



# Presentation for Actuarial Consulting Services

December 12, 2013



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 Segal Consulting

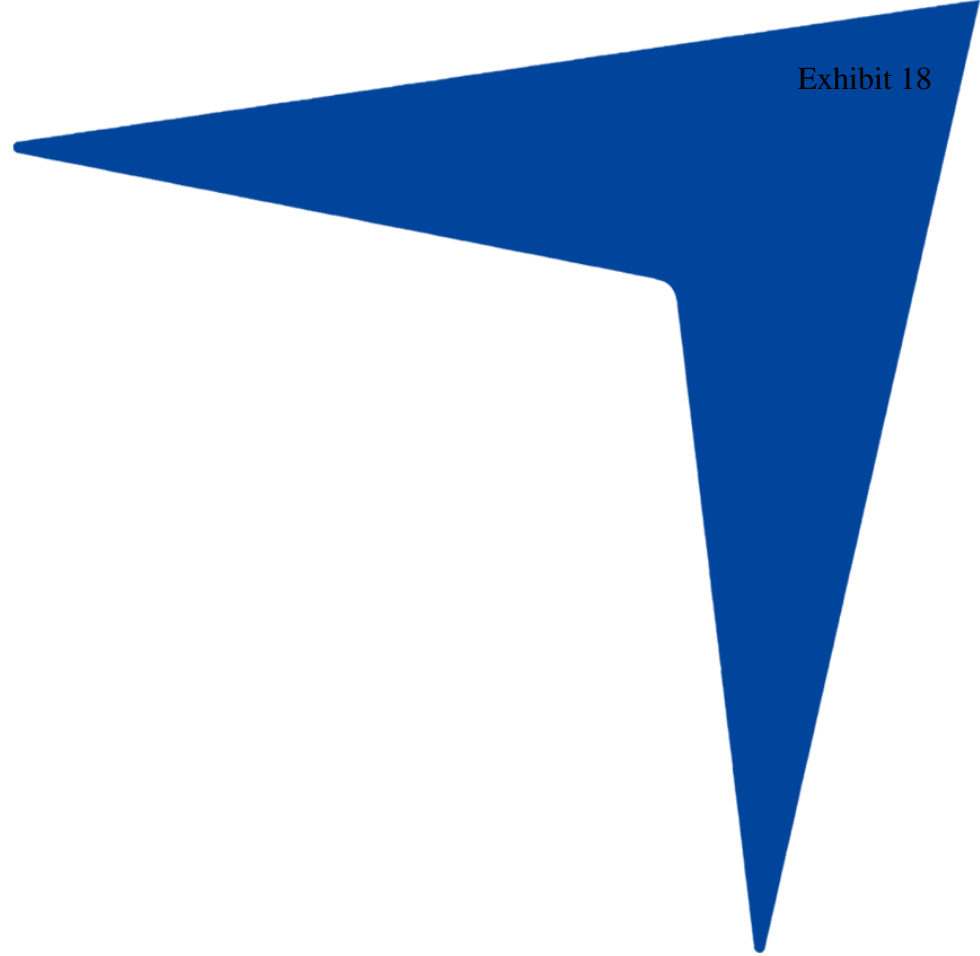
# Introductions and Presentation Objectives

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- Segal attendees:
  - **Kim Nicholl**, FSA, MAAA, EA, Senior Vice President and Consulting Actuary
  - **Matt Strom**, FSA, MAAA, EA, Consulting Actuary
  - **Cathie Eitelberg**, National Director of the Public Sector Market
- We will cover the following:
  - Segal Organization
  - Valuation Process
  - Communications
  - Value Add
  - Questions and Answers
- Are there any other items that SURS would like to address?

**This is your time and we want to address your issues.**

# ORGANIZATION



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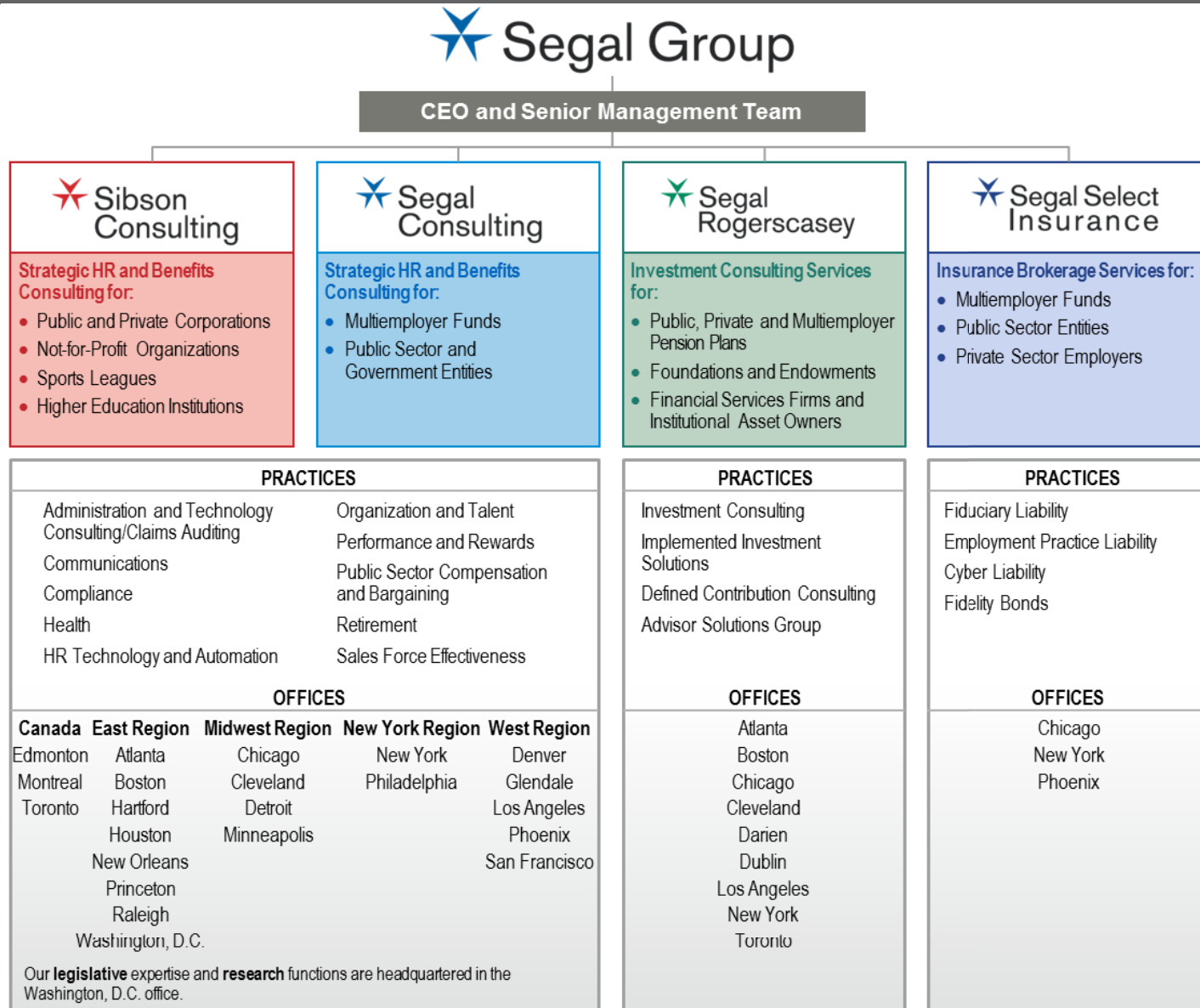
★ Segal Consulting

# Ownership

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- The Segal Company, founded in 1939 by Martin E. Segal, is an independent, privately held consulting firm.
- Segal is the parent of Segal Advisors, Inc. (Segal Rogerscasey) and Segal Select Insurance Services, Inc.
- Segal has been employee-owned by its officers since 1978.
- An 11-member Board of Directors sets policy and governs the organization.
- Implementation of policies, development of strategies and day-to-day operations are the responsibilities of the Chief Executive Officer.
- A Senior Management Team, which reports to the CEO and runs the business, includes the Director of the Public Sector Market.

