Pension Subcommittee of the
Finance Committee
Information Item III-A.2
April 14, 2016

Pension Plan Overview
WMATA
Pension 101 – “What did my actuary say?”
April 14, 2016
Agenda

- Actuarial Concepts and Terminology
- Plan Highlights
- Key Factors Impacting Contributions
Actuarial Concepts and Terminology
The “Big Picture” - *Ultimate Plan Cost*

Contributions + Investment Return = Benefits + Expenses

- Employer contributions
- Employee contributions
- Administrative Expenses
- Net Investment Returns (Net of investment management fees)
- Assets
- Benefit Payments

Assumptions and funding methods affect only the timing of costs. “Nobody ever made a benefit payment from assumed interest!”
Actuarial Valuation Process

- Member Data
- Financial Data
- Plan Provisions
- Actuarial Assumptions
- Actuarial Cost Methods
Present Value of Benefits (PVB)

The **Present Value of Projected Benefits (PVB)** is the total projected liability or “promise” for all participants, assuming all assumptions are met.

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**Participant data**
(age, service, pay, etc.)

**Economic Assumptions**
(Discount rate, Salary Growth, COLA, etc.)

**Plan Provisions**
(i.e. contract terms)

**Demographic Assumptions**
(Retirement, Turnover, Death and Disability)
The Actuarial Cost Method is a mechanism to allocate the present value of projected benefits (PVB) to time periods (i.e. benefits related to past service vs. future service).

- The Present Value of Future Normal Cost (PVNC) is the portion of the present value of projected benefits (PVB) attributable to future service.
- The Actuarial Accrued Liability (AAL) is the portion of present value of projected benefits (PVB) attributable to past service.

\[
\text{PRESENT VALUE OF PROJECTED BENEFITS} = \text{AAL} + \text{PVNC}
\]
Normal Cost

The **Normal Cost** is the upcoming year’s portion of the Present Value of Future Normal Cost (PVNC) and represents the **cost attributable to benefits accruing during upcoming year.**

PRESENT VALUE OF FUTURE BENEFITS

![Diagram showing the relationship between Normal Cost, Actuarial Accrued Liability (AAL), Present Value of Future Normal Costs (PVNC), and Retirement Ages](image)

- **Entry Age**
- **Current Age**
- **Retirement Age**
Actuarially Determined Contribution (ADEC) = Normal Cost (NC) + Amortization (i.e., payment toward Unfunded Actuarial Accrued Liability (UAAL))

- Normal Cost (NC) = Cost attributable to benefits accruing during upcoming year
- Unfunded Actuarial Accrued Liability (UAAL) = Assets – Actuarial Accrued Liability (AAL)
Plan Highlights
## Summary of Key Pension Plan Results ($ in millions)

<table>
<thead>
<tr>
<th></th>
<th>Local 689</th>
<th>Non Rep/639*</th>
<th>Transit Police (FOP)</th>
<th>Local 922</th>
<th>Local 2*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuation Date</td>
<td>1/1/2015</td>
<td>7/1/2015</td>
<td>1/1/2015</td>
<td>1/1/2015</td>
<td>7/1/2015</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Headcount</td>
<td>14,852</td>
<td>1,821</td>
<td>737</td>
<td>683</td>
<td>445</td>
<td>18,538</td>
</tr>
</tbody>
</table>

### Unfunded Actuarial Accrued Liability (UAAL)

<table>
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<th>Local 2*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuarial Accrued Liability (AAL)</td>
<td>$3,293</td>
<td>$526</td>
<td>$232</td>
<td>$198</td>
<td>$170</td>
<td>$4,419</td>
</tr>
<tr>
<td>Actuarial Value of Assets (AVA)</td>
<td>$2,506</td>
<td>$376</td>
<td>$177</td>
<td>$181</td>
<td>$145</td>
<td>$3,385</td>
</tr>
<tr>
<td>Unfunded AAL</td>
<td>$787</td>
<td>$150</td>
<td>$55</td>
<td>$17</td>
<td>$25</td>
<td>$1,034</td>
</tr>
<tr>
<td>Funded Ratio</td>
<td>76.1%</td>
<td>71.4%</td>
<td>76.3%</td>
<td>91.4%</td>
<td>85.3%</td>
<td>76.6%</td>
</tr>
</tbody>
</table>

