Office of the State Actuary

"Securing tomorrow's pensions today."

September 28, 2012

Senator Rodney Tom
Chair
GET Legislative Advisory Committee
PO Box 40448
Olympia, WA 98504-0448

RE: ACTUARIAL ANALYSIS OF ALTERNATE TUITION GROWTH – OPTION J

At your request, we performed preliminary actuarial analysis on the potential impacts on the Guaranteed Education Tuition (GET) program from alternate tuition growth assumptions that result for hypothetical increases in the percentage of state funding for higher education. We understand this analysis will complement other actuarial analysis that demonstrates the impacts to GET from "differential tuition*" – an alternative policy approach for increasing funding for higher education.

Our most recent analysis of GET assumes the current percentage of state funding for higher education will drop from about 29 percent (for the 2013-14 school year) to 24 percent over the next six years.

The purpose of this analysis is to demonstrate the potential impacts to GET from assuming two alternate tuition growth paths that result from the following hypothetical state funding scenarios.

- The current percentage of state funding remains constant (hereafter referred to as "state funding remains constant").
- The current percentage of state funding increases to 40 percent over the next six years.

The results of our analysis are highly sensitive to assumed future purchaser behavior and future tuition growth. We did not have sufficient time to complete a comprehensive review of how these state funding scenarios may affect our current assumptions. For these reasons, this analysis demonstrates potential impacts under two defined scenarios only and does not represent our best-estimate analysis.

** For purposes of this analysis, differential tuition refers to a tuition-setting policy where rates of resident, undergraduate tuition vary by an institution's programs, campuses, courses, or students.*

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Summary of Results			
(Dollars in Millions – Except for GET Unit Price)	Current Assumptions	State Funding Remains Constant	State Funding Increases to 40% Over 6 Years
Current GET Unit Price	$172	$163	$142
Unfunded Liability	$631	$473	$138
Chance of State Contribution over 50 years	1.00%	0.60%	0.20%
Worst Case 50-Year State Contributions	$1,852	$1,563	$854
Chance of Purchaser Experiencing Negative Return	3.00%	3.50%	4.70%
Chance of Average Annual Sales Below 750,000 Units	18.30%	16.50%	12.40%
Average Expected Annual Units Sold (Next 20 Years)	936,803	965,334	1,045,474

Please see the rest of this letter for further details and supporting information.

Impact on GET Program Status

When we update the current status of the GET program to apply the alternate tuition growth scenarios defined above, the expected cost of every unredeemed GET unit that has already been sold immediately decreases from lower assumed future tuition growth (please see the Appendix for details on how the tuition growth assumptions changed in this analysis). However, the assets collected from past purchasers, plus the associated investment returns, remain unchanged.

The following table displays the impacts on GET's current liability, assets, unfunded liability, and funded status from the scenarios defined above.

Impact on GET Program Status*			
(Dollars in Millions)	Current Assumptions	State Funding Remains Constant	State Funding Increases to 40% Over 6 Years
Present Value of all GET Contracts	$2,942	$2,784	$2,449
Market Value of Assets	$2,311	$2,311	$2,311
Unfunded Liability	$631	$473	$138
Funded Status	79%	83%	94%

**At June 30, 2012.*

Current GET Price-Setting Guidelines

The GET Committee adopts price-setting guidelines (how we price future units) to manage the risks of the program. The current GET unit price includes the following four components:

- **Expected Cost** – Covers the expected cost of future tuition and certain administrative expenses.

- **Expenses** – Covers the GET program's annual operating expenses.
- **Reserve** – Covers unexpected future costs such as above-expected tuition growth or below-expected investment returns. The current price-setting guidelines call for a 15 percent reserve. This component can be increased or decreased to alter the probability that a unit will ever create unfunded liability in the future.
- **Amortization** – An optional component that covers unexpected past costs from significant program or policy changes. In 2011, the committee established a one-time 30-year amortization of the unfunded liability measured at June 30, 2011. It is important to collect amortization payments for the entire planned period. Ending the amortization sooner could effectively result in the use of reserve dollars (dedicated for future unexpected costs) for past unexpected losses.

Impact On GET Unit Price

When we update the current status of the GET program to apply the alternate tuition growth scenarios defined above and apply the current price-setting guidelines, we observe the following changes to the GET unit price.

Impact on GET Unit Price

Category	Current Assumptions	State Funding Remains Constant	State Funding Increases to 40% Over 6 Years
Unit Price			
Expected Cost	$127.66	$119.80	$101.54
Expenses	5.33	5.14	4.80
Reserve	19.95	18.74	15.95
Amortization	19.73	19.73	19.73
Total Unit Price	**$172.00**	**$163.00**	**$142.00**

Note: Total unit price rounded down.

