### STATE OF ILLINOIS ILLINOIS STUDENT ASSISTANCE COMMISSION ILLINOIS PREPAID TUITION PROGRAM

### **FINANCIAL AUDIT**

June 30, 2017

Performed as Special Assistant Auditors for the Auditor General, State of Illinois

### STATE OF ILLINOIS ILLINOIS STUDENT ASSISTANCE COMMISSION ILLINOIS PREPAID TUITION PROGRAM

### FINANCIAL AUDIT June 30, 2017

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### STATE OF ILLINOIS ILLINOIS STUDENT ASSISTANCE COMMISSION ILLINOIS PREPAID TUITION PROGRAM AGENCY OFFICIALS

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Chief Financial Officer Shoba Nandhan

Chief Investment Officer Kent Custer

General Counsel Karen Salas

Agency offices are located at:

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## STATE OF ILLINOIS ILLINOIS STUDENT ASSISTANCE COMMISSION ILLINOIS PREPAID TUITION PROGRAM SUMMARY June 30, 2017

### **SUMMARY**

The audit of the accompanying financial statements of the Illinois Prepaid Tuition Program of the State of Illinois, Illinois Student Assistance Commission (Program) was performed by Crowe Horwath LLP.

Based on their audit, the auditors expressed an unmodified opinion on the Program's financial statements.

### **EXIT CONFERENCE**

In correspondence received from Wendy Funk, Director of Accounting and Finance, on November 17, 2017, the Commission elected to waive an exit conference.



### **Independent Auditor's Report**

Honorable Frank J. Mautino Auditor General State of Illinois, and

Mr. Kevin B. Huber Chair of the Governing Board Illinois Student Assistance Commission

### **Report on the Financial Statements**

As Special Assistant Auditors for the Auditor General, we have audited the accompanying financial statements of the Illinois Prepaid Tuition Program of the State of Illinois, Illinois Student Assistance Commission as of and for the year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the Illinois Prepaid Tuition Program of the State of Illinois, Illinois Student Assistance Commission's basic financial statements, as listed in the table of contents.

### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### **Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Illinois Prepaid Tuition Program of the State of Illinois, Illinois Student Assistance Commission, as of June 30, 2017, and the changes in financial position and its cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

### Emphasis of Matters

As discussed in Note 2, the financial statements present only the Illinois Prepaid Tuition Program, and do not purport to, and do not present fairly the financial position of the State of Illinois or the State of Illinois, Illinois Student Assistance Commission, as of June 30, 2017, and the changes in its financial position or, where applicable, its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

As discussed in Notes 9 and 10, the Illinois Prepaid Tuition Program has a deficit as of June 30, 2017 of \$286 million. The amount of the fund deficit is highly dependent on the actuarial assumptions used to calculate the actuarial present value of future tuition benefit obligations.

Our opinion is not modified with respect to these matters.

### Other Matters

### Required Supplementary Information

Management has omitted management's discussion and analysis for the Illinois Prepaid Tuition Program that accounting principles generally accepted in the United States of America requires to be presented to supplement the financial statements. Such missing information, although not a required part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic or historical context. Our opinion on the financial statements is not affected by this missing information.

### Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements of the Illinois Prepaid Tuition Program of the State of Illinois, Illinois Student Assistance Commission. The Other Information, consisting of the actuarial soundness reports, are presented for purposes of additional analysis and are not a required part of the financial statements. The actuarial soundness reports have not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

### Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated January 9, 2018, on our consideration of the State of Illinois, Illinois Student Assistance Commission's internal control over financial reporting of the Illinois Prepaid Tuition Program and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Illinois Student Assistance Commission's internal control over financial reporting of the Illinois Prepaid Tuition Program and its compliance.

SIGNED ORIGINAL ON FILE

Crowe Horwath LLP

Oak Brook, Illinois January 9, 2018

# STATE OF ILLINOIS ILLINOIS STUDENT ASSISTANCE COMMISSION ILLINOIS PREPAID TUITION PROGRAM STATEMENT OF NET POSITION June 30, 2017

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ASSETS	
Current	
Cash and cash equivalents	\$ 25,031,456
Investments	152,229,738
Receivables:	
Contracts receivable	12,865,968
Accrued interest on investments	1,781
Total current assets	190,128,943
Noncurrent	
Investments	727,555,461
Recoverable Taxes	156,158
Contracts receivable	33,130,553
Total non-current assets	760,842,172
Total assets	950,971,115
LIABILITIES	
Current	
Accounts payable and accrued expenses	1,284,588
Due to other ISAC funds	284,286
Due to State of Illinois component units	81,917
Tuition obligation	152,763,917
Total current liabilities	154,414,708
Noncurrent	
Tuition obligation	1,082,949,844
Total liabilities	1,237,364,552
Net position, unrestricted (deficit)	<u>\$ (286,393,437)</u>

### STATE OF ILLINOIS ILLINOIS STUDENT ASSISTANCE COMMISSION ILLINOIS PREPAID TUITION PROGRAM

### STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

For the Year Ended June 30, 2017

Operating revenues: Income from investment securities (net of closed end funds investment management fees of \$2,339,092; see Note 3) Interest revenue, other Fees Tuition contract revenue Total operating revenues	\$ 68,788,738 264,990 422,117 16,827,548 86,303,393
Operating expenses:	
Salaries and employee benefits	2,822,948
Accreted tuition expense	147,426,097
Management and professional services	3,724,236
Investment management fees	891,160
Investment advisory fees	2,710,957
Total operating expenses	157,575,398
Operating loss, change in net position	(71,272,005)
Net position (deficit), July 1, 2016	(215,121,432)
Net position (deficit), June 30, 2017	\$ (286,393,437)

### STATE OF ILLINOIS ILLINOIS STUDENT ASSISTANCE COMMISSION ILLINOIS PREPAID TUITION PROGRAM STATEMENT OF CASH FLOWS

For the Year Ended June 30, 2017

Cash flows from operating activities  Cash receipts from tuition contracts Cash received from fees Cash paid for refund of contracts Cash paid for tuition Cash payments to suppliers for goods and services Cash payments to employees for services Net cash used by operating activities	\$ 23,257,728 422,117 (18,216,341) (125,515,556) (3,808,062) (2,822,948) (126,683,062)
Cash flows from investing activities  Purchase of investment securities  Proceeds from sales and maturities of investment securities Interest and dividends on investments  Cash paid to investment managers  Net cash provided by investing activities	(395,160,517) 499,164,934 46,850,443 (891,160) 149,963,700
Net increase in cash and cash equivalents	23,280,639
Cash and cash equivalents, July 1, 2016	1,750,817
Cash and cash equivalents, June 20, 2017	\$ 25,031,456

### STATE OF ILLINOIS ILLINOIS STUDENT ASSISTANCE COMMISSION ILLINOIS PREPAID TUITION PROGRAM STATEMENT OF CASH FLOWS

For the Year Ended June 30, 2017

Reconciliation of operating loss to	
net cash used in operating activities	S

net cash used in operating activities	
Operating loss, change in net position	\$ (71,272,005)
Adjustments to reconcile operating loss to net cash	,
used by operating activities:	
Accreted tuition contract revenue	(16,827,548)
Investment income and other interest income	(69,053,729)
Investment management fees	891,160
Investment advisory fees	2,710,957
Accreted tuition expense	147,426,097
Decrease in assets:	, ,
Contracts receivable	5,210,120
Increase (decrease) in liabilities:	
Accounts payable and accrued expenses	118,303
Due to other ISAC funds	2,843
Due to State of Illinois component units	(204,971)
Tuition obligation	(125,684,289)
Total adjustments	(55,411,057)
Net cash used by operating activities	<u>\$ (126,683,062)</u>
Supplemental disclosure of noncash investing activities:	
Net appreciation in fair value of investments	\$ 42,582,199

### **NOTE 1 - DESCRIPTION OF PROGRAM**

The Illinois Student Assistance Commission (ISAC or Commission) administers the nonshared proprietary fund, Illinois Prepaid Tuition Program (*College Illinois!*® or Program) described below. A nonshared fund is a fund in which a single State agency is responsible for administering substantially all financial transactions of the fund.

Legislation authorizing ISAC to administer an Illinois Prepaid Tuition Program was passed in November 1997. The purpose of this program is to provide Illinois families with an affordable tax-advantaged method to pay for college. Illinois Prepaid Tuition contracts will allow participants to prepay the cost of tuition and mandatory fees at Illinois public universities and community colleges. Benefits of the contracts can also be used at private and out-of-state colleges and universities. Contracts can be purchased in a lump sum payment or in installments.

The Illinois Prepaid Tuition Program Fund is a non-appropriated fund.

<u>Program Administration</u>: Oversight of the Program is provided by the Illinois Student Assistance Commission, an agency of the State of Illinois, which was established more than 50 years ago with the mission of helping to make college accessible and affordable for Illinois students. The agency is governed by the Commission, a board of ten persons (barring temporary vacancies) appointed by the Governor. The Commission employs and provides direction to an Executive Director who is responsible for overseeing and implementing the Commission's day-to-day operations. The Commission's administrative powers include, but are not limited to: adopting a sound Investment Policy; approving any changes to the investment manager structure; and monitoring and evaluating the investment performance of the Fund.

The Investment Committee (or Committee) refers to a committee consisting of at least three members of the Commission with knowledge of investing. Investment Committee members shall be selected by the Chair of the Commission and approved by a vote of the Commission. The Investment Committee is generally responsible for monitoring Fund investments and performance to ensure compliance with the Investment Policy and making related recommendations to the Commission.

The Commission also appoints the members of the Investment Advisory Panel. The Panel consists of seven persons (barring temporary vacancies) with expertise in the areas of accounting, actuarial practice, risk management or investment management. It provides advice to the Commission on issues related to the Program's financial policies and practices and its investment strategy and asset allocation with the objective of obtaining the best possible return on investments, consistent with the actuarial soundness of the Program. The Investment Advisory Panel may also advise on other aspects of the Program.

The Program has been designed to comply with all requirements relating to qualified tuition programs under Section 529 of the Internal Revenue Code of 1986 and Illinois law.

### NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Illinois Prepaid Tuition Program administered by ISAC have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as prescribed by the Governmental Accounting Standards Board (GASB). To facilitate the understanding of data included in the financial statements, summarized below are the more significant accounting policies.

Reporting Entity: The Illinois Prepaid Tuition Program does not have component units, nor is it a component unit of any other entity. The Illinois Prepaid Tuition Program is not legally separate from the State of Illinois; it is included in the financial statements of the State as a proprietary fund. The State of Illinois' Comprehensive Annual Financial Report may be obtained by writing to the State Comptroller's Office, Financial Reporting Department, 325 West Adams Street, Springfield, Illinois 62704-1871.

The financial statements present only the Illinois Prepaid Tuition Program administered by the State of Illinois, Illinois Student Assistance Commission (ISAC) and do not purport to, and do not, present fairly the financial position of the State of Illinois or ISAC as of June 30, 2017, and changes in their financial positions and cash flows, where applicable, for the year then ended in conformity with accounting principles generally accepted in the United States of America.

The assets of the Fund are to be preserved, invested and expended solely pursuant to and for the purposes of the Fund and may not be loaned or otherwise transferred or used by the State for any other purpose.

<u>Basis of Presentation</u>: In government, the basic accounting and reporting entity is a fund. A fund is a self-balancing set of accounts segregated for specific purposes/activities generally in accordance with laws and regulations or specific restrictions or limitations on resource use. As a proprietary fund, a statement of net position, statement of revenues, expenses, and changes in net position, and statement of cash flows have been presented for the Illinois Prepaid Tuition Program administered by ISAC.

Operating revenues result from exchange transactions associated with the principal activity of the fund. Exchange transactions are those in which each party receives and gives up essentially equal values. Due to the nature of the Illinois Prepaid Tuition Program activities, income from investments is considered an operating activity in the Statement of Revenues, Expenses, and Changes in Net Position. The fund has no nonoperating activities.

<u>Basis of Accounting</u>: The Illinois Prepaid Tuition Program is reported as an enterprise fund, using the economic resources measurement focus and the accrual basis of accounting.

Revenues are recorded when earned and expenses are recorded at the time liabilities are incurred, regardless of when the related cash flow takes place. The fund accounts for resources received and used for financing self-supporting activities of the Illinois Prepaid Tuition Program that offers services (prepaid tuition contracts) on a user-charge basis to the general public.

<u>Cash and Cash Equivalents</u>: Cash and cash equivalents consist principally of deposits held in the State Treasury. Cash and cash equivalents include cash on hand, cash in banks, interest bearing deposits with banks, and investments in the Illinois Fund.

### NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

<u>Investments</u>: The Illinois Prepaid Tuition Program presents investments on its Statement of Net Position at fair value or amortized cost which approximates fair value – see Note 3 for information on the determination of fair value. The net appreciation or depreciation in the fair value of investments since the prior fiscal year (or purchase date for Fiscal Year 2017 purchases) is included in investment income in the Statement of Revenues, Expenses, and Changes in Net Position. Dividend and interest income are recorded in the period earned.

<u>Contracts Receivable</u>: Contracts receivable represents the amount the Program expects to receive from contract holders for contracts purchased on an installment basis. The actuarially determined present value of future contributions was \$45,996,521 as of June 30, 2017 using a 6.5% discount rate. The Program expects to receive contributions totaling \$12,865,968 in Fiscal Year 2018. This amount has been classified as current contracts receivable on the Statement of Net Position. The total contract receivable balance is expected to be received over the next fifteen years.

<u>Interfund Transactions</u>: The Illinois Prepaid Tuition Program has the following type of interfund transactions with other funds of the State:

Loans—amounts provided with a requirement for repayment. Interfund loans are reported as interfund receivables (i.e. due from other funds) in lender funds and interfund payables (i.e. due to other funds) in borrower funds.

Reimbursements—repayments from the funds responsible for particular expenditures or expenses to the funds that initially paid for them. Reimbursements are reported as expenditures/expenses in the reimbursing fund and as a reduction of expenditures/expenses in the reimbursed fund.

Transfers—flows of assets (such as cash or goods) without equivalent flow of assets in return and without a requirement for repayment. Transfers are reported after nonoperating revenues and expenses.

<u>Tuition Obligation</u>: The tuition obligation in the Illinois Prepaid Tuition Program represents the net contract amount for the 38,397 contracts held by the fund as of June 30, 2017, plus the actuarially-determined present value of future benefits the Program expects to provide to contract holders for all contracts.

<u>Net Position (Deficit)</u>: Net position at year-end (when positive) is restricted by the provisions of the tuition contracts, for tuition payments for beneficiaries of the contract owners. Net deficits however are categorized as unrestricted, and represent the unfunded liability of the Program.

<u>Use of Estimates</u>: The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, deferred inflows of resources, liabilities, deferred outflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

<u>Funding and Actuarial Assistance</u>: Program funding is derived entirely from payments received from contract purchasers and the investment income earned by the Fund. The Commission has obtained actuarial assistance in order to measure the Fund's obligations. The assets of the Fund are to be preserved, invested, and expended solely pursuant to and for the purposes of the Fund and may not be loaned or otherwise transferred or used by the State for any other purpose.

### **NOTE 3 - DEPOSITS AND INVESTMENTS**

Investment Authority and Legal Compliance: The State Treasury is the custodian of the State's cash and cash equivalents for the Illinois Prepaid Tuition Program maintained in the State Treasury. The investment authority for the State Treasury is found in the State Treasurer Act (15 ILCS 505), which authorizes the State of Illinois primary government and its component units to engage in a wide variety of investment activities. For further details please refer to the State of Illinois Comprehensive Annual Financial Report (CAFR). A copy of the CAFR can be obtained from the Illinois Office of the Comptroller at 325 West Adams, Springfield, Illinois 62704.

The Illinois Prepaid Tuition Program independently manages cash and cash equivalents maintained outside the State Treasury.

The Commission board members have ultimate responsibility for the success and safety of the investment program. Specific responsibilities of the Commission include, but are not limited to, the following:

- 1. Adopting a sound investment policy. The Policy may be modified from time to time by action of the Commission and shall be adopted annually by the Commission in accordance with the Act.
- 2. Adopting a sound asset allocation policy. The asset allocation policy shall be reviewed and amended as necessary but at least every three years.
- 3. Approving any changes to the investment manager structure.
- 4. Approving the selection and termination of any investment service provider.
- 5. Monitoring and evaluating the investment performance of the Fund and ensuring the risk profile is consistent with Policy objectives.
- 6. Establishing the primary duties and responsibilities of those accountable for achieving and reviewing investment results.
- 7. Adopting and reviewing, at least annually, the diversity policies required by section 30(b-5) of the Prepaid Tuition Act (110 ILCS 979/30(b-5).

The Commission may not delegate its oversight and management responsibilities but will be assisted in its functions by other sub committees, panels and agency staff.

The Commission by statute (Illinois Prepaid Tuition Act, 110 ILCS 979) is required to appoint an investment advisory panel to offer advice and counseling regarding the investments of the Illinois Prepaid Tuition Program.

The Commission appoints members to the panel in a manner consistent with the representation prescribed in the Act. The panel is required to annually review and advise the Commission on provisions of the strategic comprehensive investment plan.

The Investment Policy (Policy) represents the comprehensive investment plan as referred to in the Act. The Policy is reviewed by the Commission annually and identifies a set of investment objectives, guidelines, and performance standards for the investment of the assets of the Fund.

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

The Commission also appoints an Investment Committee consisting of at least three (3) members of the Commission with knowledge of investing. Investment Committee members are selected by the Chair of the Commission and approved by a vote of the Commission. The Investment Committee meets at least quarterly with the Chief Investment Officer and the Investment Consultant.

The Investment Committee is generally responsible for monitoring Fund investments and performance to ensure compliance with the Investment Policy and for considering investment initiatives for potential recommendation to the full Commission.

The Chief Investment Officer (CIO) is responsible for the day to day operation and oversight of the Fund and for coordinating the activities of the Investment Committee, the Investment Advisory Panel, and investment related activities of the Commission. The CIO reports directly to the Executive Director and has a "dotted-line" reporting relationship to the Commission. The CIO has the authority and responsibility to ensure that the Commission is adequately informed on matters and concerns relating to Fund investments. The CIO will work closely with the Executive Director, Investment Consultant and Investment Staff to carry out the duties and responsibilities of this role.

In accordance with the Prepaid Tuition Act, the Commission may arrange to compensate for personalized investment advisory services rendered with respect to any or all of the investments under its control to an investment advisor registered under Section 8 of the Illinois Securities Law of 1953 or any bank or other entity authorized by law to provide those services.

A qualified investment consultant, on an ongoing basis, evaluates the Illinois Prepaid Tuition Program. The primary role of the Investment Consultant is to provide the information, analysis, and advice required by the Investment Staff, Investment Advisory Panel, Investment Committee, and Commission to carry out their duties and to assist them in developing and implementing a prudent process for monitoring and evaluating Fund investments. The Investment Consultant will work closely with the CIO, but is expected to provide an independent perspective to the Investment Committee and Commission.

Written reports are provided to the Commission by the investment consultant no later than 45 days after the end of each calendar quarter. The CIO and investment consultant meet with the various investment managers on a regular basis to review the investment guidelines and the asset/liability structure of the Program. The investment consultant also assists the CIO, Investment Committee, Commission and the Investment Advisory Panel with the selection of investment managers and custodians.

The qualified investment consultant retained by the Commission is expected to provide an independent prospective within the parameters set forth in the investment policy guidelines. The Program has contracted with Callan Associates to evaluate the investment performance of the Illinois Prepaid Tuition Program on an ongoing basis.

The investment policy authorizes the Commission to utilize a third party custodian to safe-keep the assets of the Fund and to provide reports on a monthly basis to all relevant parties. The custodian retained by the Commission is required to exercise discretion within the parameters set forth in the investment policy guidelines for the portfolio(s) they manage on behalf of the Fund.

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

The Custodian has three primary responsibilities, namely: (1) Safekeeping of Assets – custody, pricing and accounting and reporting of assets owned by the Fund; (2) Trade Processing – track and reconcile assets that are acquired and disposed; and, (3) Asset Servicing – maintain all economic benefits of ownership such as income collection, corporate actions, and proxy notification issues.

The Commission may direct that assets of the Program's Funds be placed in savings accounts or may use the same to purchase fixed or variable life insurance or annuity contracts, securities, evidence of indebtedness, or other investment products pursuant to the comprehensive investment plan and in such proportions as may be designated or approved under that plan.

The Commission also authorizes the hiring of professional investment managers to manage the assets of the Fund. Investment managers are hired who, by their record and experience have demonstrated their fiduciary responsibility, their investment expertise, their investment experience, and their capacity to undertake the mandate for which they are being considered. Investment managers retained for the Illinois Prepaid Tuition Program acknowledge in writing that they are a fiduciary with respect to the Fund or that they are a fiduciary to a limited partnership or commingled fund in which the College Illinois Prepaid Tuition Trust Fund is an investor.

Unless otherwise exempt from registration, investment managers need to be currently registered and maintain registration as an investment advisor under the Investment Advisors Act of 1940, a bank (as defined in the Act), or an insurance company qualified to perform investment management services under the law of more than one state unless otherwise approved on an exception basis.

The Commission has established strict guidelines to ensure that hiring decisions are made in a full-disclosure environment characterized by competitive selection, objective evaluation, and proper documentation. The overriding consideration with respect to all decisions is that they shall be made solely in the best interest of participants and beneficiaries of the Fund.

The Illinois Prepaid Tuition Program investment policy dictates certain guidelines and restrictions that apply to each approved asset class. Such restrictions may include certain prohibited transactions, as well as restrictions on portfolio composition. In accordance with the investment policy approved on June 25, 2012, the Fund will not make any new direct private investments or new co-investments that are tied to a single company or investment.

<u>Custodial Credit Risk - Deposits</u>: Custodial credit risk is the risk that in the event of a bank failure, the Illinois Prepaid Tuition Program's deposits may not be returned to it. State law (30 ILCS 230/2C) requires that all deposits of public funds be covered by FDIC insurance or eligible collateral. The Illinois Prepaid Tuition Program has no policy that would further limit the requirements under State law. As of June 30, 2017, the Illinois Prepaid Tuition Program's deposits held outside the State Treasury were not exposed to custodial credit risk.

<u>Investments</u>: ISAC is required annually to adopt a comprehensive investment policy to invest the funds received through contract payments. The Commission approved the Illinois Prepaid Tuition Program's most recent revision to the investment policy in December 2016.

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### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

The comprehensive investment plan specifies the investment policies to be utilized by the Commission in its administration of the Illinois Prepaid Tuition Program. The Commission may direct that assets of the Program be invested in a manner that will meet or exceed the return of the Policy Benchmark consistent with the actuarial soundness of the Fund and the risk level expected from the asset allocation. The investments should be in compliance with all applicable federal and state laws and other statutes governing the investment of Illinois Prepaid Tuition Program resources.

The Commission is required to adopt a sound asset allocation that is reviewed at least once every three years. The asset allocation establishes target weights for each asset class and is designed to maximize the long-term expected return of the Program within an acceptable risk tolerance while providing liquidity to meet Program liabilities.

The table below establishes the interim and long-term asset allocation targets. In order to minimize trading costs and market risk associated with transitioning to the long-term targets, Program cash flows will be used to move gradually toward the long-term target weights. Interim target weights are established for purposes of calculating the policy benchmark and for rebalancing controls.

	Targets		Rebalancing R	
Asset Allocation	Long-term	<u>Interim</u>	Lower Limit	Upper Limit
U.S. equity	22.00%	22.00%	19.00%	25.00%
Non-U.S. equity	20.00%	18.00%	15.00%	21.00%
Fixed income	25.00%	21.00%	18.00%	24.00%
High yield	3.00%	4.00%	3.00%	5.00%
REIT	5.00%	5.00%	3.00%	7.00%
Absolute return	9.00%	9.00%	7.00%	11.00%
Real estate	5.00%	9.00%	N/A	N/A
Infrastructure	5.00%	9.00%	N/A	N/A
Private equity	5.00%	2.00%	N/A	N/A
Cash	1.00%	1.00%	0.00%	4.00%

The primary benchmark (the Policy Benchmark) for evaluating the performance of the Program is a Target Index consisting of a market index or equivalent for each asset class, weighted in accordance with the target allocation (or interim target allocation if applicable). Over a three to five year period the Program is expected to generate returns, after payment of all fees and expenses, which exceed the returns of the Target Index.

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

The Target Index components are as follows.

Asset Class	<u>Index</u>	<u>Weight</u>
U.S. Equity	Russell 3000	22.00%
Non-U.S. Equity	MSCI EAFE	18.00%
Fixed Income	BC U.S. Aggregate	21.00%
High Yield	BofA MLHY	4.00%
REIT	MSCI US REIT	5.00%
Absolute Return	90-day T Bills +4%	9.00%
Real Estate	NCREIF ODCE	9.00%
Infrastructure	90-day T Bills +4%	9.00%
Private Equity	Russell 3000 + 3%	2.00%
Cash	90-day T-Bills	1.00%

ISAC has established investment guidelines for the investment managers and conducts thorough due diligence before the appointment of all investment managers. ISAC has retained Alinda Capital Partners, Ativo Capital Management, CM Growth Capital Partners LP, DDJ Capital Management, Dimensional Fund Advisors, Garcia Hamilton and Associates, JP Morgan Asset Management, Kennedy Wilson, Lyrical-Antheus Realty Partners, Mesirow Financial, Morgan Stanley AIP, Neuberger Berman, Pinnacle Asset Management, Portfolio Advisors, RhumbLine Advisers, Security Capital Research and Management, State Street Global Advisors and T. Rowe Price Associates as investment managers to assist with the investment of the Program assets for the Illinois Prepaid Tuition Program.

Use of funds invested on behalf of the Illinois Prepaid Tuition Program by the investment managers is restricted to the payout of tuition and fee benefits for Program beneficiaries and the administrative costs of running the program.

As of June 30, 2017, 22.8% of the funds were invested in Domestic Equities, 20.8% in Fixed Income, 19.2% in International Equities, 7.1% in Infrastructure Funds, 8.2% in Absolute Return Funds, 2.2% in Private Equity Funds, 7.7% in Real Estate, 4.6% in Real Estate Investment Trust, 4.6% in High Yield, and 2.8% in cash and equivalents.

Investments owned are reported at fair value or amortized cost as follows:

- 1. U.S. Government and Agency, Foreign and Corporate Obligations, Convertible Bonds prices quoted by a major dealer in such securities;
- Common Stock and Equity Funds, Preferred Stock, Foreign Equity Securities (a) Listed closing
  prices as reported on the composite summary of national securities exchanges; (b) Over-thecounter bid prices;
- Money Market Instruments amortized cost which approximates fair values;
- 4. Real Estate Investments fair values as determined by its investment managers and reviewed by Program investment staff and the investment consultant;

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

5. Private Equity, Absolute Return, and Infrastructure Funds – fair values as determined by its investment managers and reviewed by Program investment staff and the investment consultant. Valuations generally are based on the investee's last audited financial statements (generally December 31) and differences attributed to cash flows and subsequent events through June 30.

The Program's investment in REITs represents convertible debt, senior unsecured debt securities, and preferred and common equity securities. Investment strategies of private equity funds include secondary funds.

The Program's investments in infrastructure represent investments used to seek capital appreciation and current income by acquiring, holding, financing, refinancing and disposing of infrastructure investment and related assets. Infrastructure assets include various public works such as water utility, toll roads, inland barge terminals and a gas pipeline system.

The Program's investments in absolute return funds (funds of hedge funds) employ a broad range of diversifying investment strategies including arbitrage, global commodities, and global macro.

Private equity, real estate and infrastructure investment portfolios consist of passive interests in non-publicly traded companies. The Program had outstanding unfunded commitments of approximately \$5 million to private equity partnerships and \$6 million to infrastructure funds as of June 30, 2017.

Recoverable taxes are taxes paid by legacy international equity investment managers to foreign governments. ISAC's custodian then reclaims tax withheld on dividends and interest in markets where tax reclaim benefits are available. These legacy investment managers no longer have assets under management. Their accounts at the custodian consist solely of recoverable taxes.

