on a single, point-in-time measurement. In the course of conducting actuarial analyses, we make many assumptions. In some cases, small changes in these assumptions, or experience that plays out differently than expected, can lead to significant changes in the measurements.

For example, the program's funded status is highly sensitive to changes in tuition policy and associated changes in assumed tuition growth. The program's funded status is also sensitive to changes to the long-term assumed rate of investment return. Small increases/decreases in the assumed rate of return can produce large increases/decreases in the funded status, while small increases/decreases in the assumed tuition growth can produce large decreases/increases in the funded status.

Given recent projected state revenue shortfalls and volatility in the financial markets, there is a higher likelihood that experience in the short-term will deviate from our assumptions. Additionally, these assumptions may change next year as a result of:

- Updated Capital Market Assumptions (CMAs) from the Washington State Investment Board (WSIB);
- Tuition policy set by the Legislature for the 2021-23 Biennium; and
- The results of the next GET Experience Study.

To evaluate how the point-in-time measurements may change, we perform sensitivity tests – a process for assessing the impact of a change in an actuarial assumption or method on an actuarial measurement. Please see the **Sensitivity of Best Estimate Results** section and the **Appendices** for more information, including the results of the sensitivity tests.

DRAFT

EXECUTIVE SUMMARY

PROJECTION OF CURRENT CONTRACTS

The next table shows a projection of the program's funded status at future even-year measurement dates assuming no future unit sales, aside from unit purchases already under contract. Along with the funded status, the table shows the expected assets, net cash flows, and present value of obligations (so the reader can assess the size of the program). A full version of this table can be found in the **Best Estimate Results** section.

Projection of Current Contracts Only
(If all Assumptions are Realized)

(Dollars in Millions); EOY = End of Year

Fiscal Year Ending June 30	Funded Status	EOY Obligation Value	EOY Fund Value	Net Cash Flow
2020	131%	$1,190	$1,559	N/A
2022	137%	1,102	1,507	(17)
2024	146%	965	1,409	(46)
2026	161%	794	1,281	(47)
2028	186%	620	1,155	(59)
2030	232%	444	1,031	(55)
2032	314%	301	945	(34)
2034	455%	199	906	(12)
2036	721%	125	900	2
2038	*	66	917	11
2040	*	24	958	24
2042	*	4	1,029	39
2044	*	$0	$1,124	50

**Funded Status exceeds 1,000% due to very small obligation value.*

A large funded status develops under this projection because we assume the current reserve of $369 million will continue to grow with the long-term expected 4.75 percent rate of investment return each year. However, if the program is permanently closed or terminated, the program's asset allocation may change leading to a lower assumed rate of investment return.

Please see the **Sensitivity of Best Estimate Results** section for how these results could change under different assumptions and how the results change if the program were terminated.

DRAFT

EXECUTIVE SUMMARY

KEY ASSUMPTIONS

The results of this valuation are based on several assumptions that include both economic and demographic factors. We summarize the key assumptions in the next table. Please see the Assumptions, Methods, and Data sections in the **Appendices** for how we developed the assumptions used in this valuation. Note that the investment return assumption decreased from 5.25 percent to 4.75 percent from our last valuation.

Key Assumptions	
Investment Return	
All Years	4.75%
Tuition Growth	
2020-21	2.4%
2021-29	5.5%
2029-31+	5.0%

CONTRACT DATA

The table below summarizes the current contract and unit data used in this valuation for the plan year ending June 30, 2020, as well as for the prior year. Please see the Participant Data in the **Best Estimate Results** section for a table reconciling outstanding GET units from last year to this year. Please also see the Contract Data section in the **Appendices** for additional information on when units were purchased and their expected use years.

Contract Summary		
	2020	2019
Number of Current Contracts	67,153	67,215
Number of Units Outstanding	10,289,070	10,418,088

DRAFT

Actuarial Certification Letter

DRAFT

DRAFT

Actuarial Certification Letter
Guaranteed Education Tuition Program
Actuarial Valuation Report
As of June 30, 2020

November 2020

This report documents the results of an actuarial valuation for the Washington Guaranteed Education Tuition (GET) Program defined under Chapter 28B.95 of the Revised Code of Washington (RCW). The primary purpose of this report is to update the annual financial status of the program through the calculation of the funded status for current contracts, in combination with the projection of the expected funded status in future years. This report also provides information on the sensitivity of the valuation results to key assumptions and developments in the program since the last valuation. This report should not be used for other purposes. Please replace this report with a more recent report when available.

The results summarized in this report involve calculations that require assumptions about future economic and demographic events. With the exception of subsequent changes to the investment return and tuition growth assumptions, we developed the assumptions used in this valuation during the *2015 GET Experience Study*. Copies of this letter are available upon request. We provide supporting analysis for the investment return and tuition growth assumptions in the **Appendices** of this report.

Actuarial standards of practice that specifically apply to the measurement of obligations under prepaid tuition programs have not been defined within the actuarial profession. We used the standards of practice for pension systems where possible to guide the actuarial valuation of the GET program. In our opinion, the assumptions, methods, and calculations used in the valuation are reasonable and appropriate for the primary purpose as stated above and are in conformity with generally accepted actuarial principles and standards of practice as of the date of this publication. The use of another set of assumptions and methods, however, could also be reasonable and could produce materially different results. Actual results may vary from our expectations.

The results of the valuation exclude the potential impacts of differential tuition. If differential tuition were implemented and included in the GET unit payout value, the results of this valuation could materially change. This analysis will need to be updated in the future if changes are made to the GET program or the Legislature modifies current tuition policy.

Washington College Savings Plans (WA529) staff provided the participant and historical data to us. We checked the data for reasonableness as appropriate based on the purpose of this valuation. The Washington State Investment Board (WSIB) provided financial and asset information. We did not audit the data and relied on all the information provided as complete and accurate. In our opinion, this information is adequate and substantially complete for the purposes of this valuation.

No members of the WA529 Committee or their respective staff attempted to bias our work product. We are not aware of any matters that impacted the independence and objectivity of our work.

DRAFT

We intend this valuation to be used by the WA529 Committee during the 2021 Fiscal Year only. We advise readers of this valuation to seek professional guidance as to its content and interpretation, and not to rely upon this communication without such guidance. Please read the analysis shown in this valuation as a whole. Distribution of, or reliance on, only parts of this valuation could result in its misuse and may mislead others.

Consistent with the Code of Professional Conduct that applies to actuaries, I (Michael T. Harbour) must disclose any potential conflict of interest as required under Precept 7. I purchased and have unredeemed units in GET; however, this does not impair my ability to act fairly. I performed all analysis without bias or influence. The Legislature mandated OSA to perform actuarial services for GET and Matthew M. Smith supervised the actuarial analysis.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. While this report is intended to be complete, we are available to offer extra advice and explanations as needed.

Sincerely,

Matthew M. Smith, FCA, EA, MAAA
State Actuary

Michael T. Harbour, ASA, MAAA
Actuary

DRAFT

Background

DRAFT

BACKGROUND

PROGRAM HISTORY AND GOALS

The Washington State Legislature created the GET program in 1997. The program sold units annually from September 1, 1998, through June 30, 2015, when the, then named, GET Committee suspended new unit sales. The program reopened (and sold new units) starting on November 1, 2017.

RCW 28B.95 outlines the purpose of the GET program along with general guidelines regarding how it is administered. It includes the following goals,

- Help make higher education affordable and accessible to all citizens of the state of Washington;
- Provide an additional financial option for individuals, organizations, and families to save for college;
- Encourage savings and enhance the ability of Washington citizens to obtain financial access to institutions of higher education;
- Encourage elementary and secondary school students to do well in school as a means of preparing for and aspiring to higher education attendance; and
- Promote a well-educated and financially secure population to the ultimate benefit of all citizens of the state of Washington.

