Current ALM Projection

Funded Ratio by Percentile Rank of ALM Outcomes
Baseline - Current Plan and Current Funding

ALM Investment Returns
75th Percentile – 8.67%
50th Percentile – 7.25%
25th Percentile – 6.02%

Under Current Plan and Funding it is only 38% likely the funded ratio in year 2043 is at or above 100%
Current ALM Cash Flow Projection

Net Percent of Negative External Cash Flow by Percentile Rank of Outcomes
Current Plan ALM

Expected asset growth of at least an amount necessary for a forever sustainable system

Expected asset growth less than necessary for a forever sustainable system

Negative Cash Flow is expected to slow the necessary growth in assets for PERA on the Baseline model.
Impact of a Shallow Recession

Simulated shallow recession
(Returns of -5%, -5%, 10%, 10%, and 7.25% thereon)

Under Current Plan and Funding it is only 12% likely the funded ratio in year 2043 is at or above 100%
Impact of a Shallow Recession on Cash Flow

Net Percent of Negative External Cash Flow by Percentile Rank of Outcomes
Estimated Shallow Recession

- Expected asset growth of at least an amount necessary for a forever sustainable system
- Expected asset growth less than necessary for a forever sustainable system
- Expected asset decline as negative external cash flow exceed expected investment returns
Governor’s PERA Solvency Legislation

ALM Results

Funded Ratio by Percentile Rank of ALM Outcomes
Governor's PERA Solvency Legislation ALM

- ALM Investment Returns
  - 75th Percentile: 8.67%
  - 50th Percentile: 7.25%
  - 25th Percentile: 6.02%

- Under the Legislation, it is 47% likely the funded ratio in year 2043 is at or above 100%

- Average COLA through 2049 is 2.28%
- Average COLA through 2049 is 1.61%
- Average COLA through 2049 is 1.13%

- 69.3%
- 96.7%
- 60.9%

Average annual COLA for a 2019 new retiree is 1.50% over same period.
Governor’s PERA Solvency Legislation
Cash Flow Results

Net Percent of Negative External Cash Flow by Percentile Rank of Outcomes
Governor’s PERA Solvency Legislation ALM

- Expected asset growth of at least an amount necessary for a forever sustainable system
- Expected asset growth less than necessary for a forever sustainable system
- Expected asset decline as negative external cash flow exceed expected investment returns
Governor’s PERA Solvency Legislation
Stress Testing in a Shallow Recession Scenario

Funded Ratio by Percentile Rank of ALM Outcomes
Governor's PERA Solvency Legislation ALM
Shallow Recession Scenario

- 75th
- 50th
- 25th

2010 2020 2030 2040 2050 2060 2070 2080 2090

- 69.3%
- 62.4%
- 40.6%
Governor’s PERA Solvency Legislation
Stress Testing in a Shallow Recession Scenario

Net Percent of Negative External Cash Flow by Percentile Rank of Outcomes
Governor’s PERA Solvency Legislation ALM
Shallow Recession Scenario

Expected asset growth of at least an amount necessary for a forever sustainable system

Expected asset growth less than necessary for a forever sustainable system

Expected asset decline as negative external cash flow exceed expected investment returns
Governor’s PERA Solvency Legislation
COLA Impact

<table>
<thead>
<tr>
<th>Retirees as of June 30, 2019</th>
<th>40,550</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retirees age 75 and older as of July 1, 2020</td>
<td>11,229</td>
</tr>
<tr>
<td>Retirees with 25 years of service earning less than $25k and Disability retirees earning less than $25k</td>
<td>1,344</td>
</tr>
<tr>
<td>Total Retirees excluded from the proposal</td>
<td>12,573</td>
</tr>
<tr>
<td>Percentage of retirees excluded from the proposal</td>
<td>31.01%</td>
</tr>
<tr>
<td>Retirees who will receive a COLA sooner under the proposal</td>
<td>3,271</td>
</tr>
<tr>
<td>Percentage of retirees who will receive a COLA sooner under the proposal</td>
<td>8.07%</td>
</tr>
</tbody>
</table>

$76 Million Appropriation to fund a 2% “13th” Check for all other COLA eligible Retirees