# Structure



# Breadth of Consulting Expertise

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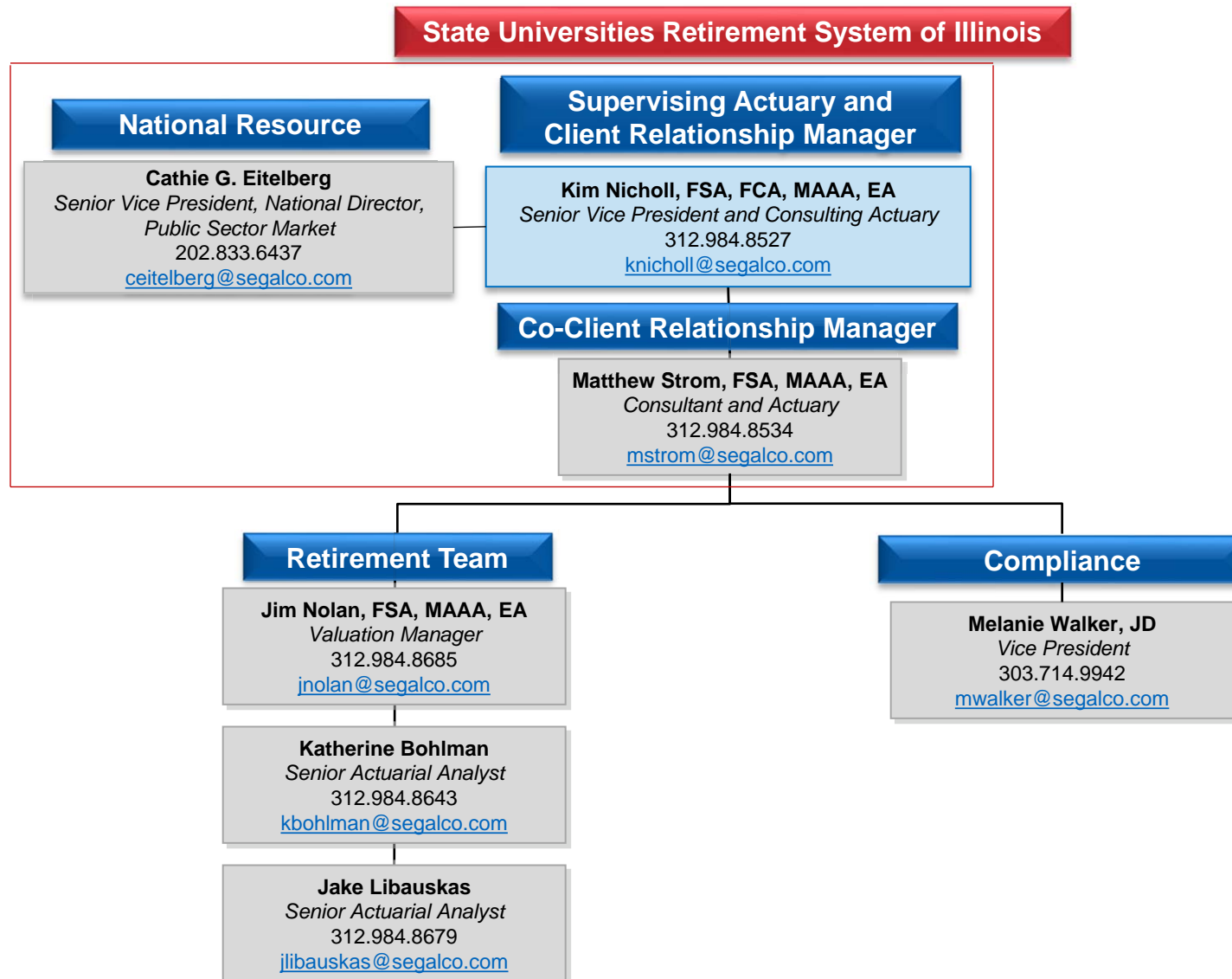
- Retirement Plan Consulting
- Health and Welfare Plan Consulting
- Compliance Consulting
- Compensation and Collective Bargaining Consulting
- Claims Audit Consulting
- Communications Consulting
- Administrative and Technology Consulting

# People

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- Segal has more than 900 professionals in 22 offices in the United States and Canada.
- Our headquarters are located in New York City.
- Segal's Chicago office will serve SURS, with assistance from regional and national resources, as appropriate.
- Chicago is Segal's second largest office with 137 employees.
- The Chicago office has 52 actuaries and consultants, and 51 associates with expertise in retirement plan consulting, active employee and retiree health, human resources and benefits administration, compliance, underwriting and communications.
- The remaining staff provides clerical, HR and systems support.

# Your Segal Team





# Clients

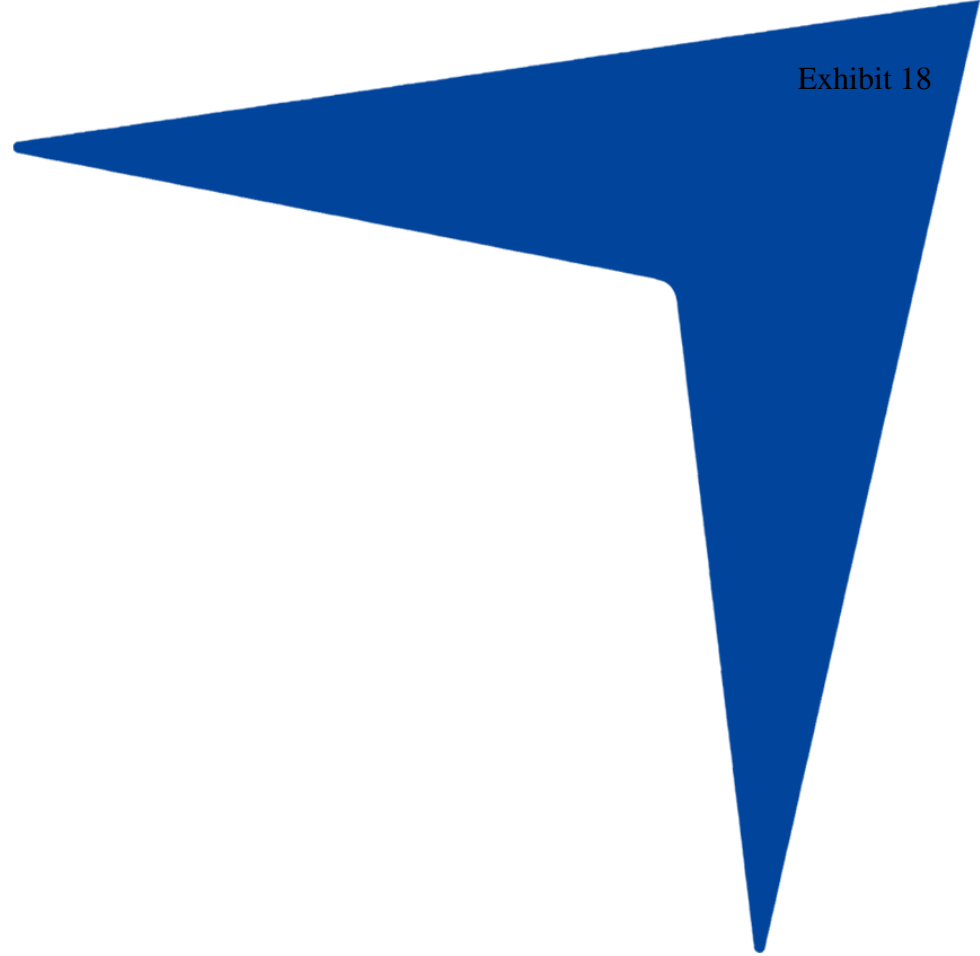
## Chicago Team's Public Sector Clients (select list)

Segal has more than 400 public sector clients and 1,000 retirement clients including higher education institutions

- Alaska Retirement Management Board
- California State Teachers' Retirement System
- City of St. Louis
- Chicago Housing Authority
- Chicago Park Employees' Annuity and Benefit Fund
- Chicago Teachers' Pension Fund
- Illinois Commission on Government Forecasting and Accountability
- Illinois Municipal Retirement Fund
- Illinois State Universities Retirement System
- Michigan Department of Management & Budget
- Nevada Public Employees' Retirement System
- Missouri Local Government Employees Retirement System
- New York State Teachers' Retirement System
- North Dakota Public Employees Retirement System
- North Dakota Teachers' Fund for Retirement
- State Teachers Retirement System of Ohio
- Wisconsin Retirement System

**Segal completed an actuarial audit of the SURS June 30, 2011 actuarial valuation. We have duplicated the 2012 valuation and are in the process of duplicating the 2013 valuation with the work we do for Illinois COGFA.**

# VALUATION PROCESS



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# Valuation Process

## Transition Plan

Segal has all necessary programming in place and no start-up or learning curve is required.

## Valuation Process

In performing actuarial valuations, we have an established routine that defines the sequence, methodology, and quality control on the project. The majority of the work is performed by experienced actuarial analysts and is reviewed by the Primary and Secondary Actuaries.

1. Do the initial preparation
2. Prepare a data request for SURS
3. Review the data when received
4. Develop and/or revise and test all computer programs
5. Review assumptions against experience
6. Complete the actuarial calculations
7. Review the actuarial valuations
8. Draft the reports and presentation
9. Distribute the reports to SURS
10. Meet with the Board

**Final pension reports and all GASB disclosure information will be delivered by October.**

# Diligent Quality Control Procedures

- Three Level Actuarial Process:
  - Production staff
  - Detailed review
  - Final departmental review
- Consultant level —“Senior Review” of all work
- Annual audits by Segal’s Office of the Chief Actuary, National Health Practice and National Compliance Practice
  - Comprehensive technical review of selected cases
  - Consulting review of those and other cases



# GASB and Funding Policy

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- GASB is eliminating the ARC
  - –Accounting business” vs. “Funding business”
  - But if plan has a funding policy, the resulting contribution amount is called the —Actuarially Determined Contribution” (ADC)
- Actuarially Determined Contribution
  - If determined, disclose method and amount
  - Compare Statutory Contribution to the ADC
  - GASB provides no basis for the ADC except —actual standards of practice”

**The Statutory Contribution does not qualify as an ADC.**

# Three Funding Policy Components

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- **Actuarial cost method** allocates present value of member's future benefits to years of service
  - Defines Normal Cost and Actuarial Accrued Liability (AAL)
  - SURS actuarial cost method is the ~~projected unit credit~~ "method"
  - Segal would recommend the ~~entry age~~ "method" which is required under GASB 67 and 68
- **Asset smoothing method** manages short term market volatility while tracking MVA
  - Defines the Unfunded Actuarial Accrued Liability (UAAL)
  - SURS asset smoothing method is based on five year smoothing of annual investment returns that exceed 7.75% (gains) and fall short of 7.75% (losses)
  - Segal would recommend maintaining the asset smoothing method, but consider adding a corridor around the market value of assets