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

The Illinois Prepaid Tuition Program's cash and investments at June 30, 2017 are presented below by investment type and by investment manager:

### Investment Managers Asset Allocation at June 30, 2017

Asset Class	Investment Manager	<u>Fair Value</u>	Asset Allocation
Large-cap core equity	Rhumbline Advisers	\$ 81,852,087	9.04%
All-cap core equity	Rhumbline Advisers	124,405,901	13.75%
Total U.S. Equity		206,257,988	22.79%
International equity	Ativo	83,650,733	9.24%
International equity	Dimensional Fund Advisors	90,106,966	9.96%
International equity recoverable taxes	Northern Trust	156,158	<u>0.02</u> %
Total Non-U.S. equity		173,913,857	19.22%
Fixed income - Passive core	State Street Global Advisors	66,435,924	7.34%
Fixed income - Core Plus	T. Rowe Price	66,892,444	7.39%
Fixed income - U.S. Intermediate	Garcia Hamilton	54,578,642	<u>6.03</u> %
Total fixed income		187,907,010	20.76%
High yield	DDJ Strategic Income Plus	41,588,526	<u>4.60</u> %
Total high yield		41,588,526	4.60%
REIT Preferred Growth	Security Capital Research	41,784,078	<u>4.62</u> %
Total REIT		41,784,078	4.62%
Real estate - Private Equity	Kennedy Wilson IV	11,060,952	1.22%
Real estate - Private Equity	Mesirow	20,942,368	2.31%
Real estate - Private Equity	Lyrical - Antheus	38,471,040	<u>4.25</u> %
Total Real Estate		70,474,360	7.78%
Infrastructure-Diversified Value Add	Alinda Infrastructure	40,782,380	4.51%
Infrastructure-Asia Opportunities	JP Morgan AIRRO	23,517,287	<u>2.60</u> %
Total infrastructure		64,299,667	7.11%
Absolute return fund-Conservative	Neuberger Berman	48,080,523	5.31%
Absolute return fund-Commodities	Pinnacle Natural Resources	25,718,260	<u>2.84</u> %
Total Absolute Return Funds		73,798,783	8.15%
Private equity secondary FoFs	CM Growth Capital Partners LP	7,217,956	0.80%
Private equity secondary FoFs	Morgan Stanley	5,811,112	0.64%
Private equity secondary FoFs	Portfolio Advisors	6,888,020	<u>0.76</u> %
Total Private Equity		19,917,088	2.20%
Total investments		879,941,357	97.23%

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

Asset Class	Investment Manager	Fair Value	Allocation
Cash and equivalents Cash and equivalents Total cash and cash equivalents	Northern Trust Illinois Funds, Treasury and lock box	\$ 23,090,806 1,940,650 25,031,456	2.55% 0.22% 2.77%
Total portfolio		\$ 904,972,813	100.00%

<u>Investment Management Fees</u>: The Program has contracted with Commission-approved investment managers to manage the assets of the Program. The investment managers serve as investors and investment advisors to the Program.

For investment managers who invest moneys in publicly held securities the Program pays an investment management fee for investment management services. The investment management fee is based upon contractually agreed upon conditions and provisions. Investment management fees expense for investments in publicly held securities amounted to \$891,160 for the year ended June 30, 2017 and is accounted for in the Statement of Revenues, Expenses, and Changes in Net Position.

For investment managers of alternative investments (not publicly held securities) the Program pays an investment advisory fee. The investment advisory fees are calculated based upon the terms and conditions agreed upon with each individual contractual agreement and are recognized as investment advisory fees expense in the Statement of Revenues, Expenses, and Changes in Net Position. Investment advisory expense as reflected in the Statement of Revenues, Expenses, and Changes in Net Position for Fiscal Year 2017 amounts to \$2,710,957.

For certain alternative investment managers of private equity, infrastructure and real estate which are closed end funds and ISAC is a limited partner, the investment advisory fee is reflected in a slightly different way. If the investment management fees are outside of the Limited Partner's capital account then the fees are included as part of the investment advisory fees expense in the Statement of Revenues, Expenses, and Changes in Net Position. If the closed-end fund accounts for management fees within the Limited Partner's capital account, then management fee expense is included in the Net Asset Value calculation and would therefore be included in the income from investment securities on the Statement of Revenues, Expenses and Changes in Net Position.

Investment managers who fall into the last category are listed below:

- Kennedy Wilson
- Lyrical-Antheus
- Mesirow Value
- Alinda Infrastructure
- JP Morgan AIRRO
- CM Growth
- Portfolio Advisors
- Morgan Stanley

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

Approximately \$2,339,092 in investment advisory fees are included in the amount reported for income from investment securities for the Fiscal Year ending June 30, 2017 and is accounted for as a part of the income from investment securities in the Statement of Revenues, Expenses, and Changes in Net Position. Additionally, these amounts are reflected in the carrying value on the Statement of Net Position.

The State Treasurer is the custodian of the State's cash and cash equivalents for the Illinois Prepaid Tuition Program maintained in the State Treasury. Amounts on deposits in the custody of the State Treasurer totaled \$1,472,916 at June 30, 2017. These deposits are pooled and invested with other State funds in accordance with the Deposit of State Moneys Act of the Illinois Compiled Statutes (15 ILCS 520/11). Funds held by the State Treasurer have not been addressed as to custodial credit risk because the Illinois Prepaid Tuition Program does not own individual securities. Funds held by the State Treasurer are not rated for credit risk and the interest rate risk cannot be determined because the weighted average maturity information for these amounts is not available for individual funds. Details on the nature of these deposits and investments, along with risk disclosures, are available within the State of Illinois' Comprehensive Annual Financial Report.

<u>Interest Rate Risk</u>: Interest rate risk is the risk that changes in interest rates of debt investments will adversely affect the fair value of an investment. The Illinois Prepaid Tuition Program's policy for managing interest rate risk is to monitor duration against an appropriate benchmark index.

The duration of the portfolios, by Manager, for the fixed income securities (excluding real estate portfolio), compared to the benchmark index(s) is as follows:

Fixed Income Portfolio Manager	Average <u>Duration</u>	Barclays U.S. Aggregate Bond Index	Barclays Capital Int. Government/ Credit Index
Garcia Hamilton SSGA U.S. Aggregate Bond Index	3.1 years	N/A	4.0 years
(common collective trust) T. Rowe Price	6.0 years 5.9 years	6.0 years 6.0 years	N/A N/A

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

### **Portfolio Weighted Average Maturity**

Portfolio Weighted Average

Portfolio vveignted Average		
		Weighted Average Maturity
Investment Type	<u>Fair Value</u>	(in Years)
U.S. Treasury notes	\$ 19,901,674	7.43
U.S. Treasury bonds	5,130,297	7 26.68
U.S. agency obligations	21,708,45	5 1.44
Index linked government bonds (U.S. Treasuries)	656,932	2 8.55
Bond common collective trust	66,435,924	4 8.26
Municipal/provincial bonds	1,636,10°	1 14.07
Non U.S. government bonds denominated in U.S. dollars	463,723	7.86
Non U.S. government bonds denominated in foreign currency	1,715,819	9 7.51
Foreign government agencies denominated in U.S. dollars	188,084	4 3.34
Multi-sector funds	42,090,56	1 8.55
Government agency short-term bills and notes	499,806	0.05
Corporate debt securities	8,730,705	5 6.14
Corporate asset-backed securities	3,817,343	3 7.18
Mortgage back securities (MBS):		
Government agencies	11,208,178	3 12.20
Non-government backed	1,705,662	2 25.24
Commercial	1,712,087	<u>7</u> 30.97
Total fair value	<u>\$ 187,601,35</u>	<u>1</u>
Portfolio weighted average maturity		8.45

<u>Credit Risk</u>: Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The operational guidelines for actively-managed bond managers set forth in the Illinois Prepaid Tuition Program investment policy are:

- The weighted average credit quality of portfolio holding will not fall below A- or equivalent.
- No more than 20% of the portfolio will be invested in issues rated below Baa3 or BBB-, A2 or P2.
- No more than 10% in non-U.S. securities (dollar and non-dollar) rated below investment grade.
- Should a security be downgraded to a rating of "B" or below, the investment manager will determine the appropriate action (sell or hold) based on the perceived risk and expected return of the position and will inform the CIO and the Investment Consultant in writing of the action taken.

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

The following tables indicate credit ratings, as of June 30, 2017, for the Program's debt security investments (other than obligations of the U.S. Government or obligations explicitly guaranteed by the U.S. Government which are not considered to have credit risk). Ratings for debt security investments that have multiple ratings are on the following page:

### Credit Ratings (Excludes Multiple-Rated Securities) June 30, 2017

	Total <u>Fair Value</u>	Moody's**
Money marketing mutual funds	\$ 23,090,806	NR
Illinois fund	311,649	NR
Bond common collective trust	66,435,924	NR
Multi-sector funds	42,090,561	NR
Government agencies short term bills and notes	499,806	NR
Non U.S. government agencies denominated in U.S. dollars	188,084	Baa

<sup>\*</sup>NR - Note rated

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

### Credit Ratings (Multiple-Rated Securities) June 30, 2017

	June 30, 2017		
Rating <u>Agency</u>		Credit <u>Rating</u>	Total <u>Fair Value</u>
Moody's	Commercial mortgage-backed Commercial mortgage-backed Commercial mortgage-backed Commercial mortgage-backed	Aaa Aa A NR	\$ 910,639 103,912 83,244 614,292 1,712,087
Moody's	Corporate asset backed securities	Aaa Aa A Baa Ba B Caa NR	1,396,335 346,070 262,680 442,798 116,804 66,276 67,530 1,118,850 3,817,343
Moody's	Corporate bonds Corporate bonds Corporate bonds Corporate bonds	Aa A Baa NR	500,021 7,924,412 56,272 250,000 8,730,705
Moody's	Municipal/provincial bonds Municipal/provincial bonds Municipal/provincial bonds Municipal/provincial bonds Municipal/provincial bonds	Aaa Aa A NR WR	215,085 927,385 115,419 215,750 162,461 1,636,101
Moody's	Non-government backed CMOs	A Aaa Ba B Caa Ca NR	42,246 251,714 217,602 41,944 443,282 9,886 698,989 1,705,662

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

### Credit Ratings (Multiple-Rated Securities) June 30, 2017

Rating <u>Agency</u>		Credit <u>Rating</u>	Total <u>Fair Value</u>
Moody's	Non U.S. government bonds denominated in U.S. dollars Non U.S. government bonds denominated in U.S. dollars	A Ba	\$ 262,865 200,858 463,723
Moody's	Non-U.S. government bonds in foreign currency Non-U.S. government bonds in foreign currency	A NR	1,024,964 690,855 1,715,819
Moody's	Mortgage-backed securities, government agencies	A Aa Baa B NR	513,880 121,351 415,927 30,826 10,126,194 11,208,178
Moody's	U.S. Agency obligations U.S. Agency obligations	A NR	16,380,726 5,327,729 21,708,455

NR - not rated, WR withdrawn

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

<u>Custodial Credit Risk</u>: Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the Illinois Prepaid Tuition Program will not be able to recover the value of the investment or collateral securities that are in the possession of an outside party. The Program does not have an investment policy for custodial credit risk for investments.

The Illinois Prepaid Tuition Program is not exposed to custodial credit risk at June 30, 2017.

<u>Concentration of Credit Risk</u>: Concentration of credit risk is the risk of loss attributed to the magnitude of an investment in a single issuer.

The operational guidelines as set forth in the Illinois Prepaid Tuition Program's investment policy indicate:

- For fixed income managers no more than 5% of the fixed income portfolio at time of purchase may be invested in any one company, except for U.S. government or agency issues.
- For investments in international equity, investment in any one issuer shall not exceed five percent
  of the market value of the portfolio at the time of purchase. No more than ten percent of the market
  value of the portfolio may be held in any one issuer at any time. Investment in any one company in
  the portfolio may be no more than ten percent of the total market value of that company.
- For investments in domestic equity, investment in any one issuer shall not exceed five percent of
  the market value of the portfolio at the time of purchase. No more than ten percent of the market
  value of the portfolio may be held in any one issuer at any time. Investment in any one company in
  the portfolio may be no more than ten percent of the total market value of that company.

As of June 30, 2017, there were no investments subject to concentration of credit risk.

<u>Foreign Currency Risk</u>: Foreign currency risk is the risk that changes in currency exchange rates will adversely affect the fair value of an investment.

The Illinois Prepaid Tuition Program's investments in international equity are in compliance with the guidelines of the investment policy. As of June 30, 2017, 19.2% is invested in international equities.

Certain alternative investments also hold investments located outside of the United States. These investments denominated in U.S. dollars have underlying investments in other currencies including the Indian rupee and the South Korean won. Fluctuations in foreign exchange rates between the U.S. dollar and other currencies could have an effect on the amounts realized in U.S. dollars involving these investments. The Program has the following investments denominated in foreign currency.

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### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

Investments Denominated in Foreign Currency June 30, 2017 Fair Value in U.S. Dollars

Foreign Currency <u>Denomination</u>	Cash and Cash Equivalents- Equity Investments	Cash and Cash Equivalents- Fixed Income Investments	Fixed Income	Pending Trades Fixed Income Investments	<u>Totals</u>
Euro Mexican peso New Israeli shekel Swiss franc	\$ (2 - - (16	36	\$ - 1,024,964 690,855 -	\$ - 9 (675,905) (688,214)	\$ (2) 349,095 2,641 (16)
Total	\$ (18	\$ 36	<u>\$ 1,715,819</u>	<u>\$ (1,364,119</u> ) §	\$ 351,718

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

<u>Valuation</u>: The Program categorizes its fair value measures within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs (see pages 16-17); and leveling is not required for investments held at amortized cost. The Program has the following as of June 30, 2017:

Investments by fair value level		June 30, 2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	l	.eveling Not <u>Required</u>
Debt securities						
U.S. Treasury notes	\$	19,901,674	\$ -	\$ 19,901,674	\$	_
U.S. Treasury bonds		5,130,297	-	5,130,297	•	-
U.S. agency obligations		21,708,455	-	21,708,455		-
U.S. index linked government bonds		656,932	-	656,932		-
Municipal/provincial debt		1,636,101	-	1,636,101		-
Corporate debt securities		8,730,705	-	8,730,705		-
Corporate asset-backed securities		3,817,343		3,817,343		-
Foreign government bonds denominated in U.S. dollars		463,723	-	463,723		-
Foreign government agencies denominated in U.S. dollars		188,084	-	188,084		-
Foreign debt securities (non U.S. government bonds denominated						
in foreign currency)		1,715,819	-	1,715,819		-
Government agency short-term bills and notes		499,806	-	499,806		-
Commercial mortgage backed		1,712,087	-	1,712,087		-
Government mortgage backed		11,208,178	-	11,208,178		-
Multi-sector funds		42,090,561	-	42,090,561		-
Common collective trust		66,435,924	-	66,435,924		-
Non government backed CMO		1,705,662	-	1,705,662		-
Corporate equity securities		206,257,988	206,257,988	-		-
Foreign equity securities		90,106,966	90,106,966	-		-
Money market mutual funds		23,090,806	-	-		23,090,806
Cash and pending trades		1,669,742	-	-		1,669,742
Cash and pending trades in foreign currency		(1,364,119)	-	-		(1,364,119)
Equity in public treasurer's investment pool (Illinois Funds)	_	311,649			_	311,649
Total investments by fair value level	\$	507,674,383	\$ 296,364,954	\$ 187,601,351	\$	23,708,078

### **NOTE 3 - DEPOSITS AND INVESTMENTS** (Continued)

Investments measured at the net asset value (NAV)		June 30, <u>2017</u>
Real estate investment trust	\$	41,784,078
Real estate		70,474,360
Private equity		19,917,088
Infrastructure		64,299,667
Foreign equity		83,650,733
Absolute return		73,798,783
High yield fund		41,588,526
Total investment measured at the NAV	<u>\$</u>	395,513,235
Total investments measured at fair value or amortized cost	<u>\$</u>	903,187,653

The valuation method of investments measured at the net asset value (NAV) per share (or its equivalent) is presented on the following table.

				Redemption	
				Frequency	Redemption
	Fair		Unfunded	If Currently	Notice
	<u>Value</u>	<u>C</u>	<u>ommitments</u>	<u>Eligible</u>	<u>Period</u>
Real estate investment trust	\$ 41,784,078	\$	-	Quarterly	30 days notice
Real estate	70,474,360		-	N/A	N/A
Private equity	19,917,088		5,050,055	N/A	N/A
Infrastructure	64,299,667		6,122,243	N/A	N/A
Foreign equity	83,650,733			Monthly	15 days notice
Absolute return	73,798,783		-	Annual	65 and 180 days notice
High yield fund	 41,588,526		<u>-</u>	Quarterly	60 days notice
Total investments measured					
at NAV	\$ 395,513,235	\$	11,172,298		

Real estate investment trust: This investment manager opportunistically sources, structures and executes investments in real estate operating companies. The fair values of the investment in this type have been determined using the NAV per share of the investment. This investment can be redeemed quarterly with 30 days' notice. A liquidating account may be used during period of market stress to provide orderly liquidation.

### NOTE 3 - DEPOSITS AND INVESTMENTS (Continued)

Real estate: This type includes three real estate funds that invest primarily in U.S. commercial and residential real estate. The fair values of the investments in this type have been determined using the NAV per share of the Program's ownership investment in partners' capital with the exception of Lyrical Antheus Realty Partners III, LP where the partners' capital which is recognized at cost basis on their financial statements has been adjusted to reflect the investment on a fair value basis. These investments can never be redeemed with the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next six years with 10%, 20% and 100% (varies by investment manager) within state Fiscal Year 2018.

<u>Private equity</u>: This type includes three private equity funds. One holds portfolio securities. A second fund acquires, holds and disposes of investments in secondary opportunities. The third fund invests in a diversified portfolio of private equity limited partnerships purchased in the secondary market. The fair values of the investments in this type have been determined using the NAV per share of the Program's ownership investment in partners' capital. These investments can never be redeemed within the funds. Instead, the nature of the investments in this type is that distributions are received through the liquidation of the underlying assets of the funds. It is expected that the underlying assets of the funds will be liquidated over the next six years with 0% to 20% (varies by investment manager) within state Fiscal Year 2018.

<u>Infrastructure</u>: This type includes two infrastructure funds which invest in infrastructure and related assets in the United States, Asia and Europe. The fair values of the investments in this type have been determined using the NAV per share of the Program's ownership investment in partners' capital. These investments can never be redeemed with the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next six years with 0% to 30% (varies by investment manager) within state Fiscal Year 2018.

Absolute return: This type includes two absolute return funds of funds. One targets consistent, positive absolute returns with minimal beta to major equity and fixed income markets. The other is a multi-manager fund in the global commodity and commodity related markets. The fair values of the investments in this type have been determined using the NAV per share of the Program's ownership investment in partners' capital. Both have annual liquidity with quarterly liquidity available for a fee. Both have fund level gate thresholds of 20% to 25% of fund assets. Both will withhold a percentage pending the completion of the annual audit. A five million redemption was initiated in July 2017 for distribution January 31, 2018.

<u>High yield</u>: This type seeks income and gains through trading and investing in securities. The fair value of the investment in this type has been determined using the NAV per share of the Program's ownership investment in partners' capital. Ninety percent of liquid securities are available within 30 days of quarter end with 60 day's notice prior to quarter end. Up to 25% of the fund may be invested in illiquid securities. Ten percent of any withdrawal may be held until 30 days following the annual audit. As of June 30, 2017, \$669,062 was held in a liquidating account related to prior redemptions.

<u>Foreign equity</u>: This type includes two international equity funds. DFA World ex US Core Equity Portfolio is a mutual fund. They strike a daily price each evening following a trading day. The other fund Ativo International Equity Fund invests in undervalued companies that display above average growth characteristics, domiciled in, or primarily exposed to developed and emerging countries outside of the United States.

### NOTE 4 - BALANCE DUE TO OTHER ISAC FUND

As of June 30, 2017, the Illinois Prepaid Tuition Program owed \$284,286 to the Student Loan Operating Fund for expense reimbursements. In addition, the Illinois Prepaid Tuition Program owed \$81,917 to Illinois Universities for payment of tuition and fee benefits.

### **NOTE 5 - PERSONNEL COST ALLOCATION**

Based on a revised cost allocation policy, beginning in Fiscal Year 2013, all payroll-related costs are paid out of the Student Loan Operating Fund. This includes salary, benefits, and any vacation or sick payout should they be incurred. On a monthly basis, College Illinois is charged back for the related hours worked and costs incurred.

### **NOTE 6 - TUITION OBLIGATION**

The tuition obligation is management's estimate of the present value of the estimated tuition payments to be made and is expected to be financed from investments of prepaid tuition contracts. The estimate for the future tuition obligation is based on a closed group projection for existing contracts assuming no new contract sales after June 30, 2017. See actuarial assumptions and additional information in Note 10.

Tuition obligation activity for the year ended June 30, 2017 is as follows:

\$ 1,230,799,501
23,257,728
(5,210,120)
130,598,549
(18,216,341)
(125,515,556)
<u>\$ 1,235,713,761</u>
\$ 152,763,917
1,082,949,844
\$ 1,235,713,761

- \* See Note 10. Discount rate used in determining present value was 6.50%.
- \*\* The accreted tuition expense is calculated at least annually by the Commission's actuary and is an estimate based on the average increase in tuition for Illinois colleges. A change in investment return assumption and related discount for liabilities from a static percentage to a "select and ultimate" rate structure contributed to the increase in the tuition obligation compared to the balance at June 30, 2017. Accreted tuition expense is reflected as an expense in the Statement of Revenues, Expenses, and Changes in Net Position and as an increase (or decrease) to the tuition obligation on the Statement of Net Position.

### **NOTE 7 - PENSION PLAN**

A majority of ISAC's full-time employees who are not eligible for participation in another state-sponsored retirement plan participate in the State Employees' Retirement System (SERS), which is a pension trust fund in the State of Illinois reporting entity. The SERS is a single-employer defined/benefit public employee retirement system (PERS) in which State employees participate, except those covered by the State Universities, Teachers', General Assembly, and Judges' Retirement Systems. The financial position and results of operations of the SERS for Fiscal Year 2017 are included in the State of Illinois' Comprehensive Annual Financial Report (CAFR) for the year ended June 30, 2017. The SERS issues a separate CAFR that may be obtained by writing to the SERS, 2101 South Veterans Parkway, Springfield, Illinois 62794-9255.

A summary of SERS benefit provisions, changes in benefit provisions, employee eligibility requirements including eligibility for vesting, and the authority under which benefit provisions are established are included as an integral part of the SERS' CAFR. Also included is a discussion of employer and employee obligations to contribute and the authority under which those obligations are established.

The Commission pays employer retirement contributions for the Illinois Prepaid Tuition Program based upon an actuarially determined percentage of its payroll. For Fiscal Years 2017, 2016, and 2015, the employer contribution rate was 44.6%, 45.6%, and 42.3%, respectively. The required and actual contribution for Fiscal Years 2017, 2016, and 2015 was \$624,356, \$467,660, and \$362,333, respectively. Contributions to SERS and the net pension liability related to the SERS pension plan are recorded by the Commission's Student Loan Operating Fund.

### **NOTE 8 - POST-EMPLOYMENT BENEFITS**

The State provides health, dental, vision, and life insurance benefits for retirees and their dependents in a program administered by the Department of Healthcare and Family Services along with the Department of Central Management Services. Substantially all State employees become eligible for post-employment benefits if they eventually become annuitants of one of the State sponsored pension plans. Health, dental, and vision benefits include basic benefits for annuitants and dependents under the State's self-insurance plan and insurance contracts currently in force. Annuitants may be required to contribute towards health, dental, and vision benefits in accordance with Public Act 97-0695.

The total cost of the State's portion of health, dental, vision, and life insurance benefits of all members, including post-employment health, dental, vision, and life insurance benefits, is recognized as an expenditure by the State in the Illinois Comprehensive Annual Financial Report. The State finances the costs on a pay-as-you-go basis.

The total costs incurred and related liabilities for health, dental, vision, and life insurance benefits are not separated by department, fund or component unit for annuitants and their dependents nor active employees and their dependents.

A summary of post-employment benefit provisions, changes in benefit provisions, employee eligibility requirements, including eligibility for vesting, and the authority under which benefit provisions are established are included as an integral part of the financial statements of the Department of Healthcare and Family Services. A copy of the financial statements of the Department of Healthcare and Family Services may be obtained by writing to the Department of Healthcare and Family Services, 201 South Grand Ave., Springfield, Illinois 62763-3838.

### **NOTE 9 - FUND DEFICITS**

As of June 30, 2017, the Illinois Prepaid Tuition Program has a deficit in net position of \$286,393,437. The table below details a reconciliation of the fund deficit in the financial statements to the fund deficit in the Actuarial Soundness Report as of June 30, 2017.

Reconciliation of Fund Deficit with Unfunded Liability in the Actuarial Report:

Unfunded liabilitiy per actuarial soundness report	\$	(320,237,004)
Present value of accrued future administrative expense		35,492,576
Other accrued liabilities		(1,649,009)
Fund deficit per Statement of Net Position	<u>\$</u>	(286,393,437)

### **NOTE 10 - PROGRAM RISKS AND ACTUARIAL DATA**

The Program's ability to honor existing and future contracts depends primarily upon three factors: (i) resumption of contract sales within projections; (ii) achieving a projected annual net return on Program investments; and (iii) actual tuition/fee increases being within projected amounts.

Gabriel, Roeder, Smith and Company, the independent actuarial firm retained by College Illinois! ®, has performed an actuarial soundness valuation of College Illinois!®, the State's section 529 prepaid tuition program, as of June 30, 2017 to evaluate the financial viability of the Program as of June 30, 2017. The complete Actuarial Soundness Report as of June 30, 2017 is included in the Other Information Section.

The Program is not supported by the full faith and credit of the State of Illinois, nor is it guaranteed by the State's general fund. The Program is a moral obligation of the State of Illinois requiring the Governor to request an appropriation from the State General Assembly in case the Commission and the Governor determine that the Program does not have adequate assets to meet its contractual obligations in an upcoming fiscal year. While the General Assembly has fulfilled other moral obligations of the State of Illinois in the past, it is not obligated to appropriate, and no assurances can be made that the General Assembly will appropriate sufficient moneys to meet the Program's contractual obligations.

If it is determined by the Commission, with the concurrence of the Governor, that the Program is financially infeasible, the Commission may prospectively discontinue the Program. Pursuant to the prepaid tuition statute, if the Program is discontinued, beneficiaries who are or will enroll within five years at an eligible institution shall be entitled to exercise the complete benefits specified in the contract; all other contract holders shall receive an appropriate refund of all contributions and accrued interest up to the time the Program is discontinued.

### NOTE 10 - PROGRAM RISKS AND ACTUARIAL DATA (Continued)

The following is a summary of the actuarial present value (APV) of the future benefits obligation, funded ratio, and significant assumptions used.

APV of future benefits obligation\* \$ 1,235,713,761

Funded ratio 73.90%

Actuarial assumptions:

Actuarial valuation date

Assumed net investment return

Rates of cancelation

Varies according to years from projected college entrance year

Tuition increase all contract types:

All future years 5.00%

The actuarial present value of the future benefits obligation increased by approximately \$5 million compared to the balance reported at June 30, 2016. Contributing to the overall increase was a change in investment return assumption and related discount rate for liabilities from a static percent to a "select and ultimate" rate structure.

### **NOTE 11 - RISK MANAGEMENT**

The Commission is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; workers' compensation and natural disasters. The State retains the risk of loss (i.e., self-insured) for these risks except for insurance purchased by the Commission for the building and EDP equipment. There has been no reduction in insurance coverage from coverage in the prior year. Settlement amounts have not exceeded coverage for the current or prior two years. The Commission's risk management activities for workers' compensation are financed through appropriations to the Illinois Department of Central Management Services and are accounted for in the general fund of the State. The claims are not considered to be a liability of the Commission and, accordingly, have not been reported in the Commission's financial statements for the year ended June 30, 2017.

