Notes for JB Discussion to COLA Commission re: Pension funding:

Pension Funding/Valuation Basics/COLA:

<u>Reasons for Pension Funding</u>:

Reasons for pension funding (including but not limited to):
1) Provide increased benefit security through the orderly accumulation of assets over time to pay promised pension benefits for plan members
2) Provide Equitable treatment of different generations by assigning pension costs to each year

<u>Actuarial Valuations:</u>

Actuarial Valuation is a mathematical process of determining a plan's financial condition/funding progress and to determine annual contributions needed to adequately fund plan benefits (funding schedule)

-"Snapshot" on the valuation date
-Estimate future cash flows
-Present value terms
-Actuarial Assumptions
      How good are the assumptions? – Actuarial gains/losses
-Chapter 32 requires biennial valuations although for the State/Teachers/Commonwealth the valuations are performed annually

In any actuarial valuation, the key figure we determine is the present value of future benefits (PVFB or PVB). The PVFB is the value today (the valuation date) of all benefits that are expected to be paid to all plan participants, both active and retired.

-The portion of the PVFB that is attributable to the future service of a member is known as the present value of future normal costs.
-The value of the benefits that accrue during the current year is known simply as the normal cost.
-The portion of the PVFB that is attributable to the past service of a member is known as the actuarial liability.

- Actuarial liability is the sum of past normal costs with interest
- Actuarial liability is also found by taking PVFB – PVFNC

As part of the actuarial valuation, an actuarial value of assets is also determined. For our purposes we use a smoothed value of assets to determine the funding status of the plan (instead of the market value of assets). The smoothed value of assets phases in market value gains and losses over a period of 5 years, so that it takes 5 years to fully recognize a market value gain or loss.

-The smoothed value reduces the short-term effects of the market volatility while still tracking the overall movement of the market
-In any valuation there are deferred gains/losses that have yet to be recognized

Actuarial Valuations (continued):

A comparison of the plan's overall actuarial liability to the plan's assets is the funded status. The two ways we measure the funded status of a plan are the unfunded actuarial liability and the funded ratio
> -The unfunded actuarial liability is the difference between the total actuarial liability and the plan assets. Measures the funded status on a dollar basis.
> -The funded ratio is the ratio of the plan assets to the total liability of the plan. Tells us the portion of the total liability of the plan covered by the plan assets. Measures the funded status on a percentage basis.
> -By itself, the UAL can be misleading, so the funded ratio is a better indicator of the funded status of the plan.

When the funded ratio is greater than or equal to 100% the plan is said to be fully funded. Said another way, when the unfunded actuarial liability is $0, the plan is said to be fully funded.
> -The plan is fully funded when the value of the plan assets is greater than or equal to the total actuarial liability of the plan.
> -Fully funded status is NOT static, it is dynamic
>> • Future actuarial losses or changes in assumptions/plan provisions that increase the actuarial liability of the plan could cause a system once again to have an unfunded liability.

When all this information has been determined, a funding schedule is developed. The funding schedule consists of current cost (normal cost) and the past service cost (the amortization of the UAL). When the past service cost goes away the system is fully funded. There is still a normal cost payment due!

Commonwealth Funding:

Under Current Law (G.L. c. §22C), the Commonwealth is required to be fully funded no later than June 30, 2040. After this date, the Commonwealth will be responsible for the continued payment of future normal costs. The funding schedule is updated every 3 years. The schedule is due to be revised in early 2026 based on the results of the January 1, 2025 actuarial valuation.

The prior Commonwealth funding schedule (adopted in early 2020 based on the results of the 2019 actuarial valuation) called for total appropriation payments to increase 9.63% each year until FY35 with a final amortization payment in FY36.

The Commonwealth's current funding schedule (adopted in early 2023 based on the results of the 2022 actuarial valuation) calls for total appropriation payments to increase 9.63% each year through FY28. Beginning in FY29, the remaining UAL is amortized on a 4% annually increasing basis through FY36. Actuarial gains that occurred during 2019-2021 resulted in lower appropriation payments beginning in FY29.

The scheduled payment for FY25 is $4.5 billion. The scheduled payment for FY26 is $4.93 billion.

Valuation Results (in millions):

	State	MTRS	SRS + MTRS
AAL	$51,151.5	$64,665.4	$115,816.9
AVA	$37,065.5	$39,078.9	$76,144.4
UAL	$14,086.0	$25,586.5	$39,672.5
Funded Ratio	72.5%	60.4%	65.7%

Commonwealth's Total Pension Obligation includes costs associated with Boston Teachers and reimbursement to local systems for COLAs granted between 1981-1996 (not shown above).

Funded Ratios:

As of the most recent actuarial valuations received by PERAC as of January 1, 2025:

    4 systems > 100%
    16 systems between 90%-100%   20 ≥ 90%
    20 systems between 80%-90%   40 ≥ 80%
    30 systems between 70%-80%   70 ≥ 70%
    24 systems between 60%-70%   94 ≥ 60%

The State's funded ratio as of 1/1/24 is 72.5%
The Teachers' funded ratio as of 1/1/24 is 60.4%
The Commonwealth's total pension obligation funded ratio is 65.0%

Update of increase COLA base by $1,000:

The general "rule of thumb" is that each $1,000 increase in the COLA base increases the TOTAL actuarial liability by approximately ½ of 1% (each $2,000 in the COLA base increases the Total Actuarial liability by 1%.

Based on the results of the January 1, 2024 actuarial valuation, the estimated cost to increase the COLA base is shown below:

	State	MTRS	SRS + MTRS
$14,000	$255.8 M	$323.3 M	$579.1 M
$15,000	$511.5 M	$646.7 M	$1.16 B
$16,000	$767.3 M	$970.0 M	$1.74 B
$17,000	$1.02 B	$1.29 B	$2.32 B
$18,000	$1.28 B	$1.62 B	$2.90 B

Methods of Financing:

The above costs reflect payment in a lump sum, not an amortized value over a period of years.

One possibility would be for the Legislature to consider increasing the COLA base if the plan experienced actuarial gains to offset the increase in the AAL. The most likely source of such a gain would be on plan investments.

One possibility is that there could be a review of the COLA base if actual fund performance exceeds 10% for 2 or 3 consecutive years. This would be 3% more than the assumed rate of return.

Since 1990, there have been 2 consecutive years of double-digit returns 7 times:1995-1996, 1997-1998, 2003-2004, 2005-2006, 2009-2010, 2012-2013, 2019-2020

Since 1990, there have been 3 consecutive years of double-digit returns 3 times:1995-1997, 2003-2005, 2019-2021

Based on 1/24 valuation results: if the fund returned 10% for 2 consecutive years, we estimate the actuarial gain on assets to be approximately $4.6 billion

Update prior analysis:

	Prior Analysis	Updated Analysis
At least 20 years of service, been retired at least 15 years, benefit below average ($100 annual increase)	$97.1 million	$96.0 million
At least 20 years of service, been retired at least 20 years, benefit below average ($200 annual increase)	$94.0 million	$126.0 million
At least 20 years of service, if retired between 15-20, $100 annual increase, if retired more than 20 years, $200 annual increase	$166.25 million	$173.8 million