

# Nevada Prepaid Tuition Program

Actuarial Valuation Report

As of June 30, 2019





October 30, 2019

The Honorable Zach Conine  
Treasurer of the State of Nevada  
Capitol Building  
Carson City, Nevada 89701

Attention: Ms. Sheila A. Salehian, Deputy Treasurer

**Re: Nevada Prepaid Tuition Program Actuarial Valuation as of June 30, 2019**

Dear Treasurer Conine:

Gabriel, Roeder, Smith & Company ("GRS") has performed an actuarial valuation of the Nevada Prepaid Tuition Program (the "Program") as of June 30, 2019. The purpose of this actuarial valuation is to evaluate the financial status of the Program as of June 30, 2019.

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

- A comparison of the actuarial present value of the obligations for prepaid tuition contracts purchased through June 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 Nevada State Treasurer's Office and is intended for use by the Treasury and those designated or approved by the Treasury. This report may be provided to parties other than the Treasury only in its entirety and only with the permission of the Treasury. This report should not be relied on for any purpose other than the purpose described above. GRS is not responsible for unauthorized use of this report.

The valuation results set forth in this report are based upon data and information, furnished by the Program, concerning Program benefits, financial transactions, and beneficiaries of the Program. We reviewed this information for internal and year-over-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the Program. Further, the data and information provided is through June 30, 2019, and does not reflect subsequent market changes.

There are currently no Actuarial Standards of Practice that specifically refer to prepaid tuition plans. We have followed the guidance from the Actuarial Standards of Practice on pensions due to their similar nature.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The major actuarial assumptions used in this analysis were adopted by and are the responsibility of the Program. We last performed a detailed experience study following the June 30, 2017 Actuarial Valuation. See the assumption letter dated June 7, 2019 for the most recent review of assumptions used in this report. We believe the assumptions are reasonable for the purpose of the measurement and are in compliance with actuarial standards regarding pension calculations, and consequently, for the Program.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Program 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. It is not possible or practical to consider every possible contingency because 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 the Program. GRS makes no representations or warranties to any person participating in or considering participation in the Program. Current and future participants should be aware that the promises of the Program will only be met if the assets of the Program 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 Nevada Prepaid Tuition Program as of June 30, 2019.

The term "sound" or "actuarially sound" is not explicitly defined in the actuarial standards. To the extent it is used in this report, it refers to the situation where either:

- (1) assets meet or exceed liabilities on the valuation date; or
- (2) assets are expected to meet or exceed liabilities at a future date based on the measurements on the valuation date and the expected future revenue based on the Program's Funding Policy Guideline.

James R. Sparks is a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing individuals are independent of the plan sponsor.

Respectfully submitted,



Kenneth G. Alberts



James R. Sparks, ASA, MAAA

KGA/JRS:rmn



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## **SECTION A**

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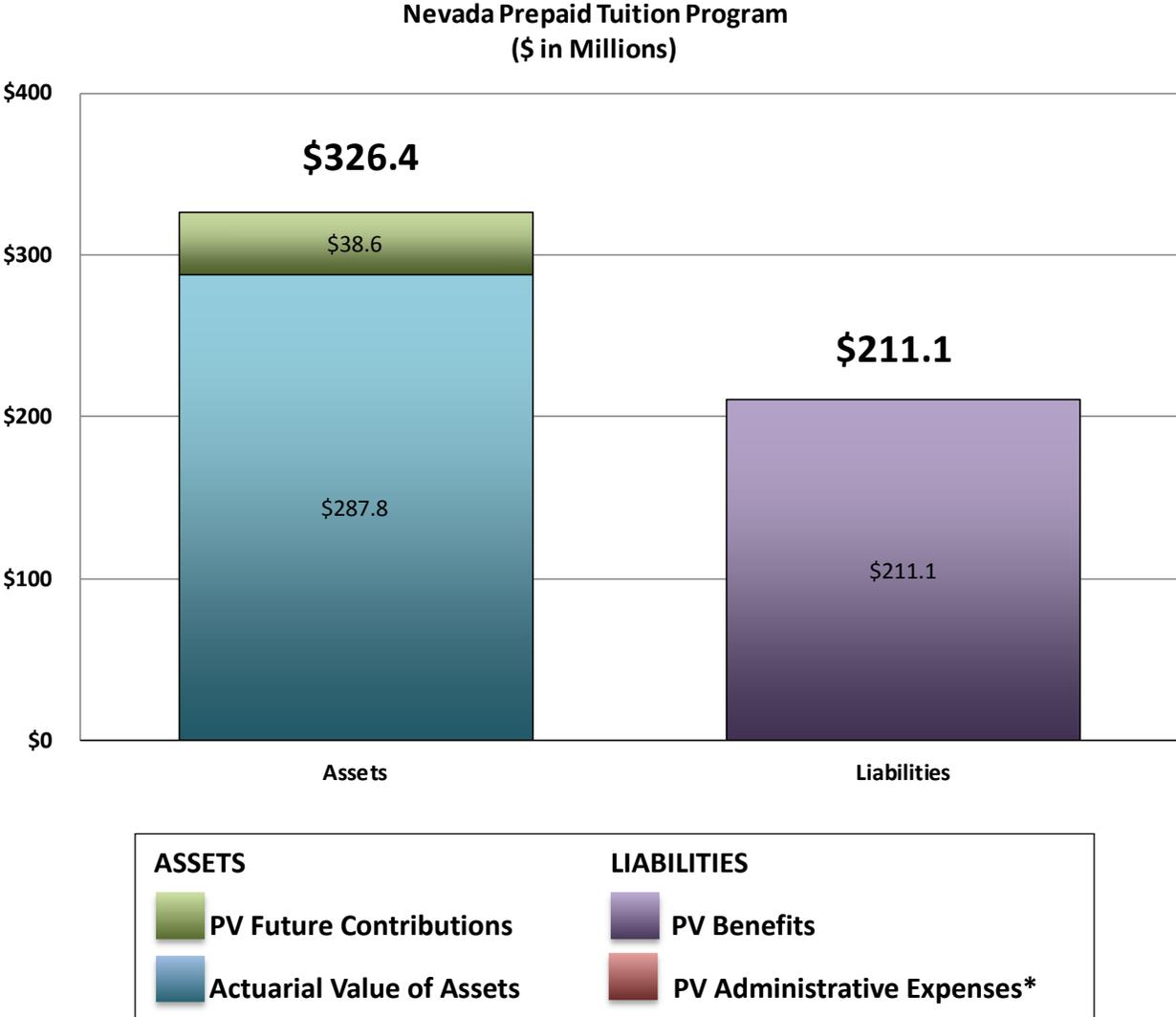
### **EXECUTIVE SUMMARY**

## Summary of Results

Valuation Date:	June 30, 2019	June 30, 2018
<b>Membership Summary:</b>		
Counts		
Contract Payments in Progress	3,486	3,668
Contract Payments Fully Paid	5,198	5,175
Delinquent in Contract Payments	368	358
Benefit Payments in Progress	2,936	2,927
Deferred Benefits	317	313
<b>Total</b>	<b>12,305</b>	<b>12,441</b>
<b>Assets</b>		
Actuarial Value of Assets	\$ 287,753,627	\$ 268,493,377
Present Value of Future Contract Payments	38,601,915	40,771,772
<b>Total</b>	<b>\$ 326,355,542</b>	<b>\$ 309,265,149</b>
Rate of Return on Actuarial Value of Assets for Fiscal Year Ended June 30	6.38%	6.11%
Actuarial Liabilities (Present Value of Future Tuition Payments, Refunds and Fees)	\$ 211,104,774	\$ 217,791,646
Surplus/(Deficit)	\$ 115,250,768	\$ 91,473,503
Funded Ratio*	154.6%	142.0%

\* The Funded Ratio is the ratio of the Actuarial Value of Assets to actuarial liabilities as defined in the Program's Funding Policy Guideline. This ratio may not be appropriate for determining the Program's settlement costs. This ratio is appropriate for determining the need for future contributions from sources other than payments due from current contracts. A ratio above 100% indicates that additional future contributions from sources other than current contracts are not currently needed to cover liabilities for current contracts under the current set of assumptions. The funded status as of June 30, 2019 would be 160.8% if the Market Value of Assets was used. The rate of return on a Market Value basis for the 2019 fiscal year was 6.41%.