### Actuarially Determined Employer Contribution (ADEC)

<table>
<thead>
<tr>
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<th>Local 689</th>
<th>Non Rep/639*</th>
<th>Transit Police (FOP)</th>
<th>Local 922</th>
<th>Local 2*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Normal Cost (offset by Expected Employee Contributions)</td>
<td>$83.1</td>
<td>$2.1</td>
<td>$8.7</td>
<td>$4.0</td>
<td>$0.7</td>
<td>$98.6</td>
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<tr>
<td>Payment to Amortize Unfunded AAL</td>
<td>$40.8</td>
<td>$17.8</td>
<td>N/A</td>
<td>$1.6</td>
<td>$4.1</td>
<td>$64.3</td>
</tr>
<tr>
<td>Total ADEC</td>
<td>$123.9</td>
<td>$19.9</td>
<td>$8.7</td>
<td>$5.6</td>
<td>$4.8</td>
<td>$162.9</td>
</tr>
<tr>
<td>As % of Payroll</td>
<td>16.6%</td>
<td>85.4%</td>
<td>23.8%</td>
<td>18.5%</td>
<td>53.3%</td>
<td>N/A</td>
</tr>
</tbody>
</table>
# Summary of Key Pension Plan Results

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<th>Local 689</th>
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<th>Local 922</th>
<th>Local 2</th>
<th>Weighted Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost Method</strong></td>
<td>Aggregate</td>
<td>Entry Age Normal</td>
<td>Aggregate</td>
<td>Entry Age Normal</td>
<td>Entry Age Normal</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Asset Valuation Method</strong></td>
<td>5 year smoothing</td>
<td>5 year smoothing</td>
<td>10 year smoothing</td>
<td>3 year smoothing</td>
<td>5 year smoothing</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Valuation Interest Rate</strong></td>
<td>7.85%</td>
<td>7.00%</td>
<td>7.50%</td>
<td>7.00%</td>
<td>7.50%</td>
<td>7.68%</td>
</tr>
<tr>
<td><strong>Salary Increase</strong></td>
<td>3.00% for Base Pay</td>
<td>Varies by years (0-20) of service: 6.3%-3.0%</td>
<td>Varies by age: 6.00% - 3.00%</td>
<td>4.50%</td>
<td>Varies by years (0-20) of service: 6.3%-3.0%</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>COLA</strong></td>
<td>3.00%</td>
<td>2.50%</td>
<td>2.50%</td>
<td>4.00%</td>
<td>2.5%</td>
<td>2.94%</td>
</tr>
</tbody>
</table>

*Used information from 7/1/2015 actuarial results presentation where available. Remaining information (e.g. assumptions, methods, and normal cost) based on 7/1/2014 Actuarial Report.*
Key Factors Impacting Contributions
Key Risk Factors Impacting Contributions

- **Discount Rate (or Assumed Rate of Return)**
  - Average public plan discount rate is about 7.6% according to most recent NASRA survey.
  - WMATA's plans average discount rate is 7.7% or about 0.1% higher than average. However, Local 689 rate is 0.25% higher.
  - If WMATA lowered Local 689 discount rate to the peer average, it would lower it's funded % by about 2.5% and increase its annual cost by about $15 million.
  - Based on Local 689's portfolio and our capital market assumptions, we expect the plan to earn 6.8% over the next 30 years.

- **Mortality Table**
  - The Society of Actuaries released a new base mortality table (RP-2014) and longevity improvement scale (MP-2014) in October 2014 for private plans.
    - An updated longevity improvement scale (MP-2015) was released in October 2015.
  - Public Plans use the older mortality tables but using mortality improvement scale. The SOA is currently undergoing a study of public pension mortality and will be releasing an updated table.
    - Local 689 is only plan reflecting limited future mortality improvement.

- **Asset Investment**
  - Market volatility would impact funding contributions.
    - Partially mitigated by use of smoothing period for investment (gains)/losses.
  - Consider duration of fixed income securities.
    - Long duration bonds would mitigate volatility.
Questions?