The expense component decreases by less than the percent decrease in the expected cost for these scenarios because it is collected over assumed future purchases. As the price premium decreases (total unit price ÷ unit value of $117.82), we expect more future purchases. Therefore, the price of the expense component decreases to collect the same total dollars over more assumed future purchases. The amortization component does not change in these scenarios because we assume the GET Committee will retain the current amortization component until the program's funded status reaches 115 percent.

Impact On Program Risk

The program's future success depends on maintaining a delicate balance between risk and affordability. In this case, "risk" represents the risk of the state needing to make a contribution to the program and "affordability" represents the affordability of future GET units. Improving one risk will typically increase the risk of the other.

The following table summarizes how key risk metrics change under the defined scenarios.

Key Risk Metrics

Risk Category	Current Assumptions	State Funding Remains Constant	State Funding Increases to 40% Over 6 Years
Chance of State Contribution over 50 years	1.0%	0.6%	0.2%
Worst Case 50-Year State Contributions *(Dollars in Millions)*	$1,852	$1,563	$854
Chance of Funded Status Under 50% over 50 years	21.7%	16.3%	7.7%
Chance of Purchaser Experiencing Negative Return*	3.0%	3.5%	4.7%
Chance of Average Annual Sales Below 750,000 Units	18.3%	16.5%	12.4%
Average Expected Annual Units Sold (Next 20 Years)	936,803	965,344	1,045,474

**The chance of a purchaser experiencing a negative return increases with lower assumed tuition growth because the amortization component, which does not benefit the purchaser, becomes a larger percentage of the total unit price.*

When we apply the current price-setting guidelines, we expect the tuition growth decreases under the defined scenarios (which lead to lower future unit prices) will increase future unit sales by about 3 and 12 percent respectively. With greater future sales, the GET program collects more future dollars to protect against future adverse experience and to recover from past losses. As a result, the risks to the program generally decrease. With lower assumed future tuition increases, we also expect lower future program payouts. This lowers the chance and amount of state contributions in the future. We observed a decrease in both the chance and amount of state contributions to the program over the next 50 years.

Actuarial Certification

We prepared this preliminary analysis to assist the Legislature in evaluating the potential impacts of alternate tuition growth assumptions on the GET program under two defined state funding scenarios. Please do not use this analysis for other purposes.

This analysis involves calculations that require assumptions about future economic and demographic events. Actuarial Standards of Practice (ASOP) for prepaid tuition programs have not been defined within the actuarial profession. We used the ASOPs for pensions where possible to guide our analysis of GET. We believe that the assumptions, methods, and calculations used in this analysis 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 letter. The use of another set of assumptions and methods, however, could also be reasonable and could produce materially different results.

Since the analysis is based on assumptions about future events, actual results will differ to the extent that future experience differs from those assumptions. Significant differences between the actual and assumed future enrollments will impact the results. This analysis will need to be updated in the future if the Legislature enacts either major reform to current tuition policy or other changes to GET.

The GET Program staff provided the participant, asset, and historical data to us. The Washington State Investment Board (WSIB) also provided recent asset data to us. We checked the data for reasonableness as appropriate based on the purpose of this analysis. An audit of the data was not performed. We 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 analysis.

We advise readers of this analysis 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 communication as a whole. Distribution of, or reliance on, only parts of this analysis could result in its misuse and may mislead others.

The analysis in this letter will become outdated very quickly. Please replace this analysis with any future actuarial analysis.

Consistent with the actuarial Code of Professional Conduct, I (Matthew Smith) must disclose any potential conflict of interest. I have purchased units in GET; however, this does not impair my ability to act fairly. I have performed all analysis without bias or influence. The GET Committee contracted with OSA to perform actuarial analysis for the GET Legislative Advisory Committee, and I supervised the actuarial analysis performed.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein and are available to provide extra guidance and explanations as needed.

Sincerely,

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

Troy Dempsey, ASA, EA, MAAA
Actuary

cc: Betty Lochner, Director
Guaranteed Education Tuition
Larry Lee, Deputy Director
Guaranteed Education Tuition

Appendix – Data, Assumptions and Methods

Data We Used

The data and assets we used are consistent with the data and assets disclosed in the *June 30, 2012, GET Actuarial Valuation Report (GAVR).*

Assumptions We Made

Most of the assumptions we made are consistent with the assumptions disclosed in the GAVR. We made the following assumption changes to complete this analysis:

We assumed the GET Committee would lower the price of a GET unit consistent with the decrease in expected tuition from the alternate tuition growth assumptions. Should the committee decide to hold the current unit price constant, or adopt different price-setting guidelines under these hypothetical scenarios, the results of our analysis would change.

We assumed that the GET Committee would retain the current amortization until the program's funded status reaches 115 percent.

For purposes of these scenarios, we changed the tuition growth rates as displayed below.