# Summary of Assets and Liabilities as of June 30, 2019



*\*Present Value of Administrative Expenses is shown as zero, assuming administrative expenses continue to be paid from the College Savings Endowment Fund.*

## Funded Status as of June 30, 2019

Actuarial Present Value of Future Tuition Payments, Fees and Expenses	\$211,104,774
Actuarial Value of Assets (Including the Present Value of Installment Contract Receivables)	\$326,355,542
<b>Surplus/(Deficit) as of June 30, 2019</b>	<b>\$115,250,768</b>

## Change in Surplus/(Deficit)

	Surplus/(Deficit)
(1.) Value as of June 30, 2018	\$ 91,473,503
(2.) Contract Payments	\$ -
(3.) Admin Fees net of Admin Contributions <sup>^</sup>	\$ -
(4.) Interest on (1.), (2.), and (3.) at Assumed Market Rate of Return	\$ 4,136,135
(5.) New Enrollment Group #	\$ 72,212
<b>(6.) Projected Values at June 30, 2019 [(1.) + (2.) + (3.) + (4.) + (5.)]</b>	<b>\$ 95,681,850</b>
(7.) Change Due to:	
a. Investment Experience Above/(Below) Assumed	\$ 3,710,145
b. Tuition/Fee Inflation	\$ -
c. Change in Tuition Increase Assumption	\$ 8,391,334
d. Change in Investment Return Assumption	\$ 3,364,083
e. Other Program Experience During Fiscal Year 2019 @	\$ 4,103,356
Total	\$ 19,568,918
<b>(8.) Actual Value as of June 30, 2019 [(6.) + (7.)]</b>	<b>\$ 115,250,768</b>

<sup>^</sup> Administrative fees are covered by a contribution from the Endowment Fund.

# Determined before change in assumptions.

@ All other plan experience such as data changes, downgrades, upgrades, change of beneficiaries, using credits faster or slower than assumed, refunds, etc.

# Discussion

## Actuarial Valuation

Gabriel, Roeder, Smith & Company (“GRS”) has performed an actuarial valuation of the Nevada Prepaid Tuition Program as of June 30, 2019.

The primary purposes of the actuarial valuation are to:

- Determine the actuarial present value of the obligations for prepaid tuition contracts purchased through June 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 member data, financial data, Program provisions, and actuarial assumptions and methods.

The actuarial standards do not define the term “sound” or “actuarially sound.” For purposes of this report, we are defining this term to mean the following:

- (1) Assets meet or exceed liabilities on the valuation date; or
- (2) Assets are expected to meet or exceed liabilities at a future date based on the measurements on the valuation date and the expected future revenue based on the Program’s Funding Policy Guideline.

Under this definition, the Program is actuarially sound, based on the actuarial assumptions used in this valuation.

## Financial Status of Program

As of June 30, 2019, the present value of all future tuition obligations under contracts outstanding (and excluding estimated future administrative expenses) at that date is \$211.1 million. Fund assets as of June 30, 2019, including the Actuarial Value of Program Assets and the present value of installment contract receivables, are \$326.4 million.

The difference between the Actuarial Value of Assets of \$326.4 million and Program obligations of \$211.1 million represents a Program surplus of \$115.3 million. The comparable Program surplus as of the last actuarial valuation as of June 30, 2018 was \$91.5 million.

Under the approved assumptions, the Program is 154.6% funded and is expected to be able to pay benefits on behalf of all current contracts.

This surplus acts as a risk reserve to mitigate future experience losses.

# Discussion

## Gain/Loss Analysis

In addition to assumption and methodology changes, the Program experienced continued improvement in the funded status during the year ending June 30, 2019. This net gain was attributed to an investment return on assets that was above the 5.00% assumed rate of return as of the prior valuation. The return on a Market Value basis was 6.41%. Using a 5-year smoothing method, the Actuarial Value of Assets recognized a rate of return of 6.38%. In addition, any investment income on the surplus acts as an additional gain to the Program.

## Assumption Changes

Assumptions for the June 30, 2019 actuarial valuation were approved by the Treasurer and are summarized in the annual assumption letter dated June 7, 2019. Changes from the prior valuation included:

1. increasing the assumed rate of investment return from 5.00% to 5.25%; and
2. modifying the annual rate of future tuition increases.

Between the June 30, 2018 and June 30, 2019 Actuarial Valuation cycles, the Nevada Board of Regents approved the “Predictable Pricing Program” which is intended to base future tuition and fees on the Higher Education Price Index (HEPI) and provide more certainty in the short term increases. Under this program, the short term tuition increases (through the 2022/2023 academic year for the June 30, 2019 valuation) are determined based on a formula adopted by the Board of Regents and HEPI data that is available as of June 30, 2019. In order for experience between now and Fiscal Year 2023 to differ from assumed, either the Board of Regents would need to revise decisions already made affecting those years or Commonfund (publisher of HEPI) would need to restate data for 2018 or earlier.

## Technical Valuation Programming Updates

There were no changes in the valuation methodology since the June 30, 2017 Actuarial Valuation.

## Benefit Provisions

The following changes in the Program provisions became effective as of the June 30, 2018 Actuarial Valuation:

- addition of a 10-year payment plan;
- allowing unused credits after college graduation to be used for graduate school paid out at the Undergraduate rate (no change in the maximum utilization period); and
- allowing a change in beneficiary after matriculation.

These changes were considered in conjunction with the experience study when recommending assumptions that became effective with the June 30, 2018 Actuarial Valuation. The changes did not otherwise affect the computation of liabilities.

## Discussion

### Annual Benefit Payouts

Annual benefit payouts have continued to be less than expected over the last several valuations resulting in experience gains. Utilization assumptions were lowered during the experience study. This resulted in the actual benefit payouts to be closer to expected (\$17.9 million in tuition payments and refunds expected versus \$13.9 actual), but still in excess. In prior years, this gap was significantly larger. If the trend continues over the next 4 years, we will recommend adjustments to the assumptions in the next experience study.

### Reconciliation of Funded Status Change

	<u>Surplus/(Deficit)</u>	<u>Funded %</u>
June 30, 2018	\$ 91,473,503	142.0%
Interest at Assumed Return (5.00%)	4,136,135	1.9%
Investment Experience above/(below) Assumed	3,710,145	1.7%
New Contract Experience	72,212	0.0%
Change in Tuition Increase Assumption	8,391,334	3.9%
Change in Investment Return Assumption	3,364,083	1.5%
Other Experience	4,103,356	1.9%
Change in %'s due to decreasing/(increasing) liabilities*	N/A	1.7%
June 30, 2019	\$ 115,250,768	154.6%

\* The denominator of the funded status calculation at the beginning of year (June 30, 2018) is based upon the June 30, 2018 total liabilities, while the June 30, 2019 funded status is based upon of the June 30, 2019 total liabilities.

### Asset Methodology

In accordance with the Funding Policy Guideline adopted by the Program, this valuation uses a smoothing process in determining the Actuarial Value of Assets (also known as the Funding Value of Assets). This process immediately recognizes the expected return. Twenty percent (20%) of the difference between the actual and expected return is also recognized in the current year and 20% is recognized in each of the next 4 years. The Actuarial Value of Assets is not allowed to deviate by more than 20% from the market value. This smoothing process is intended to provide a more stable valuation from year to year. This method was first implemented in the June 30, 2015 Actuarial Valuation.

### Reported Assets

The reported June 30, 2019 market value of assets was approximately \$54k less than what would be obtained from summing the reported June 30, 2018 market value and reported Fiscal Year 2019 revenues and expenditures. For purposes of this valuation, reported investment income was adjusted to force the assets to balance.

### Program Payments Modeled

All reported assets were assumed to be available to pay Program payments (tuition and refunds). No non-Program payments were assumed to occur.

## **SECTION B**

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### **PROGRAM DESCRIPTION**

## Summary of Program Description Evaluated June 30, 2019

**Purchasing Contracts** – Contract holders may purchase contracts during an enrollment period for newborns to 9<sup>th</sup> graders. These contracts lock in the cost of tuition for the contract holder at the time of purchase. The holder may choose between a variety of school types and credit hours. Contracts available for purchase include the following:

- **University Plans**
  - 4-Year University (120 University Level Credit Hours)
  - 2-Year University (60 University Level Credit Hours)
  - 1-Year University (30 University Level Credit Hours)
- **Community College Plan**
  - 2-Year Community College (60 Community College Credit Hours)
- **University and Community College Plan**
  - 2-Year Community College and 2-Year University (60 Community College and 60 University Credit Hours)

**Contract Payments** – Contract holders may agree to pay their contracts off in a variety of ways:

- **Lump-Sum Payment** (Full Contract paid in full at time of enrollment to the Program)
- **10-Year Payments\*** (120 monthly payments after purchase of contract)
- **5-Year Payments\*** (60 monthly payments after purchase of contract)
- **Extended Payments\*** (Monthly payments after purchase of contract for defined period up to and including the year of high school matriculation)

\* Members may also elect monthly payment options with an additional down payment made at the time of enrollment to the Program.

**Tuition Payments** – When the beneficiary matriculates, the portion of tuition covered by the Program will be dependent on the school of which they attend and the plan they purchased. The program will pay the tuition (also known as registration fees) for all public Universities or Community Colleges in the state. If the beneficiary elects to attend a private or out-of-state University or Community College, the Program will pay out up to the maximum amount that it would have paid to a Nevada school under the matching contract that was purchased. If a beneficiary graduates with remaining credits, those credits can be used for graduate school.