The statute establishes the five-member Committee on Advanced Tuition Payment and College Savings also known as the WA529 Committee. The WA529 Committee meets regularly to discuss the goals and status of the program, make administrative decisions, and set the unit price for each enrollment period.

WA529 staff supports the functions of the program and the WA529 Committee by administering the program and staffing WA529 Committee meetings. WA529 staff also prepare studies and reports that are directed to the WA529 Committee by the Legislature. Communications from WA529 staff can be found on the Washington Student Achievement Council (WSAC) website.

DRAFT

BACKGROUND

PROGRAM HISTORY AND GOALS *continued*

OSA assists the WA529 Committee and the Legislature by providing actuarial services and consulting. OSA's three primary services for WA529 include:

- Prepare an annual actuarial valuation of GET (this document) for the WA529 Committee.
- Prepare unit price-setting analysis for the WA529 Committee.
- Consult, price, and communicate the effects of potential changes to the GET program for the WA529 Committee or the Legislature.

This valuation should not be used in isolation to understand the ongoing health of the GET program. Rather, this document should be used together with the annual report from WA529 staff, OSA's price-setting analysis (when performed), and any other studies or reports created by WA529 staff or OSA.

DRAFT

BACKGROUND

PLAN DESCRIPTION

The terms of the GET program are a combination of RCW 28B.95 (determined by the Legislature) and the GET participant agreement (determined by the WA529 Committee). Statute provides general guidelines and certain rules for the WA529 Committee, whereas the GET participant agreement states all specific details for the purchaser.

The main plan provisions are outlined below so the reader can get a sense for what cash flows occur, what parties are involved, and what drives the results of the actuarial valuation. For a complete description of the plan provisions we direct you to the GET website, which includes both summarized plan provisions and the full GET participant agreement. If the summary below conflicts with relevant statute or the GET participant agreement, the relevant statute and participant agreement supersede this summary.

The graphic below illustrates the standard yearly process when new unit sales are allowed and under normal refund rules.

Unit Price is Set

- WA529 Committee sets the price annually for the current enrollment period.
- Based on adopted price-setting guidelines.

Units are Purchased

- Maximum of 800 units.
- Can be purchased either through a lump sum payment or a monthly contract (with finance charges).

Money is Invested

- Investment returns on the proceeds from unit sales are expected to pay a portion of the future unit value and lowers the price of the unit today.
- Invested by the Washington State Investment Board.

Units are Redeemed

- Unit Value (specific dollar amount) equals 1 percent of annual resident undergraduate tuition and state mandated fees at most expensive public Washington university at time of unit use.
- Maximum of 200 units per year, plus any unused units from a prior year.
- Used at any eligible in-state or out-of-state higher education institution based on Unit Value, or
- Refunded based on Unit Value or transferred to another eligible beneficiary.

In December of 2019, qualified distributions were expanded as part of the Further Consolidated Appropriations Act, 2020. This federal spending bill included new 529 plan-specific provisions that allow 529 plan account owners to withdraw assets to pay for certain expenses associated with apprenticeship programs registered and certified by the Secretary of Labor under the National Apprenticeship Act, and to pay principal and interest on certain qualified education loans.

DRAFT

DRAFT

DRAFT

Best Estimate Results

DRAFT

BEST ESTIMATE RESULTS

This section provides details on our best estimate of the GET present value of obligations, assets, cash flows, and funded status information for outstanding units at June 30, 2020. Also provided in this section is a summary of the participant data used to derive these estimates.

The first subsection shows an overview of the program participant data as of the valuation date. It is this data that is used to determine how many units will be redeemed in a given year for current contracts. These future unit redemptions, along with program expenses, make up the program liabilities described in the second subsection.

In the second subsection, we show the expected value, as of the valuation date, of obligations for all future payments from the program for current contracts only. The future payments represent both unit payout values and expenses (please see the **Appendices** for further details on the expenses included in this valuation). We discount future payments to the valuation date using the expected rate of investment return to determine the present value of those future payments. To see how obligations differed from our expectations in the prior year, we include an actuarial gain/loss from fiscal year 2019 to 2020.

The third subsection shows the market value of the fund along with the actuarial value. That is, the assets currently set aside for the contracts sold as of the valuation date, along with the smoothed measure of assets of the program. The present value of the fund represents both assets currently on hand and the present value of monthly contract receivables. Similar to program obligations, we provide the actuarial gain/loss for assets over the prior fiscal year.

In the subsections, the obligations and assets combine to produce the program funded status and future cash flows. We show a history of the program's key metrics followed by our projections for the future under a closed program.

DRAFT

BEST ESTIMATE RESULTS

PARTICIPANT DATA

Program obligations are based on the participant data supplied by GET staff. Below we provide a summary of outstanding units by the initial "use year" for the plan year ending June 30, 2020, along with a reconciliation of units from last year's valuation. The projected benefit use year, provided by contract holders when an account is established, represents the first year the Student Beneficiary is expected to enter college and/or turn 18 years old.

Number of Units Outstanding by Use Year		
Use Year	Expected Unit Value	Units Starting to be Used
2020*	$111	2,808,498
2021	117	803,298
2022	124	808,960
2023	130	790,208
2024	138	775,161
2025	145	765,091
2026	153	728,113
2027	162	603,848
2028	170	519,547
2029	179	367,904
2030	188	304,508
2031	197	239,347
2032	207	189,459
2033	217	148,081
2034	228	126,857
2035	240	114,429
2036	252	104,396
2037	264	66,296
2038	278	25,058
2039	291	8
2040	$306	0

**Includes contracts that already started using units.*

Change in Number of Outstanding Units	
Number of Outstanding Units at June 30, 2019[1]	10,418,088
New Units Purchased	505,222
Units Redeemed[2]	(517,310)
Units Refunded, Defaulted, or Downgraded[3]	(101,120)
Units Rolled Over to Other 529 Plans[4]	(15,905)
Other[5]	94
Number of Outstanding Units at June 30, 2020[1]	10,289,070

[1] GET reports two fewer outstanding units.

[2] Includes adjustments for unused distributions in prior fiscal year.

[3] Includes total units in refunded account. Unit downgrades are performed upon customer request.

[4] Includes rollovers to DreamAhead and other states' 529 plans.

[5] Includes other, unexplained changes.

DRAFT

BEST ESTIMATE RESULTS

ACTUARIAL LIABILITIES

The following table shows the actuarial liabilities (program obligations). The obligations are the sum of the present value of future unit redemptions and administrative expenses for all unredeemed units at June 30, 2020. The obligations are measured under a closed program and exclude tuition payments or administrative costs from new units purchased after June 30, 2020. Please see **Appendix A** for further details.

Present Value of Obligations	
(Dollars in Millions)	
Present Value of Unit Redemptions	$1,161
Present Value of Administrative Expenses	30
2020 Present Value of Obligations	**$1,190**
2019 Present Value of Obligations	**$1,108**

WA529 staff provide the expected administrative expenses of the program. They represent the anticipated expenses of the program for each year until all current outstanding units are redeemed based on our current assumptions. We then calculate the present value of those expenses. In the following table, we outline the development of the present value of this obligation along with the underlying expense values.