### **NOTE 12 - NEW GOVERNMENTAL ACCOUNTING STANDARDS**

The Governmental Accounting Standards Board (GASB) has issued the following statements:

GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions, will be effective for the Commission beginning with its year ended June 30, 2018. This Statement addresses accounting and financial reporting for OPEB that is provided to employees of State and local governmental employers.

<sup>\*</sup> For all existing contracts as of June 30, 2017

# STATE OF ILLINOIS ILLINOIS STUDENT ASSISTANCE COMMISSION ILLINOIS PREPAID TUITION PROGRAM NOTES TO FINANCIAL STATEMENTS June 30, 2017

<b>NOTE 12 - NEW GOVERNMENTA</b>	ACCOUNTING STANDARDS (	(Continued)
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Management has not yet completed its assessment of the impact this Statement may have on the financial statements.



## College Illinois!® Prepaid Tuition Program

Actuarial Soundness Valuation Report as of June 30, 2017





November 1, 2017

Mr. Eric Zarnikow Executive Director Illinois Student Assistance Commission 1755 Lake Cook Road Deerfield, Illinois 60015-5209

Re: College Illinois!® Prepaid Tuition Program Actuarial Valuation as of June 30, 2017

Dear Mr. Zarnikow:

In accordance with the request of the Illinois Student Assistance Commission ("ISAC"), Gabriel, Roeder, Smith & Company ("GRS") has performed an actuarial soundness valuation of the College Illinois!® Prepaid Tuition Program ("CIPTP") as of June 30, 2017. Although the term "actuarial soundness" is not specifically defined, the primary purpose of this actuarial valuation is to evaluate the financial status of the program as of June 30, 2017.

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

- A comparison of the actuarial present value of the obligations for prepaid tuition contracts purchased through June 30, 2017, 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 ISAC and is intended for use by ISAC and those designated or approved by ISAC. This report may be provided to parties other than ISAC only in its entirety and only with the permission of ISAC. This report should not be relied on for any purpose other than the purpose described above.

The actuarial soundness valuation results set forth in this report are based upon data and information, furnished by ISAC, concerning program benefits, financial transactions and beneficiaries of the CIPTP. We reviewed this information for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the Illinois Student Assistance Commission. Further, the data and information provided is through June 30, 2017, and does not reflect subsequent market volatility.

Mr. Eric Zarnikow Illinois Student Assistance Commission Page 2

The actuarial soundness valuation results summarized in this report involve actuarial calculations that require assumptions about future events. Most of the actuarial assumptions used in this valuation were based on an experience review for the period from July 1, 2011, to June 30, 2014, and were adopted for use commencing with the June 30, 2015, actuarial valuation. Beginning with the actuarial valuation as of June 30, 2017, the investment return assumption and related discount rate for liabilities was decreased from a static 6.75 percent to a "select and ultimate" rate structure beginning with a rate of 6.50 percent in fiscal year 2018 and grading down to the ultimate rate of 3.75 percent in fiscal years on and after 2025. First effective with the actuarial soundness valuation as of June 30, 2017, the calculation of the total administrative expenses related to marketing was changed from an assumption of 12 percent of total administrative expenses to incorporate actual marketing expenses in the prior fiscal year, as provided by ISAC. The amount of administrative expenses assumed to be non-marketing related is the basis for the present value of future administrative expenses for current contract beneficiaries. The major actuarial assumptions used in this analysis were provided by and are the responsibility of ISAC.

Considering the current asset allocation, liquidity requirements and deferment of the next enrollment period, we believe the net investment rate of return assumption of 6.50 percent in fiscal year 2018 grading down to 3.75 percent in 2025, on a select and ultimate basis, is consistent with applicable Actuarial Standards of Practice.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law. We have performed an analysis of the sensitivity of certain changes in future assumptions.

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

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the College Illinois!® Prepaid Tuition Program as of June 30, 2017. All calculations have been made in conformity with generally accepted actuarial principles and practices commonly applicable to similar types of arrangements.

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

Lance J. Weiss, Amy Williams and Alex Rivera are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. Lance J. Weiss, Amy Williams and Alex Rivera are independent of ISAC.



Mr. Eric Zarnikow Illinois Student Assistance Commission Page 3

Respectfully submitted,

### SIGNED ORIGINAL ON FILE

Lance J. Weiss, EA, MAAA, FCA Senior Consultant and Team Leader

### SIGNED ORIGINAL ON FILE

Alex Rivera, FSA, EA, MAAA, FCA Senior Consultant

### SIGNED ORIGINAL ON FILE

Amy Williams, ASA, MAAA, FCA Consultant



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### **SECTION A**

**EXECUTIVE SUMMARY** 

### **Summary of Results**

### **Principal Actuarial Soundness Valuation Results**

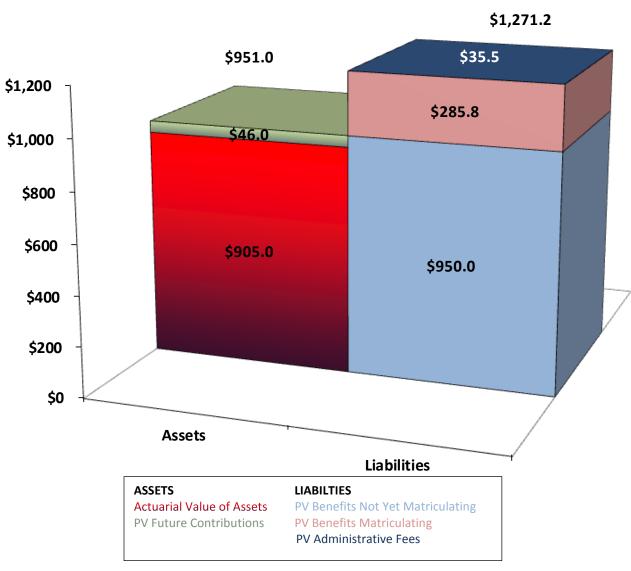
Valuation Date:	June 30, 2017	June 30, 2016
Membership Summary:		
Counts		
Not yet Matriculating	25,146	28,234
Matriculating <sup>a</sup>	13,251	12,841
Total	38,397	41,075
Average years until Enrollment if Not yet Matriculating	4.1	4.4
Assets <sup>b</sup>		
· Actuarial Value of Assets (AVA)	\$950,969,333	\$1,017,411,839
· Estimated Return	7.22%	6.13%
Actuarial Liabilities (Present Value of Future Tuition		
Payments, Fees, and Administrative Expenses)	\$1,271,206,337	\$1,281,725,804
Unfunded Liabilities	\$320,237,004	\$264,313,965
Funded Ratio	74.8%	79.4%

<sup>&</sup>lt;sup>a</sup>Counts include 4,592 in contracts in 2017 and 4,125 contracts in 2016 that are classified as "Matriculating" but have not used any credits within the past year.



<sup>&</sup>lt;sup>b</sup>Asset values include present value of expected future contract payments from current contract holders.

# Summary of Assets and Liabilities as of June 30, 2017 \$\\$ in Millions



Numbers may not add due to rounding.



### **Summary of Results**

### Funded Status as of June 30, 2017

	June 30, 2017
Actuarial Present Value of Future Tuition Payments, Fees and Expenses	\$1,271,206,337
Actuarial Value of Assets (Including the Present Value of Installment Contract Receivables)	\$950,969,333
Deficit/(Surplus) as of June 30, 2017	\$320,237,004

### **Gain/Loss Summary**

	Unfunded Liability
Value at June 30, 2016	\$ 264,313,965
Expected Value at June 30, 2017	\$ 278,495,729
(Gain)/Loss Due to:     Investment Experience     Change in Assumptions and Methods     Tuition/Fee Inflation     Other Demographic Experience* Total	\$ (4,435,878) 78,869,711 (31,916,630) (775,927) 41,741,276
Actual Value at June 30, 2017	\$ 320,237,004

<sup>\*</sup>Other Demographic Experience includes deviations in actual contract beneficiary experience from our assumptions related to rates of enrollment and utilization of benefits and contract terminations and refunds.

Additional Details on the development of the Expected Value at June 30, 2017, can be found on page B-3.



#### **Actuarial Valuation**

Gabriel, Roeder, Smith & Company ("GRS") has performed an actuarial soundness valuation of the College Illinois!® Prepaid Tuition Program ("CIPTP") as of June 30, 2017.

The primary purposes of the actuarial soundness valuation are to:

- Determine the actuarial present value of the obligations for prepaid tuition contracts purchased through June 30, 2017, 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 those results and also illustrates the sensitivity of the deficit/surplus to changes 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 contract beneficiary data, financial data, plan provisions and actuarial assumptions and methods.

### **Background**

Legislation authorizing ISAC to administer an Illinois Prepaid Tuition Program was passed in November 1997. The purpose of the program is to provide Illinois families with an affordable tax-advantaged method to pay for college. CIPTP is open to all Illinois residents and non-Illinois residents purchasing for Illinois-resident beneficiaries. CIPTP contracts may allow participants to prepay the cost of tuition and mandatory fees at Illinois public universities and community colleges at expected projected costs, which may be more stable than actual future costs.

Benefits of the program can also be used at private and out-of-state colleges and universities. Contracts can be purchased in a lump sum or in installments. As a Section 529 plan, CIPTP earnings are exempt from state and federal income taxes.

The first CIPTP contracts were offered for sale in 1998. As of June 30, 2017, the CIPTP had 38,397 contracts in force.

### **Actuarial Assumptions**

The actuarial soundness valuation results summarized in this report involve actuarial calculations that require assumptions about future events. Most of the actuarial assumptions used in this actuarial soundness valuation were based on an experience review for the period from July 1, 2011, to June 30, 2014, and were approved and adopted for use commencing with the June 30, 2015, actuarial soundness valuation by ISAC. The tuition and fee increase assumption was updated first commencing with the June 30, 2015, actuarial soundness valuation to a flat rate of 5.00 percent for all future years for all contract types. These actuarial assumptions are the responsibility of ISAC.



### **Changes in Actuarial Assumptions Since Prior Valuation**

The net investment return assumption was decreased from 6.75 percent used in the June 30, 2016, actuarial soundness valuation, to a select and ultimate rate structure beginning with 6.50 percent for fiscal year 2018 and grading down in annual increments of 0.393 percent to an ultimate investment return rate of 3.75 percent for fiscal years on and after fiscal year 2025. The calculation of the total administrative expenses related to marketing was changed from an assumption of 12 percent of total administrative expenses to incorporate actual marketing expenses in the prior fiscal year. The amount of administrative expenses assumed to be non-marketing related is the basis for the present value of future administrative expenses for current contract beneficiaries. These assumptions were provided to us by ISAC.

Considering the current asset allocation and liquidity requirements, and that the CIPTP will be deferring open enrollment in the immediate future beginning with the 2017/2018 enrollment period, we believe the net investment rate of return assumption being used in the June 30, 2017, actuarial soundness valuation is consistent with applicable Actuarial Standards of Practice.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law. We have performed an analysis of the sensitivity of certain changes in assumptions.

### Financial Status of Program as of June 30, 2017

As of June 30, 2017, the present value of all future tuition obligations under contracts outstanding (and including future administrative expenses) at that date is \$1,271,206,337. Fund assets as of June 30, 2017, including the market value of program assets and the present value of installment contract receivables, is \$950,969,333.

The difference between the present value of future tuition obligations and the value of assets as of June 30, 2017, represents a program deficit of \$320,237,004. The comparable program deficit as of the last valuation as of June 30, 2016, was \$264,313,965.

### **Gain/Loss Analysis**

As described above, the program deficit increased from \$264.3 million as of June 30, 2016, to \$320.2 million as of June 30, 2017. Based on the actuarial assumptions used during the June 30, 2016, actuarial soundness valuation, the deficit was expected to increase to \$278.5 million. The primary factor which caused the expected deficit to increase by \$41.7 million was the net impact of the changes in assumptions (change in the investment return assumption, partially offset by the change in the non-marketing related administrative expense assumption). This increase was partially offset by gains due to investment returns that were greater than expected (an actual rate of return greater than the assumption of 6.75 percent), tuition and fee increases that were less than expected (increases that were lower than the assumption of 5.00 percent) and other demographic experience (which includes deviations in actual contract beneficiary experience from our assumptions related to rates of enrollment and utilization of benefits and contract terminations and refunds).



The funded ratio decreased from 79.4 percent as of June 30, 2016, to 74.8 percent as of June 30, 2017.

#### **Benefit Provisions**

The basic terms and conditions of the College Illinois! Prepaid Tuition Program (the "Program") are included in the Illinois Prepaid Tuition Act, 110 ILCS 979 (the "Act") and ISAC Administrative Rules (23 Ill. Adm. Code 2775, et. seq.) ("ISAC Rules").

We understand there were no changes in the program provisions since the last actuarial soundness valuation as of June 30, 2016.

#### **Assets**

CIPTP assets are held in trust. ISAC provided the asset information used in the June 30, 2017, actuarial valuation.

This report contains several exhibits summarizing the plan's assets, including a summary of the market value of assets broken down by asset category and a reconciliation of the assets from the last actuarial valuation date to the current actuarial valuation date. The approximate return on market value of assets was 7.22 percent for the year ended June 30, 2017.

Commencing with the June 30, 2015, valuation, the actuarial value of assets is equal to the market value of assets plus the present value of expected future contract payments from current contract holders.

#### **Contract Prices**

Contract prices are determined for each enrollment period based upon a variety of factors and include a built-in stabilization factor. The stabilization factor is intended to help insulate the Program from unexpected market volatility and improve the funded status of the Program over time. Each year, ISAC reviews the actuarial soundness report, the Mean Weighted Average Tuition and Fees and the stabilization factor amount to establish contract pricing. In effect, contract prices are reviewed in order to reflect tuition and fee increases at Illinois public institutions, as well as other actuarial criteria.

### **Contracts Sold by Enrollment Year**

The chart on page D-1 illustrates the number of contracts sold by enrollment year.

As this chart indicates, the number of contracts sold has decreased significantly during the last five enrollment years from the number sold per year in previous years.

- The average annual number of contracts sold beginning with the enrollment period 1999/2000 and ending with the enrollment period 2009/2010 was 5,235.
- The average annual number of contracts sold during the last seven year period 2010/2011 to 2016/2017 was 559 including 2011/2012 when the plan was not open for new contract sales.
- The average annual number of contracts sold during the last seven year period 2010/2011 to 2016/2017 was 652 excluding 2011/2012 when the plan was not open for new contract sales.



### **Projection Scenarios**

Projection scenarios are included in a separate report.

#### **Disclosure**

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



### **SECTION B**

**ACTUARIAL SOUNDNESS VALUATION RESULTS** 

# **Exhibit I Principal Actuarial Soundness Valuation Results**

Valuation Date:	June 30, 2017	June 30, 2016
1. Number of Members		
a. Not yet Matriculating:	25,146	28,234
b. Matriculating: <sup>a</sup>	13,251	12,841
c. Total	38,397	41,075
Average Years until Enrollment if Not Yet Matriculating	4.1	4.4
2. Assets		
a. Market Value of Assets (in Trust)	\$ 904,972,812	\$ 966,205,198
b. PV Future Member Contributions	45,996,521	51,206,641
c. Total Actuarial Value of Assets (AVA) (2a + 2b)	\$ 950,969,333	\$ 1,017,411,839
3. Actuarial Results Liabilities		
a. Not yet Matriculating - Tuition and Fees	\$ 949,953,385	\$ 960,311,076
b. Matriculating - Tuition and Fees	285,760,376	270,488,425
c. Present Value of Future Administrative Expenses	35,492,576	50,926,303
d. Total	\$ 1,271,206,337	\$ 1,281,725,804
Unfunded Liability	\$ 320,237,004	\$ 264,313,965
Funded Ratio	74.8%	79.4%

<sup>&</sup>lt;sup>a</sup>Counts include 4,592 contracts in 2017 and 4,125 contracts in 2016 that are classified as "Matriculating" but have not used any credits within the past year.



# **Exhibit I (Continued) Principal Actuarial Soundness Valuation Results**

Valuation Date:	June 30, 2017	June 30, 2016
1. Assets		
a. Market Value of Assets (in Trust)	\$ 904,972,812	\$ 966,205,198
b. PV Future Member Contributions (Short Term) <sup>a</sup>	12,865,968	15,322,801
c. PV Future Member Contributions (Long Term) <sup>b</sup>	33,130,553	35,883,840
d. Total Market Value of Assets (MVA)	\$ 950,969,333	\$ 1,017,411,839
Actuarial Present Value of Tuition, Fees and Admin     Expenses		
a. Short Term <sup>a</sup>	\$ 152,765,034	\$ 152,815,221
b. Long Term <sup>b</sup>	1,118,441,303	1,128,910,583
c. Total	\$ 1,271,206,337	\$ 1,281,725,804
Unfunded Liability (Surplus)	\$ 320,237,004	\$ 264,313,965
Funded Ratio	74.8%	79.4%

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



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

## Exhibit II Gain/Loss Summary

	Pı	Present Value of Benefits Plan Assets a			Un	Unfunded Liability		
1. Values at June 30, 2016	\$	1,281,725,804	\$	1,017,411,839	\$	264,313,965		
Actual Tuition Payments, Refunds, and     Administrative Expenses	\$	(150,082,133)	\$	(150,082,133)	\$	-		
3. Interest on 1. and 2. at 6.75%	\$	81,533,928	\$	63,692,735	\$	17,841,193		
4. New Contracts	\$	10,537,835	\$	14,197,264	\$	(3,659,429)		
5. Projected Values at June 30, 2017 (1. + 2. + 3. + 4.)	\$	1,223,715,434	\$	945,219,705	\$	278,495,729		
6. (Gain)/Loss Due to:     Investment Experience     Change in Assumptions and Methods     Tuition/Fee Inflation     Other Demographic Experience <sup>b</sup> Total	\$	80,051,712 (31,916,630) (644,179) 47,490,903	\$	(4,435,878) (1,182,001) - (131,748) (5,749,628)		(4,435,878) 78,869,711 (31,916,630) (775,927) 41,741,276		
7. Actual Values at June 30, 2017 (5. + 6.)	\$	1,271,206,337	\$	950,969,333	\$	320,237,004		

<sup>&</sup>lt;sup>a</sup>Equals the sum of the market value of trust assets plus the present value of expected future contract payments from current contract holders. Actual values at June 30, 2017, are equal to (5.-6.) which is the projected value minus the (gain)/loss total.



<sup>&</sup>lt;sup>b</sup>Other Demographic Experience includes deviations in actual contract beneficiary experience from the assumptions related to rates of enrollment and utilization of benefits and contract terminations and refunds. Other Demographic Experience for Plan Assets is the change in the present value of expected future contract payments from current contract holders.

## Exhibit III Gain/Loss History

	J	une 30, 2012	Ju	une 30, 2013	J	une 30, 2014	J	une 30, 2015	June 30, 2016		June 30, 2017	Total 6-Year Change
Unfunded Liability at Prior Valuation Date	\$	536,337,123	\$	467,404,585	\$	448,506,323	\$	328,182,173	\$292,111,181	\$	264,313,965	
Projected Unfunded Liability at Valuation Date	\$	585,357,342	\$	491,441,672	\$	474,596,839	\$	346,104,498	\$309,309,748	\$	278,495,729	
(Gain)/Loss Due to:												
Investment Experience	\$	50,941,188	\$	(13,003,926)	\$	(44,221,698)	\$	31,916,454	\$8,218,414	\$	(4,435,878)	\$ 29,414,554
Change in Assumptions		(81,435,163)		24,441,468		(53,755,927)		(49,845,761)	(21,711,495)		78,869,711	(103,437,167)
Tuition/Fee Inflation*		N/A		(66,164,363)		(45,359,154)		(47,420,647)	(40,802,985)		(31,916,630)	(231,663,779)
Other Demographic Experience		(87,458,782)		11,791,472		(3,077,887)		11,356,637	9,300,283	_	(775,927)	 (58,864,204)
Total	\$	(117,952,757)	\$	(42,935,349)	\$	(146,414,666)	\$	(53,993,317)	\$ (44,995,783)	\$	41,741,276	\$ (364,550,596)
Unfunded Liability at Valuation Date	\$	467,404,585	\$	448,506,323	\$	328,182,173	\$	292,111,181	\$264,313,965	\$	320,237,005	

<sup>\*</sup>Prior to the June 30, 2013, actuarial soundness valuation, Tuition and Fee Inflation was included with "Other Demographic Experience".

#### **Changes in Actuarial Assumptions**

June 30, 2012	Decrease in the investment return assumption from 7.50 percent to 7.25 percent, change in the tuition and fee increase assumption from a flat rate
	increase assumption to a select and ultimate rate increase assumption.

June 30, 2013 Decrease in the investment return assumption from 7.25 percent to 7.00 percent.

June 30, 2016 Decrease in the investment return assumption from 7.00 percent to 6.75 percent, change in the tuition and fee increase assumption from a select and ultimate rate increase assumption with an ultimate increase rate of 5.00 percent to a flat rate of 5.00 percent for all future years

June 30, 2017 Decrease in the investment return assumption from a flat rate of 6.75 percent to a select and ultimate rate structure with an initial rate of 6.50 percent, grading down in annual increments of 0.393 percent to an ultimate investment return rate of 3.75 percent. Change in the calculation of the total administrative expenses related to marketing from an assumption of 12 percent of total administrative expenses to incorporate actual marketing expenses in the prior fiscal year (which affects the present value of future administrative expenses for current contract beneficiaries).



June 30, 2014 Decrease in the tuition and fee select and ultimate rate increase assumption for Legacy, University and University Plus contracts.

June 30, 2015 Based on an experience review covering the period July 1, 2011, through June 30, 2014, changes in the matriculation rates, benefit utilization rates, cancellation rates, bias loads and growth rate for administrative expenses. No changes were made to the investment return or the tuition and fee increase assumptions.

## **Exhibit IV Sensitivity Testing Results**

The actuarial assumptions regarding future increases in tuition costs and fees and the future rate of investment return were provided to us by ISAC. In our opinion, the actuarial assumptions provided to us are reasonable for the purpose of the measurement. However, no one really knows what the future holds with respect to economic conditions and other contingencies. For example, while it is assumed that the assets of the fund will earn 6.50 percent in 2018 graded down in yearly increments to 3.75 percent on and after 2025, actual returns are expected to vary from year to year. Therefore, we have projected CIPTP results under alternative assumptions for future investment income, tuition increases and fee increases.

- 1. Tuition increases are 100 basis points higher/lower in each future year than assumed in the baseline valuation (measurement of soundness).
- 2. Fee increases are 100 basis points higher/lower in each future year than assumed in the baseline valuation (measurement of soundness).
- 3. The investment return is 50 basis points higher/lower in each future year than assumed in the baseline valuation (measurement of soundness).

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



# Exhibit IV Sensitivity Testing Results \$ in Millions

	Current	Assumed Tuition	Assumed Tuition	Assumed Fee	Assumed Fee	Assumed Investment Return 1	Assumed nvestment Return
	Valuation	Increases 100	Decreases 100	Increases 100	Decreases 100	Increases 50	Decreases 50
	Assumptions	Basis Points	Basis Points	Basis Points	Basis Points	Basis Points	Basis Points
1 Assets							
a. Market Value of Assets (in Trust)	\$905.0	\$905.0	\$905.0	\$905.0	\$905.0	\$905.0	\$905.0
b. PV Future Member Contributions	46.0	46.0	46.0	46.0	46.0	45.4	46.6
c. Total Actuarial Value of Assets (AVA) (2a + 2b)	\$951.0	\$951.0	\$951.0	\$951.0	\$951.0	\$950.4	\$951.6
2 Actuarial Results Liabilities							
a. Not yet Matriculating - Tuition and Fees	\$950.0	\$978.8	\$922.9	\$965.0	\$938.9	\$921.1	\$980.2
<ul><li>b. Matriculating - Tuition and Fees</li></ul>	285.8	286.9	281.0	287.1	284.9	282.9	288.7
c. Present Value of Future Administrative Expenses	35.5	35.5	35.5	35.5	35.5	34.7	36.3
d. Total	\$1,271.3	\$1,301.2	\$1,239.4	\$1,287.6	\$1,259.3	\$1,238.7	\$1,305.2
Unfunded Liability	\$320.3	\$350.2	\$288.4	\$336.6	\$308.3	\$288.3	\$353.6
Funded Ratio	74.8%	73.1%	76.7%	73.9%	75.5%	76.7%	72.9%
Difference From Current Assumptions							
Unfunded Liability	\$0.0	\$29.9	-\$31.9	\$16.3	-\$12.0	-\$32.0	\$33.3
Funded Ratio	0.0%	-1.7%	1.9%	-0.9%	0.7%	1.9%	-1.9%



### **SECTION C**

**FUND ASSETS** 

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

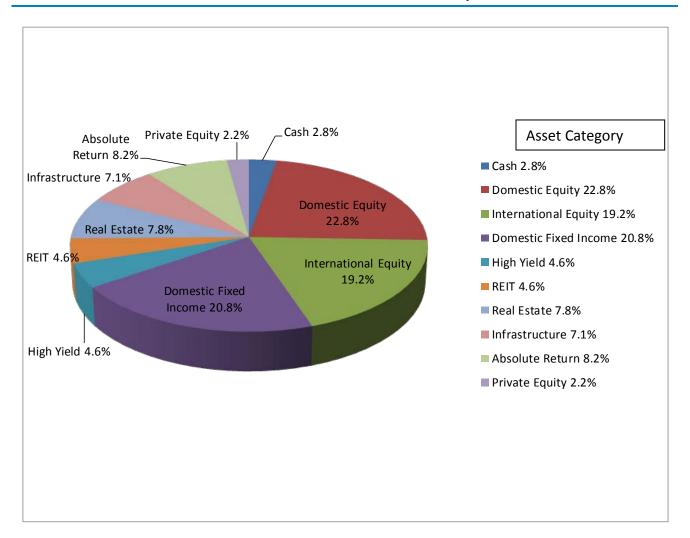
# College Illinois!® Prepaid Tuition Program Statement of Plan Net Assets Year ended June 30, 2017

		% of
		Total
Cash	\$ 25,031,456	2.8%
Investments		
Domestic Equity	\$ 206,257,988	22.8%
International Equity	173,913,856	19.2%
Domestic Fixed Income	187,907,010	20.8%
High Yield	41,588,526	4.6%
REIT	41,784,078	4.6%
Real Estate	70,474,360	7.8%
Infrastructure	64,299,667	7.1%
Absolute Return	73,798,783	8.2%
Private Equity	19,917,088	2.2%
Total Investments	\$ 879,941,356	97.2%
Total Assets	\$ 904,972,812	100.0%

Numbers may not add due to rounding.