**Refunds** – If a contract purchaser elects to withdraw from the plan, the amount refunded will be equal to the sum amount the purchaser has paid into the plan less any fees and/or monies paid to a school on the student's behalf.

**Usage Period** – Contracts have a 6-year period from the expected matriculation date to utilize credits. Contract extensions are allowed for religious, volunteer or military service.

## SECTION C

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### VALUATION RESULTS

## Principal Valuation Results as of June 30, 2019

	2019	2018
<b>Number of Members</b>		
a. Contract Payments in Progress	3,486	3,668
b. Contract Payments Fully Paid	5,198	5,175
c. Delinquent in Contract Payments	368	358
d. Benefit Payments in Progress	2,936	2,927
e. Deferred Benefits	317	313
f. Total	12,305	12,441
 <b>Assets</b>		
a. Actuarial Value of Assets	\$ 287,753,627	\$ 268,493,377
b. PV Future Member Contributions	38,601,915	40,771,772
c. Total Actuarial Value of Assets	\$ 326,355,542	\$ 309,265,149
 <b>Actuarial Results</b>		
Liabilities - Tuition and Fees	\$ 211,104,774	\$ 217,791,646
Liabilities - Present Value of Future Administrative Expenses	-	-
Liabilities Total	\$ 211,104,774	\$ 217,791,646
Surplus/(Deficit)	\$ 115,250,768	\$ 91,473,503
Funded Ratio	154.6%	142.0%

## Principal Valuation Results as of June 30, 2019 (Concluded)

	<u>2019</u>	<u>2018</u>
<b>Assets</b>		
a. Actuarial Value of Assets	\$ 287,753,627	\$ 268,493,377
b. PVFMC* (Short Term) <sup>a</sup>	8,865,168	9,233,936
c. PVFMC* (Long Term) <sup>b</sup>	29,736,747	31,537,836
d. Total Actuarial Value of Assets	<u>\$ 326,355,542</u>	<u>\$ 309,265,149</u>
<b>Actuarial Present Value of Tuition, Refunds, Fees and Admin Expenses</b>		
a. Short Term <sup>a</sup>	\$ 18,350,735	\$ 17,509,034
b. Long Term <sup>b</sup>	192,754,039	200,282,612
c. Total	<u>\$ 211,104,774</u>	<u>\$ 217,791,646</u>
<b>Surplus/(Deficit)</b>	\$ 115,250,768	\$ 91,473,503
<b>Funded Ratio</b>	154.6%	142.0%

\* Present Value of Future Member Contributions.

<sup>a</sup> Present value of amounts in following year.

<sup>b</sup> Present value of amounts after first year.

## Year to Year Change in Actuarial Calculations

	Present Value of Benefits	PV Future Member Contributions	Funding Value of Assets	Surplus/(Deficit)
	(i)	(ii)	(iii)	(iii) + (ii) - (i)
(1.) Values as of June 30, 2018	\$ 217,791,646	\$ 40,771,772	\$ 268,493,377	\$ 91,473,503
(2.) Contract Payments	\$ -	\$ (9,788,046)	\$ 9,788,046	\$ -
(3.) Tuition Payments, Refunds, Admin Fees net of Admin Contributions <sup>^</sup>	\$ (13,795,433)	\$ -	\$ (13,795,433)	\$ -
(4.) Interest on (1.), (2.), and (3.) at Assumed Market Rate of Return	\$ 11,071,931	\$ 1,883,582	\$ 13,324,484	\$ 4,136,135
(5.) New Enrollment Group #	\$ 12,620,147	\$ 6,459,351	\$ 6,233,008	\$ 72,212
(6.) Projected Values at June 30, 2019 [(1.) + (2.) + (3.) + (4.) + (5.)]	\$ 227,688,291	\$ 39,326,659	\$ 284,043,482	\$ 95,681,850
(7.) Change Due to:				
a. Investment Experience Above/(Below) Assumed*	\$ -	\$ -	\$ 3,710,145	\$ 3,710,145
b. Tuition/Fee Inflation	-	-	-	-
e. Change in Tuition Increase Assumption	(8,391,334)	-	-	8,391,334
d. Change in Investment Return Assumption	(3,686,468)	(322,385)	-	3,364,083
f. Other Program Experience During Fiscal Year 2019 @	(4,505,715)	(402,359)	-	4,103,356
(8.) Total [(7.)a. + (7.)b. + (7.)c. + (7.)d. + (7.)e. + (7.)f.]	\$ (16,583,517)	\$ (724,744)	\$ 3,710,145	\$ 19,568,918
(9.) Actual Values as of June 30, 2019 [(6.) + (8.)]	\$ 211,104,774	\$ 38,601,915	\$ 287,753,627	\$ 115,250,768

<sup>^</sup> Administrative fees are covered by a contribution from the Endowment Fund.

# Determined before change in assumptions.

\* Investment Experience on Actuarial Value of Assets includes any differentiation in Market Value of Assets as provided by the Program.

@ All other plan experience such as data changes, downgrades, upgrades, change of beneficiaries, using credits faster or slower than assumed, refunds, etc.

**SECTION D**

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**FUND ASSETS**

# Statement of Program Assets (at Market Value)

**Nevada Prepaid Tuition Program**  
**Statement of Program Market Value of Assets**  
**Year Ended June 30, 2019**

1. Cash	\$ 7,691,196
2. Equities	
a. Large Cap Equities	\$ 121,645,561
b. Mid Cap Equities	20,603,758
c. Small Cap Equities	10,506,691
Total Equities	<u>\$ 152,756,010</u>
3. Fixed Income	\$ 81,754,673
4. Other Investments	\$ 58,574,069
<b>5. Net Assets = (1) + (2) + (3) + (4)</b>	<b><u><u>\$ 300,775,948</u></u></b>

# Reconciliation of Program Assets

## Nevada Prepaid Tuition Program Statement of Changes in Program Market Value of Assets Year Ended June 30, 2019

1. Market Value of Assets at Beginning of Year	\$ 280,640,639
2. Changes During Year	
a. Additions	
(i) Investment Income	\$ 18,162,526 *
(ii) Contract Payments	15,869,029
(iii) Administration Fees	92,600
(iv) Transfers from Endowment Account	669,982
Total Additions = (i) + (ii) + (iii) + (iv)	\$ 34,794,137
b. Deductions	
(i) Tuition Payments	\$ 11,366,735
(ii) Refunds	2,521,298
(iii) Administration Expenses	669,982
(iv) Investment Expenses	100,813
Total Deductions = (i) + (ii) + (iii) + (iv)	\$ 14,658,828
Net Increases (Decreases) During Year = a - b	\$ 20,135,309
3. Market Value of Assets at End of Year = 1 + 2	\$ 300,775,948
4. Purchased Interest	\$ -
5. Net Market Value of Assets at End of Year = 3 + 4	\$ 300,775,948

\* Investment Income includes -\$54,239.27 variance in reported assets. Inclusion of this cash flow as investment income does not have a significant effect on valuation results.

## Development of Actuarial Value of Assets

Year Ended June 30	2018	2019	2020	2021	2022	2023
A. Actuarial Value of Assets Beginning of Year	\$ 250,294,806	\$ 268,493,377				
B. Market Value End of Year	280,640,639	300,775,948				
C. Market Value Beginning of Year	255,914,783	280,640,639				
D. Non-Investment/Administrative Net Cash Flow						
D1. Contract Payments, Admin Fees, Endowment Contributions	17,095,252	16,631,611				
D2. Tuition Payments, Refunds, Admin Expenses	(14,275,031)	(14,558,015)				
D3. Total Net Cash Flow: D1+D2	2,820,221	2,073,596				
E. Investment Return						
E1. Market Total: B-C-D3	21,905,635	18,061,713				
E2. Assumed Rate of Return	5.00%	5.00%	5.25%			
E3. Assumed Amount of Return	12,585,246	13,476,509				
E4. Amount Subject to Phase-In: E1-E3	9,320,389	4,585,204				
F. Phased-In Recognition of Investment Return						
F1. Current Year: 0.20 x E4	1,864,078	917,041				
F2. First Prior Year	2,250,658	1,864,078	\$ 917,041			
F3. Second Prior Year	(739,390)	2,250,658	1,864,078	\$ 917,041		
F4. Third Prior Year	(582,242)	(739,390)	2,250,658	1,864,078	\$ 917,041	
F5. Fourth Prior Year	-	(582,242)	(739,391)	2,250,658	1,864,077	\$ 917,040
F6. Total Phase-Ins	2,793,104	3,710,145	4,292,386	5,031,777	2,781,118	917,040
G. Actuarial Value of Assets End of Year						
G1. Preliminary Actuarial Value End of Year: A+D3+E3+F6	\$ 268,493,377	\$ 287,753,627				
G2. Upper Corridor Limit: 120% x B	336,768,767	360,931,138				
G3. Lower Corridor Limit: 80% x B	224,512,511	240,620,758				
G4. Actuarial Value of Assets End of Year	\$ 268,493,377	\$ 287,753,627				
H. Difference Between Market and Actuarial Value	12,147,262	13,022,321	8,729,935	3,698,158	917,040	-
I. Recognized Rate of Return	6.11 %	6.38 %				
J. Market Rate of Return	8.51 %	6.41 %				
K. Ratio of Actuarial Value to Market Value	96 %	96 %				

The Actuarial Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (line E4) are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than Market Value. If assumed rates are exactly realized for 4 consecutive years, Actuarial Value will become equal to Market Value.