# Three Funding Policy Components *continued*

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- **Amortization method** sets contributions to systematically pay off the UAAL
  - Length of time and structure of payments
  - SURS contributions are based on the Statutory Contribution as defined in the Illinois Pension Code
  - The Statutory Contribution is currently compared to GASB ARC
  - GASB ARC amortization policy is open 30-year level percentage of pay
    - UAAL amortized as single layer regardless of source of UAAL
    - Open (or, “rolling”) means the UAAL is re-amortized over a new 30-year period every year
    - Level percentage of pay means UAAL amortized with payments that increase each year by payroll growth assumption of 3.75%
    - Combination of open 30-year period and level percentage of payroll means:
      - » Amortization payment does not even cover the interest on the UAAL let alone the principal
      - » Like refinancing your home with a new larger 30-year mortgage every year

# GASB 67/68 Implementation

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- GASB 67 provides for accounting with respect to Plans (replaces GASB 25)
  - Effective for fiscal year July 1, 2013 to June 30, 2014
- GASB 68 provides for financial reporting by employers (replaces GASB 27)
  - —Employers” are the entities making the contributions (e.g., State, universities, etc.)
  - Effective for fiscal year July 1, 2014 to June 30, 2015
- Net Pension Liability reported on each employer’s balance sheet and in the Plan’s notes to the financial statements
- Accounting and financial reporting divorced from contribution requirements
- Annual pension expense (for employers) is essentially equal to change in Net Pension Liability during the year, with deferrals of certain items



# Net Pension Liability Reported on Financials

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- Net Pension Liability (NPL)
  - Total Pension Liability minus market value of assets
- NPL is required to be reported in the SURS footnotes and on the State's balance sheet
- NPL is calculated using:
  - A new blended discount rate
  - —Entry age” actuarial cost method
  - Market value of assets

## Implications:

- Large liability must be recorded on the State's balance sheet
- Could affect credit rating and inhibit ability to borrow

# Net Pension Liability Reported on Financials *continued*

- Discount rate is based on projected benefits, current assets, and projected assets for current members
  - Projected assets include contributions on behalf of current members and **exclude** contributions intended to fund the service cost for future employees
- For projected benefits that are covered by projected assets
  - Discount using the long-term expected rate of return on assets, 7.75% for SURS
- For projected benefits that are **not** covered by projected assets
  - Discount using yield on 20-year AA/Aa tax-exempt municipal bond index
  - As of June 30, 2013, rate was 3.92%
- Solve for a single rate that gives the same total present value
  - Use that single equivalent rate to calculate the Total Pension Liability (TPL)

## Implications:

- SURS will use a rate lower than 7.75%, depending on contributions

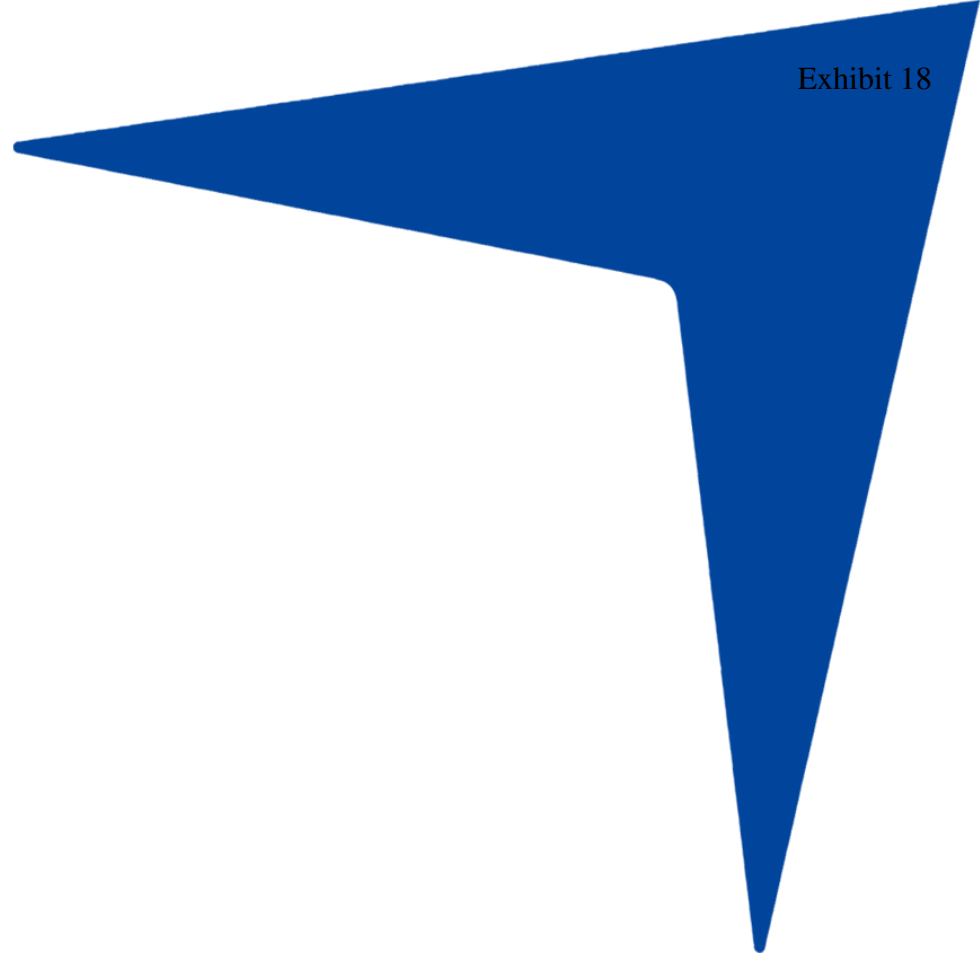
# Expense and Funding Are Divorced

- New GASB pension expense is the change in NPL each year (with certain deferrals described below)
- Components of the new pension expense include:
  - Service cost (i.e., normal cost)
  - Interest on the Total Pension Liability (TPL) as of beginning of year
  - Changes in Total Pension Liability over the year (with certain deferrals)
    - Plan amendments recognized immediately
    - Changes in actuarial assumptions and actuarial gains and losses amortized over average expected remaining service lives of active **and** inactive members (including retirees)
  - Differences between actual and projected earnings over the year recognized in expense over closed 5 year period
  - Projected investment returns over the year
  - Employee contributions
  - Administrative expenses

## Implications:

- Pension expense must be recognized in the State's financials
- Could result in confusion as pension expense will be different (and often greater) than contribution amount

# COMMUNICATIONS



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# Board Education/Training

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- Segal conducts frequent seminars and forum groups for our clients to discuss current topics of concern and new legal and regulatory requirements.
  - These seminars are held both in assembled groups and as WebEx internet-based conference calls (“webinars”).
  - The presentations and supporting materials are then made available on our website as an educational resource.
- Segal provides Board education training sessions on a variety of topics:
  - GASB 67 and 68
  - Setting a funding policy
  - Plan design trends
  - Optional plan designs such as variable defined benefit plans, the Canadian model and international approaches
  - Pension plans and their relationship with total compensation and changing demographics
  - Fiduciary and cyber risk management

Home > Publications and Resources > Public Sector Publications

## Public Sector Publications

The Segal Company produces several publications of interest to sponsors of public sector plans.

The most recent edition of each publication may be viewed by all. However, only registered users may read archived publications. If you would like to read archived publications, please [register on our Web site](#).

See a complete list of our [most recent public sector publications](#) in reverse chronological order, or use the links below to select a specific publication.

> [Public Sector Letters](#)

*Public Sector Letters* discuss creative benefits, compensation and human resources issues.

> [Bulletins](#)

*Bulletins* are frequent, two-page summaries of important news about compliance issues raised by major legislation, regulatory developments or accounting standards, litigation or financial accounting requirements.

> [Surveys & Studies](#)

The Segal Company conducts several surveys of interest to public sector employers, including the annual *Segal Health Plan Cost Trend Survey*.

> [TRENDS](#)

*TRENDS* captures noteworthy developments of interest to sponsors of public sector health plans.

> [The Fiduciary Shield](#)

*The Fiduciary Shield* is a periodic e-publication of Segal Select Insurance Services, Inc.

> [Capital Checkup](#)

*Capital Checkup* is a frequent e-publication that summarizes important developments affecting health benefit plan compliance.

> [Compliance Alert](#)

*Compliance Alert* is a periodic e-publication that summarizes important developments affecting retirement plan compliance.

> [Health Care Reform Insights](#)

*Health Care Reform Insights* is Segal's e-publication focusing on aspects of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act.

> [Managing Through Fiscal Stress](#)

*Managing Through Fiscal Stress* is designed to help our public sector clients find immediate solutions, meet short-term challenges and improve long-term performance in the current economic downturn.