### Allocation of Assets at June 30, 2017





### **Reconciliation of Market Value of Plan Assets**

# College Illinois!® Prepaid Tuition Program Statement of Changes in Plan Net Assets Twelve Month Period ended June 30, 2017

Beginning of Period End of Period	07/01/2016 06/30/2017		
Additions:			
Contributions received	\$	23,659,545	
Gross investment income		23,759,637	
Realized/Unrealized investment gains/(losses)		45,293,156	
Total Additions	\$	92,712,338	
Deductions:			
Tuition payments	\$	125,688,617	
Refunds to Purchasers		17,770,271	
Investment expenses & advisory fees		3,862,591	
Administrative expenses		6,623,245	
Total Deductions	\$	153,944,724	
Net increase/(decrease)	\$	(61,232,386)	
Market Value of Assets:			
Beginning of period	\$	966,205,198	
End of period (6/30/2017)  Present Value of Future Contributions by Current Contract	\$	904,972,812	
Holders		45,996,521	
Market Value of Total Fund Assets as of June 30, 2017	\$	950,969,333	

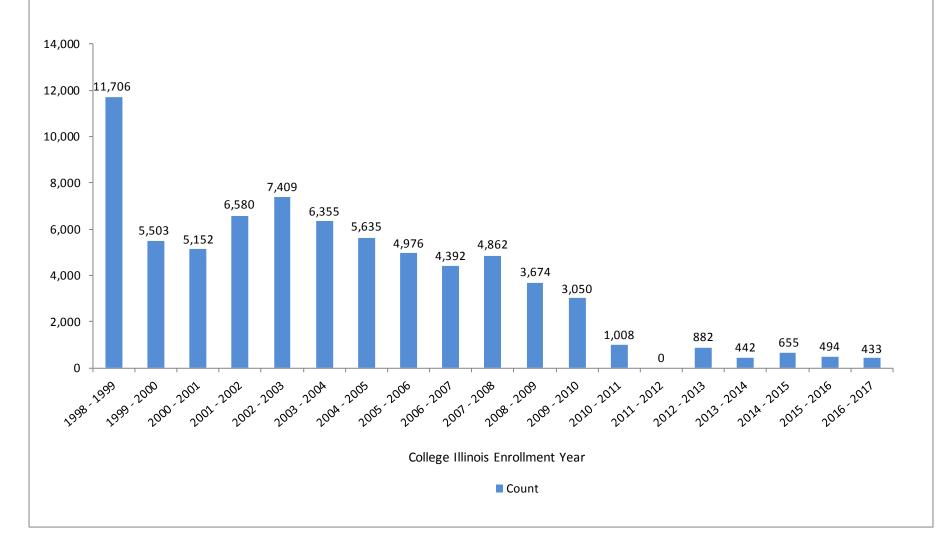


### **SECTION D**

PARTICIPANT DATA

# College Illinois!® Prepaid Tuition Program Contract Counts by Enrollment Year All Current and Past Members as of 6/30/2017

73,208 Total

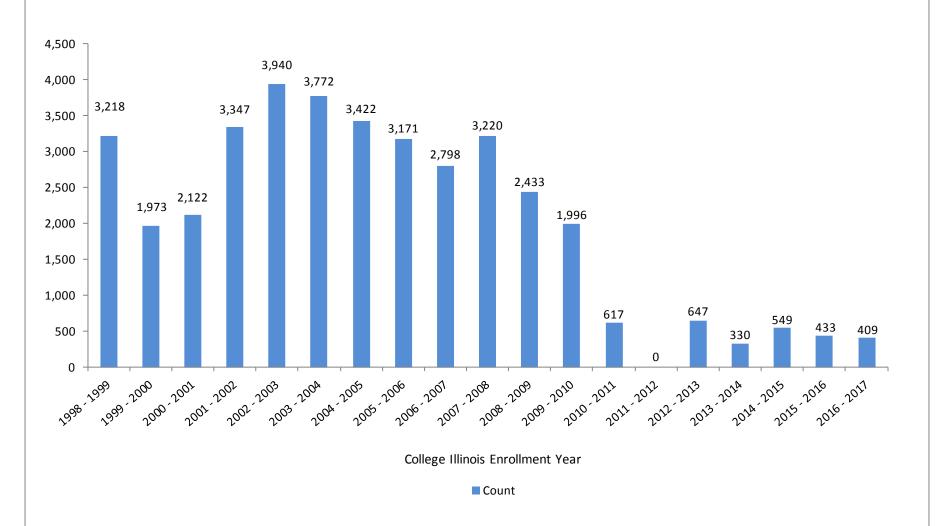




Number

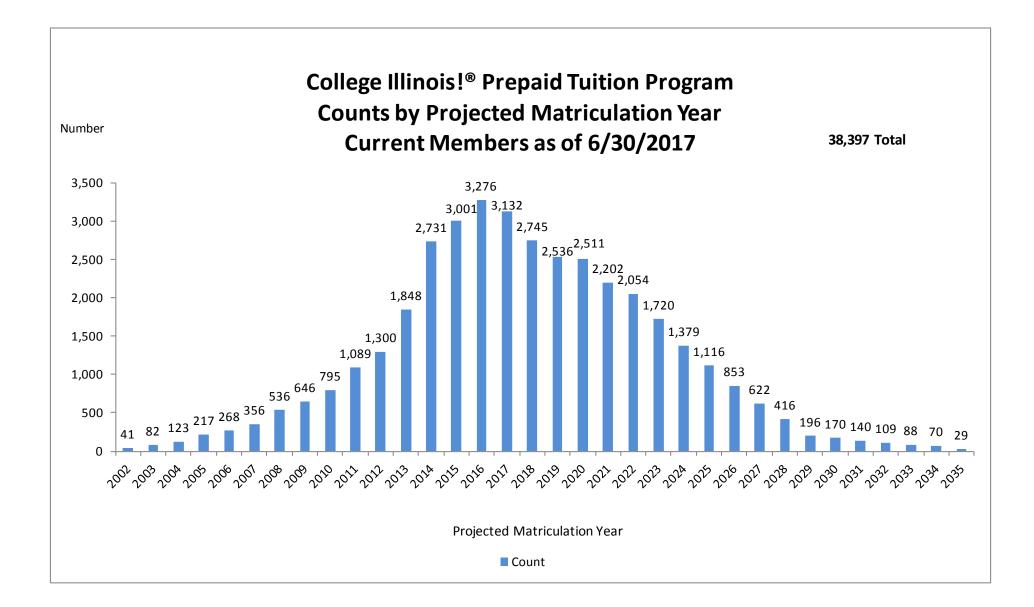
# College Illinois!® Prepaid Tuition Program Contract Counts by Enrollment Year Current Members as of 6/30/2017

38,397 Total

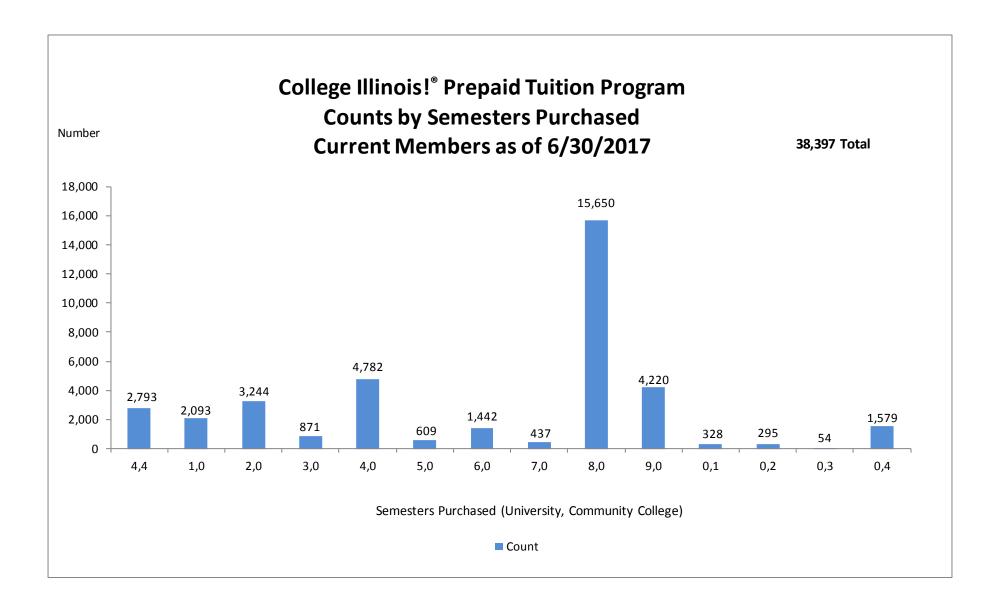




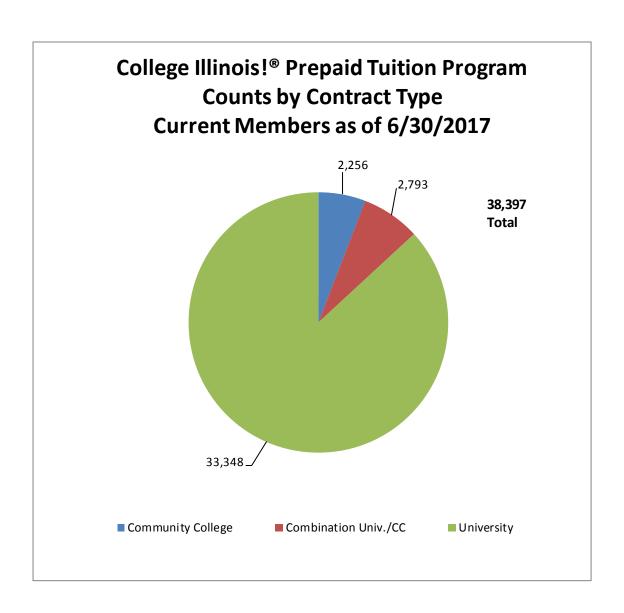
Number



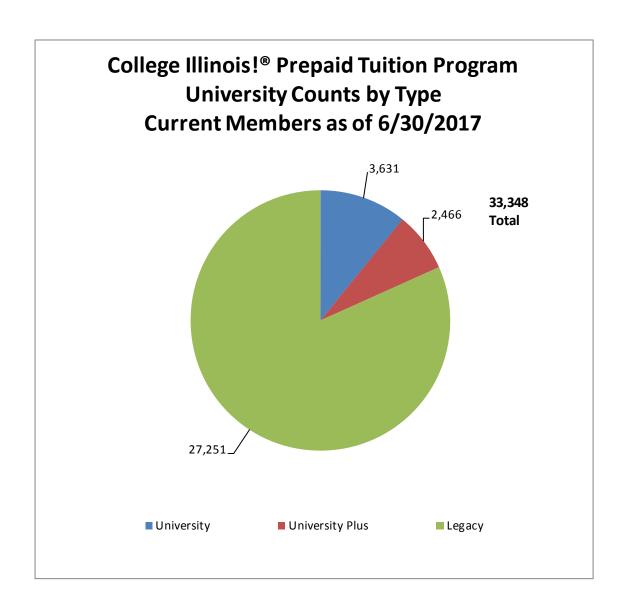














## **S**ECTION **E**

**METHODS & ASSUMPTIONS** 

### **Methods and Assumptions**

### **Valuation Methods**

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

### **Valuation Assumptions**

The rationale for the assumptions (except as indicated) may be found in the experience study report covering the period July 1, 2011, through June 30, 2014, which was issued on August 26, 2015. The assumptions were adopted for first use in the actuarial valuation as of June 30, 2015.

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

**Measurement Date** 

June 30, 2017

Net Investment Return Rate

Select and ultimate rate structure beginning with 6.50 percent for fiscal year 2018 and grading down in increments of 0.393 percent to an ultimate investment return rate of 3.75 percent for fiscal years on and after fiscal year 2025, compounded annually. Includes inflation assumption of 2.50 percent. (First effective with the actuarial soundness valuation as of June 30, 2017, and provided by ISAC.)

Considering the current asset allocation, liquidity requirements and deferment of the next enrollment period, we believe the net investment rate of return assumption of 6.50 percent in fiscal year 2018 grading down to 3.75 percent in 2025, on a select and ultimate basis, is consistent with applicable Actuarial Standards of Practice.

## Weighted Average Tuition and Fees (WATF) by Contract Type Based on the Freshman Tuition Rates Adjusted for Differential Tuition (Blended)

	Contract Type			
	Choice 1 Choice 2		Choice 3	
	Community College	University	University Plus	Legacy†
2017-2018 Weighted Tuition	\$3,862	\$10,675	\$13,884	\$11,525
2017-2018 Weighted Fees	494	3,729	3,832	3,756
2017-2018 Total WATF	4,356	14,404	17,716	15,281

<sup>†</sup>Legacy contracts refer to contracts sold prior to October 2008. These contracts can be used for full tuition and fees at any public University in the State of Illinois, including UIUC.

For continuing students at public universities and students attending community colleges, fees are combined with tuition in our projections and follow their respective tuition inflation assumptions.



### **Methods and Assumptions**

### Weighted Average Tuition and Fees (WATF) Increase from Prior Year

	Contract Type			
	Choice 1	Choice 2	Choice 3	
	Community College	University	University Plus	Legacy
2017-2018 Total WATF	\$4,356	\$14,404	\$17,716	\$15,281
2016-2017 Total WATF	4,157	14,158	17,798	15,045
WATF Increase	4.79%	1.74%	-0.46%	1.57%

#### **Bias Load**

"Legacy," Choice 1 and Choice 2 contract beneficiaries were assumed on average to attend more expensive schools than indicated by the headcount information that was used to determine the 2017-2018 WATF. The following bias loads were used to recognize this bias toward enrollment at more expensive schools. No bias load was applied to the "University Plus" beneficiaries due to the separation of UIUC.

	Contract Type			
	Choice 1	Choice 2	Choice 3	
	Community College	University	University Plus	Legacy
Bias Load	5.50%	2.50%	0.00%	4.00%

### **Tuition and Fee Increase Assumption**

Tuition and Fee Increase Assumption - June 30, 2017, Actuarial Valuation				
Effective Date	ective Date Community College Univer		University Plus	Legacy
6/30/2017 and Beyond	5.00%	5.00%	5.00%	5.00%

(First effective with the actuarial soundness valuation as of June 30, 2016, and provided by ISAC.)

These assumptions were chosen by ISAC and consider historical Illinois public tuition and fee inflation, typically over a 20-year horizon, as well as current economic and political conditions.

#### **Truth in Tuition**

Under Illinois' Truth-in-Tuition law, the state's 12 public colleges and universities are required to charge incoming resident freshmen a fixed tuition rate for the first four years of college. The Truth in Tuition law does not apply to community colleges.

For contract beneficiaries with a Choice 2, Choice 3 or Legacy contract, it was assumed that their tuition will not increase in their second, third and fourth year of school. If they attend school beyond four years, it was assumed that their tuition would increase to the amount charged the year after the year they first enrolled. For contract beneficiaries with a Choice 1 contract, it was assumed that tuition will increase for each year enrolled. The fee portion of the WATF is assumed to increase each year for all contract types.



### **Methods and Assumptions**

The following table shows the WAT (excluding fees) for the past four years that would be used for contract beneficiaries under the Truth-in-Tuition law. (Choice 1 is shown for informational purposes only.)

	Contract Type								
	Choice 1	Choice 2	Choice 3						
	Community College	University	University Plus	Legacy					
2017-2018 Weighted Tuition	\$3,862	\$10,675	\$13,884	\$11,525					
2016-2017 Weighted Tuition	3,698	10,410	14,136	11,318					
2015-2016 Weighted Tuition	3,549	10,082	14,136	11,022					
2014-2015 Weighted Tuition	3,331	9,903	14,145	10,871					
2013-2014 Weighted Tuition	3,186	9,633	13,841	10,557					

### **Rates of Cancellation**

These rates are used to measure the probability of eligible contract beneficiaries cancelling their contracts before and after projected college entrance date. The rates apply to contract beneficiaries who have not yet matriculated and those who have matriculated, but have not used credits within the past year. Once the contract beneficiaries are assumed to have matriculated and started using benefits, the cancellation rates do not apply.

Years From Projected College Entrance Year	Cancellation Rate	Years From Projected College Entrance Year	Cancellation Rate
-17	8.0%	-3	1.0%
-16	7.0%	-2	1.0%
-15	6.0%	-1	1.5%
-14	4.0%	0	1.5%
-13	4.0%	1	3.0%
-12	3.0%	2	3.0%
-11	3.0%	3	5.0%
-10	3.0%	4	5.0%
-9	2.0%	5	7.5%
-8	1.5%	6	7.5%
-7	1.5%	7	5.0%
-6	1.5%	8	5.0%
-5	1.5%	9	5.0%
-4	1.0%	10	100.0%

In the event of a cancellation, it was assumed that a refund will be paid equal to the amount of all contract payments made accumulated with applicable interest, less benefits paid. (Two percent annual interest is applicable to contracts purchased prior to the 2013/2014 enrollment period.) No interest is applicable to contracts purchased during or after the 2013/2014 enrollment period.)



### **Methods and Assumptions**

### **Rates of Enrollment**

These rates are used to measure the probability of eligible contract beneficiaries matriculating at and beyond their projected college entrance date. The rates apply to contract beneficiaries who have not yet matriculated and those who have matriculated, but have not used credits within the past year.

Years From Projected College Entrance Year	Matriculation Rate
0	70%
1	35%
2	40%
3	30%
4	20%
5	15%
6	15%
7	10%
8	10%
9	10%
10	0%

### **Utilization of Benefits**

The following rates apply to contract beneficiaries who have not yet matriculated and those who have matriculated, but have not used credits within the past year. For those who have matriculated, the projected college entrance year is assumed to be the valuation year. Contract beneficiaries are assumed to use the benefits as described by the CIPTP Master Agreement.

	Distribution of Benefit Utilization												
Number of Years	Number of Semesters Purchased												
Since Matriculation	1	2	3	4	5	6	7	8	9				
1	73%	73%	49%	37%	29%	24%	21%	18%	16%				
2	20%	20%	28%	35%	26%	24%	21%	18%	16%				
3	7%	7%	14%	17%	19%	22%	21%	18%	16%				
4			5%	6%	13%	15%	21%	18%	16%				
5			5%	6%	7%	9%	8%	13%	16%				
6					3%	4%	3%	6%	8%				
7					2%	2%	2%	4%	6%				
8							1%	2%	4%				
9							1%	2%	1%				

For contract beneficiaries who have matriculated and have used credits within the past year, it is assumed that the contract beneficiaries will utilize 22 credits per year until benefits are fully depleted.



### **Methods and Assumptions**

### **Administrative Expenses**

Administrative expenses of the Program are assumed to be paid through a combination of investment earnings and fees assessed on purchasers. Marketing expenses were excluded from the liabilities (present value of future administrative expenses) for current contract beneficiaries as it is assumed those costs should be applicable to future contracts. Administrative expenses are projected to increase by the rate of the inflation assumption of 2.50 percent for two years and then decline at the same rate the present value of benefits declines (combined with a 2.50 percent increase for inflation). The present value of future administrative expenses was determined to be equal to approximately 2.8 percent of the total liabilities.

First effective with the actuarial soundness valuation as of June 30, 2017, the calculation of the total administrative expenses related to marketing was changed from an assumption of 12 percent of total administrative expenses to incorporate actual marketing expenses in the prior fiscal year, as provided by ISAC. The amount of administrative expenses assumed to be non-marketing related is the basis for the present value of future administrative expenses for current contract beneficiaries.

_	Assumed Current Contract Beneficiary Expenses												
Fiscal		Other	Total Administrative	Marketing									
Year	Marketing	Administration	Expenses	% of Total									
2017	\$1,854,639	\$4,768,606	\$6,623,245	28.00%									
2018	0	4,887,821	4,887,821										
2019	0	5,010,017	5,010,017										

### **Mortality and Disability**

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

### **Data Adjustments**

The following contract beneficiary records were excluded from the actuarial valuation:

- Records with a payment status indicating they were cancelled;
- Records with a contract usage status of depleted; and
- Records with the number of contract units used equal to the number of contract units purchased.

The projected college entrance year was adjusted for contract beneficiaries who are not scheduled to have completed payments for the contract by the college entrance year provided in the data.

The account balance that is eligible to be refunded is calculated by GRS based on the contract payment information provided, increased with applicable interest, less any tuition and fee benefits paid to date. Two percent annual interest is applicable to contracts purchased prior to the 2013/2014 enrollment period. No interest is applicable to contracts purchased during or after the 2013/2014 enrollment period.



# **S**ECTION **F**

**PLAN PROVISIONS** 

### **Plan Provisions**

(This is a summary only; the full terms and conditions of the College Illinois!® Prepaid Tuition Program are included in the Illinois Prepaid Tuition Act, 110 ILCS 979 (the "Act") and ISAC Administrative Rules (23 Ill. Adm. Code 2775, et. seq.) ("ISAC Rules").

### A. Type of Contract

Three types of contracts are available for purchase: Choice 1 - Community College, Choice 2 – University and Choice 3 – University Plus.

#### B. Benefit

Covered benefits include tuition and mandatory fees at an Illinois public university or community college based on the instate or in-district undergraduate rate for a full-time student.

Mandatory fees are fees that are required upon enrollment for all students attending the particular institution.

The benefit does not include any optional fees, expenses or cost of supplies.

The benefit shall never be less than the amount paid for the contract.

Benefits are available for use three years after the first payment due date. The plan must be paid in full prior to the use of any benefits. In addition, the beneficiary has up to 10 years from the projected college enrollment date to start using program benefits. Once the beneficiary starts using the prepaid benefits, they have 10 years to finish using benefits.

### C. Contract Payments

The Program offers a variety of payment options, including the following:

- Lump Sum;
- 5-year installment plans paid monthly or annually;
- Extended installment plans of 6 to 15 years, depending on age, paid monthly or annually; and
- Down payment options are available for monthly installment plans.

# D. Private or Out-of-State Institutions

For beneficiaries attending a private or out-of-state institution, the plan will pay an amount based upon the weighted average tuition and mandatory fees at Illinois public universities or community colleges depending on the type of contract purchased.



### **Plan Provisions**

### E. Scholarship

If a qualified beneficiary is awarded a grant or scholarship that duplicates the benefits covered by a prepaid tuition contract, the purchaser may request a refund in semester installments.

Illinois public university or community college – the installments will be in an amount equal to the current cost of in-state or in-district registration fees at that institution, less any benefits used to pay registration fees not covered by the scholarship and any applicable fees.

Illinois Private Institution or an eligible Out-of-State Institution – the installments will be in an amount equal to the current average mean-weighted credit hour value of registration fees at Illinois public universities or Illinois community colleges, depending on the type of the purchased contract, less any benefits used to pay registration fees not covered by the scholarship and any applicable fees.

### F. Not Attending an Institution of Higher Education (Transfer)

Benefits can be transferred to a member of the "family" as defined in Section 529 of the Internal Revenue Code.

Purchasers can also choose to postpone the beneficiary's use of contract benefits to a later time or receive a refund.

### G. Cancellation/Refunds

Refund equal to all contract payments made accumulated with applicable interest, less benefits paid and applicable cancellation fees. (Two percent annual interest is applicable to contracts purchased prior to the 2013/2014 enrollment period. No interest is applicable to contracts purchased during or after the 2013/2014 enrollment period.)

### H. Death/Disability of Qualified Beneficiary

Refund equal to the value of the mean-weighted average cost of tuition at the colleges for the type of contract purchased will be made to the purchaser.

### I. Other Ancillary Benefits

There are no ancillary benefits.

J. Truth in Tuition

Under Illinois' Truth-in-Tuition law, enacted with the fall 2004 semester, the state's 12 public colleges and universities are required to charge incoming resident freshmen a fixed tuition rate for the first four years of college.

# K. Changes from Previous Valuation

None.



# College Illinois!® Prepaid Tuition Program

Supplemental Actuarial Soundness Valuation Report as of June 30, 2017





November 17, 2017

Mr. Eric Zarnikow Executive Director Illinois Student Assistance Commission 1755 Lake Cook Road Deerfield, Illinois 60015-5209

Re: College Illinois!® Prepaid Tuition Program
Supplemental Actuarial Soundness Valuation Report as of June 30, 2017

Dear Mr. Zarnikow:

In accordance with the request of the Illinois Student Assistance Commission ("ISAC"), Gabriel, Roeder, Smith & Company ("GRS") has performed projections of the College Illinois!® Prepaid Tuition Program ("Program" or "CIPTP") under alternative open group and closed group scenarios. The purpose of these projections is to provide additional information to ISAC regarding a range of potential outcomes of different future year contract sales scenarios.

Please note that the open group scenarios included in this report (1) were specifically requested by ISAC, (2) are presented for illustrative purposes only and (3) do not consider how increases in contract prices can impact future sales. Because there are many factors that may impact the decision to purchase or not to purchase a prepaid tuition contract in Illinois, including but not limited to (1) increasingly unaffordable college tuition, (2) uncertainty about the state's support and funding for higher education in Illinois, (3) contract prices, (4) the level of contribution premium over the expected costs, and (5) competing savings vehicles, etc., it is very difficult to assess the likelihood of selling a particular number of contracts. Therefore, GRS is unable to judge the reasonableness of these open group contract sales scenarios.

While the closing of the CIPTP has not occurred, we have also provided an alternate closed group projection assuming no new contract sales after June 30, 2017. Please note that this closed group scenario was specifically requested by ISAC and is also presented for illustrative purposes only.

For purposes of this analysis, we used the actuarial soundness valuation results from the June 30, 2017, Actuarial Soundness Valuation, and unless noted differently, the same actuarial assumptions and methods as used for the June 30, 2017, Actuarial Soundness Valuation.

The projection results summarized in this report involve actuarial calculations that require assumptions about future events. The major actuarial assumptions used in this analysis were provided by and are the responsibility of ISAC. We are unable to judge the reasonableness of some of these assumptions without performing a substantial amount of additional work beyond the scope of the assignment.

Mr. Eric Zarnikow Illinois Student Assistance Commission Page 2

This supplemental report was prepared at the request of ISAC and is intended for use by ISAC and those designated or approved by ISAC. This report may be provided to parties other than ISAC only in its entirety and only with the permission of ISAC. 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.

Please understand that future actuarial measurements may differ significantly from the current measurements presented in this analysis due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

This supplemental report is one of multiple documents providing actuarial soundness valuation results for the College Illinois!® Prepaid Tuition Program as of June 30, 2017. Additional information regarding actuarial assumptions and methods, underlying financial and beneficiary data and important additional disclosures are provided in the June 30, 2017, Actuarial Soundness Valuation. Section D of this report contains a summary of the actuarial assumptions and methods.

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

All calculations have been made in conformity with generally accepted actuarial principles and practices commonly applicable to similar types of arrangements. There are currently no Actuarial Standards of Practice which specifically relate to prepaid tuition plans. We have looked to the Actuarial Standards of Practice related to pensions for guidance due to their similar nature.

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

Lance J. Weiss and Amy Williams are independent of ISAC.

Respectfully submitted,

Gabriel, Roeder, Smith and Company

### SIGNED ORIGINAL ON FILE

Lance J. Weiss, EA, MAAA, FCA Senior Consultant and Team Leader

### SIGNED ORIGINAL ON FILE

Amy Williams, ASA, MAAA, FCA Consultant



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# **SECTION A**

**BACKGROUND** 

### **Background**

### **Purpose of Projections**

In accordance with the request of the Illinois Student Assistance Commission ("ISAC"), Gabriel, Roeder, Smith & Company ("GRS") has performed projections of the College Illinois!® Prepaid Tuition Program ("Program" or "CIPTP") under alternative open group and closed group scenarios. The purpose of these projections is to provide additional information to ISAC regarding a range of potential outcomes of different future year contract sales scenarios.

The Actuarial Standards Board (ASB) recently adopted Actuarial Standards of Practice (ASOP) No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions. ASOP No. 51 provides guidance to actuaries when performing certain actuarial services with respect to measuring obligations under a defined benefit pension plan and calculating actuarially determined contributions for such plans, with regard to the assessment and disclosure of the risk that actual future measurements may differ significantly from expected future measurements. The standard will be effective for any actuarial work product with a measurement date on or after November 1, 2018. There are currently no Actuarial Standards of Practice which specifically relate to prepaid tuition plans. We have looked to the Actuarial Standards of Practice related to pensions for guidance due to their similar nature. Future projection reports for CIPTP may contain additional risk metrics, projections or calculations in accordance with guidance from ASOP No. 51.

### **Illustrative Open and Closed Group Scenarios**

Please note that the open group scenarios included in this report (1) were specifically requested by ISAC, (2) are presented for illustrative purposes only and (3) do not consider how increases in contract prices can impact future sales. Because there are many factors that may impact the decision to purchase or not to purchase a prepaid tuition contract in Illinois, including but not limited to (1) increasingly unaffordable college tuition, (2) uncertainty about the state's support and funding for higher education in Illinois, (3) contract prices, (4) the level of contribution premium over the expected costs, and (5) competing savings vehicles, etc., it is very difficult to assess the likelihood of selling a particular number of contracts. Therefore, GRS is unable to judge the reasonableness of these open group contract scenarios.