## SECTION E

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### PARTICIPANT DATA

## Member Data Beginning to End of Year Summary as of June 30, 2019

	Type of Contract					Total
	4-Yr. Univ	2-Yr. Univ	1-Yr. Univ	2+2	2-Yr. Comm. Coll	
<b>Beginning of Year (6/30/2018)</b>	<b>8,670</b>	<b>1,278</b>	<b>414</b>	<b>1,220</b>	<b>859</b>	<b>12,441</b>
New Contracts	404	99	47	54	65	669
Removed Contracts	621	59	13	82	30	805
<b>End of Year (6/30/2019)</b>	<b>8,453</b>	<b>1,318</b>	<b>448</b>	<b>1,192</b>	<b>894</b>	<b>12,305</b>

## Member Matriculation Summary as of June 30, 2019

Projected Enrollment Year	Type of Contract					Total	
	4-Yr. Univ	2-Yr. Univ	1-Yr. Univ	2+2	2-Yr. Comm. Coll		
2002	3	-	-	1	-	4	0.03%
2003	9	-	-	2	1	12	0.10%
2004	10	-	-	3	-	13	0.11%
2005	16	-	-	2	1	19	0.15%
2006	27	-	-	8	2	37	0.30%
2007	24	1	-	8	2	35	0.28%
2008	34	1	-	10	5	50	0.41%
2009	81	1	-	13	2	97	0.79%
2010	123	3	-	7	1	134	1.09%
2011	124	1	-	17	5	147	1.19%
2012	141	2	-	18	8	169	1.37%
2013	167	3	-	21	8	199	1.62%
2014	235	13	1	29	11	289	2.35%
2015	290	8	1	33	17	349	2.84%
2016	512	24	3	59	18	616	5.01%
2017	497	38	-	67	33	635	5.16%
2018	577	60	8	60	42	747	6.06%
2019	522	70	17	46	43	698	5.67%
2020	484	89	17	82	62	734	5.97%
2021	471	97	36	59	74	737	5.99%
2022	456	94	41	69	67	727	5.91%
2023	433	78	29	65	57	662	5.38%
2024	385	101	42	81	58	667	5.42%
2025	413	100	32	71	51	667	5.42%
2026	356	98	26	52	47	579	4.71%
2027	298	74	35	58	43	508	4.13%
2028	302	63	20	30	47	462	3.75%
2029	279	58	26	46	44	453	3.68%
2030	255	52	29	41	43	420	3.41%
2031	225	63	17	29	36	370	3.01%
2032	204	34	16	28	18	300	2.44%
2033	142	29	18	21	18	228	1.85%
2034	173	31	18	27	14	263	2.14%
2035	106	22	12	16	9	165	1.34%
2036	78	10	4	13	7	112	0.91%
2037	1	-	-	-	-	1	0.01%
<b>Total</b>	<b>8,453</b>	<b>1,318</b>	<b>448</b>	<b>1,192</b>	<b>894</b>	<b>12,305</b>	<b>100.00%</b>
	68.69%	10.71%	3.64%	9.69%	7.27%	100.00%	

## Member Payment Option Summary as of June 30, 2019

Contract Payment Type	Type of Contract					Total	
	4-Yr. Univ	2-Yr. Univ	1-Yr. Univ	2+2	2-Yr. Comm. Coll		
Lump Sum	3,231	436	225	291	224	<b>4,407</b>	35.81%
5-Year Payments	2,758	334	113	361	323	<b>3,889</b>	31.61%
Extended Payments	2,464	548	110	540	347	<b>4,009</b>	32.58%
<b>Total</b>	<b>8,453</b>	<b>1,318</b>	<b>448</b>	<b>1,192</b>	<b>894</b>	<b>12,305</b>	100.00%
	68.69%	10.71%	3.64%	9.69%	7.27%		100.00%

## SECTION F

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### **METHODS AND ASSUMPTIONS**

## Valuation Methods and Assumptions

All actuarial assumptions are expectations of future experience, not market measures. The rationale for the assumptions is described in the 2013-2017 Experience Study and the annual assumptions letters addressed to the Treasurer of the State of Nevada.

**Assumed Rate of Return, Net of Investment Fees:** 5.25%

**Assumed Rate of Tuition Increases from Prior Academic Year:**

Academic Year	Community College	
	University	College
2020-2021 <sup>#</sup>	4.00%	4.00%
2021-2022 <sup>#</sup>	2.80%	2.80%
2022-2023 <sup>#</sup>	2.80%	2.80%
2023-2024+	4.50%	3.75%

<sup>#</sup> Based on actions and/or formulas already adopted by the Board of Regents.

**Utilization of Credits\*:** Benefit payments are based on the following schedule in accordance with the type of Contract and the expected Payout Year.

Type of Contract	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
4-Year University Contracts (pre-2010)	20%	20%	20%	15%	10%	5%	5%	5%
4-Year University Contracts (post-2010)	20%	20%	20%	15%	15%	10%		
2-Year CC Plus 2-Year Univ Contracts (pre-2010)	18%	18%	18%	18%	9%	9%	5%	5%
2-Year CC plus 2-Year Univ Contracts (post-2010)	18%	18%	18%	18%	14%	14%		
2-Year University Contracts	25%	25%	20%	15%	10%	5%		
2-Year Community College Contracts	30%	25%	15%	10%	10%	10%		
1-Year Contracts	100%	0%	0%	0%	0%			

\* Liabilities are modeled assuming two payments per year (one in mid-September, one in mid-February) for beneficiaries who have matriculated.

**Refunds:** Sum of contract payments to plan. Withdrawal rates at the beginning of each year are based on the following schedule in accordance with the type of contract purchased.

Years of Payment Since Purchase	University Contracts			Community College Contracts <sup>^</sup>		
	Lump Sum	Five-Year Payments	Extended/ 10-Year Pmts	Lump Sum	Five-Year Payments	Extended/ 10-Year Pmts
1	0.50%	4.00%	5.50%	0.75%	6.00%	7.00%
2	0.50%	4.00%	4.50%	0.75%	5.00%	6.00%
3	0.50%	3.00%	4.00%	0.75%	4.00%	5.00%
4	0.50%	2.00%	3.00%	0.75%	3.00%	5.00%
5	0.50%	1.00%	2.50%	0.75%	2.00%	4.00%
6	0.50%	0.50%	2.50%	0.75%	1.00%	4.00%
7	0.50%	0.50%	2.00%	0.75%	0.75%	3.00%
8	0.50%	0.50%	1.00%	0.75%	0.75%	3.00%
9	0.50%	0.50%	1.00%	0.75%	0.75%	2.00%
10	0.50%	0.50%	1.00%	0.75%	0.75%	2.00%
11	0.50%	0.50%	0.75%	0.75%	0.75%	1.00%
12	0.50%	0.50%	0.75%	0.75%	0.75%	1.00%
13	0.50%	0.50%	0.75%	0.75%	0.75%	0.75%
14	0.50%	0.50%	0.75%	0.75%	0.75%	0.75%
15+	0.50%	0.50%	0.75%	0.75%	0.75%	0.75%

<sup>^</sup> The 2-Year Community College plus 2-Year University contracts were included with Community College contracts for the purposes of the refund assumption.

## Valuation Methods and Assumptions (Concluded)

If credit utilization for a member has been at or above expectations, 100% of remaining credits will be utilized.

If credit utilization for a member has been below expectations, ½ of the difference between past expected credit utilization and actual credit utilization will be utilized in the future. Any remaining balances are assumed to be refunded.

<b>Election of Program Changes:</b>	None.
<b>Election of Change of Beneficiary:</b>	None.
<b>Liability Adjustments for Administrative Expenses:</b>	None. Administrative expenses are paid from outside the trust.
<b>Contract Terms:</b>	No changes in contract terms are assumed, once initiated.
<b>Pricing Methodology:</b>	Based on Weighted Average Tuition (WAT) rate increased to assumed year of payment, based on tuition rate increase assumption and discounted to payment date based on net investment return assumption.
<b>Timing of Tuition Payments:</b>	Two payments per year (mid September & mid February) for beneficiaries who have matriculated
<b>Timing of Refunds:</b>	At the end of the month the member withdraws from the plan.
<b>Weighted Average Tuition (WAT) for the 2019/2020 Academic Year:</b>	
○ <b>4-Year College:</b>	\$6,990.00
○ <b>2-Year College:</b>	\$3,082.50
<b>Bias Load:</b>	None.