Multiemployer Publications

> Public Sector Publications

*Public Sector Letters*

*Bulletins*

Surveys & Studies

TRENDS

*The Fiduciary Shield*

*Managing Through Fiscal Stress*

*Capital Checkup*

*Compliance Alert*

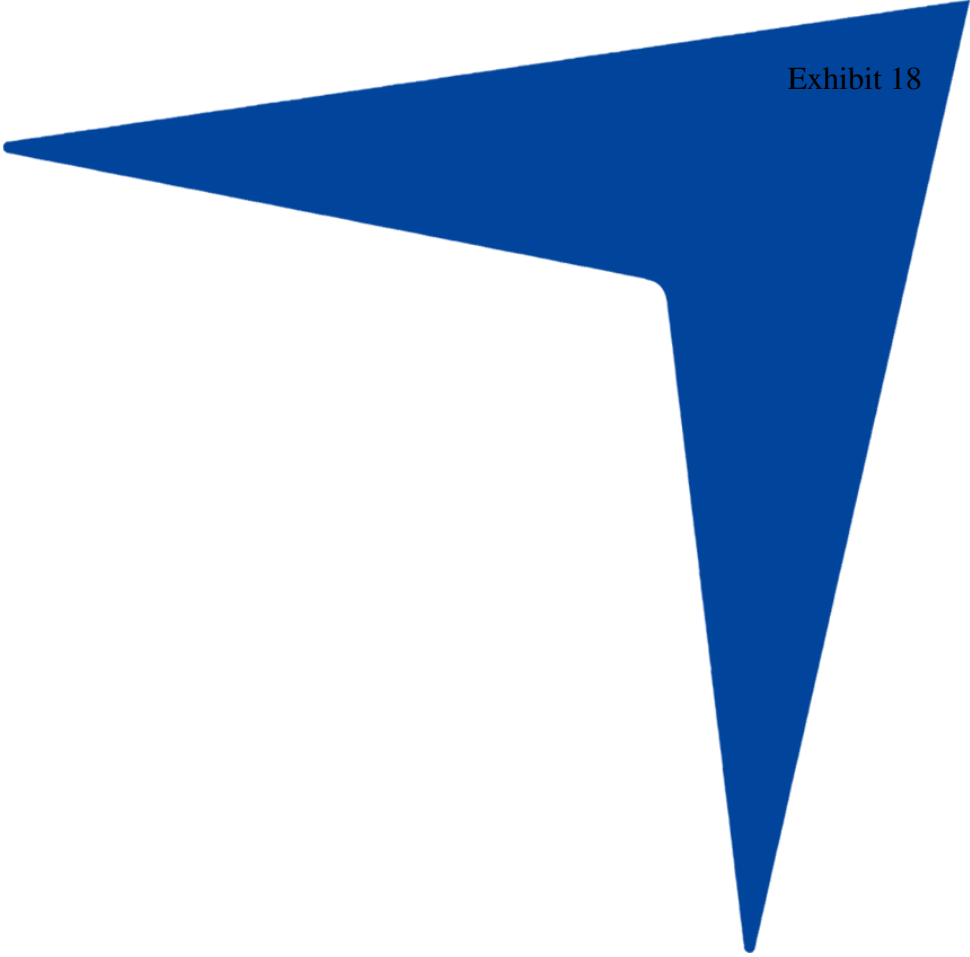
*Health Care Reform Insights*

Health Care Reform Guide

Archived Presentations & Webinars

Articles by Segal Experts

**VALUE ADD**



# Forecast Live Modeling

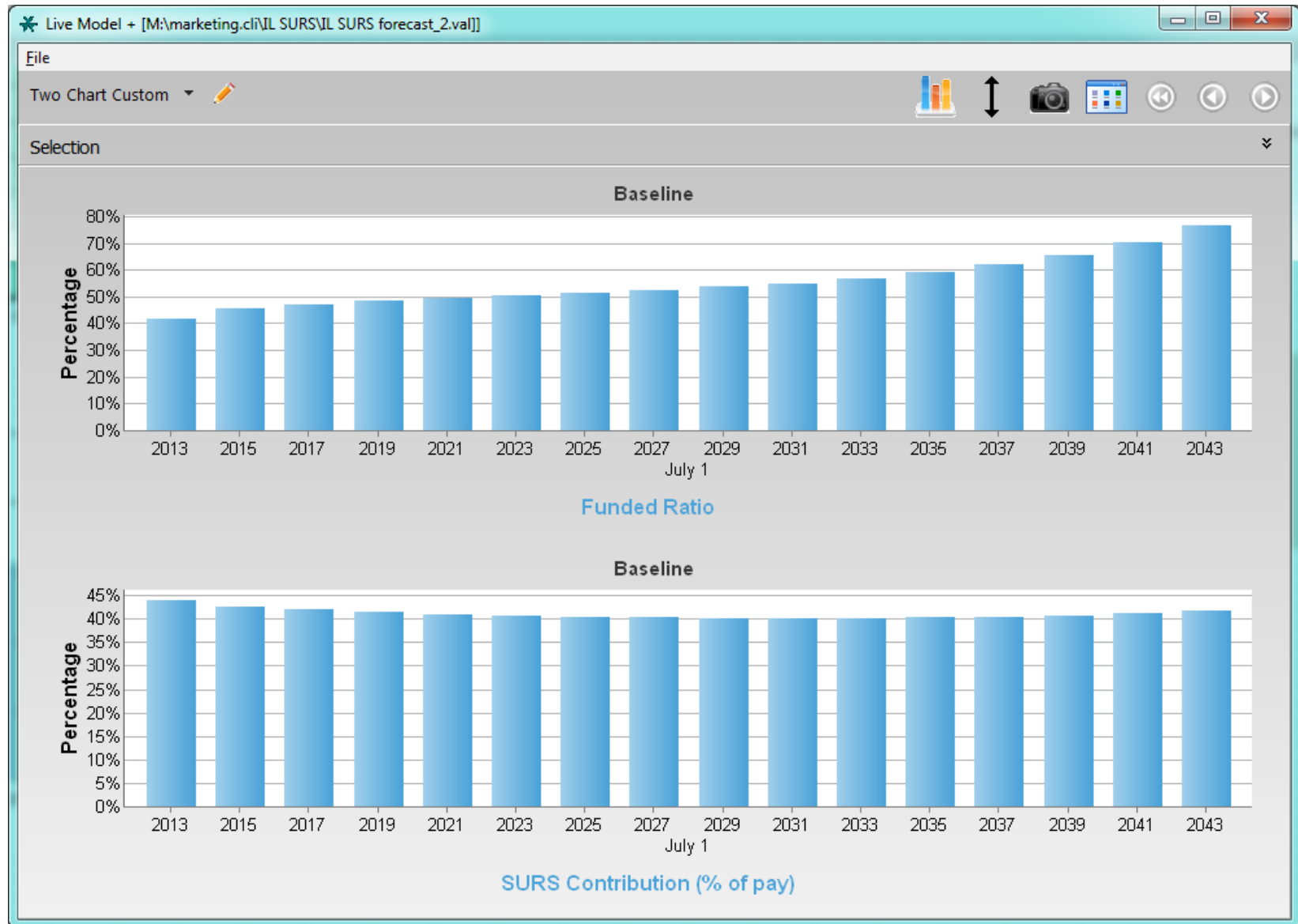
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- Forecast Live is a decision making tool that will dynamically generate financial and actuarial deterministic projections
- Forecast Live fosters discussion related to the current and future economic environment as well as demographic trends as the Board will see how different factors influence the Plan
- A sample of Forecast Live functionalities include:
  - Changes in future investment return
  - Active population growth/decline
  - Different amortization methods and periods
  - Alternative plan designs
  - Changes to the investment return and salary increase assumptions
- Scenarios and charts run in a live modeling session can be saved for exporting into follow-up communications and reports
- Populating software with current year results is a byproduct of the valuation
  - Available after valuation is complete and results are loaded and tested



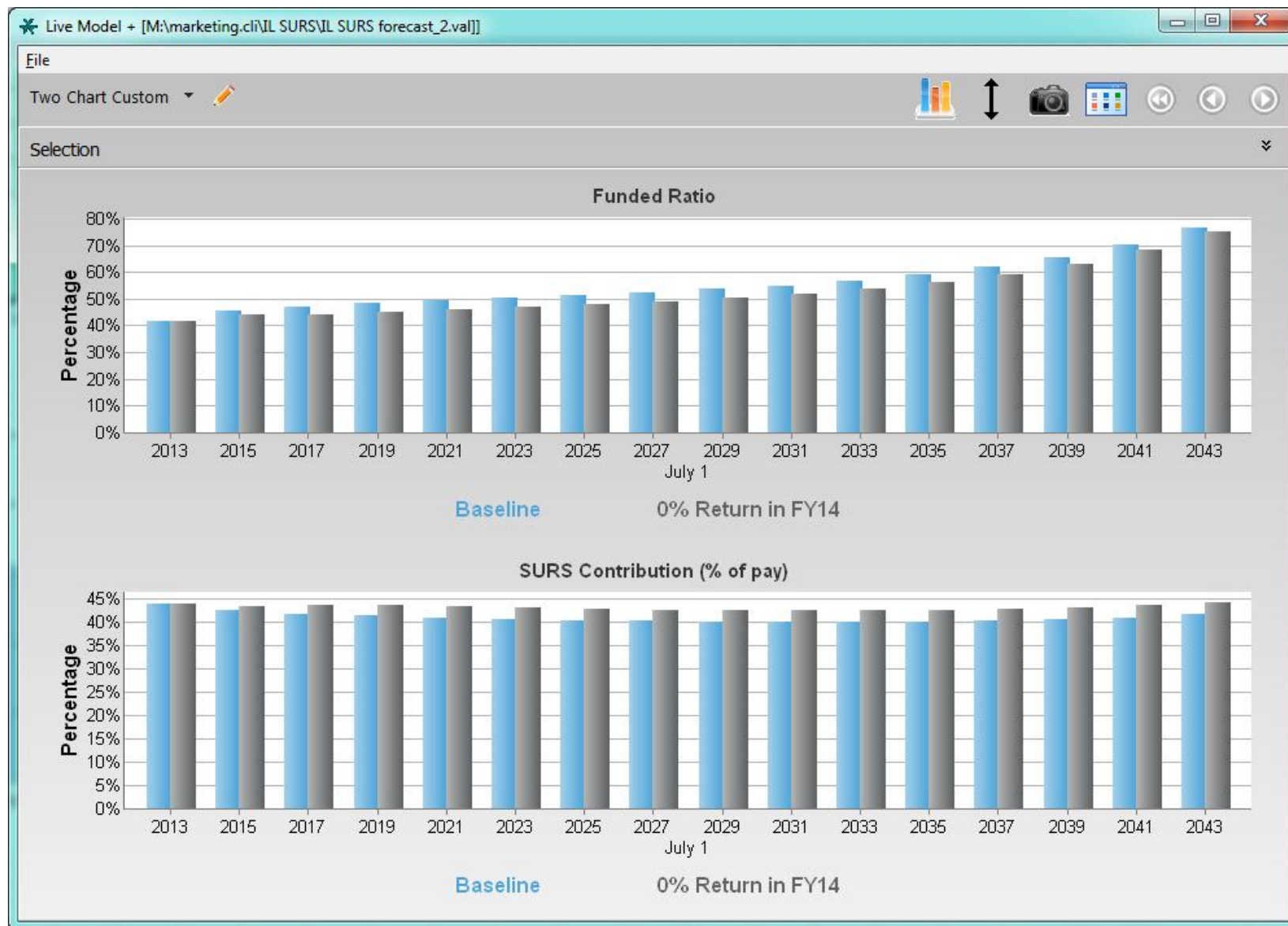
# Projection of Funded Ratio and Contribution Requirement – Sample