While the closing of the CIPTP has not occurred, we have also provided an alternate closed group projection assuming no new contract sales after June 30, 2017. Please note that this closed group scenario was specifically requested by ISAC and is also presented for illustrative purposes only.

### **Historical Number of Contracts Sold by Enrollment Year**

The chart on page D-1 in Section D of the June 30, 2017, Actuarial Soundness Valuation Report illustrates the number of contracts sold by enrollment year.

As this chart indicates, the number of contracts sold has decreased significantly during the last five enrollment years from the number sold per year in previous years.

• The average annual number of contracts sold beginning with the enrollment period 1999/2000 and ending with the enrollment period 2009/2010 was 5,235.



- The average annual number of contracts sold during the last seven-year period 2010/2011 to 2016/2017 was 559 including 2011/2012 when the plan was not open for new contract sales.
- The average annual number of contracts sold during the last seven-year period 2010/2011 to 2016/2017 was 652 excluding 2011/2012 when the plan was not open for new contract sales.

### **Projection Assumptions**

The projection results summarized in this supplemental report involve actuarial calculations that require assumptions about future events. The major actuarial assumptions used in this analysis were provided by and are the responsibility of ISAC. We are unable to judge the reasonableness of some of these assumptions without performing a substantial amount of additional work beyond the scope of the assignment.

For purposes of this analysis, we used the actuarial soundness valuation results from the June 30, 2017, Actuarial Soundness Valuation, and unless noted differently, the same actuarial assumptions and methods as used for the June 30, 2017, Actuarial Soundness Valuation. The contract prices for future new contracts were based on the prices for the enrollment period from January 18, 2017, through May 31, 2017, increased by actual tuition and fee increases for fiscal year 2018, and are assumed to increase each year by the tuition and fee increase assumption. The contract prices for the enrollment period from January 18, 2017, through May 31, 2017, were based on different investment return and tuition and fee increase assumptions than the assumptions used for the Actuarial Soundness Valuation as of June 30, 2017. (We have not recalculated prices for future contracts using the current assumptions for purposes of the open-group projections.)

For the June 30, 2017, Actuarial Soundness Valuation, and for those projection scenarios where the Trust assets are depleted in the future and the funded ratio remains low thereafter, we have incorporated a "select and ultimate" approach to the investment return assumption (and also the related discount rate for the liabilities). Under this "select and ultimate" approach to the investment return assumption, we have assumed that the net investment return and discount rate grade down from 6.50% to 3.75% in yearly increments based on the number of years until the Trust assets are depleted and are no longer available to pay benefits. Implicit in this approach is the assumption that once the Trust is completely exhausted, and ISAC is relying on additional payments from the State of Illinois, the State will be making payments to the College Illinois!® Prepaid Tuition Program from the State Portfolio. (The State Portfolio has assets of approximately \$12-\$14 billion, and provides the necessary liquidity to meet the state's daily obligations while investing remaining funds in authorized short/long-term investment opportunities.) Based on input from ISAC, we have assumed that underlying return on such assets in the State Portfolio is 3.75%.

Considering the current asset allocation, liquidity requirements and deferment of the next enrollment period, we believe the net investment rate of return assumption of 6.50% in fiscal year 2018 grading down to 3.75% in 2025, on a select and ultimate basis, is consistent with applicable Actuarial Standards of Practice.

### **Important Disclosure**

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



# **SECTION B**

**PROJECTION RESULTS** 

### **Discussion of Scenario Results**

### Scenario 1 - Closed Group -- Run-Off Scenario; Zero New Contracts Sold Per Year

While the closing of the Program has not occurred, we have provided the results of a closed group run-off projection scenario in Scenario 1. Under this illustrative closed group scenario, we have assumed that the program continues to operate but with no new contract sales after June 30, 2017. Under this scenario, future payments from current contract holders, current Trust assets and future investment income are projected to be insufficient by the year 2025 to make the required tuition payments and additional funds will be required to maintain solvency (\$542.2 million for the period 2025 to 2053). The CIPTP funded status is projected to decrease from 74.8% in 2017 to 0.7% in 2025 when additional solvency contributions are required) and then decrease to 0.0% in 2031 and remain at 0.0% for the remaining years in the projection period.

Under this scenario, the Trust assets are projected to be depleted in 2025. Therefore, we have incorporated a "select and ultimate" approach to the investment return assumption (and also the related discount rate for the liabilities). Under this "select and ultimate" approach to the investment return assumption, we have assumed that the net investment return and discount rate grade down from 6.50% for year ending June 30, 2018 to 3.75% beginning for year ending June 30, 2025, in equal yearly increments of 0.393%.

### Scenario 2 – Open Group -- 500 New Contracts Sold Per Year

Scenario 2 illustrates the results of an open group projection scenario assuming 500 new contracts are sold each year, beginning in fiscal year 2019. Under this illustrative new contract sales assumption, future payments from current and future contract holders, current Trust assets and future investment income are projected to be insufficient to make the required tuition payments in year 2026 and additional funds will be required to maintain solvency (\$459.7 million for the period 2026 to 2054). The CIPTP funded status is projected to decrease from 75.2% in 2017 to a low of 6.9% in 2026 (when additional solvency contributions are required) and then very slowly increase to only 14.6% in 2054.

Under this scenario, the Trust assets are projected to be depleted in 2026, and the funded ratio remains low for the remaining years in the projection period. Therefore, we have incorporated a "select and ultimate" approach to the investment return assumption (and also the related discount rate for the liabilities). Under this "select and ultimate" approach to the investment return assumption, we have assumed that the net investment return and discount rate grade down from 6.50% for year ending June 30, 2018 to 3.75% beginning for year ending June 30, 2026, in equal yearly increments of 0.344%.

### Scenario 3 – Open Group -- 1,000 New Contracts Sold Per Year

Scenario 3 illustrates the results of an open group projection scenario assuming 1,000 new contracts are sold each year, beginning in fiscal year 2019. Under this illustrative new contract sales assumption, future payments from current and future contract holders, current Trust assets and future investment income are projected to be insufficient to make the required tuition payments in year 2028 and additional funds will be required to maintain solvency (\$113.4 million for the period 2028 to 2033). The CIPTP funded status is projected to decrease from 76.0% in 2017 to a low of 12.7% in 2028 (when additional solvency contributions are required) and then very slowly increase to only 22.3% in 2054.



Under this scenario, the Trust assets are projected to be depleted in 2028, and the funded ratio remains low for the remaining years in the projection period. Therefore, we have incorporated a "select and ultimate" approach to the investment return assumption (and also the related discount rate for the liabilities). Under this "select and ultimate" approach to the investment return assumption, we have assumed that the net investment return and discount rate grade down from 6.50% for year ending June 30, 2018 to 3.75% beginning for year ending June 30, 2028, in equal yearly increments of 0.275%.

### Scenario 4 – Open Group -- 1,500 New Contracts Sold Per Year

Scenario 4 illustrates the results of an open group projection scenario assuming 1,500 new contracts are sold each year, beginning in fiscal year 2019. Under this illustrative new contract sales assumption, future payments from current and future contract holders, current Trust assets and future investment income are projected to be sufficient to make the required tuition payments in all projection years. However, the CIPTP funded status is projected to decrease from 79.7% in 2017 to a low of 40.8% in 2029 before increasing to 78.1% in 2054.

Under this scenario, the Trust assets are not projected to be depleted during the projection period. Therefore, assuming that ISAC is able to maintain the current asset allocation throughout the entire projection period, we have used a flat investment return (and discount rate) assumption of 6.50% for this projection scenario.

### Scenario 5 – Open Group -- 2,500 New Contracts Sold Per Year

Scenario 5 illustrates the results of an open group projection scenario assuming 2,500 new contracts are sold each year, beginning in fiscal year 2019. Under this illustrative new contract sales assumption, future payments from current and future contract holders, current Trust assets and future investment income are projected to be sufficient to make the required tuition payments in all projection years. However, the CIPTP funded status is projected to decrease from 79.7% in 2017 to a low of 64.0% in 2025 before increasing to 133.7% in 2054. The funded status is projected to first reach 100 percent in 2042.

Under this scenario, the Trust assets are not projected to be depleted during the projection period. Therefore, assuming that ISAC is able to maintain the current asset allocation throughout the entire projection period, we have used a flat investment return (and discount rate) assumption of 6.50% for this projection scenario.

# Scenario 6 – Open Group -- 5% Annual Contract Sales Growth From 500 Contracts Sold in FY19 to 2,500 Contracts Sold and Then Stable at 2,500 Contracts Per Year

Scenario 6 illustrates the results of an open group projection scenario assuming 500 new contracts are sold in 2019 and then the number of new contract sales increases by 5.0% each year to 2,500 new contracts sold in 2052 and each future year. Under this illustrative new contract sales assumption, future payments from current and future contract holders, current Trust assets and future investment income are projected to be insufficient to make the required tuition payments in years 2027 through 2032 and additional solvency contributions will be required to maintain solvency (\$206.3 million for the period 2027 to 2032). The CIPTP funded status is projected to decrease from 79.7% in 2017 to a low of 10.4% in 2027 (and additional solvency contributions are required) before increasing to 92.4% in 2054.

Under this scenario, the Trust assets are projected to be depleted in 2027. However, because additional solvency contributions are only required for six years before the funded status is projected to increase,



we have used a flat investment return (and discount rate) assumption of 6.50% for this projection scenario. This assumes that ISAC is able to maintain the current asset allocation throughout most of the projection period.

# Scenario 7 – Open Group -- 10% Annual Contract Sales Growth From 500 Contracts Sold in FY19 to 2,500 Contracts Sold and Then Stable at 2,500 Contracts Per Year

Scenario 7 illustrates the results of an open group projection scenario assuming 500 new contracts are sold in 2019 and then the number of new contract sales increases by 10.0% each year to 2,500 new contracts sold in 2036 and each future year. Under this illustrative new contract sales assumption, future payments from contract holders, Trust assets and future investment income are projected to be insufficient to make the required tuition payments in years 2027 through 2030 and additional solvency contributions will be required to maintain solvency (\$108.7 million for the period 2027 through 2030). However, the CIPTP funded status is projected to decrease from 79.7% in 2017 to a low of 12.7% in 2027 (and additional solvency contributions are required) before increasing to 111.1% in 2054. The funded status is projected to first reach 100 percent in 2050.

Under this scenario, the Trust assets are projected to be depleted in 2027. However, because additional solvency contributions are only required for four years before the funded status is projected to increase, we have used a flat investment return (and discount rate) assumption of 6.50% for this projection scenario. This assumes that ISAC is able to maintain the current asset allocation throughout most of the projection period.

# Scenario 8 – Open Group -- 15% Annual Contract Sales Growth From 500 Contracts Sold in FY19 to 2,500 Contracts Sold and Then Stable at 2,500 Contracts Per Year

Scenario 8 illustrates the results of an open group projection scenario assuming 500 new contracts are sold in 2019 and then the number of new contract sales increases by 15.0% each year to 2,500 new contracts sold in 2031 and each future year. Under this illustrative new contract sales assumption, future payments from contract holders, Trust assets and future investment income are projected to be insufficient to make the required tuition payments in years 2028 through 2029 and additional solvency contributions will be required to maintain solvency (\$23.8 million for the period 2028 through 2029). However, the CIPTP funded status is projected to decrease from 79.7% in 2017 to a low of 18.0% in 2028 (and additional solvency contributions are required) before increasing to 111.0% in 2054. The funded status is projected to first reach 100 percent in 2050.

Under this scenario, the Trust assets are projected to be depleted in 2028. However, because additional solvency contributions are only required for two years before the funded status is projected to increase, we have used a flat investment return (and discount rate) assumption of 6.50% for this projection scenario. This assumes that ISAC is able to maintain the current asset allocation throughout most of the projection period.

### **Summary**

Under the scenarios in which 2,500 contracts are assumed to ultimately be sold each year (Scenarios 5 through 8), the funded status is projected to reach 90% or higher during the projection period.



### **Summary Table**

					-	F	unded R	atio	Funded Ra	atio Year
		Discount	Tuition/Fee	Year of Asset Ro						
Scenario	Scenario Description	Rate/Type	Increase	Depletion	Contributions	2017	2054	Minimum	Minimum	100%
1	Closed Group (Run-Off)	Select and Ultimate	5.00%	2025 \$	542,188,617	74.8%	0.0%	0.0%	2031	NA
2	Open Group (500 New Contracts Per Year)	Select and Ultimate	5.00%	2026 \$	459,675,237	75.2%	14.6%	6.9%	2026	NA
3	Open Group (1,000 New Contracts Per Year)	Select and Ultimate	5.00%	2028 \$	113,439,313	76.0%	22.3%	12.7%	2028	NA
4	Open Group (1,500 New Contracts Per Year)	6.50%	5.00%	NA \$	-	79.7%	78.1%	40.8%	2029	NA
5	Open Group (2,500 New Contracts Per Year)	6.50%	5.00%	NA \$	-	79.7%	133.7%	64.0%	2025	2042
6	Open Group (5% Annual Growth)*	6.50%	5.00%	2027 \$	206,300,140	79.7%	92.4%	10.4%	2027	NA
7	Open Group (10% Annual Growth)*	6.50%	5.00%	2027 \$	108,703,136	79.7%	111.1%	12.7%	2027	2050
8	Open Group (15% Annual Growth)*	6.50%	5.00%	2028 \$	23,799,621	79.7%	111.0%	18.0%	2028	2050

<sup>\*500</sup> contracts assumed to be sold in FY 2019, with an annual increase in contract sales until a maximum of 2,500 contracts per year are sold annually.



# Scenario Summary - Projected Funded Ratio Projection Based on Data as of June 30, 2017 Assumed Net Investment Return and Discount Rates Vary by Scenario Other Assumptions Based on Those Used in the Actuarial Valuation as of June 30, 2017

Scenario Description		1 Closed Group	2 Open Group	3 Open Group	4 Open Group	5 Open Group	6 Open Group <sup>a</sup>	7 Open Group <sup>a</sup>	8 Open Group <sup>a</sup>
Annual New Contracts		0	500	1,000	1,500	2,500	500	500	500
Increase in Annual New Contracts							5%	10%	15%
Annual WAT/Price Increase		5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Ultimate Discount Rate (UDR)		3.75%	3.75%	3.75%	6.50%	6.50%	6.50%	6.50%	6.50%
Year of Asset Depletion		2025	2026	2028	NA	NA	2027	2027	2028
Year Ending 6/30	2017	74.8%	75.2%	76.0%	79.7%	79.7%	79.7%	79.7%	79.7%
	2018	71.4%	71.8%	72.6%	76.7%	76.7%	76.7%	76.7%	76.7%
	2019	67.2%	67.0%	67.6%	72.1%	71.8%	72.4%	72.4%	72.4%
	2020	62.0%	61.8%	63.0%	68.9%	69.9%	67.8%	67.8%	67.8%
	2021	55.0%	55.3%	57.6%	65.1%	67.9%	61.9%	62.0%	62.0%
	2022	46.3%	47.7%	51.5%	61.2%	66.1%	55.1%	55.3%	55.5%
	2023	35.4%	38.9%	45.0%	57.2%	64.8%	47.1%	47.7%	48.2%
	2024	20.4%	28.4%	37.9%	53.3%	64.1%	37.6%	38.8%	40.2%
	2025	0.7%	16.0%	30.4%	49.5%	64.0%	26.5%	29.1%	31.9%
	2026	0.6%	6.9%	22.7%	46.1%	64.5%	13.9%	18.9%	24.2%
	2027	0.5%	8.0%	15.7%	43.5%	65.7%	10.4%	12.7%	18.6%
	2028	0.4%	9.2%	12.7%	41.6%	67.4%	12.2%	15.0%	18.0%
	2029	0.3%	10.3%	13.6%	40.8%	69.6%	14.0%	17.2%	20.6%
	2030	0.1%	11.3%	14.2%	40.9%	72.1%	15.5%	19.1%	24.8%
	2031	0.0%	12.1%	14.6%	41.7%	74.8%	16.8%	21.5%	31.2%
	2032	0.0%	12.8%	14.8%	43.0%	77.5%	17.8%	25.8%	38.0%
	2033	0.0%	13.2%	15.0%	44.5%	80.2%	18.9%	31.4%	44.3%
	2034	0.0%	13.5%	15.1%	46.2%	82.8%	21.1%	37.5%	50.1%
	2035	0.0%	13.8%	15.4%	47.9%	85.4%	24.0%	43.9%	55.3%
	2036	0.0%	13.9%	15.9%	49.6%	87.8%	27.4%	50.2%	60.0%
	2037	0.0%	14.0%	16.4%	51.3%	90.3%	31.0%	56.3%	64.3%
	2038	0.0%	14.1%	16.9%	53.0%	92.8%	34.9%	61.6%	68.2%
	2039	0.0%	14.1%	17.3%	54.5%	95.2%	38.7%	66.3%	71.7%
	2040	0.0%	14.2%	17.7%	56.0%	97.6%	42.6%	70.5%	74.9%
	2041	0.0%	14.2%	18.0%	57.4%	99.9%	46.4%	74.4%	77.9%
	2042	0.0%	14.2%	18.3%	58.8%	102.3%	50.2%	77.9%	80.8%
	2043	0.0%	14.3%	18.5%	60.3%	104.7%	54.0%	81.2%	83.5%
	2044	0.0%	14.3%	18.8%	61.7%	107.1%	57.7%	84.3%	86.1%
	2045	0.0%	14.3%	19.1%	63.2%	109.6%	61.4%	87.3%	88.6%
	2046	0.0%	14.4%	19.4%	64.7%	112.1%	65.1%	90.1%	91.1%
	2047	0.0%	14.4%	19.7%	66.2%	114.6%	68.7%	92.8%	93.6%
	2048	0.0%	14.4%	20.0%	67.8%	117.2%	72.3%	95.5%	96.0%
	2049	0.0%	14.5%	20.3%	69.4%	119.8%	75.7%	98.1%	98.5%
	2050	0.0%	14.5%	20.7%	71.1%	122.5%	79.2%	100.7%	100.9%
	2051	0.0%	14.5%	21.1%	72.8%	125.3%	82.5%	103.3%	103.4%
	2052	0.0%	14.6%	21.5%	74.5%	128.0%	85.8%	105.9%	105.9%
	2053	0.0%	14.6%	21.9%	76.3%	130.9%	89.2%	108.5%	108.4%
	2054	0.0%	14.6%	22.3%	78.1%	133.7%	92.4%	111.1%	111.0%
Minimum Fui		0.0%	6.9%	12.7%	40.8%	64.0%	10.4%	12.7%	18.0%
									<del></del>

<sup>&</sup>lt;sup>a</sup> 500 contracts assumed to be sold in FY 2019, with an annual increase in contract sales until a maximum of 2,500 contracts per year are sold annually.



# Scenario Summary - Projected Additional Required Solvency Contributions Projection Based on Data as of June 30, 2017 Assumed Net Investment Return and Discount Rates Vary by Scenario

Other Assumptions Based on Those Used in the Actuarial Valuation as of June 30, 2017

Scenario Description Annual New Contracts Increase in Annual New Contracts Annual WAT/Price Increase Ultimate Discount Rate (UDR) Year of Asset Depletion		1 Closed Group 0 5.00% 3.75% 2025	2 Open Group 500 5.00% 3.75% 2026	3 Open Group 1,000 5.00% 3.75% 2028	4 Open Group 1,500 5.00% 6.50% NA	5 Open Group 2,500 5.00% 6.50% NA	6 Open Group <sup>a</sup> 500 5% 5.00% 6.50% 2027	7 Open Group <sup>a</sup> 500 10% 5.00% 6.50% 2027	8 Open Group <sup>a</sup> 500 15% 5.00% 6.50% 2028
Year Ending 6/30	2017	\$ -	\$ -	\$ -	\$ -	. \$ -	- \$ -	\$ -	\$ -
	2018	-	-	-				-	-
	2019	=	-	-	-			-	-
	2020	=	-	-	-			-	-
	2021	-	-	-	-			-	-
	2022	-	-	-				-	-
	2023	-	-	-				-	-
	2024	=	-	-	-			-	-
	2025	3,686,806	-	-	-			-	-
	2026	108,633,535	30,009,447	-	-			-	-
	2027	92,621,350	81,343,433	-	-		45,722,843	15,822,884	-
	2028	80,917,790	70,425,139	23,294,705	-		62,089,266	50,689,528	13,931,500
	2029	64,499,342	55,034,624	38,010,363	-		44,927,717	30,406,779	9,868,121
	2030	50,316,788	42,016,654	25,623,699	-		29,980,015	11,783,945	-
	2031	38,454,980	31,340,217	15,653,488	-		17,209,193	-	-
	2032	28,646,836	22,774,114	7,897,885	-		6,371,106	-	-
	2033	21,467,490	16,910,625	2,959,173	-			-	-
	2034	15,875,874	12,494,566	-	-			-	-
	2035	11,831,906	9,666,016	-	-			-	-
	2036	8,542,496	7,465,431	-	-			-	-
	2037	5,903,718	5,816,809	-	-			-	-
	2038	4,025,521	5,114,424	-	-			-	-
	2039	2,667,385	4,831,453	-	-			-	-
	2040	1,611,788	4,612,068	-	-			-	-
	2041	995,899	4,614,877	-	-			-	-
	2042	640,207	4,697,018	-	-			-	-
	2043	383,612	4,710,023	-	-			-	-
	2044	227,327	4,689,900	-	-			-	-
	2045	128,541	4,651,612	-	-			-	-
	2046	66,478	4,582,772	-	-			-	-
	2047	21,729	4,480,015	-	-			-	-
	2048	11,390	4,388,482	-	-			-	-
	2049	5,621	4,265,895	-	-			-	-
	2050	2,572	4,117,945	-	-			-	-
	2051	1,111	3,951,987	-	-			-	-
	2052	414	3,767,350	-	-			-	-
	2053	111	3,563,336	-	-			-	-
	2054	-	3,339,005	-	-			=	-
	Total	542,188,617	459,675,237	113,439,313	-		206,300,140	108,703,136	23,799,621

<sup>&</sup>lt;sup>a</sup> 500 contracts assumed to be sold in FY 2019, with an annual increase in contract sales until a maximum of 2,500 contracts per year are sold annually.



# **SECTION C**

**ALTERNATIVE SCENARIOS PROJECTION TABLES** 

**Closed Group Projections** 

Scenario 1 — Run-Off Scenario

Projection Based on Data as of June 30, 2017

Assumed Net Investment Return and Discount Rates Graded Down from 6.50% to 3.75% in 0.393% Yearly Increments

Other Assumptions Based on Those Used in the Actuarial Valuation as of June 30, 2017

Zero New Contracts Per Year

						Ass	sets		Liabilities						
	Assumed			Additional					Total Present				Total Present		
Year	Net	Annual		Required	T. 141	•	Net	Manufack Malaca and	Value of	Total Fund	Total Present	Present	Value of Future	Hafter aload	Soundard
Ending 6/30	Rate of Return	New Contracts	Contributions	Solvency Contributions <sup>a</sup>	Tuition Payments, Refunds and Fees	Expenses	Investment Return	Market Value of Assets (EOY)	Future Contributions	Assets (MVA + PVFC)	Value of Future Benefits	Value of Future Admin Expenses	Benefits, Fees and Expenses	Unfunded Liability	Funded Ratio
0/30	Retuin	Contracts	Contributions	Contributions	Kelulius aliu Tees	Lxpelises	Return	Assets (LOT)	Contributions	(WVA+FVIC)	ruture benents	Aumin Expenses	and Expenses	Liability	Natio
2017			\$ 23,659,545	\$ -	\$ 143,458,888		\$ 65,190,202				\$ 1,235,713,761			\$ 320,237,004	74.8%
2018	6.500%	0	13,277,529	-	152,763,917	4,887,821	54,204,937	814,803,540	35,284,039	850,087,579	1,158,384,569	32,755,419	1,191,139,988	341,052,409	71.4%
2019	6.107%	0	10,224,428	-	150,315,648	5,010,017	45,395,041	715,097,345	26,906,831	742,004,176	1,074,289,594	29,595,062	1,103,884,655	361,880,479	67.2%
2020	5.714%	0	8,164,461	-	151,572,146	5,135,267	36,675,741	603,230,134	20,049,808	623,279,942	979,832,092	26,006,180	1,005,838,272	382,558,330	62.0%
2021	5.321%	0	6,340,896	-	154,336,169	4,800,840	28,085,419	478,519,440	14,609,249	493,128,689	873,579,890	22,463,058	896,042,948	402,914,259	55.0%
2022	4.928%	0	5,413,559	-	144,250,848	4,387,246	20,094,824	355,389,729	9,783,848	365,173,577	768,867,461	19,075,989	787,943,450	422,769,873	46.3%
2023	4.535%	0	3,492,244	-	132,636,071	3,957,899	13,132,306	235,420,309	6,656,992	242,077,301	668,125,352	15,894,436	684,019,788	441,942,487	35.4%
2024	4.142%	0	2,396,891	-	127,636,988	3,525,292	7,111,434	113,766,354	4,486,698	118,253,052	565,545,574	12,955,223	578,500,797	460,247,745	20.4%
2025	3.750%	0	1,519,750	3,686,806	118,027,756	3,058,642	2,113,488	-	3,106,966	3,106,966	466,533,124	10,325,581	476,858,704	473,751,738	0.7%
2026	3.750%	0	1,048,299	108,633,535	107,095,603	2,586,231	-	-	2,155,704	2,155,704	374,942,950	8,078,513	383,021,464	380,865,760	0.6%
2027	3.750%	0	854,156	92,621,350	91,345,043	2,130,463	-	-	1,366,519	1,366,519	295,961,311	6,211,417	302,172,728	300,806,209	0.5%
2028	3.750%	0	581,569	80,917,790	79,775,636	1,723,723	-	-	825,390	825,390	225,802,197	4,688,599	230,490,796	229,665,406	0.4%
2029	3.750%	0	401,022	64,499,342	63,552,380	1,347,984	-	-	447,870	447,870	169,536,759	3,491,396	173,028,155	172,580,285	0.3%
2030	3.750%	0	294,104	50,316,788	49,573,497	1,037,395	-	-	165,098	165,098	125,399,942	2,565,656	127,965,598	127,800,500	0.1%
2031	3.750%	0	123,971	38,454,980	37,792,446	786,505	-	-	45,015	45,015	91,607,907	1,860,752	93,468,659	93,423,644	0.0%
2032	3.750%	0	45,851	28,646,836	28,103,760	588,926	-	-	-	-	66,417,348	1,330,663	67,748,010	67,748,010	0.0%
2033	3.750%	0	-	21,467,490	21,029,833	437,657	-	-	-	-	47,487,485	934,775	48,422,260	48,422,260	0.0%
2034	3.750%	0	-	15,875,874	15,555,133	320,741	-	-	-	-	33,424,158	643,130	34,067,287	34,067,287	0.0%
2035	3.750%	0	-	11,831,906	11,600,508	231,398	-	-	-	-	22,861,548	431,550	23,293,098	23,293,098	0.0%
2036	3.750%	0	-	8,542,496	8,380,267	162,229	-	-	-	-	15,182,906	282,490	15,465,396	15,465,396	0.0%
2037	3.750%	0	-	5,903,718	5,793,284	110,434	-	-	-	-	9,851,356	180,598	10,031,954	10,031,954	0.0%
2038	3.750%	0	-	4,025,521	3,952,075	73,446	-	-	-	-	6,195,287	112,560	6,307,847	6,307,847	0.0%
2039	3.750%	0	-	2,667,385	2,620,042	47,343	-	-	-	-	3,758,894	68,558	3,827,453	3,827,453	0.0%
2040	3.750%	0	-	1,611,788	1,582,345	29,443	-	-	-	-	2,288,112	41,140	2,329,251	2,329,251	0.0%
2041	3.750%	0	-	995,899	977,528	18,370	-	-	-	-	1,378,228	23,971	1,402,198	1,402,198	0.0%
2042	3.750%	0	-	640,207	628,865	11,342	-	-	-	-	789,364	13,317	802,680	802,680	0.0%
2043	3.750%	0	-	383,612	376,954	6,658	-	-	-	-	435,008	7,034	442,042	442,042	0.0%
2044	3.750%	0	-	227,327	223,566	3,761	-	-		-	223,601	3,467	227,068	227,068	0.0%
2045	3.750%	0	-	128,541	126,559	1,982	-	-		-	103,076	1,579	104,655	104,655	0.0%
2046	3.750%	0	-	66,478	65,542	936	-				40,182	684	40,866	40,866	0.0%
2047	3.750%	0	-	21,729	21,355	374	-				19,937	329	20,266	20,266	0.0%
2048	3.750%	0	_	11,390	11,200	190	-	_	_	-	9,277	147	9,424	9,424	0.0%
2049	3.750%	0	_	5,621	5,530	91	-	_	-	_	3,992	60	4,052	4,052	0.0%
2050	3.750%	0	-	2,572	2,532	40	_	_	_	_	1,562	22	1,584	1,584	0.0%
2051	3.750%	0	_	1,111	1,095	16	-	_	-	_	506	6	512	512	0.0%
2052	3.750%	0	_	414	409	5	-	_	-	_	108	1	109	109	0.0%
2053	3.750%	0	_	111	110	1	-	_	-	_	-	-	-	-	0.0%
2053	3.750%	0	_		-	-	_	_	_	_		_	_	_	0.0%
2034	3.730/0	U	-	-		-		-	-	-	•	-	-	•	0.070

<sup>&</sup>lt;sup>a</sup> Additional contributions in the amount of \$542,188,617 are needed over the years 2025 through 2053 to pay all benefits due.