Note: Since all the covered in-state 4-year colleges and universities charge the same tuition and all the covered in-state two-year colleges charge the same tuition, the WAT is simply the rate of tuition and fees. If the covered colleges and universities begin to charge different rates of tuition in the future, a WAT (averaging) calculation will be performed and a bias load may be necessary.

## **SECTION G**

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### **SENSITIVITY ANALYSIS**

## Sensitivity Analysis Description

The actuarial assumptions regarding future increases in tuition costs and fees and the future rate of investment return were adopted by the State Treasurer. In our opinion, the 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 5.00% each year throughout the life of the contracts, actual returns are expected to vary from year to year. Therefore, we have projected the Program's results under alternative assumptions for future investment income and tuition increases as follows:

1. Current valuation assumptions approved by the State Treasurer.
2. Tuition increase assumptions are 100 basis points higher/lower than currently assumed.
3. The investment return assumption is 100 basis points higher/lower than assumed.
4. Tuition increase assumptions are 100 basis points higher and the investment return assumption is 100 basis points lower than assumed.
5. Tuition increase assumptions are 100 basis points lower and the investment return assumption is 100 basis points higher than assumed.
6. Tuition increase assumptions are 25 basis points higher and the investment return assumption is 50 basis points higher than assumed.

Investment gains and losses not yet realized on the valuation date as a result of the 5-year asset smoothing method will be realized in each of the next 4 years. For purposes of this sensitivity testing, future experience was assumed to match the illustrated change in assumptions.

A summary of the impact of each of these scenarios on the principal valuation results is presented on the following page. See Section G for detailed projection results of each scenario.

The projections assume no new contract purchases. Future contract purchases will affect projection results based on the risk margins built into future pricings. If risk margins for new purchases are lower than the current funded status, there will be downward pressure on future funded statuses and vice-versa.

## Sensitivity Analysis Summary

\$ in Millions

	Current Valuation Assumptions (G-3)	Assumed Tuition Increases +100 Basis Points (G-4)	Assumed Tuition Increases -100 Basis Points (G-5)	Assumed Investment Return +100 Basis Points (G-6)	Assumed Investment Return -100 Basis Points (G-7)	Assumed Tuition Increases +100 Basis Points and Investment Return -100 Basis Points (G-8)	Assumed Tuition Increases -100 Basis Points and Investment Return +100 Basis Points (G-9)	Assumed Tuition Increases +25 Basis Points and Investment Return +50 Basis Points (G-10)
Assumed Investment Return	5.25%	5.25%	5.25%	6.25%	4.25%	4.25%	6.25%	5.75%
Assumed Long-Term Tuition Increases (Univ) <sup>#</sup>	4.50%	5.50%	3.50%	4.50%	4.50%	5.50%	3.50%	4.75%
Assumed Long-Term Tuition Increases (CC) <sup>#</sup>	3.75%	4.75%	2.75%	3.75%	3.75%	4.75%	2.75%	4.00%
<b>1 Assets</b>								
a. Actuarial Value of Assets	\$287.8	\$287.8	\$287.8	\$287.8	\$287.8	\$287.8	\$287.8	\$287.8
b. PV Future Member Contributions	\$ 38.6	\$ 38.6	\$ 38.6	\$ 37.4	\$ 39.9	\$ 39.9	\$ 37.4	\$ 38.0
c. Total Assets	\$326.4	\$326.4	\$326.4	\$325.2	\$327.7	\$327.7	\$325.2	\$325.8
<b>2 Actuarial Results</b>								
Liabilities - Tuition and Fees	\$211.1	\$219.9	\$203.0	\$197.6	\$226.2	\$236.1	\$190.3	\$206.2
Liabilities - PV of Future Admin. Expenses	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0
Liabilities Total	\$211.1	\$219.9	\$203.0	\$197.6	\$226.2	\$236.1	\$190.3	\$206.2
<b>Surplus/(Deficit)</b>	<b>\$115.3</b>	<b>\$106.5</b>	<b>\$123.4</b>	<b>\$127.6</b>	<b>\$101.5</b>	<b>\$ 91.6</b>	<b>\$134.9</b>	<b>\$119.6</b>
<b>Funded Ratio</b>	<b>154.6%</b>	<b>148.4%</b>	<b>160.8%</b>	<b>164.6%</b>	<b>144.8%</b>	<b>138.8%</b>	<b>170.8%</b>	<b>158.0%</b>
Difference From Results based on Current Assumptions								
Surplus	\$0.0	\$(8.8)	\$8.1	\$12.3	\$(13.8)	\$(23.7)	\$19.6	\$4.3
Funded Ratio	0.0%	(6.2)%	6.2%	10.0%	(9.8)%	(15.8)%	16.2%	3.4%

<sup>#</sup> Only affects assumptions in Fiscal Year's ending 2024 and thereafter.

Numbers may not match schedules in Section G due to rounding.

**Nevada Prepaid Tuition Program  
Projection Based on June 30, 2019 Valuation Results**

Input Valuation	
Assumed Rate of Investment Return	5.25%

Estimated Valuation Results	
Present Value of Future Tuition and Fees	\$211,104,774
Present Value of Future Contract Payments	\$ 38,601,915
June 30, 2019 Actuarial Value of Assets	\$287,753,627
Unfunded Liability	\$(115,250,768)
Funded Status	154.6%
Year Insolvent	Never

Fiscal Year Ending June 30,	Actual Investment Return During Year	Actual Tuition Increase for Universities	Actual Tuition Increase for Comm. Colleges/CC	Actuarial Value of Assets (BOY*)	Projected Tuition Payments & Refunds (Discounted to BOY*)	Other Payments	Additional Transfers from NCSTF (EOY*)	Projected Contract Payments (Discounted to BOY*)	Projected Funded Status
2020	5.25%	n/a	n/a	\$ 287,753,627	\$ 18,350,735	\$ -	-	\$ 8,865,168	154.6%
2021	5.25%	4.00%	4.00%	297,169,519	19,015,446	-	-	7,453,288	161.9%
2022	5.25%	2.80%	2.80%	305,633,525	19,271,184	-	-	6,189,423	170.9%
2023	5.25%	2.80%	2.80%	310,691,850	19,252,045	-	-	5,033,256	180.3%
2024	5.25%	4.50%	3.75%	312,954,936	19,045,638	-	-	3,944,774	190.2%
2025	5.25%	4.50%	3.75%	313,491,411	19,136,644	-	-	3,046,698	201.4%
2026	5.25%	4.50%	3.75%	313,015,041	19,252,252	-	-	2,507,153	215.0%
2027	5.25%	4.50%	3.75%	311,824,114	18,855,420	-	-	2,103,755	231.9%
2028	5.25%	4.50%	3.75%	310,563,753	18,298,133	-	-	1,764,906	252.8%
2029	5.25%	4.50%	3.75%	309,467,129	17,369,539	-	-	1,426,047	279.0%
2030	5.25%	4.50%	3.75%	308,933,628	16,732,754	-	-	1,026,788	311.7%
2031	5.25%	4.50%	3.75%	308,622,114	15,976,924	-	-	770,312	354.2%
2032	5.25%	4.50%	3.75%	308,819,815	14,808,522	-	-	569,049	410.9%
2033	5.25%	4.50%	3.75%	310,045,810	13,955,301	-	-	408,980	486.7%
2034	5.25%	4.50%	3.75%	312,065,712	12,566,515	-	-	275,492	594.8%
2035	5.25%	4.50%	3.75%	315,512,860	11,638,546	-	-	128,713	750.4%
2036	5.25%	4.50%	3.75%	319,963,186	10,177,098	-	-	49,726	999.1%
2037	5.25%	4.50%	3.75%	326,102,194	8,581,072	-	-	4,460	1,000.0%+
2038	5.25%	4.50%	3.75%	334,195,675	6,389,756	-	-	-	1,000.0%+
2039	5.25%	4.50%	3.75%	345,015,730	4,542,741	-	-	-	1,000.0%+
2040	5.25%	4.50%	3.75%	358,347,821	2,990,156	-	-	-	1,000.0%+
2041	5.25%	4.50%	3.75%	374,013,941	1,520,105	-	-	-	1,000.0%+
2042	5.25%	4.50%	3.75%	392,049,763	563,354	-	-	-	1,000.0%+
2043	5.25%	4.50%	3.75%	412,039,445	6,377	-	-	-	1,000.0%+
2044	5.25%	4.50%	3.75%	433,664,804	3,171	-	-	-	1,000.0%+
2045	5.25%	4.50%	3.75%	456,428,869	3,171	-	-	-	1,000.0%+

\* Beginning/End of year (Fiscal).