Development of Expenses		
Fiscal Year	**Administrative Expenses**	**PV of Expenses**
2021	$5,080,610	$4,964,526
2022	3,101,777	2,893,467
2023	2,384,925	2,123,873
2024	1,942,742	1,651,638
2025	1,481,079	1,202,054
2026	1,545,733	1,197,640
2027	1,545,548	1,143,195
2028	1,602,859	1,131,824
2029	1,657,369	1,117,246
2030	1,609,590	1,035,836
2031	1,665,747	1,023,365
2032	1,707,379	1,001,377
2033	1,755,924	983,149
2034	1,804,722	964,650
2035	1,854,034	946,070
2036	1,911,065	930,951
2037	1,772,135	824,127
2038	1,819,490	807,780
2039	1,867,851	791,647
2040	1,917,785	775,953
2041	1,829,017	706,479
2042	1,600,679	590,244
2043	1,320,783	464,948
2044	$1,345,906	$452,308
PV of Expenses		**$29,724,348**

Note: PV means Present Value.

DRAFT

BEST ESTIMATE RESULTS

ACTUARIAL LIABILITIES *continued*

The following table demonstrates actuarial gains and losses for program obligations. We use gain/loss analysis to compare actual changes to assumed changes in the assets and obligations. We also use this analysis to determine:

- The accuracy of our valuation model and annual processing;
- Why obligations and assets changed; and,
- The reasonableness of the actuarial assumptions.

Actuarial gains will increase funded status; actuarial losses will decrease funded status. Under a reasonable set of actuarial assumptions, actuarial gains and losses will offset over long-term experience periods. Please see the following section for the gains and losses for program assets.

Gain/(Loss) Analysis Change in Obligations by Source	
2019 Present Value of Obligations	**$1,108**
Changes in 2020	
Expected Change	**($31)**
Program Gains/Losses	
Tuition Payments and Account Changes*	$17
New Units Purchased or Contracted	$55
Other	($0)
Total Program Obligations Gains/Losses	**$71**
Additional Changes	
Tuition Growth Assumption Change**	$2
Investment Return Assumption Change	$38
Method Change	$0
Update of Administrative Expenses	$1
Total Additional Changes Gains/Losses	**$41**
Total Change in 2020	**$82**
2020 Present Value of Obligations	**$1,190**

Note: Totals may not agree due to rounding.

**Includes other unit changes such as refunds, conversions, and rollovers.*

***Includes the annual update to the unit payout value.*

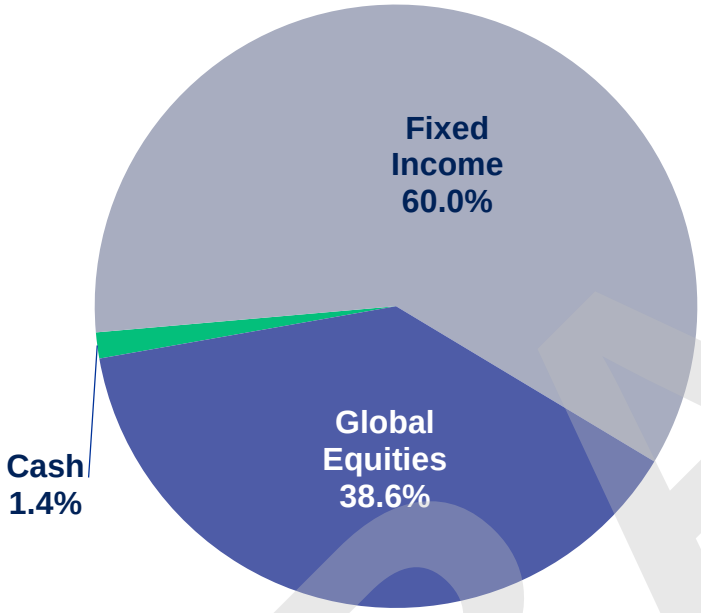
DRAFT

BEST ESTIMATE RESULTS

PROGRAM ASSETS

The chart below shows how GET program assets were invested at June 30, 2020. In late 2019, WSIB adopted a new asset allocation. The target asset allocation was moved to 40 percent global equity and 60 percent fixed income (the percentages were reversed under the prior allocation). Under current investment policy, the program is allowed to allocate up to 5 percent in cash with a long-term target of 0 percent. The figures displayed below reflect the new asset allocation.

2020 GET Fund Asset Allocation



Cash: Highly liquid, very safe investments that can be easily converted into cash, such as Treasury Bills and money-market funds.

Fixed Income: Securities representing debt obligations and usually having fixed payments and maturities. Different types of fixed income securities include government and corporate bonds, mortgage-backed securities, asset-backed securities, convertible issues, and may also include money-market instruments.

Global Equities: Shares of U.S. and non-U.S. corporations that trade on public exchanges or "over-the-counter." The ownership of a corporation is represented by shares that are claimed on the corporation's earnings and assets.

The following table shows the GET market fund value. The value of the fund includes the Market Value of Assets held by the WSIB along with the present value of the monthly contract receivables. We assume mid-valuation year timing on payments in and out of the fund for purposes of the valuation.

Market Fund Value	
(Dollars in Millions)	
Market Value of Assets at 6/30/2020	
Cash	$20
Global Equities	$563
Fixed Income	$874
Total Market Value of Assets	$1,458
Present Value of Monthly Contracts	$102
Total Market Fund Value	$1,559

DRAFT

BEST ESTIMATE RESULTS

PROGRAM ASSETS *continued*

The next two tables show reconciliations from last year to this year for the Market Value of Assets and Present Value (PV) of Monthly Contracts.

Change in Market Value of Assets	
(Dollars in Millions)	
2019 Market Value of Assets	**$1,355**
Changes in Net Asset Value	
Revenue	
Lump Sum Unit Purchases	$42
Custom Monthly Unit Purchases	$19
Investment Return	$100
Other Revenue	$0
Total Revenue	**$161**
Disbursements	
Refunds	($7)
Redemptions	($56)
Other Disbursements	$5
Total Disbursements	**($58)**
Net Cash Flow	**$103**
2020 Market Value of Assets	**$1,458**

Change in PV of Monthly Contract Receivables	
(Dollars in Millions)	
PV of Monthly Contracts at June 30, 2019	**$101**
Changes in PV Monthly Contracts	
Actual Payments Received in 2020	(18)
Interest Adjustment	5
Account Conversions*	(8)
PV of Monthly Contracts for New Units in 2020	20
Other**	1
Preliminary PV Receivables at June 30, 2020	**$100**
Assumption Changes or Program Changes	2
Total Changes in PV Monthly Contracts	**$1**
PV of Monthly Contracts at June 30, 2020	**$102**

**Conversion of Custom Monthly accounts to Lump-Sum accounts. Includes voluntary refunds.*

***Includes account downgrades, interest on advanced payments, and unexplained changes.*

DRAFT

BEST ESTIMATE RESULTS

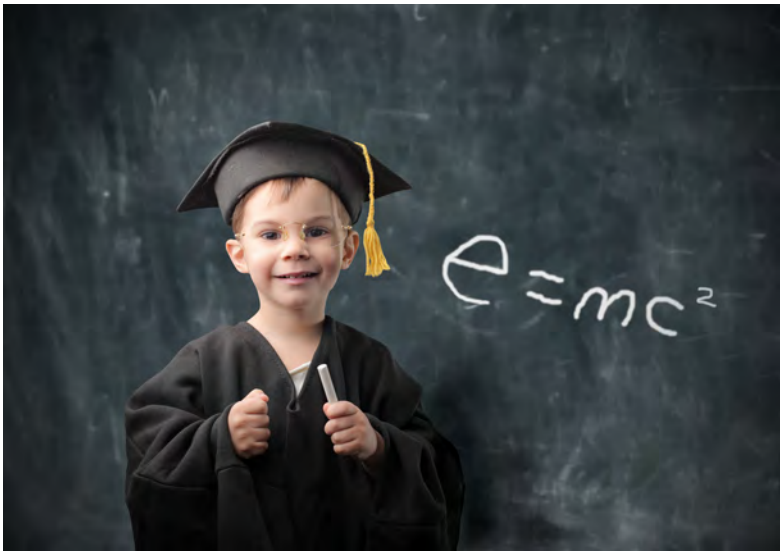
PROGRAM ASSETS *continued*

Similar to the program obligations, we measure actuarial gains and losses for the program assets as illustrated in the following table. The gain/loss on investment earnings represents the gain or loss on all investment income including investment gain/loss on contributions and disbursements.