Tuition Growth			
School Year	Current Assumptions	State Funding Remains Constant	State Funding Increases to 40% Over 6 Years
2013-14	12.0%	12.0%	12.0%
2014-15	10.0%	7.0%	3.5%
2015-16	10.0%	7.0%	3.5%
2016-17	8.0%	7.0%	3.5%
2017-18	5.5%	5.5%	2.0%
2018-19	5.5%	5.5%	1.7%
2019-20+	5.5%	5.5%	5.5%

We used the assumption development method described in the GAVR, except we changed the assumed state funding percentage for each scenario as shown below.

Tuition Growth Assumption Structure - State Funding Remains Constant						
(Dollars in Thousands)		Step 1 – Inflation		Step 2 - State Funding		
School Year	Total Dollars	Inflationary Growth	Assumed State %	State Dollars	Tuition Dollars	Tuition Growth After State Funding
2011-12	$721,922		36.3%	$318,522	$403,400	
2012-13	686,000		30.9%	212,000	474,000	17.5%
2013-14	725,510	5.8%	28.9%	209,465	516,045	8.9%
2014-15	765,413	5.5%	28.9%	220,986	544,427	5.5%
2015-16	807,511	5.5%	28.9%	233,140	574,371	5.5%
2016-17	851,924	5.5%	28.9%	245,962	605,961	5.5%
2017-18	898,780	5.5%	28.9%	259,490	639,289	5.5%
2018-19	948,213	5.5%	28.9%	273,762	674,450	5.5%
2019-20	1,000,364	5.5%	28.9%	288,819	711,545	5.5%
2020-21	1,055,384	5.5%	28.9%	304,704	750,680	5.5%
2021-22	1,113,430	5.5%	28.9%	321,463	791,967	5.5%
2022-23	1,174,669	5.5%	28.9%	339,144	835,526	5.5%
2023-24	1,239,276	5.5%	28.9%	357,796	881,479	5.5%

**2012 through 2014 data provided by UW.*

Tuition Growth Assumption Structure - State Funding Remains Constant						
Step 3 - Peer Catch Up						
School Year	Peer Funding (per FTE)	Peer Funding Growth	UW Funding (per FTE)	UW Funding Growth	UW Funding as % of Peer	Tuition Growth After State Funding & Peer Catch Up
2011-12	$28,537	5.50%	$24,902	7.00%	87%	
2012-13	30,106	5.50%	25,936	4.15%	86%	16.0%
2013-14	31,762	5.50%	28,140	8.50%	89%	12.0%
2014-15	33,509	5.50%	30,110	7.00%	90%	7.0%
2015-16	35,352	5.50%	32,218	7.00%	91%	7.0%
2016-17	37,296	5.50%	34,473	7.00%	92%	7.0%
2017-18						5.5%

Tuition Growth Assumption Structure - State Funding Increases to 40% Over 6 Years						
(Dollars in Thousands)	Step 1 – Inflation			Step 2 - State Funding		
School Year	Total Dollars	Inflationary Growth	Assumed State %	State Dollars	Tuition Dollars	Tuition Growth After State Funding
2011-12	$721,922		36.3%	$318,522	$403,400	
2012-13	686,000		30.9%	212,000	474,000	17.5%
2013-14	725,510	5.8%	28.9%	209,465	516,045	8.9%
2014-15	765,413	5.5%	31.2%	238,590	526,823	2.1%
2015-16	807,511	5.5%	33.4%	269,882	537,629	2.1%
2016-17	851,924	5.5%	35.6%	303,467	548,457	2.0%
2017-18	898,780	5.5%	37.8%	339,482	559,298	2.0%
2018-19	948,213	5.5%	40.0%	379,285	568,928	1.7%
2019-20	1,000,364	5.5%	40.0%	400,146	600,219	5.5%
2020-21	1,055,384	5.5%	40.0%	422,154	633,231	5.5%
2021-22	1,113,430	5.5%	40.0%	445,372	668,058	5.5%
2022-23	1,174,669	5.5%	40.0%	469,868	704,801	5.5%
2023-24	1,239,276	5.5%	40.0%	495,710	743,566	5.5%

**2012 through 2014 data provided by UW.*

Tuition Growth Assumption Structure - State Funding Increases to 40% Over 6 Years						
Step 3 - Peer Catch Up						
School Year	Peer Funding (per FTE)	Peer Funding Growth	UW Funding (per FTE)	UW Funding Growth	UW Funding as % of Peer	Tuition Growth After State Funding & Peer Catch Up
2011-12	$28,537	5.50%	$24,902	7.00%	87%	
2012-13	30,106	5.50%	25,936	4.15%	86%	16.0%
2013-14	31,762	5.50%	28,140	8.50%	89%	12.0%
2014-15	33,509	5.50%	30,110	7.00%	90%	3.5%
2015-16	35,352	5.50%	32,218	7.00%	91%	3.5%
2016-17	37,296	5.50%	34,473	7.00%	92%	3.5%
2017-18						2.0%
2018-19						1.7%
2019-20						5.5%

Methods We Used (How We Applied The Assumptions)

The methods we use are consistent with the methods disclosed in the GAVR.