VSTRS Actuarial Modeling Request

Please model the impacts of the following options and combined scenarios. Exclude current retirees/beneficiaries from all changes. Apply changes to all actives unless noted separately.

Please show the impacts to the AAL, UAAL, Normal Cost, and ADEC vs. the “baseline” per the FY20 valuation, and impacts to the funding ratio to see how COLA thresholds and tiered contribution rates move the numbers over time due to projected salary growth.

Please calculate the present value of the contribution scenarios from FY23-38.

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Time Revenue</td>
<td>$97,500,000</td>
</tr>
<tr>
<td>Recurring Revenue #1</td>
<td>$32,500,000</td>
</tr>
<tr>
<td>Recurring Revenue #2</td>
<td>$50,000,000</td>
</tr>
</tbody>
</table>

Contribution 1

Contribution 2
COLA 1

COLA 2

COLA 3

Max Benefit Cap 1

Freeze Option
Please model the impacts of the following options and combined scenarios. Exclude current retirees/beneficiaries from all changes. Apply changes to all actives, Cost, and ADEC vs. the "baseline" per the FY20 valuation, and impacts to amortization payments for each scenario from FY23-38.

Please show the impacts to the AAL, UAAL, Normal Cost, and ADEC vs. the "baseline" per the FY20 valuation, and impacts to COLA thresholds and tiered contribution rates move the numbers over time due to projected salary growth.

Please calculate the present value of the contribution scenarios from FY23-38.

<table>
<thead>
<tr>
<th>Description</th>
<th>Revenue Scenario 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full sum invested on June 30, 2022 and recognized in subsequent ADEC calculations.</td>
<td>X</td>
</tr>
</tbody>
</table>

Model impacts consistent with the methodology in previous analysis. Sums represent "base year" funding in FY24. FY23 receives 5/12ths of the "base year" revenue. Revenue grows at 2% annually above the "base" beyond FY24. Revenue credited to the pension fund on June 30th of each year.

Incremental Increases:
Actives currently paying 5%: Contributions increase 0.25%/year for 4 years, beginning in FY23. By FY26 the contribution rate would be 6%.
Actives currently paying 6%: Contributions increase 0.25%/year for 2 years, beginning in FY25. By FY26 the contribution rate would be 6.5%.

Replace current "flat" rates with Progressive Contributions beginning in FY23:
5.5% on first $40K of income
6.25% on income $40-60k
7% on income $60-80k
7.75% on income above $80K
Plan Change Scenarios - Please analyze impact of each individual option below. Then, please analyze the combined impact when adding the plan change options to the revenue scenarios noted below. Please run two versions: V1 applies all changes to all actives, and V2 exempts actives within 5 years of normal retirement from the COLA changes only. Assume changes are effective July 1 2022.

Scenario 1

COLA Threshold - COLA (status quo 50% of CPI) only on first $48K of retirement benefit. 25% of CPI COLA on retirement benefit above $48,001.

Tiered COLA - 100% of CPI on first $20K of retirement benefit. 50% of CPI on retirement benefit between $20,001-$40,000. 25% of CPI on benefit above $40K.

Vested COLA - No COLA upon retirement unless the member has at least 15 years of service credit.

Please add a column to the right of each of the COLA scenarios showing the impacts of the max benefit scenario below if combining it with the other scenarios results in a materially different analysis than analyzing it individually.

Increase the Max Benefit Cap by 1% of AFC for each year actually worked beyond 33.34 years (Group C2 only) after July 1, 2022 - all actives.

If possible, please model or provide an analysis on the expected impact of offering an option for actives to freeze their pension benefits upon reaching the Rule of 90 or 65 years old and continue working. Upon entering the "freeze", members would keep working but they would stop paying pension contributions and accruing service credits for that time and their AFC would be calculated at the pre-freeze compensation. Pension benefits would not be paid out until the member officially retires and separates from service.
Please model the impacts of the following options and combined scenarios. Exclude current retirees/beneficiaries from all changes. Apply changes to all actives unless noted separately. Revenue Scenarios (2)

Revenue Scenario 2

x

x

x
Please analyze impact of each individual option below. Then, please analyze the combined plan change options to the revenue scenarios noted below. Please run two versions: V1 actives, and V2 exempts actives within 5 years of normal retirement from the COLA changes are effective July 1 2022.

Scenario 2  Scenario 3

Analyze with Revenue
Scenario 2

Analyze with Revenue
Scenario 1

Scenario below if combining it with the other scenarios

x  x
contribution rates move the numbers over time due to projected salary growth.