Gain/(Loss) Analysis Change in Assets by Source	
2019 Market Value of Fund	**$1,456**
Changes in 2020	
Expected Change	**($11)**
Program Assets Gains/Losses	
Distributions	$27
Contributions	
Existing Contracts	($1)
New Unit Sales	$42
Contract Receivables	
Existing Contracts	($6)
New Unit Sales	$20
Investment Earnings	$31
Other	($0)
Total Program Assets Gains/(Losses)	**$112**
Additional Changes	
Investment Return Assumption Change*	$2
Total Change in 2020	**$104**
2020 Market Value of Fund	**$1,559**

Note: Totals may not agree due to rounding.

**Includes an update to the discount rate used for PV of receivables.*



DRAFT

BEST ESTIMATE RESULTS

PROGRAM ASSETS *continued*

The following table shows the actuarial fund value, or smoothed fund value. The actuarial fund value extends the recognition of annual investment gains and losses (returns above or below expected) in order to limit the volatility due to year-to-year market fluctuation. For the purposes of this calculation, we smooth each gain or loss over an eight-year recognition period and limit the resulting actuarial value of assets to within 30 percent of the actual market value of assets as of the valuation date. We then add the best estimate present value of receivables to get the actuarial fund value.

We use the market fund value based on the market value of assets to calculate the best estimate funded status. We provide the actuarial value of assets to help readers evaluate how much a single, point-in-time measurement impacts the program's assets and funded status. Please see the **Sensitivity of Best Estimate Results** section for a funded status calculation based on the actuarial fund value. The use of another asset valuation method may also be reasonable and could produce materially different results. We believe the selected approach (as noted in the prior paragraph) is reasonable given its intended use and may not be appropriate for other uses.

Calculation of Actuarial Fund Value			
(Dollars in Millions)			
a) Market Value at 6/30/2020			$1,458
Deferred Gains and (Losses)			
Program Year Ending	Years Remaining	Total Deferral	Remaining Deferral
6/30/2020	7	$29	$25
6/30/2019	6	($13)	($10)
6/30/2018	5	$20	$12
6/30/2017	4	$99	$50
6/30/2016	3	($150)	($56)
6/30/2015	2	($123)	($31)
6/30/2014	1	$245	$31
b) Total Deferral			$21
c) Market Value less Deferral 6/30/2020 (a - b)			$1,436
d) 70% of Market Value of Assets			$1,020
e) 130% of Market Value of Assets			$1,895
f) Actuarial Value of Assets			$1,436
g) PV of Receivables			$102
h) Actuarial Fund Value (f + g)			$1,538

DRAFT

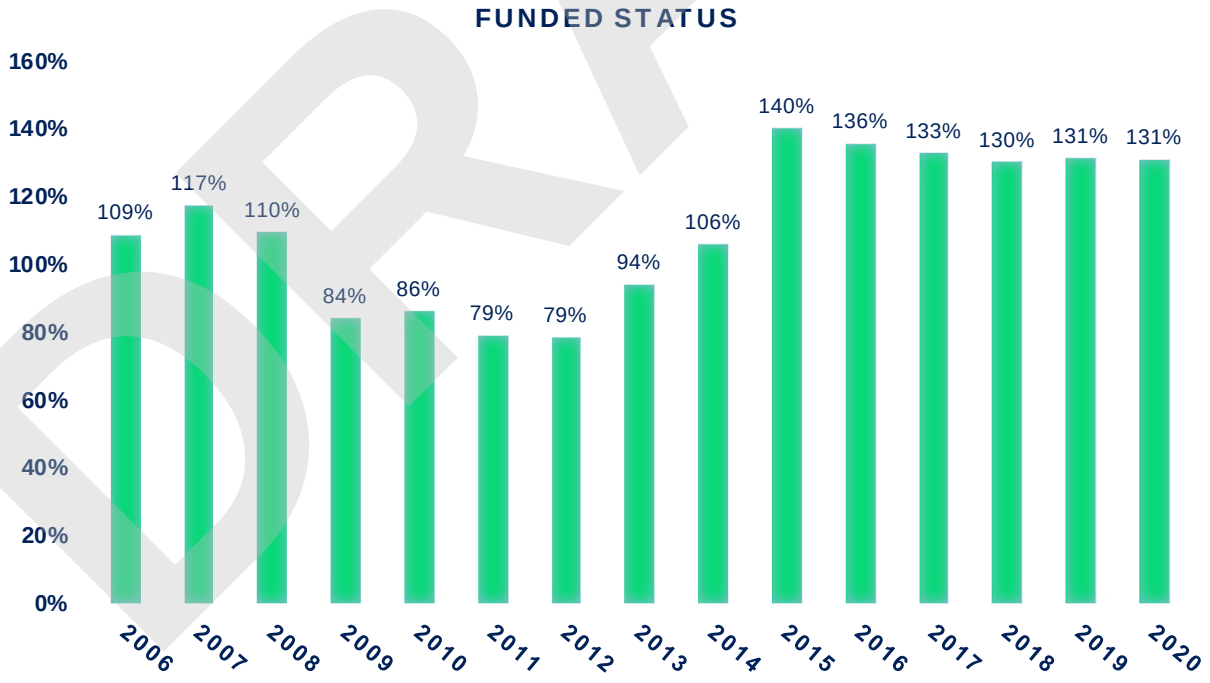
BEST ESTIMATE RESULTS

FUNDED STATUS

The funded status helps readers evaluate the health of the GET program at a single point in time. A history of funded status measured consistently over a defined period helps readers evaluate a plan's long-term ability to accurately assess and react to experience. A plan more/less than 100 percent funded is not automatically considered over-funded/at-risk. The following table calculates the program's funded status and reserve.

2020 Funded Status	
(Dollars in Millions)	
Obligations	
a) Present Value of Unit Redemptions	$1,161
b) Present Value of Administrative Expenses	$30
c) Present Value of Obligations (a+b)	$1,190
Market Fund Value	
d) Assets	$1,458
e) Present Value of Monthly Contract Receivables	$102
f) Present Value of Fund (d+e)	$1,559
Calculation of Funded Status	
g) Present Value of Fund (f)	$1,559
h) Present Value of Obligations (c)	$1,190
i) Ratio of Market Fund Value to Obligations (g/h)	131.0%
j) Reserve / (Deficit) (g-h)	$369

The following chart demonstrate the program's funded status history over the past 15 years. A full history of the program's funded status can be found in **Appendix B**.



DRAFT

BEST ESTIMATE RESULTS

FUNDED STATUS *continued*

The reserve/(deficit) indicates the excess/shortfall of the fund assets on hand to cover the program's obligations at the valuation date if all assumptions are realized. The reserve level can be interpreted similarly to the funded status.

A self-sustaining program that collects all cash inflows up front, like the GET program, may want to aim for a long-term reserve of approximately 15 percent (or 115 percent funded status) in order to protect against unexpected adverse outcomes over the life of the program. The program may require a reserve above 15 percent under future circumstances that vary from today's environment.

PROGRAM PROJECTIONS

The following table shows how the program is expected to fare beyond the valuation date, assuming no future unit sales other than those purchased through existing monthly payment contracts. Under a closed program scenario, all existing customers with unredeemed units can redeem those units under current program terms, but the program would sell no additional units.