**Open Group Projections** 

Scenario 2 — Continuing Business Scenario

Projection Based on Data as of June 30, 2017

Assumed Net Investment Return and Discount Rates Graded Down from 6.50% to 3.75% in 0.344% Yearly Increments

Other Assumptions Based on Those Used in Actuarial Valuation as of June 30, 2017

500 New Contracts Per Year Beginning in FY 2019

						As	sets			Liabilities					
Year Ending	Assumed Net Rate of	Annual New		Additional Required Solvency	Tuition Payments,	Administrative	Net Investment	Market Value of	Total Present Value of Future	Total Fund Assets	Total Present Value of	Present Value of Future	Total Present Value of Future Benefits, Fees	Unfunded	Funded
6/30	Return	Contracts	Contributions	Contributions <sup>a</sup>	Refunds and Fees	Expenses	Return	Assets (EOY)	Contributions	(MVA + PVFC)	Future Benefits	Admin Expenses	and Expenses	Liability	Ratio
2017			\$ 23,659,545	\$ -	\$ 143,458,888	\$ 6,623,245	\$ 65,190,202	\$ 904,972,812	\$ 45,893,324	\$ 950,866,136	\$ 1,228,565,451	\$ 35,314,775	\$ 1,263,880,226	\$ 313,014,090	75.2%
2018	6.500%	0	13,277,529	-	152,763,917	4,887,821	54,204,937	814,803,540	35,174,135	849,977,675	1,150,771,619	32,566,061	1,183,337,680	333,360,005	71.8%
2019	6.156%	500	10,224,428	-	150,315,648	6,958,546	45,700,707	713,454,481	34,240,439	747,694,920	1,081,980,502	34,428,071	1,116,408,573	368,713,653	67.0%
2020	5.812%	500	17,284,530	-	151,593,382	7,132,510	37,413,736	609,426,855	34,090,063	643,516,918	1,004,980,086	36,416,221	1,041,396,307	397,879,389	61.8%
2021	5.468%	500	17,494,818	-	154,622,666	7,310,824	29,427,062	494,415,245	34,516,312	528,931,557	918,251,396	38,225,542	956,476,938	427,545,381	55.3%
2022	5.124%	500	18,657,087	-	144,827,371	7,493,593	21,952,147	382,703,515	34,607,154	417,310,669	835,015,422	39,879,006	874,894,427	457,583,758	47.7%
2023	4.780%	500	18,892,510	-	133,515,280	7,680,933	15,404,289	275,804,101	35,328,133	311,132,234	757,282,544	41,772,737	799,055,281	487,923,047	38.9%
2024	4.436%	500	20,031,271	-	129,108,222	7,872,957	9,668,867	168,523,060	36,686,790	205,209,850	678,986,434	43,660,697	722,647,131	517,437,281	28.4%
2025	4.092%	500	20,619,267	-	120,176,250	8,069,781	4,715,998	65,612,295	38,548,578	104,160,873	605,089,815	45,472,095	650,561,909	546,401,036	16.0%
2026	3.750%	500	21,578,994	30,009,447	110,148,119	8,271,525	1,218,908	-	40,532,858	40,532,858	537,220,755	46,840,922	584,061,678	543,528,820	6.9%
2027	3.750%	500	22,818,626	81,343,433	95,683,745	8,478,314	-	-	42,526,870	42,526,870	482,365,959	48,203,313	530,569,272	488,042,402	8.0%
2028	3.750%	500	23,980,762	70,425,139	85,715,630	8,690,271	-	-	44,684,578	44,684,578	436,552,389	49,224,592	485,776,981	441,092,403	9.2%
2029	3.750%	500	25,221,441	55,034,624	71,348,536	8,907,529	-	-	46,963,632	46,963,632	404,701,923	50,017,812	454,719,735	407,756,103	10.3%
2030	3.750%	500	26,553,108	42,016,654	59,439,546	9,130,216	-	-	49,321,051	49,321,051	385,000,416	50,680,191	435,680,607	386,359,556	11.3%
2031	3.750%	500	27,859,484	31,340,217	49,841,229	9,358,472	-	-	51,847,252	51,847,252	375,578,672	51,315,546	426,894,218	375,046,966	12.1%
2032	3.750%	500	29,303,336	22,774,114	42,485,016	9,592,433	-	-	54,468,795	54,468,795	374,585,360	51,998,835	426,584,194	372,115,399	12.8%
2033	3.750%	500	30,837,295	16,910,625	37,915,675	9,832,245	-	-	57,192,234	57,192,234	379,819,779	52,774,757	432,594,536	375,402,302	13.2%
2034	3.750%	500	32,457,025	12,494,566	34,873,541	10,078,050	-	-	60,051,846	60,051,846	389,897,795	53,671,765	443,569,559	383,517,713	13.5%
2035	3.750%	500	34,079,877	9,666,016	33,415,891	10,330,002	-	-	63,054,438	63,054,438	403,565,604	54,673,366	458,238,970	395,184,532	13.8%
2036	3.750%	500	35,783,871	7,465,431	32,661,050	10,588,252	-	-	66,207,160	66,207,160	420,297,147	55,857,872	476,155,019	409,947,859	13.9%
2037	3.750%	500	37,573,064	5,816,809	32,536,915	10,852,958	-	-	69,517,518	69,517,518	439,362,706	57,240,156	496,602,862	427,085,344	14.0%
2038	3.750%	500	39,451,717	5,114,424	33,441,859	11,124,282	-	-	72,993,394	72,993,394	460,186,276	58,764,548	518,950,824	445,957,430	14.1%
2039	3.750%	500	41,424,303	4,831,453	34,853,367	11,402,389	-	-	76,643,064	76,643,064	482,554,913	60,373,101	542,928,015	466,284,951	14.1%
2040	3.750%	500	43,495,518	4,612,068	36,420,137	11,687,449	-	-	80,475,217	80,475,217	506,446,141	62,045,083	568,491,223	488,016,006	14.2%
2041	3.750%	500	45,670,294	4,614,877	38,305,535	11,979,635	-	-	84,498,978	84,498,978	531,661,082	63,756,583	595,417,664	510,918,686	14.2%
2042	3.750%	500	47,953,809	4,697,018	40,371,701	12,279,126	-	-	88,723,927	88,723,927	558,162,337	65,481,542	623,643,878	534,919,951	14.2%
2043	3.750%	500	50,351,499	4,710,023	42,475,418	12,586,104	-	-	93,160,123	93,160,123	586,038,646	67,212,269	653,250,915	560,090,792	14.3%
2044	3.750%	500	52,869,074	4,689,900	44,658,217	12,900,757	-	-	97,818,129	97,818,129	615,322,157	68,947,649	684,269,806	586,451,677	14.3%
2045	3.750%	500	55,512,528	4,651,612	46,940,864	13,223,276	-	-	102,709,036	102,709,036	646,081,050	70,686,434	716,767,484	614,058,448	14.3%
2046	3.750%	500	58,288,154	4,582,772	49,317,069	13,553,857	-	-	107,844,488	107,844,488	678,390,788	72,435,223	750,826,011	642,981,523	14.4%
2047	3.750%	500	61,202,562	4,480,015	51,789,873	13,892,704	-	-	113,236,712	113,236,712	712,320,764	74,202,803	786,523,567	673,286,855	14.4%
2048	3.750%	500	64,262,690	4,388,482	54,411,151	14,240,021	-	-	118,898,548	118,898,548	747,938,467	75,999,131	823,937,598	705,039,050	14.4%
2049	3.750%	500	67,475,825	4,265,895	57,145,698	14,596,022	-	-	124,843,475	124,843,475	785,336,405	77,836,251	863,172,656	738,329,181	14.5%
2050	3.750%	500	70,849,616	4,117,945	60,006,638	14,960,923	-	-	131,085,649	131,085,649	824,603,811	79,724,640	904,328,451	773,242,802	14.5%
2051	3.750%	500	74,392,097	3,951,987	63,009,138	15,334,946	-	-	137,639,931	137,639,931	865,834,290	81,672,115	947,506,405	809,866,474	14.5%
2052	3.750%	500	78,111,702	3,767,350	66,160,733	15,718,319	-	-	144,521,928	144,521,928	909,126,146	83,682,809	992,808,955	848,287,027	14.6%
2053	3.750%	500	82,017,287	3,563,336	69,469,346	16,111,277	-	-	151,748,024	151,748,024	954,582,518	85,759,275	1,040,341,793	888,593,769	14.6%
2054	3.750%	500	86,118,151	3,339,005	72,943,097	16,514,059	-	-	159,335,425	159,335,425	1,002,311,673	87,903,110	1,090,214,783	930,879,358	14.6%

<sup>&</sup>lt;sup>a</sup> Additional contributions in the amount of \$459,675,237 are needed over the years 2026 through 2054 to pay all benefits due.



**Open Group Projections** 

Scenario 3 — Continuing Business Scenario

Projection Based on Data as of June 30, 2017

Assumed Net Investment Return and Discount Rates Graded Down from 6.50% to 3.75% in 0.275% Yearly Increments

Other Assumptions Based on Those Used in Actuarial Valuation as of June 30, 2017

1,000 New Contracts Per Year Beginning in FY 2019

						Ass	sets								
	Assumed			Additional					Total Present	<u> </u>			Total Present		
Year	Net	Annual		Required			Net		Value of	Total Fund	Total Present	Present	Value of Future		
Ending	Rate of	New	Contributions	Solvency Contributions <sup>a</sup>	Tuition Payments, Refunds and Fees		Investment	Market Value of	Future Contributions	Assets	Value of	Value of Future	Benefits, Fees	Unfunded Liability	Funded
6/30	Return	Contracts	Contributions	Contributions	Retunus and Fees	Expenses	Return	Assets (EOY)	Contributions	(MVA + PVFC)	Future Benefits	Admin Expenses	and Expenses	Liability	Ratio
2017			\$ 23,659,545	\$ -	\$ 143,458,888	\$ 6,623,245	\$ 65,190,202	\$ 904,972,812	\$ 45,737,842	\$ 950,710,654	\$ 1,216,684,307	\$ 35,025,291	\$ 1,251,709,598	\$ 300,998,944	76.0%
2018	6.500%	0	13,277,529	-	152,763,917	4,887,821	54,204,937	814,803,540	35,008,546	849,812,086	1,138,118,201	32,257,760	1,170,375,961	320,563,875	72.6%
2019	6.225%	1,000	10,224,428	-	150,315,648	6,958,546	46,213,690	713,967,464	41,406,676	755,374,140	1,083,838,327	34,111,112	1,117,949,439	362,575,299	67.6%
2020	5.950%	1,000	26,404,598	-	151,614,617	7,132,510	38,600,759	620,225,694	47,838,341	668,064,035	1,023,649,435	36,103,112	1,059,752,547	391,688,512	63.0%
2021	5.675%	1,000	28,648,740	-	154,909,162	7,310,824	31,460,022	518,114,470	54,009,633	572,124,103	955,998,765	37,923,591	993,922,357	421,798,254	57.6%
2022	5.400%	1,000	31,900,615	-	145,403,894	7,493,593	24,754,217	421,871,815	58,913,808	480,785,623	894,059,399	39,590,001	933,649,400	452,863,777	51.5%
2023	5.125%	1,000	34,292,776	-	134,394,490	7,680,933	18,893,509	332,982,677	63,417,882	396,400,559	839,505,329	41,489,062	880,994,391	484,593,832	45.0%
2024	4.850%	1,000	37,665,650	-	130,579,456	7,872,957	13,734,518	245,930,432	68,308,788	314,239,220	786,107,150	43,366,455	829,473,605	515,234,385	37.9%
2025	4.575%	1,000	39,718,783	-	122,324,744	8,069,781	9,200,306	164,454,997	73,525,454	237,980,451	738,494,749	45,144,236	783,638,986	545,658,535	30.4%
2026	4.300%	1,000	42,109,690	-	113,200,636	8,271,525	5,383,230	90,475,756	78,728,255	169,204,011	697,783,153	46,616,689	744,399,842	575,195,831	22.7%
2027	4.025%	1,000	44,783,096	-	100,022,447	8,478,314	2,371,981	29,130,072	83,687,222	112,817,294	668,770,608	48,111,501	716,882,109	604,064,815	15.7%
2028	3.750%	1,000	47,379,956	23,294,705	91,655,624	8,690,271	541,162	-	88,543,766	88,543,766	647,302,580	49,152,434	696,455,014	607,911,248	12.7%
2029	3.750%	1,000	50,041,859	38,010,363	79,144,693	8,907,529	-	-	93,479,394	93,479,394	639,867,088	49,965,528	689,832,616	596,353,222	13.6%
2030	3.750%	1,000	52,812,113	25,623,699	69,305,596	9,130,216	-	-	98,477,005	98,477,005	644,600,889	50,646,560	695,247,449	596,770,444	14.2%
2031	3.750%	1,000	55,594,997	15,653,488	61,890,013	9,358,472	-	-	103,649,489	103,649,489	659,549,437	51,297,146	710,846,583	607,197,094	14.6%
2032	3.750%	1,000	58,560,821	7,897,885	56,866,272	9,592,433	-	-	108,937,589	108,937,589	682,753,372	51,990,874	734,744,245	625,806,656	14.8%
2033	3.750%	1,000	61,674,589	2,959,173	54,801,517	9,832,245	-	-	114,384,469	114,384,469	712,152,072	52,773,600	764,925,672	650,541,203	15.0%
2034	3.750%	1,000	64,914,051	-	54,191,948	10,078,050	11,965	656,018	120,103,692	120,759,710	746,371,431	53,674,403	800,045,833	679,286,123	15.1%
2035	3.750%	1,000	68,159,753	-	55,231,274	10,330,002	72,874	3,327,369	126,108,877	129,436,246	784,269,661	54,677,641	838,947,302	709,511,056	15.4%
2036	3.750%	1,000	71,567,741	-	56,941,833	10,588,252	199,786	7,564,811	132,414,321	139,979,132	825,411,388	55,864,068	881,275,456	741,296,324	15.9%
2037	3.750%	1,000	75,146,128	-	59,280,546	10,852,958	376,802	12,954,237	139,035,037	151,989,274	868,874,056	57,248,957	926,123,013	774,133,739	16.4%
2038	3.750%	1,000	78,903,435	-	62,931,644	11,124,282	575,838	18,377,584	145,986,788	164,364,372	914,177,265	58,776,731	972,953,996	808,589,624	16.9%
2039	3.750%	1,000	82,848,606	-	67,086,693	11,402,389	770,148	23,507,256	153,286,128	176,793,384	961,350,932	60,388,274	1,021,739,207	844,945,823	17.3%
2040	3.750%	1,000	86,991,037	-	71,257,929	11,687,449	956,680	28,509,595	160,950,434	189,460,029	1,010,604,170	62,061,255	1,072,665,424	883,205,395	17.7%
2041	3.750%	1,000	91,340,588	-	75,633,541	11,979,635	1,138,356	33,375,362	168,997,956	202,373,318	1,061,943,936	63,770,712	1,125,714,647	923,341,329	18.0%
2042	3.750%	1,000	95,907,618	-	80,114,538	12,279,126	1,316,856	38,206,172	177,447,854	215,654,026	1,115,535,311	65,489,326	1,181,024,636	965,370,610	18.3%
2043	3.750%	1,000	100,702,999	-	84,573,883	12,586,104	1,498,552	43,247,736	186,320,246	229,567,982	1,171,642,285	67,211,920	1,238,854,205	1,009,286,223	18.5%
2044	3.750%	1,000	105,738,149	-	89,092,868	12,900,757	1,691,354	48,683,614	195,636,259	244,319,873	1,230,420,714	68,941,311	1,299,362,025	1,055,042,152	18.8%
2045	3.750%	1,000	111,025,056	-	93,755,170	13,223,276	1,900,811	54,631,035	205,418,072	260,049,107	1,292,059,024	70,677,120	1,362,736,144	1,102,687,037	19.1%
2046	3.750%	1,000	116,576,309	-	98,568,595	13,553,857	2,131,405	61,216,297	215,688,975	276,905,272	1,356,741,393	72,425,528	1,429,166,921	1,152,261,649	19.4%
2047	3.750%	1,000	122,405,124	-	103,558,390	13,892,704	2,387,644	68,557,971	226,473,424	295,031,395	1,424,621,591	74,194,665	1,498,816,256	1,203,784,861	19.7%
2048	3.750%	1,000	128,525,381	-	108,811,102	14,240,021	2,672,622	76,704,851	237,797,095	314,501,946	1,495,867,657	75,993,609	1,571,861,266	1,257,359,320	20.0%
2049	3.750%	1,000	134,951,650	-	114,285,867	14,596,022	2,989,193	85,763,805	249,686,950	335,450,755	1,570,668,818	77,833,415	1,648,502,233	1,313,051,478	20.3%
2050	3.750%	1,000	141,699,232	-	120,010,743	14,960,923	3,341,124	95,832,495	262,171,298	358,003,793	1,649,206,061	79,724,029	1,728,930,090	1,370,926,297	20.7%
2051	3.750%	1,000	148,784,194	-	126,017,181	15,334,946	3,731,787	106,996,349	275,279,862	382,276,211	1,731,668,075	81,673,105	1,813,341,180	1,431,064,969	21.1%
2052	3.750%	1,000	156,223,403	-	132,321,058	15,718,319	4,164,401	119,344,776	289,043,856	408,388,632	1,818,252,183	83,684,667	1,901,936,850	1,493,548,218	21.5%
2053	3.750%	1,000	164,034,574	-	138,938,582	16,111,277	4,642,342	132,971,833	303,496,048	436,467,881	1,909,165,035	85,761,459	1,994,926,494	1,558,458,613	21.9%
2054	3.750%	1,000	172,236,302	-	145,886,194	16,514,059	5,169,172	147,977,054	318,670,851	466,647,905	2,004,623,347	87,905,316	2,092,528,663	1,625,880,758	22.3%

<sup>&</sup>lt;sup>a</sup> Additional contributions in the amount of \$113,439,313 are needed over the years 2028 through 2033 to pay all benefits due.



Open Group Projections
Scenario 4 — Continuing Business Scenario
Projection Based on Data as of June 30, 2017
6.50% Assumed Net Investment Return
Other Assumptions Based on Those Used in Actuarial Valuation as of June 30, 2017

1,500 New Contracts Per Year Beginning in FY 2019

				Assets						Liabilities					
	Assumed			Additional					Total Present				Total Present		
Year	Net	Annual		Required			Net		Value of	Total Fund	Total Present	Present	Value of Future		
Ending 6/30	Rate of Return	New	Contributions	Solvency Contributions	Tuition Payments, Refunds and Fees			Market Value of Assets (EOY)	Future Contributions	Assets (MVA + PVFC)	Value of Future Benefits	Value of Future Admin Expenses	Benefits, Fees and Expenses	Unfunded Liability	Funded Ratio
6/30	Return	Contracts	Contributions	Contributions	Retunds and Fees	Expenses	Return	Assets (EUT)	Contributions	(IVIVA + PVFC)	ruture benefits	Aumin Expenses	and expenses	Liability	Ratio
2017			\$ 23,659,545	\$ -	\$ 143,458,888	\$ 6,623,245	\$ 65,190,202	\$ 904,972,812	\$ 45,100,689	\$ 950,073,501	\$ 1,158,066,530	\$ 33,645,606	\$ 1,191,712,136	\$ 241,638,635	79.7%
2018	6.500%	0	13,277,529	-	152,763,917	4,887,821	54,204,937	814,803,540	34,329,978	849,133,518	1,075,690,268	30,788,396	1,106,478,665	257,345,147	76.7%
2019	6.500%	1,500	10,224,428	-	150,315,648	6,958,546	48,258,347	716,012,121	47,378,360	763,390,481	1,026,929,396	32,356,127	1,059,285,523	295,895,042	72.1%
2020	6.500%	1,500	35,524,667	-	151,635,853	7,132,510	42,598,423	635,366,848	59,584,202	694,951,050	974,706,588	34,060,508	1,008,767,096	313,816,046	68.9%
2021	6.500%	1,500	39,802,662	-	155,195,659	7,310,824	37,373,750	550,036,777	70,600,174	620,636,951	917,255,668	35,610,511	952,866,179	332,229,228	65.1%
2022	6.500%	1,500	45,144,144	-	145,980,417	7,493,593	32,287,094	473,994,005	79,346,413	553,340,418	867,553,825	37,023,120	904,576,945	351,236,527	61.2%
2023	6.500%	1,500	49,693,042	-	135,273,699	7,680,933	27,826,324	408,558,739	86,598,326	495,157,065	826,887,976	38,644,279	865,532,254	370,375,189	57.2%
2024	6.500%	1,500	55,300,030	-	132,050,690	7,872,957	23,849,346	347,784,468	93,930,681	441,715,149	788,859,916	40,220,895	829,080,810	387,365,661	53.3%
2025	6.500%	1,500	58,818,300	-	124,473,238	8,069,781	20,247,657	294,307,407	101,379,382	395,686,789	757,807,615	41,679,788	799,487,403	403,800,614	49.5%
2026	6.500%	1,500	62,640,385	-	116,253,152	8,271,525	17,150,404	249,573,519	108,683,559	358,257,078	734,483,061	42,828,502	777,311,562	419,054,484	46.1%
2027	6.500%	1,500	66,747,566	-	104,361,149	8,478,314	14,747,874	218,229,496	115,710,885	333,940,381	723,507,853	43,965,920	767,473,773	433,533,392	43.5%
2028	6.500%	1,500	70,779,149	-	97,595,618	8,690,271	13,049,114	195,771,870	122,740,604	318,512,474	720,709,158	44,794,211	765,503,369	446,990,895	41.6%
2029	6.500%	1,500	74,862,278	-	86,940,849	8,907,529	12,053,860	186,839,630	129,807,357	316,646,987	730,894,315	45,425,314	776,319,628	459,672,641	40.8%
2030	6.500%	1,500	79,071,117	-	79,171,645	9,130,216	11,849,299	189,458,185	136,912,540	326,370,725	752,383,350	45,955,682	798,339,031	471,968,306	40.9%
2031	6.500%	1,500	83,330,509	-	73,938,796	9,358,472	12,315,845	201,807,271	144,185,134	345,992,405	783,327,966	46,488,170	829,816,135	483,823,730	41.7%
2032	6.500%	1,500	87,818,305	-	71,247,528	9,592,433	13,340,698	222,126,312	151,574,097	373,700,409	821,806,728	47,081,384	868,888,112	495,187,703	43.0%
2033	6.500%	1,500	92,511,884	-	71,687,358	9,832,245	14,789,835	247,908,428	159,152,802	407,061,230	865,997,841	47,772,847	913,770,688	506,709,458	44.5%
2034	6.500%	1,500	97,371,076	-	73,510,356	10,078,050	16,554,933	278,246,031	167,110,442	445,356,473	914,594,920	48,580,555	963,175,475	517,819,002	46.2%
2035	6.500%	1,500	102,239,630	-	77,046,657	10,330,002	18,561,434	311,670,436	175,465,964	487,136,400	966,594,126	49,482,792	1,016,076,918	528,940,518	47.9%
2036	6.500%	1,500	107,351,612	-	81,222,615	10,588,252	20,755,701	347,966,882	184,239,262	532,206,144	1,021,656,369	50,569,661	1,072,226,030	540,019,886	49.6%
2037	6.500%	1,500	112,719,192	-	86,024,177	10,852,958	23,124,609	386,933,548	193,451,225	580,384,773	1,078,649,363	51,859,016	1,130,508,379	550,123,606	51.3%
2038	6.500%	1,500	118,355,152	-	92,421,428	11,124,282	25,624,411	427,367,401	203,123,787	630,491,188	1,137,146,265	53,290,349	1,190,436,614	559,945,426	53.0%
2039	6.500%	1,500	124,272,909	-	99,320,018	11,402,389	28,212,340	469,130,243	213,279,976	682,410,219	1,197,369,593	54,800,569	1,252,170,162	569,759,943	54.5%
2040	6.500%	1,500	130,486,555	-	106,095,720	11,687,449	30,899,826	512,733,455	223,943,975	736,677,430	1,259,712,174	56,363,947	1,316,076,120	579,398,690	56.0%
2041	6.500%	1,500	137,010,883	-	112,961,548	11,979,635	33,713,765	558,516,919	235,141,173	793,658,092	1,324,340,593	57,951,826	1,382,292,418	588,634,326	57.4%
2042	6.500%	1,500	143,861,427	-	119,857,374	12,279,126	36,678,661	606,920,507	246,898,232	853,818,739	1,391,576,652	59,534,432	1,451,111,083	597,292,344	58.8%
2043	6.500%	1,500	151,054,498	-	126,672,347	12,586,104	39,827,169	658,543,723	259,243,144	917,786,867	1,461,817,186	61,105,506	1,522,922,693	605,135,826	60.3%
2044	6.500%	1,500	158,607,223	-	133,527,519	12,900,757	43,194,927	713,917,597	272,205,301	986,122,898	1,535,301,583	62,668,491	1,597,970,073	611,847,175	61.7%
2045	6.500%	1,500	166,537,584	-	140,569,475	13,223,276	46,812,330	773,474,760	285,815,566	1,059,290,326	1,612,298,645	64,225,883	1,676,524,528	617,234,202	63.2%
2046	6.500%	1,500	174,864,463	-	147,820,122		50,707,398	837,672,642	300,106,344	1,137,778,986	1,693,061,673	65,788,195	1,758,849,868	621,070,882	64.7%
2047	6.500%	1,500	183,607,687	-	155,326,908	13,892,704	54,908,973	906,969,690	315,111,661	1,222,081,351	1,777,788,311	67,367,099	1,845,155,410	623,074,059	66.2%
2048	6.500%	1,500	192,788,071	-	163,211,054	14,240,021	59,443,635	981,750,321	330,867,244	1,312,617,565	1,866,705,044	68,975,169	1,935,680,213	623,062,648	67.8%
2049	6.500%	1,500	202,427,474	-	171,426,035	14,596,022	64,338,553	1,062,494,291	347,410,607	1,409,904,898	1,960,054,366	70,625,643	2,030,680,009	620,775,111	69.4%
2050	6.500%	1,500	212,548,848	-	180,014,849	14,960,923	69,624,263	1,149,691,630	364,781,137	1,514,472,767	2,058,063,895	72,329,119	2,130,393,015	615,920,248	71.1%
2051	6.500%	1,500	223,176,291	-	189,025,224	15,334,946	75,331,853	1,243,839,604	383,020,194	1,626,859,798	2,160,970,138	74,092,566	2,235,062,705	608,202,907	72.8%
2052	6.500%	1,500	234,335,105	-	198,481,382	15,718,319	81,493,673	1,345,468,681	402,171,203	1,747,639,884	2,269,019,886	75,918,411	2,344,938,297	597,298,413	74.5%
2053	6.500%	1,500	246,051,860	-	208,407,817	16,111,277	88,144,262	1,455,145,709	422,279,764	1,877,425,473	2,382,471,293	77,808,128	2,460,279,421	582,853,948	76.3%
2054	6.500%	1,500	258,354,453	-	218,829,291	16,514,059	95,320,559	1,573,477,371	443,393,752	2,016,871,123	2,501,594,947	79,762,670	2,581,357,617	564,486,494	78.1%