Exhibit 18



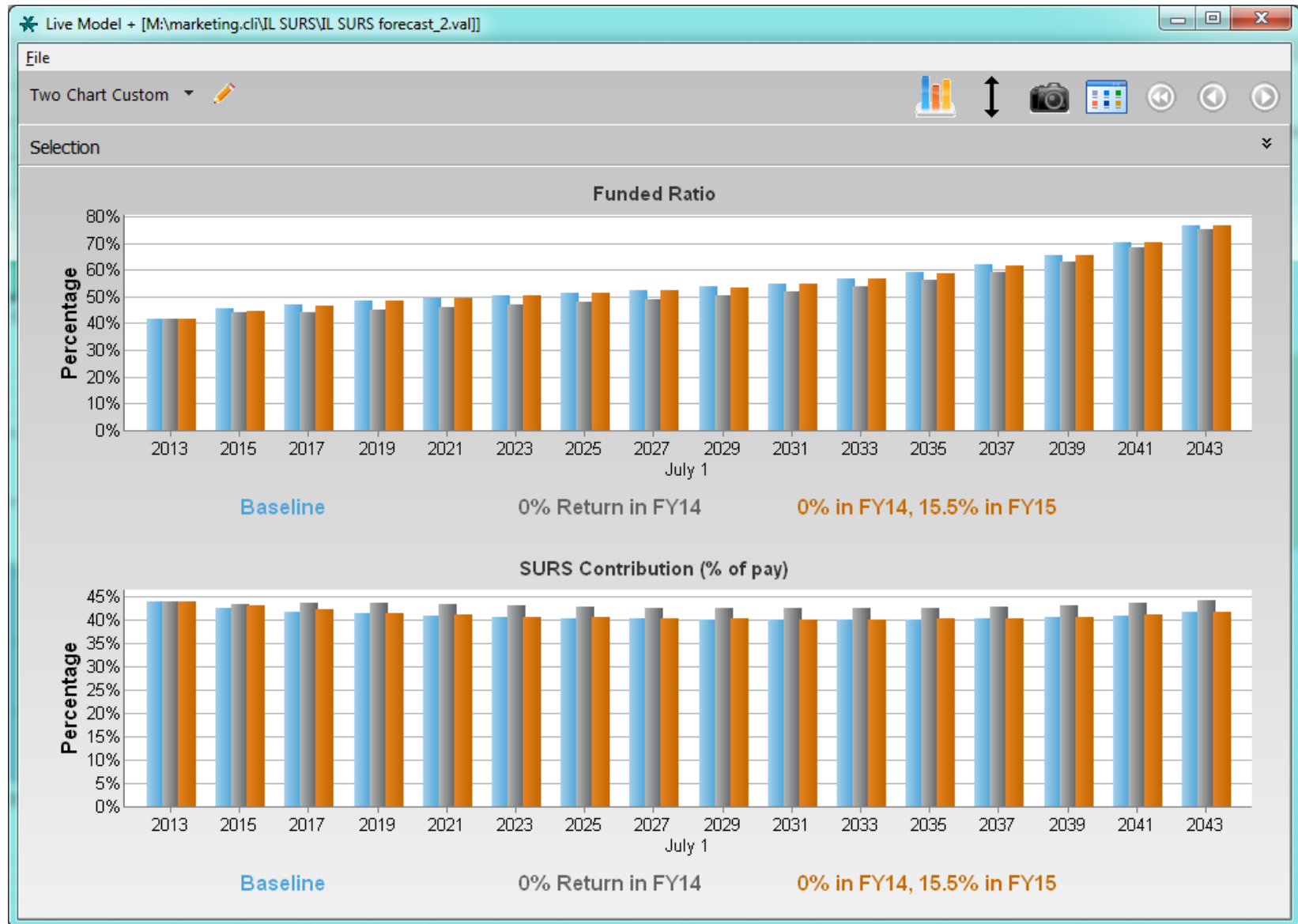
# Projection of Funded Ratio and Contribution Requirement – Sample *continued*

Exhibit 18



# Projection of Funded Ratio and Contribution Requirement – Sample *continued*

Exhibit 18



# Public Pension Environment

- Recovering economy
- Rising pension contributions
- Plan changes to reduce costs and risks
- Multiple accounting and reporting rules—GASB, Moody's and potential Federal requirements
- Changing workforce demographics
- Expanded media, state and federal scrutiny
- Federal Tax Reform
- Retirement Security for All
  - Hatch Bill
  - Harkin Approach



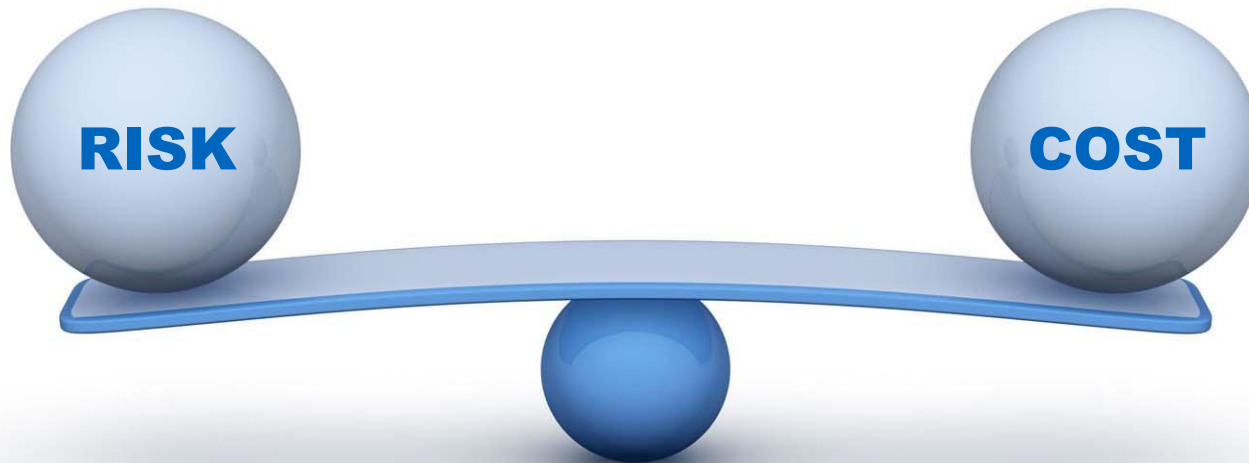
# Public Pension Environment *continued*

- Print
- TV/Cable News
- Internet—Blogs
- Opinion Research
  - Pew Center
  - Manhattan Institute
  - National Institute for Retirement Security
- Center on Budget and Policy Priorities Policy Priorities
- Center for State & Local Government
- Governmental Accounting Office Reports