**Nevada Prepaid Tuition Program**  
**Projection Based on June 30, 2019 Tuition Increases +100 Basis Points**

Input	
Valuation	
Assumed Rate of Investment Return	5.25%

Estimated Valuation Results	
Present Value of Future Tuition and Fees	\$219,880,589
Present Value of Future Contract Payments	\$ 38,601,915
June 30, 2019 Actuarial Value of Assets	\$287,753,627
Unfunded Liability	\$(106,474,953)
Funded Status	148.4%
Year Insolvent	Never

Fiscal Year Ending June 30,	Actual Investment Return During Year	Actual Tuition Increase for Universities	Actual Tuition Increase for Comm. Colleges/CC	Actuarial Value of Assets (BOY*)	Projected Tuition Payments & Refunds (Discounted to BOY*)	Other Payments	Additional Transfers from NCSTF (EOY*)	Projected Contract Payments (Discounted to BOY*)	Projected Funded Status
2020	5.25%	n/a	n/a	\$ 287,753,627	\$ 18,350,735	\$ -	-	\$ 8,865,168	148.4%
2021	5.25%	4.00%	4.00%	297,169,519	19,015,446	-	-	7,453,288	154.9%
2022	5.25%	2.80%	2.80%	305,633,525	19,271,184	-	-	6,189,423	162.7%
2023	5.25%	2.80%	2.80%	310,691,850	19,252,045	-	-	5,033,256	170.7%
2024	5.25%	5.50%	4.75%	312,954,936	19,218,636	-	-	3,944,774	179.1%
2025	5.25%	5.50%	4.75%	313,309,331	19,491,306	-	-	3,046,698	188.3%
2026	5.25%	5.50%	4.75%	312,450,120	19,795,075	-	-	2,507,153	199.5%
2027	5.25%	5.50%	4.75%	310,658,215	19,571,257	-	-	2,103,755	213.4%
2028	5.25%	5.50%	4.75%	308,583,225	19,174,064	-	-	1,764,906	230.6%
2029	5.25%	5.50%	4.75%	306,460,705	18,374,595	-	-	1,426,047	251.9%
2030	5.25%	5.50%	4.75%	304,711,546	17,871,041	-	-	1,026,788	278.5%
2031	5.25%	5.50%	4.75%	302,980,325	17,228,091	-	-	770,312	312.9%
2032	5.25%	5.50%	4.75%	301,564,979	16,122,136	-	-	569,049	358.7%
2033	5.25%	5.50%	4.75%	301,027,516	15,340,222	-	-	408,980	419.7%
2034	5.25%	5.50%	4.75%	301,116,328	13,947,007	-	-	275,492	506.4%
2035	5.25%	5.50%	4.75%	302,535,666	13,043,494	-	-	128,713	630.6%
2036	5.25%	5.50%	4.75%	304,825,980	11,516,656	-	-	49,726	828.6%
2037	5.25%	5.50%	4.75%	308,760,400	9,805,110	-	-	4,460	1,000.0%+
2038	5.25%	5.50%	4.75%	314,655,137	7,371,186	-	-	-	1,000.0%+
2039	5.25%	5.50%	4.75%	323,416,358	5,290,600	-	-	-	1,000.0%+
2040	5.25%	5.50%	4.75%	334,827,361	3,515,715	-	-	-	1,000.0%+
2041	5.25%	5.50%	4.75%	348,705,507	1,804,389	-	-	-	1,000.0%+
2042	5.25%	5.50%	4.75%	365,113,426	675,111	-	-	-	1,000.0%+
2043	5.25%	5.50%	4.75%	383,571,327	7,641	-	-	-	1,000.0%+
2044	5.25%	5.50%	4.75%	403,700,779	3,800	-	-	-	1,000.0%+
2045	5.25%	5.50%	4.75%	424,891,070	3,800	-	-	-	1,000.0%+

\* Beginning/End of year (Fiscal).

**Nevada Prepaid Tuition Program**  
**Projection Based on June 30, 2019 Tuition Increases -100 Basis Points**

Input	
Valuation	
Assumed Rate of Investment Return	5.25%

Estimated Valuation Results	
Present Value of Future Tuition and Fees	\$ 202,985,136
Present Value of Future Contract Payments	\$ 38,601,915
June 30, 2019 Actuarial Value of Assets	\$ 287,753,627
Unfunded Liability	\$(123,370,406)
Funded Status	160.8%
Year Insolvent	Never

Fiscal Year Ending June 30,	Actual Investment Return During Year	Actual Tuition Increase for Universities	Actual Tuition Increase for Comm. Colleges/CC	Actuarial Value of Assets (BOY*)	Projected Tuition Payments & Refunds (Discounted to BOY*)	Other Payments	Additional Transfers from NCSTF (EOY*)	Projected Contract Payments (Discounted to BOY*)	Projected Funded Status
2020	5.25%	n/a	n/a	\$ 287,753,627	\$ 18,350,735	\$ -	-	\$ 8,865,168	160.8%
2021	5.25%	4.00%	4.00%	297,169,519	19,015,446	-	-	7,453,288	169.0%
2022	5.25%	2.80%	2.80%	305,633,525	19,271,184	-	-	6,189,423	179.2%
2023	5.25%	2.80%	2.80%	310,691,850	19,252,045	-	-	5,033,256	190.1%
2024	5.25%	3.50%	2.75%	312,954,936	18,872,640	-	-	3,944,774	201.9%
2025	5.25%	3.50%	2.75%	313,673,491	18,785,362	-	-	3,046,698	215.2%
2026	5.25%	3.50%	2.75%	313,576,405	18,719,723	-	-	2,507,153	231.5%
2027	5.25%	3.50%	2.75%	312,975,436	18,159,848	-	-	2,103,755	251.9%
2028	5.25%	3.50%	2.75%	312,507,609	17,455,106	-	-	1,764,906	277.2%
2029	5.25%	3.50%	2.75%	312,400,324	16,411,452	-	-	1,426,047	308.9%
2030	5.25%	3.50%	2.75%	313,029,202	15,657,998	-	-	1,026,788	348.7%
2031	5.25%	3.50%	2.75%	314,063,886	14,806,842	-	-	770,312	400.7%
2032	5.25%	3.50%	2.75%	315,778,792	13,591,743	-	-	569,049	470.2%
2033	5.25%	3.50%	2.75%	318,650,792	12,684,688	-	-	408,980	563.6%
2034	5.25%	3.50%	2.75%	322,459,776	11,312,027	-	-	275,492	697.2%
2035	5.25%	3.50%	2.75%	327,772,961	10,373,994	-	-	128,713	890.2%
2036	5.25%	3.50%	2.75%	334,197,882	8,982,884	-	-	49,726	1,000.0%+
2037	5.25%	3.50%	2.75%	342,341,122	7,500,236	-	-	4,460	1,000.0%+
2038	5.25%	3.50%	2.75%	352,424,727	5,531,392	-	-	-	1,000.0%+
2039	5.25%	3.50%	2.75%	365,105,235	3,894,884	-	-	-	1,000.0%+
2040	5.25%	3.50%	2.75%	380,173,894	2,539,206	-	-	-	1,000.0%+
2041	5.25%	3.50%	2.75%	397,460,509	1,278,501	-	-	-	1,000.0%+
2042	5.25%	3.50%	2.75%	416,981,564	469,280	-	-	-	1,000.0%+
2043	5.25%	3.50%	2.75%	438,379,179	5,312	-	-	-	1,000.0%+
2044	5.25%	3.50%	2.75%	461,388,495	2,641	-	-	-	1,000.0%+
2045	5.25%	3.50%	2.75%	485,608,611	2,641	-	-	-	1,000.0%+

\* Beginning/End of year (Fiscal).

**Nevada Prepaid Tuition Program**  
**Projection Based on June 30, 2019 Investment Return +100 Basis Points**

Input	
Valuation	
Assumed Rate of Investment Return	<b>6.25%</b>

Estimated Valuation Results	
Present Value of Future Tuition and Fees	\$197,571,826
Present Value of Future Contract Payments	\$ 37,365,574
June 30, 2019 Actuarial Value of Assets	\$287,753,627
Unfunded Liability	\$(127,547,375)
Funded Status	164.6%
Year Insolvent	Never