Open Group Projections
Scenario 5 — Continuing Business Scenario
Projection Based on Data as of June 30, 2017
6.50% Assumed Net Investment Return
Other Assumptions Based on Those Used in Actuarial Valuation as of June 30, 2017
2,500 New Contracts Per Year Beginning in FY 2019

				Assets						Liabilities					
	Assumed			Additional					Total Present				Total Present		
Year	Net	Annual		Required			Net		Value of	Total Fund	Total Present	Present	Value of Future		
Ending	Rate of	New	Ct!bt	Solvency	Tuition Payments,			Market Value of	Future	Assets	Value of	Value of Future	Benefits, Fees	Unfunded	Funded
6/30	Return	Contracts	Contributions	Contributions	Refunds and Fees	Expenses	Return	Assets (EOY)	Contributions	(MVA + PVFC)	Future Benefits	Admin Expenses	and Expenses	Liability	Ratio
2017			\$ 23,659,545	\$ -	\$ 143,458,888	\$ 6,623,245	\$ 65,190,202	\$ 904,972,812	\$ 45,100,689	\$ 950,073,501	\$ 1,158,066,530	\$ 33,645,606	\$ 1,191,712,136	\$ 241,638,635	79.7%
2018	6.500%	0	13,277,529	-	152,763,917	4,887,821	54,204,937	814,803,540	34,329,978	849,133,518	1,075,690,268	30,788,396	1,106,478,665	257,345,147	76.7%
2019	6.500%	2,500	10,224,428	-	150,315,648	6,958,546	48,258,347	716,012,121	61,623,976	777,636,097	1,051,224,903	32,356,127	1,083,581,030	305,944,933	71.8%
2020	6.500%	2,500	53,764,804	-	151,678,325	7,132,510	43,180,536	654,146,626	86,457,034	740,603,660	1,025,546,285	34,060,508	1,059,606,793	319,003,133	69.9%
2021	6.500%	2,500	62,110,505	-	155,768,652	7,310,824	39,289,698	592,467,353	108,344,228	700,811,581	997,044,134	35,610,511	1,032,654,645	331,843,064	67.9%
2022	6.500%	2,500	71,631,200	-	147,133,464	7,493,593	35,855,476	545,326,972	126,039,802	671,366,774	978,889,699	37,023,120	1,015,912,819	344,546,045	66.1%
2023	6.500%	2,500	80,493,575	-	137,032,118	7,680,933	33,391,977	514,499,473	140,125,686	654,625,159	972,008,707	38,644,279	1,010,652,985	356,027,826	64.8%
2024	6.500%	2,500	90,568,789	-	134,993,158	7,872,957	31,769,559	493,971,706	153,722,004	647,693,710	970,042,900	40,220,895	1,010,263,794	362,570,084	64.1%
2025	6.500%	2,500	97,017,333	-	128,770,226	8,069,781	30,834,298	484,983,331	166,998,188	651,981,519	977,084,210	41,679,788	1,018,763,998	366,782,479	64.0%
2026	6.500%	2,500	103,701,776	-	122,358,185	8,271,525	30,662,536	488,717,933	179,765,153	668,483,086	993,305,546	42,828,502	1,036,134,047	367,650,961	64.5%
2027	6.500%	2,500	110,676,506	-	113,038,553	8,478,314	31,419,900	509,297,472	191,975,699	701,273,171	1,022,854,077	43,965,920	1,066,819,997	365,546,826	65.7%
2028	6.500%	2,500	117,577,536	-	109,475,606	8,690,271	33,085,516	541,794,647	204,035,087	745,829,734	1,061,180,102	44,794,211	1,105,974,313	360,144,579	67.4%
2029	6.500%	2,500	124,503,115	-	102,533,162	8,907,529	35,634,498	590,491,569	216,054,291	806,545,860	1,112,778,789	45,425,314	1,158,204,102	351,658,242	69.6%
2030	6.500%	2,500	131,589,126	-	98,903,744	9,130,216	39,135,443	653,182,178	228,079,670	881,261,848	1,175,850,433	45,955,682	1,221,806,114	340,544,266	72.1%
2031	6.500%	2,500	138,801,535	-	98,036,363	9,358,472	43,461,491	728,050,369	240,278,937	968,329,306	1,248,347,784	46,488,170	1,294,835,953	326,506,647	74.8%
2032	6.500%	2,500	146,333,275	-	100,010,040	9,592,433	48,498,233	813,279,403	252,623,495	1,065,902,898	1,328,096,300	47,081,384	1,375,177,684	309,274,786	77.5%
2033	6.500%	2,500	154,186,473	-	105,459,042	9,832,245	54,107,355	906,281,944	265,254,670	1,171,536,614	1,413,513,715	47,772,847	1,461,286,562	289,749,948	80.2%
2034	6.500%	2,500	162,285,127	-	112,147,171	10,078,050	60,189,778	1,006,531,628	278,517,403	1,285,049,031	1,503,272,616	48,580,555	1,551,853,171	266,804,140	82.8%
2035	6.500%	2,500	170,399,384	-	120,677,424	10,330,002	66,684,640	1,112,608,226	292,443,273	1,405,051,499	1,596,550,623	49,482,792	1,646,033,415	240,981,916	85.4%
2036	6.500%	2,500	178,919,353	-	129,784,181	10,588,252	73,552,588	1,224,707,734	307,065,437	1,531,773,171	1,693,148,013	50,569,661	1,743,717,674	211,944,503	87.8%
2037	6.500%	2,500	187,865,320	-	139,511,438	10,852,958	80,805,596	1,343,014,254	322,418,709	1,665,432,963	1,791,497,252	51,859,016	1,843,356,268	177,923,305	90.3%
2038	6.500%	2,500	197,258,586	-	151,400,996	11,124,282	88,406,988	1,466,154,550	338,539,644	1,804,694,194	1,891,304,726	53,290,349	1,944,595,075	139,900,881	92.8%
2039	6.500%	2,500	207,121,516	-	163,786,669	11,402,389	96,321,513	1,594,408,521	355,466,626	1,949,875,147	1,993,223,470	54,800,569	2,048,024,039	98,148,892	95.2%
2040	6.500%	2,500	217,477,591	-	175,771,304	11,687,449	104,596,808	1,729,024,167	373,239,958	2,102,264,125	2,098,060,899	56,363,947	2,154,424,845	52,160,720	97.6%
2041	6.500%	2,500	228,351,471	-	187,617,561	11,979,635	113,306,373	1,871,084,814	391,901,956	2,262,986,770	2,206,352,603	57,951,826	2,264,304,428	1,317,658	99.9%
2042	6.500%	2,500	239,769,045	-	199,343,047	12,279,126	122,520,886	2,021,752,572	411,497,053	2,433,249,625	2,318,788,043	59,534,432	2,378,322,474	(54,927,151)	102.3%
2043	6.500%	2,500	251,757,497	-	210,869,276	12,586,104	132,319,256	2,182,373,945	432,071,906	2,614,445,851	2,436,082,027	61,105,506	2,497,187,534	(117,258,317)	104.7%
2044	6.500%	2,500	264,345,372	-	222,396,821	12,900,757	142,783,498	2,354,205,237	453,675,501	2,807,880,738	2,558,691,636	62,668,491	2,621,360,126	(186,520,612)	107.1%
2045	6.500%	2,500	277,562,640	-	234,198,086	13,223,276	153,987,511	2,538,334,026	476,359,276	3,014,693,302	2,687,097,763	64,225,883	2,751,323,646	(263,369,656)	109.6%
2046	6.500%	2,500	291,440,772	-	246,323,175	13,553,857	166,001,384	2,735,899,150	500,177,240	3,236,076,390	2,821,743,570	65,788,195	2,887,531,765	(348,544,625)	112.1%
2047	6.500%	2,500	306,012,811	-	258,863,943	13,892,704	178,897,255	2,948,052,569	525,186,102	3,473,238,671	2,962,967,643	67,367,099	3,030,334,742	(442,903,929)	114.6%
2048	6.500%	2,500	321,313,451	-	272,010,956	14,240,021	192,745,008	3,175,860,051	551,445,407	3,727,305,458	3,111,169,067	68,975,169	3,180,144,236	(547,161,222)	117.2%
2049	6.500%	2,500	337,379,124	-	285,706,372	14,596,022	207,616,928	3,420,553,709	579,017,678	3,999,571,387	3,266,754,685	70,625,643	3,337,380,328	(662,191,059)	119.8%
2050	6.500%	2,500	354,248,080	-	300,023,061	14,960,923	223,591,986	3,683,409,791	607,968,562	4,291,378,353	3,430,105,474	72,329,119	3,502,434,594	(788,943,759)	122.5%
2051	6.500%	2,500	371,960,484	-	315,041,310	15,334,946	240,751,848	3,965,745,867	638,366,990	4,604,112,857	3,601,616,567	74,092,566	3,675,709,134	(928,403,723)	125.3%
2052	6.500%	2,500	390,558,508	-	330,802,031	15,718,319	259,182,190	4,268,966,215	670,285,339	4,939,251,554	3,781,699,739	75,918,411	3,857,618,150	(1,081,633,404)	128.0%
2053	6.500%	2,500	410,086,434	-	347,346,289	16,111,277	278,974,386	4,594,569,469	703,799,606	5,298,369,075	3,970,785,489	77,808,128	4,048,593,617	(1,249,775,458)	130.9%
2054	6.500%	2,500	430,590,756	-	364,715,485	16,514,059	300,226,000	4,944,156,681	738,989,586	5,683,146,267	4,169,324,911	79,762,670	4,249,087,581	(1,434,058,686)	133.7%



Open Group Projections
Scenario 6 — Continuing Business Scenario
Projection Based on Data as of June 30, 2017
6.50% Assumed Net Investment Return

Other Assumptions Based on Those Used in Actuarial Valuation as of June 30, 2017

5% Annual Sales Growth from 500 Contracts Sold in FY 2019 to 2,500 New Contracts Per Year

						Ass	sets					Liabilities			
Year Ending 6/30	Assumed Net Rate of Return	Annual New Contracts	Contributions	Additional Required Solvency Contributions <sup>a</sup>	Tuition Payments, Refunds and Fees	Administrative Expenses	Net Investment Return	Market Value of Assets (EOY)	Total Present Value of Future Contributions	Total Fund Assets (MVA + PVFC)	Total Present Value of Future Benefits	Present Value of Future Admin Expenses	Total Present Value of Future Benefits, Fees and Expenses	Unfunded Liability	Funded Ratio
2017			\$ 23,659,545	\$ -	\$ 143,458,888	\$ 6,623,245	\$ 65,190,202	\$ 904,972,812	\$ 45,100,689	\$ 950,073,501	\$ 1,158,066,530	\$ 33,645,606	\$ 1,191,712,136	\$ 241,638,635	79.7%
2018	6.500%	0	13,277,529		152,763,917	4,887,821	54,204,937	814,803,540	34,329,978	849,133,518	1,075,690,268	30,788,396	1,106,478,665	257,345,147	76.7%
2019	6.500%	500	10,224,428	-	150,315,648	6,958,546	48,258,347	716,012,121	33,132,744	749,144,865	1,002,633,889	32,356,127	1,034,990,016	285,845,151	72.4%
2020	6.500%	525	17,284,530	-	151,593,382	7,132,510	42,016,309	616,587,068	33,085,317	649,672,385	924,504,648	34,060,508	958,565,156	308,892,771	67.8%
2021	6.500%	551	17,973,621	-	154,623,781	7,310,824	35,473,082	508,099,166	33,973,810	542,072,976	839,504,870	35,610,511	875,115,381	333,042,405	61.9%
2022	6.500%	579	19,770,549	-	144,843,641	7,493,593	28,785,853	404,318,334	34,876,059	439,194,393	760,558,928	37,023,120	797,582,048	358,387,655	55.1%
2023	6.500%	608	20,815,387	-	133,563,486	7,680,933	22,428,363	306,317,665	36,747,563	343,065,228	689,475,741	38,644,279	728,120,019	385,054,791	47.1%
2024	6.500%	638	22,959,756	-	129,207,527	7,872,957	16,260,112	208,457,049	39,597,898	248,054,947	619,984,967	40,220,895	660,205,861	412,150,914	37.6%
2025	6.500%	670	24,773,727	-	120,362,973	8,069,781	10,233,825	115,031,848	43,348,139	158,379,987	556,856,681	41,679,788	598,536,469	440,156,482	26.5%
2026	6.500%	704	27,162,012	-	110,466,778	8,271,525	4,547,694	28,003,251	47,689,746	75,692,997	501,620,628	42,828,502	544,449,129	468,756,132	13.9%
2027	6.500%	739	30,051,764	45,722,843	96,195,323	8,478,314	895,778	-	52,433,741	52,433,741	459,576,677	43,965,920	503,542,597	451,108,856	10.4%
2028	6.500%	776	33,108,432	62,089,266	86,507,427	8,690,271	-	-	57,766,979	57,766,979	427,141,142	44,794,211	471,935,353	414,168,374	12.2%
2029	6.500%	814	36,513,154	44,927,717	72,533,342	8,907,529	-	-	63,688,150	63,688,150	409,657,681	45,425,314	455,082,994	391,394,844	14.0%
2030	6.500%	855	40,305,294	29,980,015	61,155,093	9,130,216	-	-	70,200,211	70,200,211	405,804,979	45,955,682	451,760,660	381,560,449	15.5%
2031	6.500%	898	44,399,866	17,209,193	52,250,587	9,358,472	-	-	77,445,886	77,445,886	414,193,963	46,488,170	460,682,132	383,236,246	16.8%
2032	6.500%	943	48,995,222	6,371,106	45,773,894	9,592,433	-	-	85,410,558	85,410,558	433,438,037	47,081,384	480,519,421	395,108,863	17.8%
2033	6.500%	990	54,083,617	-	42,296,679	9,832,245	62,527	2,017,220	94,165,140	96,182,360	461,779,841	47,772,847	509,552,688	413,370,328	18.9%
2034	6.500%	1,039	59,705,054	-	40,590,104	10,078,050	420,195	11,474,315	103,817,067	115,291,382	498,275,421	48,580,555	546,855,976	431,564,594	21.1%
2035	6.500%	1,091	65,824,822	-	40,732,619	10,330,002	1,218,049	27,454,565	114,458,317	141,912,882	542,115,332	49,482,792	591,598,124	449,685,242	24.0%
2036	6.500%	1,146	72,571,866	-	41,873,049	10,588,252	2,427,851	49,992,981	126,190,294	176,183,275	593,240,250	50,569,661	643,809,911	467,626,636	27.4%
2037	6.500%	1,203	80,010,483	-	43,967,886	10,852,958	4,055,319	79,237,939	139,124,799	218,362,738	651,418,895	51,859,016	703,277,911	484,915,173	31.0%
2038	6.500%	1,263	88,211,557	-	47,448,545	11,124,282	6,098,561	114,975,230	153,385,091	268,360,321	716,593,268	53,290,349	769,883,617	501,523,296	34.9%
2039	6.500%	1,327	97,253,242	-	51,843,952	11,402,389	8,561,215	157,543,346	169,107,063	326,650,409	789,112,400	54,800,569	843,912,969	517,262,560	38.7%
2040	6.500%	1,393	107,221,699	-	56,844,506	11,687,449	11,477,939	207,711,029	186,440,537	394,151,566	869,579,957	56,363,947	925,943,903	531,792,337	42.6%
2041	6.500%	1,463	118,211,923	-	62,652,386	11,979,635	14,895,267	266,186,197	205,550,692	471,736,889	958,493,939	57,951,826	1,016,445,764	544,708,875	46.4%
2042	6.500%	1,536	130,328,645	-	69,173,825	12,279,126	18,865,557	333,927,448	226,619,638	560,547,086	1,056,590,380	59,534,432	1,116,124,811	555,577,725	50.2%
2043	6.500%	1,613	143,687,331	-	76,316,259	12,586,104	23,457,766	412,170,182	249,848,151	662,018,333	1,164,819,838	61,105,506	1,225,925,345	563,907,012	54.0%
2044	6.500%	1,693	158,415,283	-	84,177,913	12,900,757	28,753,120	502,259,915	275,457,586	777,717,501	1,284,173,392	62,668,491	1,346,841,882	569,124,381	57.7%
2045	6.500%	1,778	174,652,849	-	92,844,148	13,223,276	34,840,831	605,686,171	303,691,989	909,378,160	1,415,782,219	64,225,883	1,480,008,102	570,629,942	61.4%
2046	6.500%	1,867	192,554,766	-	102,383,190	13,553,857	41,820,477	724,124,367	334,820,418	1,058,944,785	1,560,899,921	65,788,195	1,626,688,116	567,743,331	65.1%
2047	6.500%	1,960	212,291,630	-	112,880,977	13,892,704	49,803,664	859,445,980	369,139,510	1,228,585,490	1,720,900,339	67,367,099	1,788,267,438	559,681,948	68.7%
2048	6.500%	2,058	234,051,522	-	124,481,941	14,240,021	58,913,426	1,013,688,966	406,976,310	1,420,665,276	1,897,293,203	68,975,169	1,966,268,372	545,603,096	72.3%
2049	6.500%	2,161	258,041,803	-	137,254,741	14,596,022	69,286,661	1,189,166,667	448,691,382	1,637,858,049	2,091,766,259	70,625,643	2,162,391,902	524,533,853	75.7%
2050	6.500%	2,269	284,491,088	-	151,326,716	14,960,923	81,076,969	1,388,447,085	494,682,249	1,883,129,334	2,306,172,663	72,329,119	2,378,501,783	495,372,449	79.2%
2051	6.500%	2,382	313,651,424	-	166,839,740	15,334,946	94,454,787	1,614,378,610	545,387,179	2,159,765,789	2,542,555,559	74,092,566	2,616,648,126	456,882,337	82.5%
2052	6.500%	2,500	345,800,695	-	183,941,895	15,718,319	109,609,406	1,870,128,497	601,175,736	2,471,304,233	2,802,973,824	75,918,411	2,878,892,235	407,588,002	85.8%
2053	6.500%	2,500	381,099,775	-	202,796,154	16,111,277	126,746,621	2,159,067,462	653,346,563	2,812,414,025	3,074,122,565	77,808,128	3,151,930,693	339,516,668	89.2%
2054	6.500%	2,500	408,159,607	-	223,550,934	16,514,059	145,716,458	2,472,878,534	702,592,047	3,175,470,581	3,355,624,698	79,762,670	3,435,387,368	259,916,787	92.4%

<sup>&</sup>lt;sup>a</sup> Additional contributions in the amount of \$206,300,140 are needed over the years 2027 through 2032 to pay all benefits due.



Open Group Projections Scenario 7— Continuing Business Scenario Projection Based on Data as of June 30, 2017 6.50% Assumed Net Investment Return

Other Assumptions Based on Those Used in Actuarial Valuation as of June 30, 2017

10% Annual Sales Growth from 500 Contracts Sold in FY 2019 to 2,500 New Contracts Per Year

						As	sets					Liabilities			
Year Ending	Assumed Net Rate of Return	Annual New	Contributions	Additional Required Solvency		Administrative	Net Investment Return	Market Value of	Total Present Value of Future Contributions	Total Fund Assets	Total Present Value of	Present Value of Future Admin Expenses	Total Present Value of Future Benefits, Fees	Unfunded Liability	Funded
6/30	Keturn	Contracts	Contributions	Contributions	Refunds and Fees	Expenses	Return	Assets (EOY)	Contributions	(MVA + PVFC)	Future Benefits	Aumin Expenses	and Expenses	Liability	Ratio
2017			\$ 23,659,545	\$ -	\$ 143,458,888	\$ 6,623,245	\$ 65,190,202	\$ 904,972,812	\$ 45,100,689	\$ 950,073,501	\$ 1,158,066,530	\$ 33,645,606	\$ 1,191,712,136	\$ 241,638,635	79.7%
2018	6.500%	0	13,277,529	-	152,763,917	4,887,821	54,204,937	814,803,540	34,329,978	849,133,518	1,075,690,268	30,788,396	1,106,478,665	257,345,147	76.7%
2019	6.500%	500	10,224,428	-	150,315,648	6,958,546	48,258,347	716,012,121	33,132,744	749,144,865	1,002,633,889	32,356,127	1,034,990,016	285,845,151	72.4%
2020	6.500%	550	17,284,530	-	151,593,382	7,132,510	42,016,309	616,587,068	33,459,264	650,046,332	925,142,405	34,060,508	959,202,913	309,156,581	67.8%
2021	6.500%	605	18,452,425	-	154,624,895	7,310,824	35,488,362	508,592,136	35,130,763	543,722,899	841,609,504	35,610,511	877,220,015	333,497,116	62.0%
2022	6.500%	666	20,934,285	-	144,860,029	7,493,593	28,854,598	406,027,397	37,261,800	443,289,197	765,191,205	37,023,120	802,214,325	358,925,128	55.3%
2023	6.500%	732	22,913,244	-	133,613,535	7,680,933	22,604,958	310,251,131	40,845,504	351,096,635	697,976,488	38,644,279	736,620,766	385,524,131	47.7%
2024	6.500%	805	26,292,247	-	129,314,023	7,872,957	16,618,982	215,975,380	45,929,136	261,904,516	634,017,446	40,220,895	674,238,340	412,333,824	38.8%
2025	6.500%	886	29,702,304	-	120,568,429	8,069,781	10,873,601	127,913,076	52,516,813	180,429,889	578,466,420	41,679,788	620,146,208	439,716,319	29.1%
2026	6.500%	974	34,075,352	-	110,826,678	8,271,525	5,594,607	48,484,832	60,400,406	108,885,238	533,297,983	42,828,502	576,126,484	467,241,246	18.9%
2027	6.500%	1,072	39,407,642	15,822,884	96,787,995	8,478,314	1,550,951	-	69,510,054	69,510,054	504,321,015	43,965,920	548,286,935	478,776,881	12.7%
2028	6.500%	1,179	45,447,345	50,689,528	87,446,602	8,690,271	-	-	80,173,924	80,173,924	488,537,981	44,794,211	533,332,192	453,158,268	15.0%
2029	6.500%	1,297	52,472,259	30,406,779	73,971,509	8,907,529	-	-	92,558,996	92,558,996	491,970,796	45,425,314	537,396,109	444,837,113	17.2%
2030	6.500%	1,427	60,633,947	11,783,945	63,287,676	9,130,216	-	-	106,866,727	106,866,727	514,085,106	45,955,682	560,040,787	453,174,060	19.1%
2031	6.500%	1,569	69,980,048	-	55,321,754	9,358,472	169,533	5,469,355	123,472,726	128,942,081	554,410,178	46,488,170	600,898,347	471,956,266	21.5%
2032	6.500%	1,726	80,864,816	-	50,080,145	9,592,433	1,033,413	27,695,005	142,635,135	170,330,140	612,628,542	47,081,384	659,709,926	489,379,786	25.8%
2033	6.500%	1,899	93,462,840	-	48,198,080	9,832,245	2,933,604	66,061,124	164,743,580	230,804,704	688,225,821	47,772,847	735,998,668	505,193,964	31.4%
2034	6.500%	2,089	108,027,447	-	48,522,732	10,078,050	5,875,052	121,362,841	190,278,835	311,641,676	781,715,958	48,580,555	830,296,513	518,654,837	37.5%
2035	6.500%	2,297	124,771,701	-	51,209,140	10,330,002	9,911,291	194,506,691	219,772,055	414,278,746	893,990,747	49,482,792	943,473,539	529,194,793	43.9%
2036	6.500%	2,500	144,111,315	-	55,502,868	10,588,252	15,138,674	287,665,560	252,947,463	540,613,023	1,025,463,682	50,569,661	1,076,033,343	535,420,320	50.2%
2037	6.500%	2,500	165,309,956	-	61,466,046	10,852,958	21,672,891	402,329,403	282,839,605	685,169,008	1,164,826,423	51,859,016	1,216,685,439	531,516,431	56.3%
2038	6.500%	2,500	179,761,743	-	69,604,549	11,124,282	29,319,313	530,681,628	309,916,830	840,598,458	1,311,049,783	53,290,349	1,364,340,132	523,741,674	61.6%
2039	6.500%	2,500	194,011,938	-	79,338,537	11,402,389	37,797,777	671,750,417	334,804,205	1,006,554,622	1,463,295,242	54,800,569	1,518,095,811	511,541,189	66.3%
2040	6.500%	2,500	207,961,132	-	90,457,080	11,687,449	47,048,678	824,615,698	358,324,693	1,182,940,391	1,620,753,898	56,363,947	1,677,117,844	494,177,453	70.5%
2041	6.500%	2,500	221,481,031	-	103,249,787	11,979,635	56,998,836	987,866,142	381,436,078	1,369,302,220	1,782,527,092	57,951,826	1,840,478,917	471,176,697	74.4%
2042	6.500%	2,500	234,518,134	-	117,456,034	12,279,126	67,563,136	1,160,212,252	404,407,780	1,564,620,032	1,947,778,124	59,534,432	2,007,312,555	442,692,523	77.9%
2043	6.500%	2,500	247,826,361	-	132,996,064	12,586,104	78,684,422	1,341,140,867	427,474,918	1,768,615,785	2,115,859,792	61,105,506	2,176,965,299	408,349,514	81.2%
2044	6.500%	2,500	261,483,821	-	149,815,258	12,900,757	90,333,578	1,530,242,251	450,865,250	1,981,107,501	2,286,311,940	62,668,491	2,348,980,430	367,872,929	84.3%
2045	6.500%	2,500	275,541,744	-	167,669,251	13,223,276	102,493,421	1,727,384,889	474,788,338	2,202,173,227	2,458,924,048	64,225,883	2,523,149,931	320,976,704	87.3%
2046	6.500%	2,500	290,062,870	-	186,331,548	13,553,857	115,164,648	1,932,727,002	499,413,899	2,432,140,901	2,633,683,564	65,788,195	2,699,471,759	267,330,858	90.1%
2047	6.500%	2,500	305,131,301	-	205,622,064	13,892,704	128,365,989	2,146,709,524	524,894,226	2,671,603,750	2,810,744,221	67,367,099	2,878,111,320	206,507,570	92.8%
2048	6.500%	2,500	320,808,520	-	225,440,194	14,240,021	142,131,281	2,369,969,110	551,378,698	2,921,347,808	2,990,355,983	68,975,169	3,059,331,152	137,983,344	95.5%
2049	6.500%	2,500	337,142,553	-	245,681,831	14,596,022	156,506,769	2,603,340,579	579,017,678	3,182,358,257	3,172,954,987	70,625,643	3,243,580,630	61,222,373	98.1%
2050	6.500%	2,500	354,179,237		266,237,568	14,960,923	171,551,673	2,847,872,998	607,968,562	3,455,841,560	3,359,158,342	72,329,119	3,431,487,462	(24,354,098)	100.7%
2051	6.500%	2,500	371,960,484		286,989,107	15,334,946	187,339,301	3,104,848,730	638,366,990	3,743,215,720	3,549,551,873	74,092,566	3,623,644,440	(119,571,280)	103.3%
2052	6.500%	2,500	390,558,508	_	308,036,269	15,718,319	203,952,116	3,375,604,766	670,285,339	4,045,890,105	3,744,812,332	75,918,411	3,820,730,743	(225,159,362)	105.9%
2053	6.500%	2,500	410,086,434	_	329,360,145	16,111,277	221,481,239	3,661,701,017	703,799,606	4,365,500,623	3,945,615,376	77,808,128	4,023,423,504	(342,077,119)	108.5%
2054	6.500%	2,500	430,590,756	_	351,038,030	16,514,059	240,027,070	3,964,766,754	738,989,586	4,703,756,340	4,152,693,854	79,762,670	4,232,456,524	(471,299,816)	111.1%
2034	0.30070	2,300	430,330,730	_	331,030,030	10,514,033	240,027,070	3,304,700,734	, 30, 303, 300	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	4,132,033,034	75,702,070	+,232,430,324	(471,233,010)	111.1/0

<sup>&</sup>lt;sup>a</sup> Additional contributions in the amount of \$108,703,136 are needed over the years 2027 through 2030 to pay all benefits due.