Projection of Current Contracts Only (If all Assumptions are Realized)

(Dollars in Millions); EOY = End of Year

Fiscal Year Ending June 30	Funded Status	Unit Value[2]	Number of Units Used	EOY Obligation Value	EOY Market Fund Value	EOY MVA	EOY PV of Receivables	Net Cash Flow
2020[1]	131%	N/A	N/A	$1,190	$1,559	$1,458	$102	N/A
2021	134%	111	805,442	1,150	1,537	1,449	87	(8)
2022	137%	117	829,772	1,102	1,507	1,433	74	(17)
2023	141%	124	877,945	1,041	1,465	1,403	62	(30)
2024	146%	130	927,124	965	1,409	1,357	52	(46)
2025	153%	138	978,928	871	1,337	1,294	43	(63)
2026	161%	145	787,377	794	1,281	1,247	35	(47)
2027	172%	153	771,830	709	1,220	1,192	28	(55)
2028	186%	162	730,625	620	1,155	1,133	22	(59)
2029	206%	170	677,050	530	1,090	1,073	17	(60)
2030	232%	179	596,321	444	1,031	1,019	13	(55)
2031	268%	188	504,133	367	982	972	9	(46)
2032	314%	197	405,694	301	945	938	7	(34)
2033	376%	207	323,231	245	919	915	4	(23)
2034	455%	217	249,276	199	906	903	3	(12)
2035	565%	228	201,177	159	900	898	1	(5)
2036	721%	240	163,285	125	900	900	1	2
2037	965%	252	136,341	94	906	906	0	6
2038	*	264	111,931	66	917	917	0	11
2039	*	278	87,219	43	934	934	0	17
2040	*	291	62,014	24	958	958	0	24
2041	*	306	39,126	11	989	989	0	31
2042	*	321	18,213	4	1,029	1,029	0	39
2043	*	337	5,014	1	1,075	1,075	0	46
2044	*	354	2	0	1,124	1,124	0	50
2045	*	$372	0	$0	$1,178	$1,178	$0	$53

[1] *Please see **Participant Data** and **Program Assets** for actual experience in Fiscal Year 2020.*

[2] *Shown in Dollars (not in Millions).*

**Funded Status exceeds 1,000% due to very small obligation value.*

DRAFT

BEST ESTIMATE RESULTS

PROGRAM PROJECTIONS *continued*

The net cash flows used in the preceding table are based on expected inflows and outflows as illustrated below.

Projection of Current Contracts Only (If all Assumptions are Realized)						
(Dollars in Millions)						
		Cash Inflows			Cash Outflows	
Fiscal Year Ending June 30	Net Cash Flow	Monthly Contracts	Investment Return	State Contributions	Unit Use	Expense
2021	($8)	$19	$67	$0	($89)	($5)
2022	(17)	17	67	0	(97)	(3)
2023	(30)	15	66	0	(108)	(2)
2024	(46)	13	64	0	(121)	(2)
2025	(63)	11	62	0	(135)	(1)
2026	(47)	10	59	0	(114)	(2)
2027	(55)	8	57	0	(118)	(2)
2028	(59)	7	54	0	(118)	(2)
2029	(60)	6	51	0	(115)	(2)
2030	(55)	5	49	0	(107)	(2)
2031	(46)	4	46	0	(95)	(2)
2032	(34)	3	44	0	(80)	(2)
2033	(23)	2	43	0	(67)	(2)
2034	(12)	2	42	0	(54)	(2)
2035	(5)	1	42	0	(46)	(2)
2036	2	1	42	0	(39)	(2)
2037	6	0	42	0	(34)	(2)
2038	11	0	42	0	(30)	(2)
2039	17	0	43	0	(24)	(2)
2040	24	0	44	0	(18)	(2)
2041	31	0	45	0	(12)	(2)
2042	39	0	47	0	(6)	(2)
2043	46	0	49	0	(2)	(1)
2044	50	0	51	0	(0)	(1)
2045	$53	$0	$53	$0	$0	$0

We advise readers to exercise caution when using, distributing, or relying on the projection. As with any projection, these results will only remain accurate if all assumptions are realized. Furthermore, this projection represents current contracts only (no future unit sales) and assumes no future changes to current program provisions.

A large expected reserve develops under this projection because we assume the current reserve of $369 million will continue to grow with the long-term expected 4.75 percent rate of investment return each year. However, if the program is permanently closed or terminated, WSIB may change the program's asset allocation. That in turn may lead to a lower assumed rate of investment return. A lower assumed rate of return would increase the present value of program obligations and lower the program's reserve and funded status.

DRAFT

DRAFT

DRAFT

Sensitivity of Best Estimate Results

DRAFT

SENSITIVITY OF BEST ESTIMATE RESULTS

The best estimate results are sensitive to the key assumptions used in the valuation. In this section, we calculated the results after varying the assumed rates of investment return and tuition growth to illustrate the sensitivity of the results to these assumptions. We also show the sensitivity of the June 30, 2020, best estimate funded status using the actuarial fund value.

CLOSED PROGRAM SCENARIO SENSITIVITY

The following table shows the best estimate results under a closed program scenario. This scenario is based on current contracts only, assuming no new units are purchased in the future. This scenario is consistent with our best estimate results shown elsewhere in the report.

Sensitivity of Results to Key Assumptions							
Closed Program*							
(Dollars in Millions)	+1% Tuition	Best Estimate	-1% Tuition	-2% Return	-1% Return	Best Estimate	+1% Return
PV of Fund	$1,559	$1,559	$1,559	$1,568	$1,564	$1,559	$1,555
PV of Obligations	$1,263	$1,190	$1,124	$1,364	$1,272	$1,190	$1,117
Reserve/(Deficit)	$297	$369	$436	$205	$291	$369	$439
2020 Funded Status	123%	131%	139%	115%	123%	131%	139%
Projected Funded Status (as of June 30)							
2021	125%	134%	142%	116%	125%	134%	143%
2022	128%	137%	146%	117%	127%	137%	147%
2023	130%	141%	152%	119%	130%	141%	152%
2024	134%	146%	159%	121%	133%	146%	160%
2025	139%	153%	169%	124%	138%	153%	170%
2026	145%	161%	179%	128%	144%	161%	181%
2027	152%	172%	194%	132%	151%	172%	195%
2028	162%	186%	213%	138%	161%	186%	215%
2029	176%	206%	240%	146%	174%	206%	242%
2030	194%	232%	276%	156%	191%	232%	279%
2031	219%	268%	324%	170%	215%	268%	329%
2032	251%	314%	389%	188%	246%	314%	395%
2033	293%	376%	474%	212%	287%	376%	482%
2034	348%	455%	584%	242%	339%	455%	596%
2035	422%	564%	736%	283%	410%	564%	753%
2036	528%	721%	953%	342%	511%	721%	978%
2037	695%	965%	**	433%	669%	965%	**
2038	982%	**	**	587%	940%	**	**
2039	**	**	**	881%	**	**	**

Note: PV means Present Value.
**Based on current contracts only, no future unit sales.*
***Funded Status exceeds 1,000% due to very small obligation value.*

DRAFT

SENSITIVITY OF BEST ESTIMATE RESULTS

ACTUARIAL FUND VALUE SENSITIVITY

The following table compares the best estimate funded status calculated under the market fund value to the funded status calculated under the actuarial fund value.