Fiscal Year Ending June 30,	Actual Investment Return During Year	Actual Tuition Increase for Universities	Actual Tuition Increase for Comm. Colleges/CC	Actuarial Value of Assets (BOY*)	Projected Tuition Payments & Refunds (Discounted to BOY*)	Other Payments	Additional Transfers from NCSTF (EOY*)	Projected Contract Payments (Discounted to BOY*)	Projected Funded Status
2020	6.25%	n/a	n/a	\$ 287,753,627	\$ 18,277,549	\$ -	-	\$ 8,823,351	164.6%
2021	6.25%	4.00%	4.00%	299,985,529	18,939,958	-	-	7,418,131	173.4%
2022	6.25%	2.80%	2.80%	311,524,461	19,194,804	-	-	6,160,228	184.3%
2023	6.25%	2.80%	2.80%	319,926,621	19,175,897	-	-	5,009,514	195.8%
2024	6.25%	4.50%	3.75%	325,787,292	18,970,393	-	-	3,926,166	208.3%
2025	6.25%	4.50%	3.75%	330,164,508	19,061,264	-	-	3,032,326	222.4%
2026	6.25%	4.50%	3.75%	333,769,044	19,176,557	-	-	2,495,327	239.8%
2027	6.25%	4.50%	3.75%	336,905,803	18,781,360	-	-	2,093,832	261.4%
2028	6.25%	4.50%	3.75%	340,231,917	18,226,318	-	-	1,756,581	288.2%
2029	6.25%	4.50%	3.75%	343,997,316	17,301,403	-	-	1,419,320	321.9%
2030	6.25%	4.50%	3.75%	348,622,436	16,667,154	-	-	1,021,944	364.2%
2031	6.25%	4.50%	3.75%	353,788,303	15,914,318	-	-	766,678	419.3%
2032	6.25%	4.50%	3.75%	359,805,705	14,750,518	-	-	566,364	493.0%
2033	6.25%	4.50%	3.75%	367,222,898	13,900,662	-	-	407,051	592.0%
2034	6.25%	4.50%	3.75%	375,837,367	12,517,328	-	-	274,192	733.7%
2035	6.25%	4.50%	3.75%	386,318,871	11,593,014	-	-	128,105	938.3%
2036	6.25%	4.50%	3.75%	398,282,334	10,137,297	-	-	49,491	1,000.0%+
2037	6.25%	4.50%	3.75%	412,456,687	8,547,523	-	-	4,439	1,000.0%+
2038	6.25%	4.50%	3.75%	429,158,203	6,364,775	-	-	-	1,000.0%+
2039	6.25%	4.50%	3.75%	449,218,017	4,524,981	-	-	-	1,000.0%+
2040	6.25%	4.50%	3.75%	472,486,351	2,978,466	-	-	-	1,000.0%+
2041	6.25%	4.50%	3.75%	498,852,127	1,514,162	-	-	-	1,000.0%+
2042	6.25%	4.50%	3.75%	528,421,588	561,152	-	-	-	1,000.0%+
2043	6.25%	4.50%	3.75%	560,851,713	6,352	-	-	-	1,000.0%+
2044	6.25%	4.50%	3.75%	595,898,197	3,159	-	-	-	1,000.0%+
2045	6.25%	4.50%	3.75%	633,138,478	3,159	-	-	-	1,000.0%+

\* Beginning/End of year (Fiscal).

**Nevada Prepaid Tuition Program**  
**Projection Based on June 30, 2019 Investment Return -100 Basis Points**

Input	
Valuation	
Assumed Rate of Investment Return	<b>4.25%</b>

Estimated Valuation Results	
Present Value of Future Tuition and Fees	\$226,236,445
Present Value of Future Contract Payments	\$ 39,925,451
June 30, 2019 Actuarial Value of Assets	\$287,753,627
Unfunded Liability	\$(101,442,633)
Funded Status	144.8%
Year Insolvent	Never

Fiscal Year Ending June 30,	Actual Investment Return During Year	Actual Tuition Increase for Universities	Actual Tuition Increase for Comm. Colleges/CC	Actuarial Value of Assets (BOY*)	Projected Tuition Payments & Refunds (Discounted to BOY*)	Other Payments	Additional Transfers from NCSTF (EOY*)	Projected Contract Payments (Discounted to BOY*)	Projected Funded Status
2020	4.25%	n/a	n/a	\$ 287,753,627	\$ 18,424,983	\$ -	-	\$ 8,907,585	144.8%
2021	4.25%	4.00%	4.00%	294,353,655	19,092,030	-	-	7,488,950	150.8%
2022	4.25%	2.80%	2.80%	299,799,250	19,348,674	-	-	6,219,038	158.1%
2023	4.25%	2.80%	2.80%	301,634,191	19,329,299	-	-	5,057,338	165.6%
2024	4.25%	4.50%	3.75%	300,492,166	19,121,977	-	-	3,963,648	173.3%
2025	4.25%	4.50%	3.75%	297,460,526	19,213,121	-	-	3,061,275	181.9%
2026	4.25%	4.50%	3.75%	293,264,299	19,329,048	-	-	2,519,149	192.3%
2027	4.25%	4.50%	3.75%	288,203,713	18,930,557	-	-	2,113,821	205.2%
2028	4.25%	4.50%	3.75%	282,920,924	18,370,992	-	-	1,773,351	221.1%
2029	4.25%	4.50%	3.75%	277,642,022	17,438,666	-	-	1,432,870	240.9%
2030	4.25%	4.50%	3.75%	272,755,766	16,799,307	-	-	1,031,700	265.6%
2031	4.25%	4.50%	3.75%	267,910,156	16,040,440	-	-	773,998	297.6%
2032	4.25%	4.50%	3.75%	263,381,071	14,867,369	-	-	571,771	340.0%
2033	4.25%	4.50%	3.75%	259,671,606	14,010,734	-	-	410,937	396.7%
2034	4.25%	4.50%	3.75%	256,529,861	12,616,416	-	-	276,810	477.1%
2035	4.25%	4.50%	3.75%	254,568,341	11,684,740	-	-	129,328	592.5%
2036	4.25%	4.50%	3.75%	253,340,979	10,217,477	-	-	49,964	776.3%
2037	4.25%	4.50%	3.75%	253,508,338	8,615,109	-	-	4,481	1,000.0%+
2038	4.25%	4.50%	3.75%	255,305,863	6,415,100	-	-	-	1,000.0%+
2039	4.25%	4.50%	3.75%	259,468,620	4,560,759	-	-	-	1,000.0%+
2040	4.25%	4.50%	3.75%	265,741,445	3,002,016	-	-	-	1,000.0%+
2041	4.25%	4.50%	3.75%	273,905,854	1,526,135	-	-	-	1,000.0%+
2042	4.25%	4.50%	3.75%	283,955,857	565,589	-	-	-	1,000.0%+
2043	4.25%	4.50%	3.75%	295,434,355	6,402	-	-	-	1,000.0%+
2044	4.25%	4.50%	3.75%	307,983,641	3,183	-	-	-	1,000.0%+
2045	4.25%	4.50%	3.75%	321,069,627	3,183	-	-	-	1,000.0%+

\* Beginning/End of year (Fiscal).

## Nevada Prepaid Tuition Program

Projection Based on June 30, 2019 Tuition Increases +100 Basis Points & Investment Return -100 Basis Points

Input	
Valuation	
Assumed Rate of Investment Return	4.25%

Estimated Valuation Results	
Present Value of Future Tuition and Fees	\$236,143,296
Present Value of Future Contract Payments	\$ 39,925,451
June 30, 2019 Actuarial Value of Assets	\$287,753,627
Unfunded Liability	\$ (91,535,782)
Funded Status	138.8%
Year Insolvent	Never

Fiscal Year Ending June 30,	Actual Investment Return During Year	Actual Tuition Increase for Universities	Actual Tuition Increase for Comm. Colleges/CC	Actuarial Value of Assets (BOY*)	Projected Tuition Payments & Refunds (Discounted to BOY*)	Other Payments	Additional Transfers from NCSTF (EOY*)	Projected Contract Payments (Discounted to BOY*)	Projected Funded Status
2020	4.25%	n/a	n/a	\$ 287,753,627	\$ 18,424,983	\$ -	-	\$ 8,907,585	138.8%
2021	4.25%	4.00%	4.00%	294,353,655	19,092,030	-	-	7,488,950	143.9%
2022	4.25%	2.80%	2.80%	299,799,250	19,348,674	-	-	6,219,038	150.3%
2023	4.25%	2.80%	2.80%	301,634,191	19,329,299	-	-	5,057,338	156.6%
2024	4.25%	5.50%	4.75%	300,492,166	19,295,661	-	-	3,963,648	162.9%
2025	4.25%	5.50%	4.75%	297,279,460	19,569,189	-	-	3,061,275	169.8%
2026	4.25%	5.50%	4.75%	292,704,337	19,874,023	-	-	2,519,149	178.2%
2027	4.25%	5.50%	4.75%	287,051,816	19,649,234	-	-	2,113,821	188.6%
2028	4.25%	5.50%	4.75%	280,970,851	19,250,398	-	-	1,773,351	201.3%
2029	4.25%	5.50%	4.75%	274,692,291	18,447,708	-	-	1,432,870	217.2%
2030	4.25%	5.50%	4.75%	268,628,745	17,942,110	-	-	1,031,700	236.8%
2031	4.25%	5.50%	4.75%	262,416,364	17,296,570	-	-	773,998	262.2%
2032	4.25%	5.50%	4.75%	256,344,278	16,186,193	-	-	571,771	295.7%
2033	4.25%	5.50%	4.75%	250,960,875	15,401,148	-	-	410,937	340.4%
2034	4.25%	5.50%	4.75%	245,999,417	14,002,384	-	-	276,810	403.6%
2035	4.25%	5.50%	4.75%	242,145,481	13,095,261	-	-	129,328	493.9%
2036	4.25%	5.50%	4.75%	238,919,680	11,562,349	-	-	49,964	637.2%
2037	4.25%	5.50%	4.75%	237,072,105	9,844,002	-	-	4,481	876.7%
2038	4.25%	5.50%	4.75%	236,889,969	7,400,423	-	-	-	1,000.0%+
2039	4.25%	5.50%	4.75%	239,242,852	5,311,584	-	-	-	1,000.0%+
2040	4.25%	5.50%	4.75%	243,873,346	3,529,660	-	-	-	1,000.0%+
2041	4.25%	5.50%	4.75%	250,558,293	1,811,546	-	-	-	1,000.0%+
2042	4.25%	5.50%	4.75%	259,318,484	677,789	-	-	-	1,000.0%+
2043	4.25%	5.50%	4.75%	269,632,925	7,672	-	-	-	1,000.0%+
2044	4.25%	5.50%	4.75%	281,084,326	3,815	-	-	-	1,000.0%+
2045	4.25%	5.50%	4.75%	293,026,433	3,815	-	-	-	1,000.0%+

\* Beginning/End of year (Fiscal).

