What is an actuarial valuation?

• “Snapshot” at that date
• Estimated future cash flows
• Present value terms
• Actuarial assumptions
• How good are the assumptions?
  – Gains and losses
• “True-up” prior valuation
Actuarial Valuation Cycle

- Preliminary review
- Data preparation
- Asset preparation
- Valuation specifications
- Valuation run and summary
- Final report and presentation
How often should a valuation be performed?

• At least every 2 years
  – avoid unpleasant surprises
• Interim valuation in off year
• Private sector requires annual
• PERAC with help of private actuaries
• Looking to meet 2 year goal for all systems
What is actuarial funding?

- Advanced funding
- Costs should be paid during working lifetime of employee
  - taxpayers receiving benefits of employee’s service
  - not put off for future generations
- Pay current (normal) cost plus “past service” cost
- Level dollar vs. increasing
What are the basic actuarial assumptions?

Membership Characteristics
• Longevity
• Termination
• Disability
• Retirement

Economic Characteristics
• Investment return
• Salary increases
• Inflation
• COLA increases
What are actuarial liabilities?

- Present value of future benefits
- Present value of future normal costs
- Normal cost
- Actuarial accrued liability
- Unfunded actuarial accrued liability
Present Value of Future Benefits

Present Value of Future Normal Costs

Annual Funding Requirement
= Normal (Current) Cost
plus
Past Service Cost

Annual Actuarial Funding Requirement

Unfunded Actuarial Accrued Liability
= Actuarial Accrued Liability
minus
Plan Assets
Total Normal Cost for the system is the sum of Normal Cost for each individual participant.

Total Actuarial Accrued Liability for the system is the sum of the Actuarial Liability for each individual.
UAL vs. Funded Ratio

Different views of funding with same components
• Actuarial Accrued Liability and Assets

UAL = Liability - Assets
• Dollar Amount

Funded Ratio = Assets/Liability
• Percentage Basis
What exactly is 100% funding?

Normal cost still applies
• Benefits accruing in current year

100% is a moving target
• Different valuation systems produce different results.
• What is the benchmark? 95%? 105%?

Funding status can change

Plan Changes
• Employee contributions
• Benefit enhancements

Non-pension
• Post retirement healthcare funding
Conservative Actuarial Approaches

Adopt more conservative assumptions
- Investment return
- Salary scale
- Longevity

Actuarial value of assets
- Adopted by Commonwealth
- Reduce volatility

More aggressive funding schedule