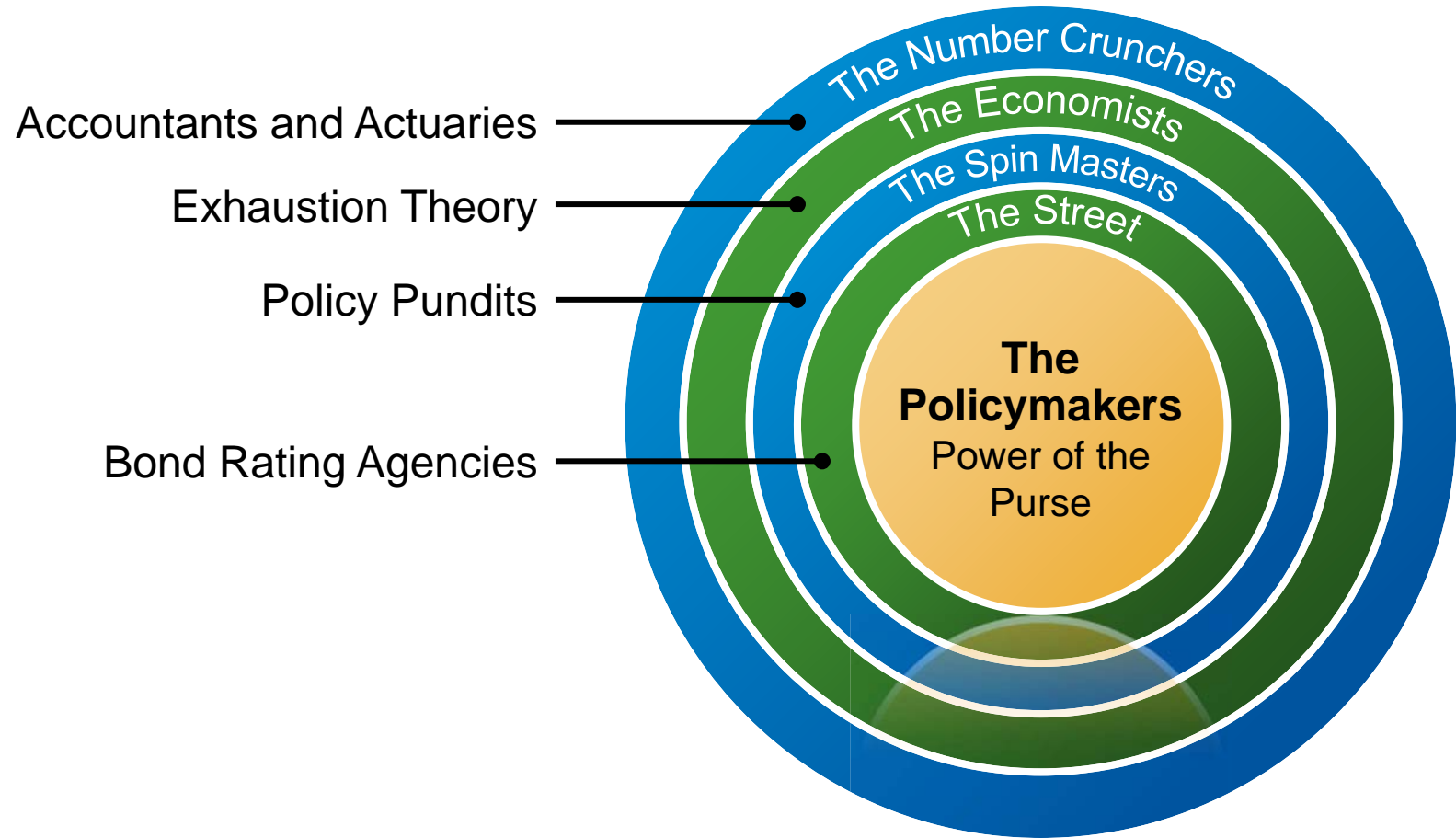


# Balance Risk and Cost

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# Cycle of Influence



# Reasons to Hire Segal

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- We have detailed knowledge of the complexities of SURS
- We understand the complicated environment of public sector benefits
- Our team is highly credentialed and focuses on public sector plans
- We have the resources to meet your needs
- We will provide personal attention to you
- We communicate clearly and can explain the issues that impact your decisions
- We provide timely and accurate information, regardless of the nature of the news
- We perform our services with the highest level of quality review in the industry
- Segal is a privately held firm owned by its employees
- Segal supports defined benefit plans and sponsors one for its employees
- We have worked with you in the past and demonstrated our commitment
- We want your business and will prove it to you through our actions

Helping You Make Decisions

A Tradition of Trust

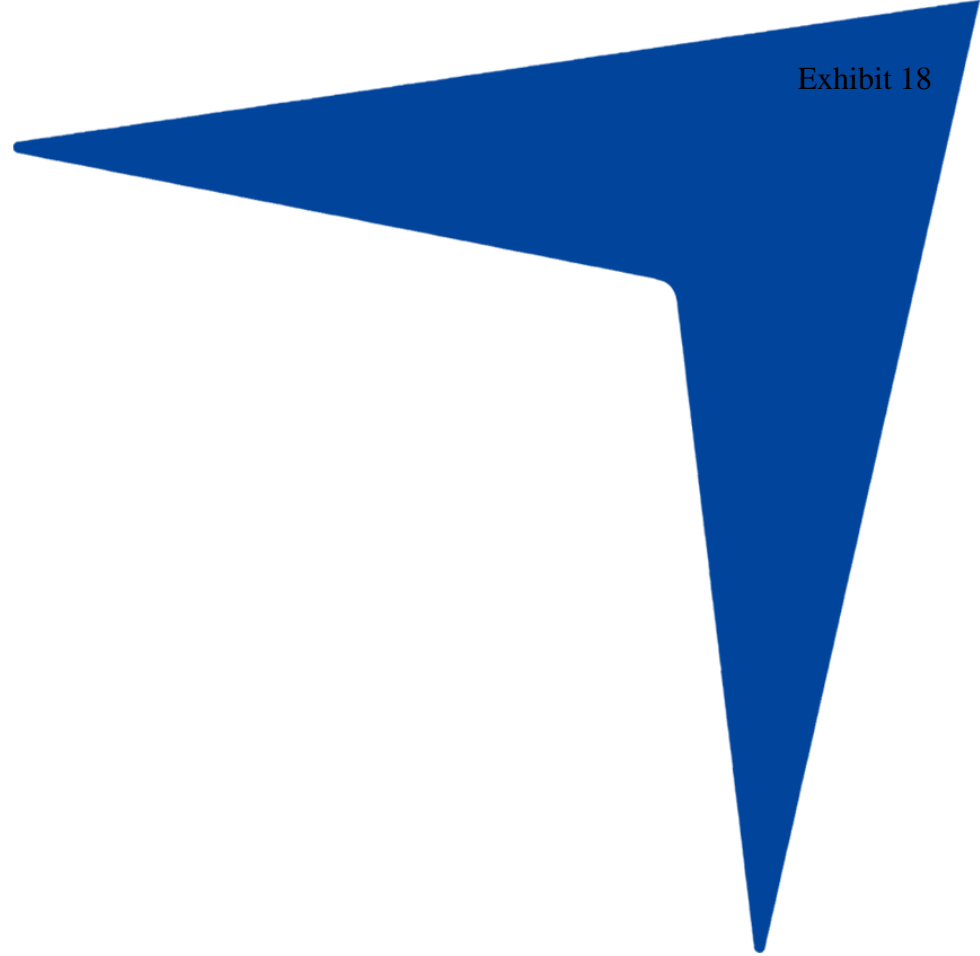


# Questions and Discussion

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# APPENDIX



# Scope of Services

## **Fixed Fee**

- Prepare annual valuations as of June 30
- Prepare experience study for five-year period ending June 30, 2017
- Preparation of actuarial statistical tables, actuarial summary statements and other actuarial data for the comprehensive annual financial report (CAFR) based on Governmental Accounting Standards Board (GASB) Statements 67 and 68.
- Preparation of periodic Self-Managed Plan disability study
- Provide asset/liability modeling
- Prepare actuarial cost estimates of proposed legislation (up to 6 per year)
- Support preparation of COGFA data requests and the Illinois OPEB valuation
- Consult on plan interpretation, calculation of benefits, record keeping, data processing, forms and any other actuarial consultation, as needed

- Advise Board of all legislation, proposed legislation, IRC compliance issues, IRS regulations and rulings, etc. affecting SURS
- Attend a minimum of 3 Board of Trustees meetings per contract year
- Educate Board of Trustees and Staff regarding significant trends in the defined benefit and defined contribution marketplace
- Assist in strategic planning and development of actuarial agendas
- Perform any other actuarial duties specified in the governing ordinances

## **Hourly Rates**

- Perform other special services as requested

# Timeline

Following is a timeline containing various tasks and deliverables for the Services, as well as target completion dates for each step.

Service Element	Time Frame	Methodology
<b>Valuation Consulting Services</b>		
Planning meeting: discussion for plan year beginning July 1, 2013	January 2014 (and then every June for each subsequent plan year)	Discussion with the SURS Staff to plan the engagement, provide strategic planning and to establish timeframes and expectations for delivery of services.
Actuarial data request	July	Instructions/discussions concerning the actuarial data required for conducting the actuarial valuation.
Program review and update	July - August	Actuarial valuation programs will be updated as necessary (e.g., enacted legislative changes) and accuracy tests performed (including test lives).
Retiree and inactive data review and actuarial valuation processing	August	Resolution of any data questions. Processing of retiree and inactive valuations.
Active data review and actuarial valuation processing	September	Resolution of any data questions. Processing of the active valuations.
Financial data review and actuarial values/results calculated	October	Determination of actuarial value of assets, valuation results, and contribution rates.
Preliminary Valuation Results	October	Preliminary valuation results provided to SURS Staff.
Preparation of GASB disclosure information	October	Disclosure of items required by GASB Nos. 25 and 27 (and 67 and 68) and 43 and 45.
Draft reports to SURS Staff and assist in review of the report	October	Draft reports will be forwarded to SURS Staff for review, prior to the release of final reports.
<b>Consulting Services</b>		
Performing experience reviews of each designated retirement system	Every five years	Analyze experience for each system for five-year period and develop recommended assumptions.
Assisting Department staff and State Actuary with analytical needs to respond to external requests	As requested	Review legislation and proposals. Assistance with IRS determination letters.
Support preparation of COGFA data request	As requested	Instructions and discussions concerning the data for COGFA required for conducting their cost projections.
Preparation of Self-Managed Plan disability study	Minimum of every four years	Prepare and deliver self-managed Plan disability study.