## Nevada Prepaid Tuition Program

**Projection Based on June 30, 2019 Tuition Increases -100 Basis Points & Investment Return +100 Basis Points**

Input	
Valuation	
Assumed Rate of Investment Return	<b>6.25%</b>

Estimated Valuation Results	
Present Value of Future Tuition and Fees	\$190,348,624
Present Value of Future Contract Payments	\$ 37,365,574
June 30, 2019 Actuarial Value of Assets	\$287,753,627
Unfunded Liability	\$(134,770,577)
Funded Status	170.8%
Year Insolvent	Never

Fiscal Year Ending June 30,	Actual Investment Return During Year	Actual Tuition Increase for Universities	Actual Tuition Increase for Comm. Colleges/CC	Actuarial Value of Assets (BOY*)	Projected Tuition Payments & Refunds (Discounted to BOY*)	Other Payments	Additional Transfers from NCSTF (EOY*)	Projected Contract Payments (Discounted to BOY*)	Projected Funded Status
2020	6.25%	n/a	n/a	\$ 287,753,627	\$ 18,277,549	\$ -	-	\$ 8,823,351	170.8%
2021	6.25%	4.00%	4.00%	299,985,529	18,939,958	-	-	7,418,131	180.7%
2022	6.25%	2.80%	2.80%	311,524,461	19,194,804	-	-	6,160,228	192.9%
2023	6.25%	2.80%	2.80%	319,926,621	19,175,897	-	-	5,009,514	206.1%
2024	6.25%	3.50%	2.75%	325,787,292	18,798,071	-	-	3,926,166	220.7%
2025	6.25%	3.50%	2.75%	330,347,599	18,711,354	-	-	3,032,326	237.4%
2026	6.25%	3.50%	2.75%	334,335,357	18,646,110	-	-	2,495,327	257.9%
2027	6.25%	3.50%	2.75%	338,071,110	18,088,507	-	-	2,093,832	283.5%
2028	6.25%	3.50%	2.75%	342,206,212	17,386,587	-	-	1,756,581	315.5%
2029	6.25%	3.50%	2.75%	346,987,220	16,347,062	-	-	1,419,320	355.8%
2030	6.25%	3.50%	2.75%	352,813,196	15,596,600	-	-	1,021,944	406.6%
2031	6.25%	3.50%	2.75%	359,378,449	14,748,811	-	-	766,678	473.1%
2032	6.25%	3.50%	2.75%	366,983,586	13,538,497	-	-	566,364	562.4%
2033	6.25%	3.50%	2.75%	376,137,170	12,635,016	-	-	407,051	682.9%
2034	6.25%	3.50%	2.75%	386,653,530	11,267,745	-	-	274,192	856.0%
2035	6.25%	3.50%	2.75%	399,138,725	10,333,406	-	-	128,105	1,000.0%+
2036	6.25%	3.50%	2.75%	413,241,763	8,947,752	-	-	49,491	1,000.0%+
2037	6.25%	3.50%	2.75%	429,614,971	7,470,913	-	-	4,439	1,000.0%+
2038	6.25%	3.50%	2.75%	448,532,779	5,509,767	-	-	-	1,000.0%+
2039	6.25%	3.50%	2.75%	470,711,951	3,879,657	-	-	-	1,000.0%+
2040	6.25%	3.50%	2.75%	496,009,312	2,529,279	-	-	-	1,000.0%+
2041	6.25%	3.50%	2.75%	524,322,535	1,273,503	-	-	-	1,000.0%+
2042	6.25%	3.50%	2.75%	555,739,597	467,445	-	-	-	1,000.0%+
2043	6.25%	3.50%	2.75%	589,976,661	5,291	-	-	-	1,000.0%+
2044	6.25%	3.50%	2.75%	626,844,581	2,631	-	-	-	1,000.0%+
2045	6.25%	3.50%	2.75%	666,019,572	2,631	-	-	-	1,000.0%+

\* Beginning/End of year (Fiscal).

## Nevada Prepaid Tuition Program

**Projection Based on June 30, 2019 Tuition Increases +25 Basis Points & Investment Return +50 Basis Points**

Input	
Valuation	
Assumed Rate of Investment Return	5.75%

Estimated Valuation Results	
Present Value of Future Tuition and Fees	\$206,159,709
Present Value of Future Contract Payments	\$ 37,973,353
June 30, 2019 Actuarial Value of Assets	\$287,753,627
Unfunded Liability	\$(119,567,271)
Funded Status	158.0%
Year Insolvent	Never

Fiscal Year Ending June 30,	Actual Investment Return During Year	Actual Tuition Increase for Universities	Actual Tuition Increase for Comm. Colleges/CC	Actuarial Value of Assets (BOY*)	Projected Tuition Payments & Refunds (Discounted to BOY*)	Other Payments	Additional Transfers from NCSTF (EOY*)	Projected Contract Payments (Discounted to BOY*)	Projected Funded Status
2020	5.75%	n/a	n/a	\$ 287,753,627	\$ 18,314,011	\$ -	-	\$ 8,844,185	158.0%
2021	5.75%	4.00%	4.00%	298,577,506	18,977,566	-	-	7,435,647	165.8%
2022	5.75%	2.80%	2.80%	308,571,910	19,232,857	-	-	6,174,774	175.4%
2023	5.75%	2.80%	2.80%	315,286,990	19,213,834	-	-	5,021,343	185.4%
2024	5.75%	4.75%	4.00%	319,324,472	19,051,045	-	-	3,935,437	196.2%
2025	5.75%	4.75%	4.00%	321,700,874	19,186,994	-	-	3,039,487	208.2%
2026	5.75%	4.75%	4.00%	323,122,685	19,348,741	-	-	2,501,219	223.0%
2027	5.75%	4.75%	4.00%	323,885,985	18,994,954	-	-	2,098,776	241.3%
2028	5.75%	4.75%	4.00%	324,641,721	18,477,534	-	-	1,760,729	263.9%
2029	5.75%	4.75%	4.00%	325,630,599	17,581,655	-	-	1,422,672	292.3%
2030	5.75%	4.75%	4.00%	327,266,234	16,977,786	-	-	1,024,357	327.8%
2031	5.75%	4.75%	4.00%	329,213,291	16,249,918	-	-	768,489	374.0%
2032	5.75%	4.75%	4.00%	331,771,443	15,097,861	-	-	567,702	435.6%
2033	5.75%	4.75%	4.00%	335,482,658	14,262,396	-	-	408,012	518.1%
2034	5.75%	4.75%	4.00%	340,121,900	12,874,064	-	-	274,840	635.9%
2035	5.75%	4.75%	4.00%	346,355,229	11,952,584	-	-	128,408	805.5%
2036	5.75%	4.75%	4.00%	353,766,589	10,477,159	-	-	49,608	1,000.0%+
2037	5.75%	4.75%	4.00%	363,081,032	8,855,603	-	-	4,449	1,000.0%+
2038	5.75%	4.75%	4.00%	374,598,097	6,609,981	-	-	-	1,000.0%+
2039	5.75%	4.75%	4.00%	389,147,433	4,710,544	-	-	-	1,000.0%+
2040	5.75%	4.75%	4.00%	406,542,010	3,108,021	-	-	-	1,000.0%+
2041	5.75%	4.75%	4.00%	426,631,443	1,583,804	-	-	-	1,000.0%+
2042	5.75%	4.75%	4.00%	449,487,878	588,366	-	-	-	1,000.0%+
2043	5.75%	4.75%	4.00%	474,711,234	6,660	-	-	-	1,000.0%+
2044	5.75%	4.75%	4.00%	502,000,088	3,312	-	-	-	1,000.0%+
2045	5.75%	4.75%	4.00%	530,861,590	3,312	-	-	-	1,000.0%+

\* Beginning/End of year (Fiscal).