Sensitivity to Market Fund Value		
Closed Program*		
(Dollars in Millions)	Best Estimate	Actuarial Fund Value
PV of Fund	$1,559	$1,538
PV of Obligations	$1,190	$1,190
Reserve/(Deficit)	$369	$348
Funded Status	131%	129%

Note: PV means Present Value.
**Based on current contracts only, no future unit sales.*

TERMINATED PROGRAM SCENARIO CASH FLOWS

The WA529 Committee or Legislature may decide to close or terminate the program in the future. We show the termination liability under RCW 28B95.090 and the corresponding expected cash flows if GET were to be terminated as of the valuation date. Under a termination scenario, all outstanding units outside four years of unit use would be refunded at the current unit value. All participants within four years of unit use could remain in the program and redeem units over the following ten years.

If program termination were to occur, we estimate the present value of obligations as of the valuation date would be $1.1 billion and the market fund value would be $1.5 billion, which would result in a reserve of approximately $400 million and a funded status of 136 percent. This represents the funded status if the program were terminated at the valuation date and before the immediate payout occurs. The decrease in liability (compared to the closed program scenario projection) is due to paying out a portion of the units sooner than expected at a lower payout value (after considering assumed future returns). The decrease in market fund value (compared to the closed program scenario projection) is due to a portion of the outstanding monthly contracts being canceled (since their use year is beyond the four-year window), resulting in lower than expected contract receivables.

DRAFT

SENSITIVITY OF BEST ESTIMATE RESULTS

TERMINATED PROGRAM SCENARIO CASH FLOWS *continued*

The following table shows these results.

Projection of Program Termination (If All Assumptions are Realized)								
(Dollars in Millions); EOY = End of Year								
Fiscal Year Ending June 30	Funded Status	Unit Value[1]	Number of Units Used	EOY Obligation Value	EOY Fund Value[2]	EOY MVA	EOY PV of Receivables	Net Cash Flow
2020	136%	N/A	N/A	$1,083	$1,470	$1,458	$12	N/A
2021	166%	111	4,507,002	617	1,022	1,015	7	(442)
2022	178%	117	829,772	544	968	965	3	(50)
2023	198%	124	877,945	456	901	899	1	(65)
2024	232%	130	927,002	352	818	818	0	(82)
2025	313%	138	978,702	230	717	717	0	(100)
2026	453%	145	633,070	145	656	656	0	(62)
2027	802%	153	471,454	76	611	611	0	(44)
2028	*	162	309,308	27	588	588	0	(24)
2029	*	$170	152,754	$0	$587	$587	$0	($0)

[1] *Shown in Dollars (not in Millions).*
**Funded Status exceeds 1,000% due to very small obligation value.*

The net cash flows used in the preceding table are based on expected inflows and outflows as illustrated below.

Projection of Program Termination (If All Assumptions are Realized)						
(Dollars in Millions)						
		Cash Inflows			Cash Outflows	
Fiscal Year Ending June 30	Net Cash Flow	Monthly Contracts	Investment Return	State Contributions	Unit Use	Expense
2021	($442)	$6	$57	$0	($500)	($5)
2022	(50)	4	46	0	(97)	(3)
2023	(65)	2	43	0	(108)	(2)
2024	(82)	1	40	0	(121)	(2)
2025	(100)	0	36	0	(135)	(1)
2026	(62)	0	32	0	(92)	(2)
2027	(44)	0	29	0	(72)	(2)
2028	(24)	0	28	0	(50)	(2)
2029	(0)	0	27	0	(26)	(2)

DRAFT

SENSITIVITY OF BEST ESTIMATE RESULTS

TERMINATED PROGRAM SCENARIO SENSITIVITY

Program termination may occur during periods of either low economic growth or a high tuition growth environment. Historically, lower rates of investment return correlate with higher tuition growth rates. If the program enters a termination scenario, WSIB may change the program's asset allocation to increase liquidity. In turn, a closed or terminated program scenario may lead to a lower assumed rate of investment return. A lower assumed rate of return would increase the present value of program obligations and lower the program's funded status. Below we show how our best estimate results under a terminated program change when assuming lower discount rates and higher tuition growth rates.

Sensitivity of Results to Key Assumptions			
Terminated Program*			
(Dollars in Millions)	Best Estimate	+1% Tuition & -1% Return	+1% Tuition & -2% Return
PV of Fund	$1,470	$1,470	$1,470
PV of Obligations	$1,083	$1,131	$1,159
Reserve/(Deficit)	$387	$339	$311
2020 Funded Status	136%	130%	127%
Projected Funded Status (as of June 30)			
2021	166%	154%	147%
2022	178%	163%	155%
2023	197%	178%	168%
2024	232%	205%	191%
2025	313%	266%	243%
2026	453%	372%	332%
2027	802%	635%	554%
2028	**	**	**
2029	**	**	**

Note: PV means Present Value.

**Program is terminated; all contracts with expected use year beyond four years immediately refunded.*

***Funded Status exceeds 1,000% due to very small obligation value.*

DRAFT

Appendices

DRAFT

DRAFT

Appendix A ★ Assumptions, Methods, and Data

The assumptions used in this report can be divided into two broad categories – economic and behavioral. We discuss the assumptions used in this valuation throughout the next two subsections. However, for more detailed and supporting information on these assumptions, please see the *2015 GET Experience Study*. This letter is available upon request.

ECONOMIC ASSUMPTIONS

The two key economic assumptions are expected investment returns and expected tuition growth. The next table shows what we have assumed for this valuation.

Key Economic Assumptions	
Investment Returns	
All Years	4.75%
Tuition Growth *(Excludes Differential Tuition)*	
2020-21	2.4%
2021-29	5.5%
2029-31+	5.0%

Expected investment returns are based on the new asset allocation, WSIB's 2019 CMAs, simulated returns over a 15-year period, and anticipated long-term market impacts from the current recession. We relied on the CMAs provided by WSIB as accurate and have reviewed them for reasonableness. We've implicitly assumed the current 40 percent global equity/60 percent fixed income portfolio will remain unchanged throughout the projection period. The expected investment returns, net of expenses, are used as the discount rate for expected program payments, expenses, and receivables as well as the investment returns in our closed program projections. For additional information on the program's assets and our return assumption, see the **Best Estimate Results** section and **Appendix B**.

We updated our tuition growth model with the *2015 GET Experience Study* to model short-term changes in tuition policy with long-term tuition growth trends. We use a tuition growth model, information from the most recently enacted state budget, and our professional judgment to set tuition growth rates. Our tuition growth model has three main structural components.

1. Long-Term Inflationary Growth — Represents the increase in total dollars spent on instruction. Over the last twenty years, this has increased by about 4.5 percent per year. We assume it will grow by 5.0 percent in the future. We estimate the total dollars required for the Cost of Instruction for undergraduate programs at the University of Washington. Consistent with the results of our recent experience study, we then increase that amount by an assumed long-term inflationary growth factor of 5 percent per year.

2. State Funding — Represents the increase or decrease in the percent of total dollars assumed to come from the state versus tuition. Historically, this percentage has decreased from approximately 80 percent (in 1990) to 37 percent (in 2020). This decrease has put upward pressure on tuition since tuition increased to compensate for lower levels of state funding. We assume state funding will continue to decline to approximately 30 percent starting in the next biennium and subsequently level out. As a result, we project that tuition will increase above long-term inflationary levels during the period when state funding is assumed to decrease. In Step 2, we assume every lost dollar of state support is replaced by an increased dollar from tuition. We use the resulting growth rates as the basis for Step 3.

DRAFT

Appendix A ★ Assumptions, Methods, and Data

3. Scaling Factor — Represents an adjustment to the increase or decrease in assumed tuition in response to a corresponding decrease or increase in state funding. For every dollar decrease (increase) in state funding, we scale the assumed tuition increases (decreases) by a fraction of that dollar, because past experience indicates that not every dollar of state funding is replaced by an increased dollar of tuition growth. Our scaling factor assumption is 75 percent. In Step 3 of the model, we adjust the tuition growth rates after state funding by our scaling factor assumption, but not below our long-term assumption of 5 percent. Lastly, we set the first two years of tuition growth rates consistent with the recently enacted state budget for higher education and smooth the growth rates for years thereafter.