Open Group Projections
Scenario 8 — Continuing Business Scenario
Projection Based on Data as of June 30, 2017
6.50% Assumed Net Investment Return

Other Assumptions Based on Those Used in Actuarial Valuation as of June 30, 2017

15% Annual Sales Growth from 500 Contracts Sold in FY 2019 to 2,500 New Contracts Per Year

						As	sets					Liabilities			
Year Ending 6/30	Assumed Net Rate of Return	Annual New Contracts	Contributions	Additional Required Solvency Contributions <sup>a</sup>	Tuition Payments, Refunds and Fees	Administrative Expenses	Net Investment Return	Market Value of Assets (EOY)	Total Present Value of Future Contributions	Total Fund Assets (MVA + PVFC)	Total Present Value of Future Benefits	Present Value of Future Admin Expenses	Total Present Value of Future Benefits, Fees and Expenses	Unfunded Liability	Funded Ratio
2017			\$ 23,659,545	\$ -	\$ 143,458,888	\$ 6,623,245	\$ 65,190,202	\$ 904,972,812	\$ 45,100,689	\$ 950,073,501	\$ 1,158,066,530	\$ 33,645,606	\$ 1,191,712,136	\$ 241,638,635	79.7%
2018	6.500%	0	13,277,529	-	152,763,917	4,887,821	54,204,937	814,803,540	34,329,978	849,133,518	1,075,690,268	30,788,396	1,106,478,665	257,345,147	76.7%
2019	6.500%	500	10,224,428	-	150,315,648	6,958,546	48,258,347	716,012,121	33,132,744	749,144,865	1,002,633,889	32,356,127	1,034,990,016	285,845,151	72.4%
2020	6.500%	575	17,284,530	-	151,593,382	7,132,510	42,016,309	616,587,068	33,833,212	650,420,280	925,780,162	34,060,508	959,840,670	309,420,390	67.8%
2021	6.500%	661	18,931,229	-	154,626,010	7,310,824	35,503,643	509,085,106	36,326,981	545,412,087	843,781,102	35,610,511	879,391,613	333,979,526	62.0%
2022	6.500%	760	22,148,296	-	144,876,533	7,493,593	28,924,948	407,788,224	39,816,433	447,604,657	770,125,328	37,023,120	807,148,448	359,543,791	55.5%
2023	6.500%	875	25,194,000	-	133,665,446	7,680,933	22,790,709	314,426,554	45,397,886	359,824,440	707,328,104	38,644,279	745,972,382	386,147,942	48.2%
2024	6.500%	1,006	30,065,862	-	129,428,022	7,872,957	17,007,449	224,198,886	53,239,393	277,438,279	649,969,927	40,220,895	690,190,821	412,752,542	40.2%
2025	6.500%	1,157	35,513,450	-	120,794,128	8,069,781	11,586,798	142,435,226	63,532,434	205,967,660	603,867,970	41,679,788	645,547,758	439,580,098	31.9%
2026	6.500%	1,330	42,571,895	-	111,232,595	8,271,525	6,797,353	72,300,354	76,303,964	148,604,318	571,822,975	42,828,502	614,651,476	466,047,158	24.2%
2027	6.500%	1,530	51,401,138	-	97,474,020	8,478,314	2,954,519	20,703,677	91,776,411	112,480,088	560,659,996	43,965,920	604,625,916	492,145,828	18.6%
2028	6.500%	1,759	61,953,550	13,931,500	88,560,733	8,690,271	662,277	-	110,640,861	110,640,861	568,633,508	44,794,211	613,427,719	502,786,858	18.0%
2029	6.500%	2,023	74,758,955	9,868,121	75,719,547	8,907,529	-	-	133,515,012	133,515,012	603,309,244	45,425,314	648,734,557	515,219,545	20.6%
2030	6.500%	2,326	90,278,873	-	65,945,437	9,130,216	486,326	15,689,546	161,157,524	176,847,070	666,056,199	45,955,682	712,011,880	535,164,810	24.8%
2031	6.500%	2,500	108,944,137	-	59,250,995	9,358,472	2,310,061	58,334,277	190,150,631	248,484,908	751,111,726	46,488,170	797,599,895	549,114,987	31.2%
2032	6.500%	2,500	125,844,885	-	55,731,634	9,592,433	5,727,690	124,582,784	215,808,112	340,390,896	849,601,900	47,081,384	896,683,284	556,292,388	38.0%
2033	6.500%	2,500	138,128,867	-	55,979,801	9,832,245	10,411,178	207,310,783	238,589,602	445,900,385	959,004,994	47,772,847	1,006,777,841	560,877,456	44.3%
2034	6.500%	2,500	150,130,615	-	58,766,903	10,078,050	16,075,397	304,671,842	259,186,392	563,858,234	1,077,378,788	48,580,555	1,125,959,343	562,101,109	50.1%
2035	6.500%	2,500	161,613,155	-	64,322,177	10,330,002	22,585,410	414,218,228	278,534,785	692,753,013	1,202,783,624	49,482,792	1,252,266,416	559,513,403	55.3%
2036	6.500%	2,500	172,447,343	-	71,828,171	10,588,252	29,804,127	534,053,275	297,352,274	831,405,549	1,333,968,006	50,569,661	1,384,537,667	553,132,118	60.0%
2037	6.500%	2,500	182,924,008	-	81,195,038	10,852,958	37,620,439	662,549,726	315,880,801	978,430,527	1,469,374,754	51,859,016	1,521,233,770	542,803,243	64.3%
2038	6.500%	2,500	193,569,968	-	92,869,126	11,124,282	45,931,141	798,057,427	334,339,610	1,132,397,037	1,607,645,748	53,290,349	1,660,936,097	528,539,060	68.2%
2039	6.500%	2,500	204,444,317	-	106,226,445	11,402,389	54,650,819	939,523,729	352,939,610	1,292,463,339	1,747,987,297	54,800,569	1,802,787,866	510,324,527	71.7%
2040	6.500%	2,500	215,591,892	-	120,673,165	11,687,449	63,731,475	1,086,486,482	371,863,757	1,458,350,239	1,890,001,654	56,363,947	1,946,365,600	488,015,361	74.9%
2041	6.500%	2,500	227,077,162	-	136,146,748	11,979,635	73,147,128	1,238,584,388	391,261,470	1,629,845,858	2,033,305,265	57,951,826	2,091,257,090	461,411,232	77.9%
2042	6.500%	2,500	238,969,454	-	152,311,745	12,279,126	82,887,235	1,395,850,206	411,270,261	1,807,120,467	2,177,817,915	59,534,432	2,237,352,346	430,231,879	80.8%
2043	6.500%	2,500	251,316,286	-	168,886,937	12,586,104	92,964,435	1,558,657,886	432,027,047	1,990,684,933	2,323,713,640	61,105,506	2,384,819,147	394,134,214	83.5%
2044	6.500%	2,500	264,154,793	-	185,802,610	12,900,757	103,406,447	1,727,515,759	453,675,501	2,181,191,260	2,471,308,675	62,668,491	2,533,977,165	352,785,905	86.1%
2045	6.500%	2,500	277,516,347	-	202,909,583	13,223,276	114,252,082	1,903,151,329	476,359,276	2,379,510,605	2,621,052,601	64,225,883	2,685,278,484	305,767,879	88.6%
2046	6.500%	2,500	291,440,772	-	220,142,947	13,553,857	125,551,972	2,086,447,269	500,177,240	2,586,624,509	2,773,416,280	65,788,195	2,839,204,475	252,579,966	91.1%
2047	6.500%	2,500	306,012,811	-	237,535,400	13,892,704	137,365,148	2,278,397,124	525,186,102	2,803,583,226	2,928,914,191	67,367,099	2,996,281,290	192,698,064	93.6%
2048	6.500%	2,500	321,313,451	-	255,135,657	14,240,021	149,757,218	2,480,092,115	551,445,407	3,031,537,522	3,088,051,858	68,975,169	3,157,027,027	125,489,505	96.0%
2049	6.500%	2,500	337,379,124	-	272,964,255	14,596,022	162,799,611	2,692,710,573	579,017,678	3,271,728,251	3,251,550,730	70,625,643	3,322,176,373	50,448,122	98.5%
2050	6.500%	2,500	354,248,080	-	290,899,051	14,960,923	176,574,044	2,917,672,723	607,968,562	3,525,641,285	3,420,396,944	72,329,119	3,492,726,064	(32,915,221)	100.9%
2051	6.500%	2,500	371,960,484	-	308,758,601	15,334,946	191,179,912	3,156,719,572	638,366,990	3,795,086,562	3,595,595,937	74,092,566	3,669,688,504	(125,398,058)	103.4%
2052	6.500%	2,500	390,558,508	-	326,616,950	15,718,319	206,729,355	3,411,672,166	670,285,339	4,081,957,505	3,778,069,385	75,918,411	3,853,987,796	(227,969,709)	105.9%
2053	6.500%	2,500	410,086,434	-	344,650,894	16,111,277	223,336,494	3,684,332,923	703,799,606	4,388,132,529	3,968,657,927	77,808,128	4,046,466,055	(341,666,474)	108.4%
2054	6.500%	2,500	430,590,756	-	363,030,617	16,514,059	241,114,521	3,976,493,524	738,989,586	4,715,483,110	4,168,121,964	79,762,670	4,247,884,634	(467,598,476)	111.0%

<sup>&</sup>lt;sup>a</sup> Additional contributions in the amount of \$23,799,621 are needed over the years 2028 through 2029 to pay all benefits due.



### **SECTION D**

**ACTUARIAL METHODS AND ASSUMPTIONS** 

### **Actuarial Valuation Methods**

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

### **Actuarial Valuation Assumptions**

The rationale for the assumptions (except as indicated) may be found in the experience study report covering the period July 1, 2011, through June 30, 2014, which was issued on August 26, 2015. The assumptions were adopted for first use in the actuarial valuation as of June 30, 2015.

The actuarial assumptions used in the actuarial soundness valuation and the projection scenarios are shown in this Section.

#### **Measurement Date**

June 30, 2017

# Net Investment Return Rate

Select and ultimate rate structure beginning with 6.50 percent for fiscal year 2018 and grading down in increments of 0.393 percent to an ultimate investment return rate of 3.75 percent for fiscal years on and after fiscal year 2025, compounded annually. Includes inflation assumption of 2.50 percent. (First effective with the actuarial soundness valuation as of June 30, 2017, and provided by ISAC.)

Considering the current asset allocation, liquidity requirements and deferment of the next enrollment period, we believe the net investment rate of return assumption of 6.50 percent in fiscal year 2018 grading down to 3.75 percent in 2025, on a select and ultimate basis, is consistent with applicable Actuarial Standards of Practice.

For the open group scenarios in which new contracts are assumed to be sold, a net investment rate of return assumption of 6.50 percent was used for scenarios in which (1) there was no depletion date, or (2) there was a depletion date, but the funded status increased significantly after they depletion date. A select and ultimate rate was used for scenarios in which there was a depletion date and the funded status remained low for the duration of the projection period.

# Weighted Average Tuition and Fees (WATF) by Contract Type Based on the Freshman Tuition Rates Adjusted for Differential Tuition (Blended)

	Contract Type						
	Choice 1	Choice 2	Choice 3				
	Community College	University	University Plus	Legacy†			
2017-2018 Weighted Tuition	\$3,862	\$10,675	\$13,884	\$11,525			
2017-2018 Weighted Fees	494	3,729	3,832	3,756			
2017-2018 Total WATF	4,356	14,404	17,716	15,281			

<sup>†</sup>Legacy contracts refer to contracts sold prior to October 2008. These contracts can be used for full tuition and fees at any public University in the State of Illinois, including UIUC.



For continuing students at public universities and students attending community colleges, fees are combined with tuition in our projections and follow their respective tuition inflation assumptions.

### Weighted Average Tuition and Fees (WATF) Increase from Prior Year

		Contract Type					
	Choice 1	Choice 2	Choice 3				
	Community College	University	University Plus	Legacy			
2017-2018 Total WATF	\$4,356	\$14,404	\$17,716	\$15,281			
2016-2017 Total WATF	4,157	14,158	17,798	15,045			
WATF Increase	4.79%	1.74%	-0.46%	1.57%			

### **Bias Load**

"Legacy," Choice 1 and Choice 2 contract beneficiaries were assumed on average to attend more expensive schools than indicated by the headcount information that was used to determine the 2017-2018 WATF. The following bias loads were used to recognize this bias toward enrollment at more expensive schools. No bias load was applied to the "University Plus" beneficiaries due to the separation of UIUC.

	Choice 1	Choice 2	Choice 3	
	Community College	University	University Plus	Legacy
Bias Load	5.50%	2.50%	0.00%	4.00%

### **Tuition and Fee Increase Assumption**

Tuition and Fee Increase Assumption - June 30, 2017, Actuarial Valuation								
Effective Date	Community College	University	University Plus	Legacy				
6/30/2017 and Beyond	5.00%	5.00%	5.00%	5.00%				

(First effective with the actuarial soundness valuation as of June 30, 2016, and provided by ISAC.)

These assumptions were chosen by ISAC and consider historical Illinois public tuition and fee inflation, typically over a 20-year horizon, as well as current economic and political conditions.

### **Truth in Tuition**

Under Illinois' Truth-in-Tuition law, the state's 12 public colleges and universities are required to charge incoming resident freshmen a fixed tuition rate for the first four years of college. The Truth in Tuition law does not apply to community colleges.

For contract beneficiaries with a Choice 2, Choice 3 or Legacy contract, it was assumed that their tuition will not increase in their second, third and fourth year of school. If they attend school beyond four years, it was assumed that their tuition would increase to the amount charged the year after the year they first



enrolled. For contract beneficiaries with a Choice 1 contract, it was assumed that tuition will increase for each year enrolled. The fee portion of the WATF is assumed to increase each year for all contract types.

The following table shows the WAT (excluding fees) for the past four years that would be used for contract beneficiaries under the Truth-in-Tuition law. (Choice 1 is shown for informational purposes only.)

	Contract Type				
	Choice 1	Choice 2	Choice 3		
	Community College	University	University Plus	Legacy	
2017-2018 Weighted Tuition	\$3,862	\$10,675	\$13,884	\$11,525	
2016-2017 Weighted Tuition	3,698	10,410	14,136	11,318	
2015-2016 Weighted Tuition	3,549	10,082	14,136	11,022	
2014-2015 Weighted Tuition	3,331	9,903	14,145	10,871	
2013-2014 Weighted Tuition	3,186	9,633	13,841	10,557	

### **Rates of Cancellation**

These rates are used to measure the probability of eligible contract beneficiaries cancelling their contracts before and after projected college entrance date. The rates apply to contract beneficiaries who have not yet matriculated and those who have matriculated, but have not used credits within the past year. Once the contract beneficiaries are assumed to have matriculated and started using benefits, the cancellation rates do not apply.

Years From Projected College Entrance Year	Cancellation Rate	Years From Projected College Entrance Year	Cancellation Rate
-17	8.0%	-3	1.0%
-16	7.0%	-2	1.0%
-15	6.0%	-1	1.5%
-14	4.0%	0	1.5%
-13	4.0%	1	3.0%
-12	3.0%	2	3.0%
-11	3.0%	3	5.0%
-10	3.0%	4	5.0%
-9	2.0%	5	7.5%
-8	1.5%	6	7.5%
-7	1.5%	7	5.0%
-6	1.5%	8	5.0%
-5	1.5%	9	5.0%
-4	1.0%	10	100.0%

In the event of a cancellation, it was assumed that a refund will be paid equal to the amount of all contract payments made accumulated with applicable interest, less benefits paid. (Two percent annual interest is applicable to contracts purchased prior to the 2013/2014 enrollment period. No interest is applicable to contracts purchased during or after the 2013/2014 enrollment period.)



### **Rates of Enrollment**

These rates are used to measure the probability of eligible contract beneficiaries matriculating at and beyond their projected college entrance date. The rates apply to contract beneficiaries who have not yet matriculated and those who have matriculated, but have not used credits within the past year.

Years From Projected College Entrance Year	Matriculation Rate
0	70%
1	35%
2	40%
3	30%
4	20%
5	15%
6	15%
7	10%
8	10%
9	10%
10	0%

### **Utilization of Benefits**

The following rates apply to contract beneficiaries who have not yet matriculated and those who have matriculated, but have not used credits within the past year. For those who have matriculated, the projected college entrance year is assumed to be the valuation year. Contract beneficiaries are assumed to use the benefits as described by the CIPTP Master Agreement.

Distribution of Benefit Utilization										
Number of Years	Number of Semesters Purchased									
Since Matriculation	1	2	3	4	5	6	7	8	9	
1	73%	73%	49%	37%	29%	24%	21%	18%	16%	
2	20%	20%	28%	35%	26%	24%	21%	18%	16%	
3	7%	7%	14%	17%	19%	22%	21%	18%	16%	
4			5%	6%	13%	15%	21%	18%	16%	
5			5%	6%	7%	9%	8%	13%	16%	
6					3%	4%	3%	6%	8%	
7					2%	2%	2%	4%	6%	
8							1%	2%	4%	
9							1%	2%	1%	

For contract beneficiaries who have matriculated and have used credits within the past year, it is assumed that the contract beneficiaries will utilize 22 credits per year until benefits are fully depleted.



### **Administrative Expenses**

Administrative expenses of the Program are assumed to be paid through a combination of investment earnings and fees assessed on purchasers. Marketing expenses were excluded from the liabilities (present value of future administrative expenses) for current contract beneficiaries as it is assumed those costs should be applicable to future contracts. Administrative expenses are projected to increase by the rate of the inflation assumption of 2.50 percent for two years and then decline at the same rate the present value of benefits declines (combined with a 2.50 percent increase for inflation). The present value of future administrative expenses was determined to be equal to approximately 2.8 percent of the total liabilities.

First effective with the actuarial soundness valuation as of June 30, 2017, the calculation of the total administrative expenses related to marketing was changed from an assumption of 12 percent of total administrative expenses to incorporate actual marketing expenses in the prior fiscal year, as provided by ISAC. The amount of administrative expenses assumed to be non-marketing related is the basis for the present value of future administrative expenses for current contract beneficiaries.

_	Assumed Current Contract Beneficiary Expenses									
Fiscal		Other	Total Administrative	Marketing						
Year	Marketing	Administration	Expenses	% of Total						
2017	\$1,854,639	\$4,768,606	\$6,623,245	28.00%						
2018	0	4,887,821	4,887,821							
2019	0	5,010,017	5,010,017							

For the open group scenarios (in which new contracts are assumed to be sold), marketing expenses are allocated to the year the contracts were sold and non-marketing expenses are allocated over the duration of the contract period until all tuition benefits are assumed to be paid. Marketing expenses are assumed to increase from the amount in fiscal year 2017 by 2.5 percent annually.

### **Mortality and Disability**

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

### **Data Adjustments**

The following contract beneficiary records were excluded from the actuarial valuation:

- Records with a payment status indicating they were cancelled;
- Records with a contract usage status of depleted; and
- Records with the number of contract units used equal to the number of contract units purchased.

The projected college entrance year was adjusted for contract beneficiaries who are not scheduled to have completed payments for the contract by the college entrance year provided in the data.

The account balance that is eligible to be refunded is calculated by GRS based on the contract payment information provided, increased with applicable interest, less any tuition and fee benefits paid to date. Two percent annual interest is applicable to contracts purchased prior to the 2013/2014 enrollment period. No interest is applicable to contracts purchased during or after the 2013/2014 enrollment period.



### **Future Beneficiary Profile**

The characteristics of future beneficiaries are assumed to be the same as the characteristics of 2016 new beneficiaries, including the following:

- Distribution of number of years until projected college entrance date at time of contract purchase;
- Distribution of contract type and number of years of tuition benefits purchased; and
- Distribution of contract payment options (lump sum, monthly or annual payment s over a period of between five and 15 years depending on beneficiary age at contract purchase).

#### **Assumed Future Contract Prices**

Pricing for contracts sold for the period January 18, 2017, through May 31, 2017, were based on the following pricing methodology and underlying assumptions which were developed by and are the responsibility of ISAC.

- Discount Rate of 7.0 percent.
- Tuition and Fee Increases of 6.0 percent for all years for all contract types
- Stabilization Fee of 15 percent of the Present Value of Tuition and Fee Benefits ("PVB") for Choice 1 contracts, 23 percent of the PVB for Choice 2 contracts and 25 percent of the PVB for Choice 3 contracts.
- Administrative Fee of 3.0 percent of the sum of the PVB and the Stabilization Fee.
- Weighted Average Tuition and Fees ("WATF") for FY 2017 equal to the WATF for FY 2016 increased by 6.0 percent for Choice 1, 3.0 percent for Choice 2, and 0.0 percent for Choice 3. Increase amounts are based on expected increases in the WATF.
- All payments are assumed to be made at the beginning of the year.
- The price increase limitation of 9.0 percent more than the prior year price for Choice 1 contracts has been eliminated.
- The provisions of Truth in Tuition will be included in the PVB calculations for multi-year contracts with credit values greater than 30. Please note that the provisions of Truth in Tuition do not apply towards fees. Fees are assumed to increase by 6.0 percent for all years.
- Benefits are assumed to be utilized in the first year in which the contract holder is eligible to attend college and also are assumed to be used at a rate of 30 credits per year.
- Prices will be determined according to single year age groups.
- Benefits may not be used until the third anniversary after the First Payment Date.
- Prices for "Combo" packages consisting of either (1) four University semesters combined with four Community College semesters or (2) four University Plus semesters combined with four Community College semesters were based on present values assuming the four Community College semesters were used first and as such are not equal to the sum of the separate lump sum prices for four University or University Plus semesters combined with four Community College semesters.
- Monthly and annual installment payments are calculated assuming an interest rate of 7.75
  percent.
- A \$3 processing fee per payment for monthly and annual installment payments.

Contract prices are assumed to increase each year by the tuition and fee increase assumption, which is 5.00 percent per year. Prices were not recalculated for future years to take into account the change in the investment return assumption from 7.00 percent to 6.50 percent. Changes in assumptions affect the stabilization fees that were calculated for the 2016-2017 enrollment period.



# **S**ECTION **E**

**PLAN PROVISIONS** 

### **Plan Provisions**

(This is a summary only; the full terms and conditions of the College Illinois!® Prepaid Tuition Program are included in the Illinois Prepaid Tuition Act, 110 ILCS 979 (the "Act") and ISAC Administrative Rules (23 Ill. Adm. Code 2775, et. seq.) ("ISAC Rules").

A. Type of Contract

Three types of contracts are available for purchase: Choice 1 - Community College, Choice 2 – University and Choice 3 – University Plus.

B. Benefit

Covered benefits include tuition and mandatory fees at an Illinois public university or community college based on the instate or in-district undergraduate rate for a full-time student.

Mandatory fees are fees that are required upon enrollment for all students attending the particular institution.

The benefit does not include any optional fees, expenses or cost of supplies.

The benefit shall never be less than the amount paid for the contract.

Benefits are available for use three years after the first payment due date. The plan must be paid in full prior to the use of any benefits. In addition, the beneficiary has up to 10 years from the projected college enrollment date to start using program benefits. Once the beneficiary starts using the prepaid benefits, they have 10 years to finish using benefits.

A. Type of Contract

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B. Benefit

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Mandatory fees are fees that are required upon enrollment for all students attending the particular institution.

The benefit does not include any optional fees, expenses or cost of supplies.

Benefit shall never be less than payment amount.



#### C. Member Contributions

The Program offers a variety of payment options, including the following:

- Lump Sum;
- 5-year installment plans paid monthly or annually;
- Extended installment plans of 6 to 15 years, depending on age, paid monthly or annually; and
- Down payment options are available for monthly installment plans.

# D. Private or Out-of-State Institutions

For beneficiaries attending a private or out-of-state institution, the plan will pay an amount based upon the weighted average tuition and mandatory fees at Illinois public universities or community colleges depending on the type of contract purchased.

#### E. Scholarship

If a qualified beneficiary is awarded a grant or scholarship that duplicates the benefits covered by a prepaid tuition contract, the purchaser may request a refund in semester installments.

Illinois public university or community college – the installments will be in an amount equal to the current cost of in-state or in-district registration fees at that institution, less any benefits used to pay registration fees not covered by the scholarship and any applicable fees.

Illinois Private Institution or an eligible Out-of-State Institution – the installments will be in an amount equal to the current average mean-weighted credit hour value of registration fees at Illinois public universities or Illinois community colleges, depending on the type of the purchased contract, less any benefits used to pay registration fees not covered by the scholarship and any applicable fees.

### F. Not Attending an Institution of Higher Education (Transfer)

Benefits can be transferred to a member of the "family" as defined in Section 529 of the Internal Revenue Code.

Purchasers can also choose to postpone the beneficiary's use of contract benefits to a later time or receive a refund.

### G. Cancellation/Refunds

Refund equal to all contract payments made accumulated with applicable interest, less benefits paid and applicable cancellation fees. (Two percent annual interest is applicable to contracts purchased prior to the 2013/2014 enrollment period. No interest is applicable to contracts purchased during or after the 2013/2014 enrollment period.)



H. Death/Disability of Qualified Beneficiary Refund equal to the value of the mean-weighted average cost of tuition at the colleges for the type of contract purchased

will be made to the purchaser.

I. Other Ancillary Benefits

There are no ancillary benefits.

J. Truth in Tuition

Under Illinois' Truth-in-Tuition law, enacted with the fall 2004 semester, the state's 12 public colleges and universities are required to charge incoming resident freshmen a fixed tuition

rate for the first four years of college.

K. Changes from Previous Valuation

None.





# Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed In Accordance with Government Auditing Standards

Honorable Frank J. Mautino Auditor General State of Illinois, and

Mr. Kevin B. Huber Chair of the Governing Board Illinois Student Assistance Commission

As Special Assistant Auditors for the Auditor General, we have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Illinois Prepaid Tuition Program of the State of Illinois, Illinois Student Assistance Commission, as of and for the year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the Illinois Prepaid Tuition Program of the State of Illinois, Illinois Student Assistance Commission's basic financial statements and have issued our report thereon dated January 9, 2018. That report contains an emphasis of matter paragraph which states "as discussed in Notes 9 and 10, the Illinois Prepaid Tuition Program Fund has a deficit as of June 30, 2017 of \$286 million. The amount of the fund deficit is highly dependent on the actuarial assumptions used to calculate the present value of the future tuition benefits obligation." Our opinion is not modified with respect to this matter.

#### **Internal Control Over Financial Reporting**

In planning and performing our audit of the financial statements, we considered the State of Illinois, Illinois Student Assistance Commission's internal control over financial reporting (internal control) of the Illinois Prepaid Tuition Program to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the State of Illinois, Illinois Student Assistance Commission's internal control. Accordingly, we do not express an opinion on the effectiveness of the State of Illinois, Illinois Student Assistance Commission's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control of the Illinois Prepaid Tuition Program that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

### **Compliance and Other Matters**

As part of obtaining reasonable assurance about whether the State of Illinois, Illinois Student Assistance Commission, Illinois Prepaid Tuition Program's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with these provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

### **Purpose of this Report**

The purpose of this report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the State of Illinois, Illinois Student Assistance Commission's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the State of Illinois, Illinois Student Assistance Commission's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

SIGNED ORIGINAL ON FILE

Crowe Horwath LLP

Oak Brook, Illinois January 9, 2018