# Timeline *continued*

Service Element	Time Frame	Methodology
Proposed legislative benefit changes:		
Review of proposal (if possible, a copy of the actual bill draft is preferred)	Upon receipt	For most typical benefit change proposals, we are able to provide responses within five working days of the request. During the legislative session, we will provide the legislative analysis within one day.
Preliminary review and assessment of time requirement to complete	Upon receipt	For more complicated benefit modification proposals, a timeframe of providing our responses within 10 working days' time may be warranted.
Keep SURS informed of federal and/or tax legislation	As required	We are able to keep SURS informed of and help implement any new developments or changes in federal legislation and/or tax regulations.
Prepare actuarial cost estimates of proposed legislation	As requested – generally within 1-10 working days	We will prepare actuarial and cost analyses as requested.
Recommend possible improvements in financing and benefits structure	Ongoing	The Segal Company actively participates in a variety of national public sector retirement organizations, including NASRA, NCTR, NAGDCA, NCPERS, and the pension related activities of the GFOA, GASB and the NCSL. We also engage in independent research activities through which we monitor new and creative efforts of state retirement systems to enhance their funding and benefit structures. We will inform the Board of Directors of new developments and their applications and potential impact on a proactive basis through a combination of direct communications and our governmental benefits bulletins.
Providing technical advice	As requested	We will provide technical advice as needed.
Actuarial tables and factors	As requested	We will make recommendations for necessary or appropriate changes.
Special benefit cases	As requested	These services will be performed on an as needed basis.
Assisting with legal compliance and communications	As requested	Assist with drafting plan documentation.
General consulting services	As requested	Delivery of these consulting services will depend on the nature of the issue. In most instances, we anticipate to be able to provide these services by telephone, through written and electronic correspondence or a combination of both. Where appropriate and as requested by SURS Staff, we will attend scheduled meetings to deliver these services.

# Timeline *continued*

Service Element	Time Frame	Methodology
Proposed legislative benefit changes:		
Projection services	As requested	<p>The general projection studies performed during the year illustrating the impact of emerging experience or assumptions will balance the sophistication needed to accomplish the projections with the System required timing for the results.</p> <p>Any projections of population and pension costs will be performed showing alternative assumptions (e.g., number of actives, investment return) in consultation with the Board of Directors. Results will be presented at the Board meeting as desired by the Board of Directors.</p>
Drafting legislation and related services	As requested	We will assist SURS Staff in drafting proposed changes to existing retirement laws.
New developments and federal legislation	Ongoing	<p>The Segal Company closely monitors federal legislative and regulatory activity impacting the design, funding and operations of public sector retirement plans. Through a combination of activities of our National Market Leader, Legal Research Division and public sector pension consultants and actuaries, we will be able to provide to the Board of Directors a current outlook on these federal activities and issues.</p> <p>We actively participate in the National Association of Public Pension Attorneys and maintain independent contacts with legal Counsel for NCTR and with legislative staff members of the NASRA and GFOA.</p>
Specifications for data files	Ongoing	We will review the proposed form and content of the data files and make suggestions for appropriate modifications.
Asset/liability studies	As requested	Conduct or provide assistance with asset/liability studies and modeling.
Sensitivity analysis	As requested	Conduct or assist with sensitivity analysis regarding actuarial factors.
Attend meetings	As required	We will attend three Investment Committee meetings, Trustee Educational Forums, and, as requested, attend Quarterly SURS Board meetings.
Other services	As requested	Segal will provide additional consulting services and reports.

# Trends in Public Sector Plan Redesign

## Summary of Recent State Plan Changes

Exhibit 18

		State	Change	
<b>Contribution Rate Changes</b>	Employer New Hires	CA, HI, IA, KS, LA, MN, ND, NJ, NM, TN	<ul style="list-style-type: none"> <li>Raise all contribution rates</li> <li>Reinstate higher contributions based on funding levels or investment returns</li> </ul>	<ul style="list-style-type: none"> <li>Lower employer contribution rates</li> <li>Mandate employee contributions</li> <li>Prohibit "pick-up" of employee contributions</li> </ul>
	Employee New Hires	AL, FL, DE, HI, IA, LA, MN, MO, MS, MT, NY, VT, WY		
	ALL EE	AL, CO, DE, FL, KS, MD, NE, NH, NJ, ND, NM, OH, SC, TX, VA, VT, WI		
	ALL ER (+)	HI, NE, SC		
	ALL ER (-)	AL, AR, CO, FL, NM, ND, OH, TX, VT		
<b>COLA</b>	New Hires	CT, HI, FL, IL, MD, MI, MS, KS, OK, UT, VA, TN	<ul style="list-style-type: none"> <li>Suspension tied to funding or CPI</li> <li>Suspension tied to funding percentage or investment returns</li> <li>Elimination tied to benefit amount</li> </ul>	<ul style="list-style-type: none"> <li>Annual dollar cap</li> <li>Freeze based on service accrual date</li> <li>Delay start</li> <li>Grant after a date certain</li> <li>Apply changes to non-vested</li> </ul>
	Actives	AZ, CT, FL, KS, MD, MS, OH, VA		
	Retirees	CO, ME, MN, NJ, OH, RI, SC, SD, WY		
<b>Sponsor Contribution Rules</b>		IA, KS, LA, MD, NJ, VA, VT	<ul style="list-style-type: none"> <li>Additional contributions to ARC</li> <li>Require ARC</li> <li>Funding from Casino/Real Estate sales</li> </ul>	<ul style="list-style-type: none"> <li>Earmark pension savings to pay down unfunded liability</li> <li>Require payment of the ARC</li> </ul>
<b>Anti-Spiking</b>	New Hires	AL, AZ, DE, FL, CO, CT, IA, IL, LA, NY, MT, WY	<ul style="list-style-type: none"> <li>Limits pensionable compensation</li> <li>Longer FAS period</li> <li>Assess final year costs to last employer</li> </ul>	<ul style="list-style-type: none"> <li>Longer vesting period</li> <li>Cap compensation growth in FAS period ▯ Cap on benefit percent or dollar amount</li> </ul>
	Actives	HI, NH, NJ, NC, MD, VA, WV		
<b>Multiplier</b>	New Hires	GA, HI, MD, MS, MT, NH, NJ, NY, KS, WY, TN	<ul style="list-style-type: none"> <li>Lower multiplier</li> <li>Raise multiplier</li> <li>Rolling rate based on service</li> </ul>	<ul style="list-style-type: none"> <li>Reduce longevity multiplier or period</li> <li>Apply change to non-vested</li> </ul>
	Actives	KS, OH, VA, VT		
<b>Retirement Eligibility</b>	New Hires	AL, AZ, CT, DE, FL, HI, IL, MA, MN, MO, MS, MT, NH, NJ, NC, ND, OK, WV, WI, WY	<ul style="list-style-type: none"> <li>Raise service requirements</li> <li>Longer vesting period</li> </ul>	<ul style="list-style-type: none"> <li>Eliminate combined age/service rule</li> <li>Increase combined age/service rule</li> </ul>
	Actives	AZ, CO, CT, OH, TX		
<b>Retirement Age</b>	New Hires	DE, HI, MA, ME, MO, NH, ND, NY, OK, VA, SC, WA, WY, TN	<ul style="list-style-type: none"> <li>Raise normal retirement age</li> <li>Apply to non-vested</li> </ul>	<ul style="list-style-type: none"> <li>Coordinate with social security normal retirement age</li> </ul>
	Actives	AZ, CO, ME, OH, VA, VT		
<b>Re-employment</b>		AZ, AK, CO, GA, IL, MD, ME, MI, MS, NM, SD, UT	<ul style="list-style-type: none"> <li>Eliminate service accrual after rehire</li> <li>Limit compensation</li> </ul>	<ul style="list-style-type: none"> <li>Suspend pension and health benefits based on earnings after rehire ▯ Require full contribution</li> </ul>
<b>Hybrid</b>	New Hires	GA, IN, KS, LA, MI, UT, VA	<ul style="list-style-type: none"> <li>Combine a lower multiplier DB plan with a DC account</li> </ul>	<ul style="list-style-type: none"> <li>Choice of Defined Benefit, Hybrid or Defined Contribution</li> <li>New hires in Hybrid</li> </ul>
	Actives	KY, LA, TN, RI		
<b>Defined Contribution</b>	New Hires	NJ, NY, UT, TN	<ul style="list-style-type: none"> <li>Part-time workers</li> <li>Higher paid</li> </ul>	<ul style="list-style-type: none"> <li>Optional</li> </ul>

# Where We Are...

Exhibit 18

## Continuum of Public Retirement Plan Redesign

Defined Benefit	Combined Plans	Cash Balance	Defined Contribution
<ul style="list-style-type: none"> <li>Retention of defined benefit plan with changes for new hires: <ul style="list-style-type: none"> <li>Raise retirement eligibility</li> <li>Raise contributions</li> <li>Lower multiplier</li> <li>Reduced or suspended COLA</li> <li>Eliminate rehired retirees and spiking</li> </ul> </li> <li>Some states/localities have reduced COLA for existing retirees</li> <li>Some states/localities are considering changes for future accruals for current active employees</li> </ul>	<p><b>Washington</b></p> <ul style="list-style-type: none"> <li>Employee choice of: <ul style="list-style-type: none"> <li>Plan 2: DB– Employer 2% of pay plan</li> <li>Plan 3: <ul style="list-style-type: none"> <li>DC--Employee contribution: 5% – 15%</li> </ul> </li> </ul> </li> </ul> <p><b>Oregon</b></p> <ul style="list-style-type: none"> <li>Combined DB/DC plan</li> <li>Tier II: <ul style="list-style-type: none"> <li>DB 1.5% of pay plan employer funded</li> <li>DC 6% employee funded</li> </ul> </li> </ul> <p><b>Utah</b> (July 2011)</p> <p>Employee Choice of:</p> <ul style="list-style-type: none"> <li>Tier II: <ul style="list-style-type: none"> <li>DB 1.5% of pay plan</li> <li>10% cap on employer contributions</li> </ul> </li> <li>DC funded by “excess” employer contributions</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>DC 10% employer contributions</li> </ul> <p><b>Rhode Island</b></p> <ul style="list-style-type: none"> <li>All workers in hybrid (7/2012)</li> </ul> <p><b>Virginia</b></p> <ul style="list-style-type: none"> <li>Moves all new hires to hybrids (7/2014)</li> </ul>	<p><b>Nebraska</b> (January 1, 2003)</p> <ul style="list-style-type: none"> <li>Employees contribution: 4.8%</li> <li>Employer contribution: 7.5%</li> <li>Investment return guarantee: <ul style="list-style-type: none"> <li>At least 5% annual return</li> <li>Potential for additional Board approved amount</li> <li>Total not to exceed 8%</li> </ul> </li> </ul> <p><b>Louisiana</b></p> <ul style="list-style-type: none"> <li>Cash balance plan for new hires enacted in 2012 but rescinded because of parliamentary failure</li> </ul> <p><b>Kansas</b></p> <ul style="list-style-type: none"> <li>Cash balance plan for new hires on/after 1/1/2015</li> </ul> <p><b>Kentucky</b></p> <ul style="list-style-type: none"> <li>Cash balance plan for new hires on/after 7/1/2013</li> </ul>	<p><b>Alaska</b> (July 1, 2006)</p> <ul style="list-style-type: none"> <li>All new employees</li> <li>Employer contribution: 3.5% plus 3.75% to retiree health fund</li> <li>Employee contribution: 8%</li> </ul> <p><b>Michigan</b> (March 1997)</p> <p>State Employees:</p> <ul style="list-style-type: none"> <li>Employer contribution: 4% up to 7%</li> <li>Employee contribution: up to 3%</li> </ul>