We combine these three steps of the model to inform our expectations for the future and rely on professional judgment in setting the best estimate tuition growth assumptions.

Chapter 36, Laws of 2015, 3rd Special Legislative Session, also established a policy to limit resident, undergraduate tuition growth rates to no more than the annual growth rate in the median state wage. If future Legislatures continue this policy, we would expect future tuition growth rates closer to 3-4 percent per year. However, the current Legislature cannot obligate a future Legislature. The long-term sustainability of the current higher education budget is not certain, and past experience consistently demonstrates that higher education tuition policy changes typically remain for short-term periods consistent with business cycles. Because of historical experience, legislative past practice, and significant revenue shortfalls due to COVID-19 impacts, we have assumed tuition growth rates that we believe are more reflective of long-term practices and consistent with our expectations for the future. We will continue to monitor future tuition policy and update our tuition growth assumptions with actual tuition growth experience.

The program's funded status is highly sensitive to short-term changes in tuition growth. For example, under an alternate tuition scenario (as shown in the following table), we assume the recently enacted tuition policy changes hold indefinitely. Under that scenario, the funded status, measured at June 30, 2020, would rise from 131 percent to 152 percent and the reserve would increase from $369 million to $537 million.

The tuition growth assumption does not consider the potential impacts of differential tuition. The impact from differential tuition could vary based on how it interacts with the current contracts. If the payout value is tied to the highest rate of differential tuition, the tuition growth assumption would likely increase. However, if the payout value were tied to the lowest rate of differential tuition, the tuition growth assumption could decrease, as base tuition may not need to increase as fast with higher differential tuition making up the difference.

Tuition Growth Assumption Alternate Growth Scenario	
School Year	**Annual Tuition Growth**
2021-22	2.3%
2022-23	2.4%
2023-24	2.5%
2024-25	2.6%
2025-26	2.7%
2026-27	2.8%
2027-28	2.9%
2028-29	3.1%
2029-30	3.2%
2030-31	3.4%
2031-32+	3.5%

DRAFT

Appendix A ★ Assumptions, Methods, and Data

BEHAVIORAL ASSUMPTIONS

We've made the following assumptions for GET contract holders.

- **Rate of Redemption —** The following shows what percent of a contract holder's total units we expect will be used upon reaching college (or their "use year").

Redemption Rate	
All Years	20%

As a result of the last experience study, we removed the Rate of Monthly Payment Default and Rate of Refund from our model. We found those assumptions unnecessary (and not material) for the purposes of this measurement. However, those assumptions could be necessary for another measurement. Please see the *2015 GET Experience Study* for further details.

While this valuation does not consider the impact of future unit sales, **Appendix D** of this report outlines the best estimate unit price for the prior and upcoming enrollment periods, the price-setting guidelines used to determine the best estimate, and the unit price adopted by the WA529 Committee. The best estimate is based on the expected investment returns and tuition growth discussed in the Economic Assumptions subsection. We assumed that neither the Legislature nor the WA529 Committee will make changes to the program over the enrollment period.

MISCELLANEOUS

For purposes of the valuation, we assume mid-valuation year timing on payments in and out of the fund.

METHODS

We valued the current unredeemed units and asset values in the GET program by estimating the future tuition payments (cash outflow from unit redemptions), administrative expenses (cash outflow), and monthly contract payments (cash inflow). The estimation of future cash flows required assumptions about:

- When the contract holder will redeem their units (based on the reported "use year").
- What tuition will be in future years.
- What administrative expenses will be over time.
- The payment amount and payments due for each monthly contract.

We discounted these cash flows to today's value in order to calculate the plan's funded status at the valuation date. Discounting the cash flows to today's value requires an assumption for how invested money will grow over time. In this case, we've assumed a growth rate of 4.75 percent, which means $1 today is worth $1.0475 next year due to investment earnings. Discounting moves the opposite way and states that $1.0475 a year from now will be worth $1 today. Discounting all the cash flows to one common year allows for an apples-to-apples comparison of all cash flows.

DRAFT

Appendix A ★ Assumptions, Methods, and Data

DATA

We used the contract data file provided by WA529 staff. We relied on this data as accurate and complete, and valued each entry in the file. We did not perform an audit of this data but reviewed the data and believe it is reasonable for the purposes of our work. We used data entries such as:

- **Program Year** — The contract holder's entry year into the program.
- **Use Year** — When the contract holder expects to start using units for tuition (or other qualified expenses).
- **Payment Amount** — The monthly amount the contract holder owes on their payment plan.
- **Payments Due** — The number of monthly payments left on contract holder's monthly payment plan.
- **Units Outstanding** — The number of units the contract holder currently owns, and units still being paid for under a monthly payment plan.

To set our tuition growth assumption, we studied the historical tuition data in the following table. We also examined average tuition growth and standard deviation over different time periods.

Historical Tuition Growth

Year	Tuition Growth	Year	Tuition Growth
1982-83	11.0%	2002-03	16.0%
1983-84	11.2%	2003-04	7.0%
1984-85	0.0%	2004-05	6.6%
1985-86	22.7%	2005-06	6.8%
1986-87	0.0%	2006-07	6.9%
1987-88	7.9%	2007-08	6.8%
1988-89	3.8%	2008-09	6.8%
1989-90	1.7%	2009-10	13.1%
1990-91	6.9%	2010-11	13.1%
1991-92	11.5%	2011-12	19.0%
1992-93	3.4%	2012-13	15.2%
1993-94	12.4%	2013-14	0.0%
1994-95	14.8%	2014-15	0.0%
1995-96	3.9%	2015-16	(5.0%)
1996-97	4.0%	2016-17	(9.1%)
1997-98	3.9%	2017-18	2.1%
1998-99	4.0%	2018-19	2.1%
1999-00	3.7%	2019-20	2.3%
2000-01	3.4%	2020-21	2.4%
2001-02	7.1%		

Historical Tuition Growth

Time Period	Average	Standard Deviation
5-Years	(0.2%)	4.9%
10-Years	2.6%	8.5%
20-Years	5.7%	6.9%
39-Years	6.2%	6.4%

DRAFT

Appendix B ★ Assets

The table below provides information on the types of asset investments, or asset classes, and WSIB 2019 CMAs. In late 2019, WSIB adopted a new asset allocation. The target asset allocation was moved to 40 percent global equity and 60 percent fixed income (the percentages were reversed under the prior allocation). This resulted in a more conservative program portfolio. For additional information on the program's assets, see the **Best Estimate Results** section.

Capital Market Assumptions			
Asset	Return	Standard Deviation	Weight
Fixed Income	4.40%	6.00%	60%
Global Equities	8.50%	18.50%	40%
Portfolio	**6.04%**	**8.70%**	**100%**
Correlation	Fixed Income	Global Equities	
Fixed Income	1.00		
Global Equities	0.15	1.00	

The average 6.04 percent portfolio return is a one-year arithmetic return. When compounded over a 15-year period, the arithmetic return decreases to a 5.45 percent median geometric return.

In past valuations, we selected a best estimate assumption that approximated the 45th percentile of simulated annual returns over a 15-year period to represent a margin for "adverse deviation" given the large degree of uncertainty with future returns. Under the more conservative asset allocation, we no longer believe this margin is needed.

However, we believe the actions taken by the Federal Reserve in the wake of COVID-19 will result in lower investment yields over the next 15 years. This reduction could have a material impact on future returns for the GET portfolio due to the larger allocation to fixed income investments from the new investment policy.

Taking into consideration the more conservative asset allocation, the removal of the margin for "adverse deviation", and future expectations around long-term economic impacts from COVID-19, we used our professional judgment to select an assumed 4.75 percent rate of investment return per year (down from 5.25 percent). We will continue to monitor the program's investment returns, investment policy, and will review and potentially update the return assumption after we receive updated CMAs from WSIB in the Spring of 2021.

DRAFT

Appendix B ★ Assets

The following tables shows the historical rates of investment return and program funded status for the GET trust fund since the inception of the program.

Historical Investment Returns	
Fiscal Year	Investment Return
1999*	4.96%
2000	10.25%
2001	(1.63%)
2002	(2.79%)
2003	7.56%
2004	16.00%
2005	10.07%
2006	8.94%
2007	14.77%
2008	(0.70%)
2009	(16.02%)
2010	12.68%
2011	20.46%
2012	0.07%
2013	9.59%
2014	16.36%
2015	0.83%
2016	0.61%
2017	10.92%
2018	6.35%
2019	5.29%
2020	7.40%

**Represents 9-month return.*

Historical Funded Status	
Fiscal Year	Funded Status
1999	110.1%
2000	113.4%
2001	104.9%
2002	89.6%
2003	98.4%
2004	104.5%
2005	108.1%
2006	108.8%
2007	117.4%
2008	109.5%
2009	84.2%
2010	86.2%
2011	79.1%
2012	78.5%
2013	94.1%
2014	105.8%
2015	140.1%
2016	135.6%
2017	132.8%
2018*	130.2%
2019*	131.3%
2020	131.0%

**Includes the impacts of ESB 6087 (C 188, L 2018).*

DRAFT

Appendix C ★ Contract Data

The following tables summarize units and contracts by the contract enrollment year and initial contract use year.

Number of Units Sold by Unit Price		
Enrollment Year	Unit Price	Units Sold
1998-99	$35	1,374,095
1999-00	38	615,327
2000-01	41	523,702
2001-02	42	2,463,500
2002-03	52	2,099,531
2003-04	57	1,896,635
2004-05	61	2,108,360
2005-06	66	2,146,191
2006-07	70	2,339,431
2007-08	74	2,102,305
2008-09	76	3,177,699
2009-10	101	2,624,367
2010-11	117	2,697,696
2011-12	163*	1,503,962**
2012-13	172*	1,038,773
2013-14	172*	741,701
2014-15	172*	618,367
2015-16***	-	0
2016-17***	-	0
2017-18	113	770,665
2018-19	113	639,646
2019-20	$121	505,222

**Price includes amortization component that was subsequently refunded.*

***Restated number of units sold.*

****Unit sales suspended.*

DRAFT

Appendix C ★ Contract Data

Number of Units Outstanding by Use Year		
Use Year	Expected Unit Value	Units Starting to be Used
2020*	$111	2,808,498
2021	117	803,298
2022	124	808,960
2023	130	790,208
2024	138	775,161
2025	145	765,091
2026	153	728,113
2027	162	603,848
2028	170	519,547
2029	179	367,904
2030	188	304,508
2031	197	239,347
2032	207	189,459
2033	217	148,081
2034	228	126,857
2035	240	114,429
2036	252	104,396
2037	264	66,296
2038	278	25,058
2039	291	8
2040	$306	0

**Includes contracts that already started using units.*

Number of Contracts Outstanding by Use Year		
Use Year	Expected Unit Value	Contracts Starting to be Used
2020*	$111	20,578
2021	117	4,058
2022	124	4,165
2023	130	4,130
2024	138	4,260
2025	145	4,237
2026	153	4,189
2027	162	3,653
2028	170	3,357
2029	179	2,622
2030	188	2,400
2031	197	2,074
2032	207	1,736
2033	217	1,379
2034	228	1,152
2035	240	1,112
2036	252	1,067
2037	264	723
2038	278	260
2039	291	1
2040	$306	0

**Includes contracts that already started using units.*

DRAFT

Appendix D ★ Price-Setting Guidelines

In 2011, the GET Committee adopted new price-setting guidelines that determine how we price future units. These guidelines address the new tuition-setting policy established by the Legislature at that time and were intended to return the program to a fully funded status. The price-setting guidelines adopted in 2011 include the following four parts:

- **Expected Cost —** Covers the expected cost of future tuition and applicable state-mandated fees.
- **Expenses —** Contributes to the payment of administrative expenses. We calculate this amount as the present value of expected administrative expenses per outstanding unit and adjust forward for one year of interest.
- **Reserve —** Covers unexpected future costs such as above-expected tuition growth or below-expected investment returns. This component can be increased or decreased to alter the probability that a unit will ever create an unfunded liability in the future.
- **Amortization —** An optional component that covers unexpected past costs from significant program or policy changes. This component did not apply to the most recent price-setting analysis.

The WA529 Committee, at their September 2020 meeting, adopted a new unit price of $133 for future sales starting on November 1, 2020. For further details, including sensitivity and risk analysis, please see the presentation titled, *2020-21 GET Unit Price-Setting*, in the WA529 September meeting material located on the WSAC website.

GET Unit Price Information			
	2020-21 Enrollment		2019-20 Enrollment
Unit Price	Best Estimate Range*	Best Estimate	Best Estimate
Expected Cost		$116.91	$102.86
Expenses		3.03	2.78
Reserve		17.99	15.85
Amortization		N/A	N/A
Total Unit Price	$129.00 - $147.00	$137.00	$121.00
Unit Price Adopted**		$133.00	$121.00

Note: Totals may not agree due to rounding.

**Best estimate range based on tuition growth rates shown in this report.*

***Unit price adopted by the WA529 Committee.*

DRAFT

Appendix D ★ Price-Setting Guidelines

To determine the best estimate unit price and range, we estimate the future payout value of a single unit based on assumptions for future tuition growth and holding periods for the unit (the duration between purchase and redemption). We calculate the present value of this unit by discounting the future payout value using the expected rate of investment return.

This calculation is performed using economic assumptions for tuition growth and investment return matching those used in the valuation. Please see **Appendix A** for more information.

The holding periods for the unit are based on demographic assumptions about new enrollments. We use the new entrant profile outlined in the table below to estimate the present value cost of future unit payouts associated with the sale of a single unit. Please see the *2015 GET Experience Study* for further details.

Future Purchaser Cohort Assumption					
Length in Program (Years)	% Lump Sum	Lump Sum Units Purchased	% Monthly Payment Plan	Monthly Payment Plan Units Purchased	Length of Monthly Payment Plan (Months)
2	0.2%	94	0.0%	0	0
3	1.6%	78	0.2%	76	25
4	1.0%	77	0.4%	79	37
5	1.5%	82	0.7%	78	48
6	1.9%	80	0.9%	101	59
7	2.2%	89	1.2%	93	69
8	2.7%	99	1.3%	106	80
9	2.9%	93	1.4%	113	92
10	3.1%	84	1.5%	110	102
11	3.0%	97	1.7%	108	114
12	3.3%	87	1.8%	119	125
13	3.6%	89	1.7%	120	132
14	5.0%	79	2.5%	114	144
15	4.8%	62	2.2%	111	156
16	5.5%	63	2.6%	115	163
17	6.5%	56	2.7%	121	175
18	12.0%	59	4.2%	123	190
19	8.3%	76	3.9%	133	199
20	0.0%	7	0.0%	133	112
Total	69.1%	74	30.7%	115	142

DRAFT

DRAFT

Office of the State Actuary

"Supporting financial security for generations."

2020 ACTUARIAL VALUATION REPORT

Guaranteed Education Tuition Program

NOVEMBER 2020