There are many choices for redesign.



# Proposed Fees

## Annual Retainer and Project Based Fee Quotes

	Year 1	Year 2	Year 3	Year 4	Year 5	Total for Contract Period
1. Annual retainer for consulting relationship (Includes one asset/liability study in contract period and travel to attend all required meetings)	\$48,000	\$48,000	\$48,000	\$48,000	\$48,000	\$240,000
2. Project based services						
a. Annual actuarial valuation	\$64,000	\$64,000	\$64,000	\$64,000	\$64,000	\$320,000
b. Experience study	-	-	\$40,000	-	-	\$40,000
c. Economic study	-	\$8,000	-	\$8,000	-	\$16,000
d. CAFR actuarial report and tables	Included in a.	Included in a.	Included in a.	Included in a.	Included in a.	-
e. COGFA data	\$500	\$500	\$500	\$500	\$500	\$2,500
f. 417 limit tables	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$7,500
g. IL OPEB valuation	\$500	\$500	\$500	\$500	\$500	\$2,500
h. State Actuary response	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$7,500
Total	\$116,000	\$124,000	\$156,000	\$124,000	\$116,000	\$636,000

**When selecting a consulting firm, we hope that fees never keep us from being hired. If you find that our fee is not in the range of your budget, please reach out to us.**

# Proposed Fees *continued*

## Hourly Rates and Estimates Hours for Project Based Services

		<u>Primary Actuary</u>	<u>Secondary Actuary</u>	<u>Review Actuary</u>	<u>Staff Actuary</u>	<u>Total</u>
	<b>Hourly rates</b>	<b>\$415</b>	<b>\$365</b>	<b>\$245</b>	<b>\$185</b>	
a. Annual actuarial valuation						
	Estimated hours	18	36	60	155	269
	Total	\$7,470	\$13,140	\$14,700	\$28,675	\$63,985
b. Experience study						
	Estimated hours	12	36	30	80	158
	Total	\$4,980	\$13,140	\$7,350	\$14,800	\$40,270
c. Economic study						
	Estimated hours	6	5	6	12	29
	Total	\$2,490	\$1,825	\$1,470	\$2,220	\$8,005
d. CAFR actuarial report and tables						
	Estimated hours	-	-	-	-	-
	Total	-	-	-	-	-
e. COGFA data						
	Estimated hours	-	-	0.5	2	3
	Total	-	-	\$123	\$370	\$493
f. 417 limit tables						
	Estimated hours	-	0.5	1	6	8
	Total	-	\$183	\$245	\$1,110	\$1,538
g. IL OPEB valuation						
	Estimated hours	-	-	0.5	2	3
	Total	-	-	\$123	\$370	\$493
h. State Actuary response						
	Estimated hours	-	0.5	1	6	8
	Total	-	\$183	\$245	\$1,110	\$1,538

# Select Private Higher Education Clients

Barry University  
 Baylor University  
 Baylor College of Medicine  
 Boston University  
 Bowdoin College  
 Brandeis University  
 Brown University  
 Bryant University  
 Bucknell University  
 Caldwell College  
 Chapman University  
 Clarkson University  
 The Colburn School  
 Colgate University  
 College of the Holy Cross  
 College of Saint Benedict /  
 Saint John's University  
 The College of Wooster  
 Colorado College  
 Cornell University  
 Columbia College  
 Creighton University  
 Davidson College  
 Dean College  
 Denison University  
 DePaul University  
 Drexel University  
 Duke University  
 Elizabethtown College  
 Emerson College  
 Fairfield University  
 Fielding Graduate Institute

Florida Institute of Technology  
 Fordham University  
 Franklin University  
 Georgetown University  
 The George Washington University  
 Gettysburg College  
 Gladstone Institute  
 Hamilton College  
 Highpoint University  
 Hobart & William Smith College  
 Ithaca College  
 John Carroll University  
 Johns Hopkins University  
 Lafayette College  
 Lehigh University  
 LeTourneau University  
 Lewis & Clark College  
 Lewis University  
 Long Island University  
 Loyola Marymount University  
 Loyola University of Chicago  
 Loyola University New Orleans  
 Macalester College  
 Manhattanville College  
 Marist College  
 Marymount Manhattan College  
 Massachusetts College of Art  
 Massachusetts Institute of Technology  
 Monmouth University  
 Mount Holyoke College  
 Northwest Nazarene University  
 The New School

New York University  
 Niagra University  
 North Central College  
 Northeastern University  
 Oberlin College  
 Ohio Wesleyan University  
 Pace University  
 Polytechnic Institute  
 Princeton University  
 Quinnipiac University  
 Regis University  
 Rensselaer Polytechnic Institute  
 Rider University  
 Rochester Institute of Technology  
 Roosevelt University  
 Saint Anselm College  
 Saint Francis University  
 Saint Joseph College  
 Saint Joseph's University  
 Saint Peter's University  
 Salem College  
 Seton Hall University  
 Siena College  
 Skidmore College  
 Stanford University  
 Stetson University  
 St. Francis College  
 St. Lawrence University  
 St. Thomas University  
 Syracuse University  
 Temple University

Thunderbird School of Global  
 Management  
 Transylvania University  
 Union College  
 University of Dayton  
 University of Denver  
 University of Miami  
 University of Mount Union  
 University of Notre Dame  
 University of Richmond  
 University of Scranton  
 University of Tampa  
 University of Tulsa  
 Villanova University  
 Wake Forest University  
 Walsh College  
 Washington and Lee University  
 Washington & Jefferson College  
 Washington College (MD)  
 Webster University  
 Wellesley College  
 Wentworth Institute of Technology  
 Westmont College  
 Widener University  
 Wilkes University  
 Willamette University  
 Worcester Polytechnic Institute  
 (WPI)  
 Xavier University  
 Yale University  
 Yeshiva University

# Select Public Higher Education Clients

Arizona State University  
 Ball State University  
 Central Michigan University  
 Central Oregon Community College  
 Central Piedmont Community College  
 Chemeketa Community College  
 Clackamas Community College  
 Cleveland State University  
 Coconino County Community College  
 Colorado Community College System  
 Colorado State University  
 Columbia Gorge Community College  
 Community Colleges of Philadelphia  
 Cuyahoga Community College  
 Eastern Kentucky University  
 Florida State College at Jacksonville  
 Florida State University  
 George Mason University  
 Georgia College & State University  
 Georgia Institute of Technology  
 Georgia Regents University - Augusta  
 Germanna Community College  
 Ivy Tech Community College  
 James Madison University  
 Longwood University  
 Maryland Institute College of Art  
 Massachusetts Community Colleges  
 Medical University of South Carolina  
 Michigan State University  
 Minnesota State Colleges & Universities

Mott Community College  
 Northern Arizona University  
 Northern Michigan University  
 Northern Virginia Community College  
 Northern Wyoming Community College  
 Oakland University  
 Oakton Community College  
 The Ohio State University  
 Oklahoma State University  
 Oregon State University  
 Parkland College  
 Penn State University  
 Pennsylvania State System of Higher Education  
 Pima County Community College  
 Palomar Community College  
 Portland Community College  
 Purdue University  
 Radford University  
 Rogue Community College  
 State Colleges of Massachusetts  
 The Citadel  
 Texas A&M – Corpus Christi  
 Texas Southern University  
 Texas State University – San Marcos  
 Texas Woman's University  
 University at Buffalo (SUNY)  
 University of Alaska  
 University of Arizona  
 University of Arkansas

University of Baltimore  
 University of California—Hastings School of Law  
 University of California  
 University of California - Santa Barbara  
 University of Central Florida  
 University of Delaware  
 University of The District of Columbia  
 University of Idaho  
 University of Maine System  
 University of Mary Washington  
 University of Massachusetts - Lowell  
 University of Michigan  
 University of Minnesota  
 University of Missouri  
 University of North Texas  
 University of Oklahoma  
 University of Tennessee  
 University of Texas San Antonio Health Sciences Center  
 University of Utah  
 University of Vermont  
 University of Virginia  
 University of Wisconsin  
 Utah State University  
 Virginia Polytechnic Institute and State University  
 Weber State University  
 Western Kentucky University  
 Western Michigan University  
 Yavapai Community College

# THANK YOU

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