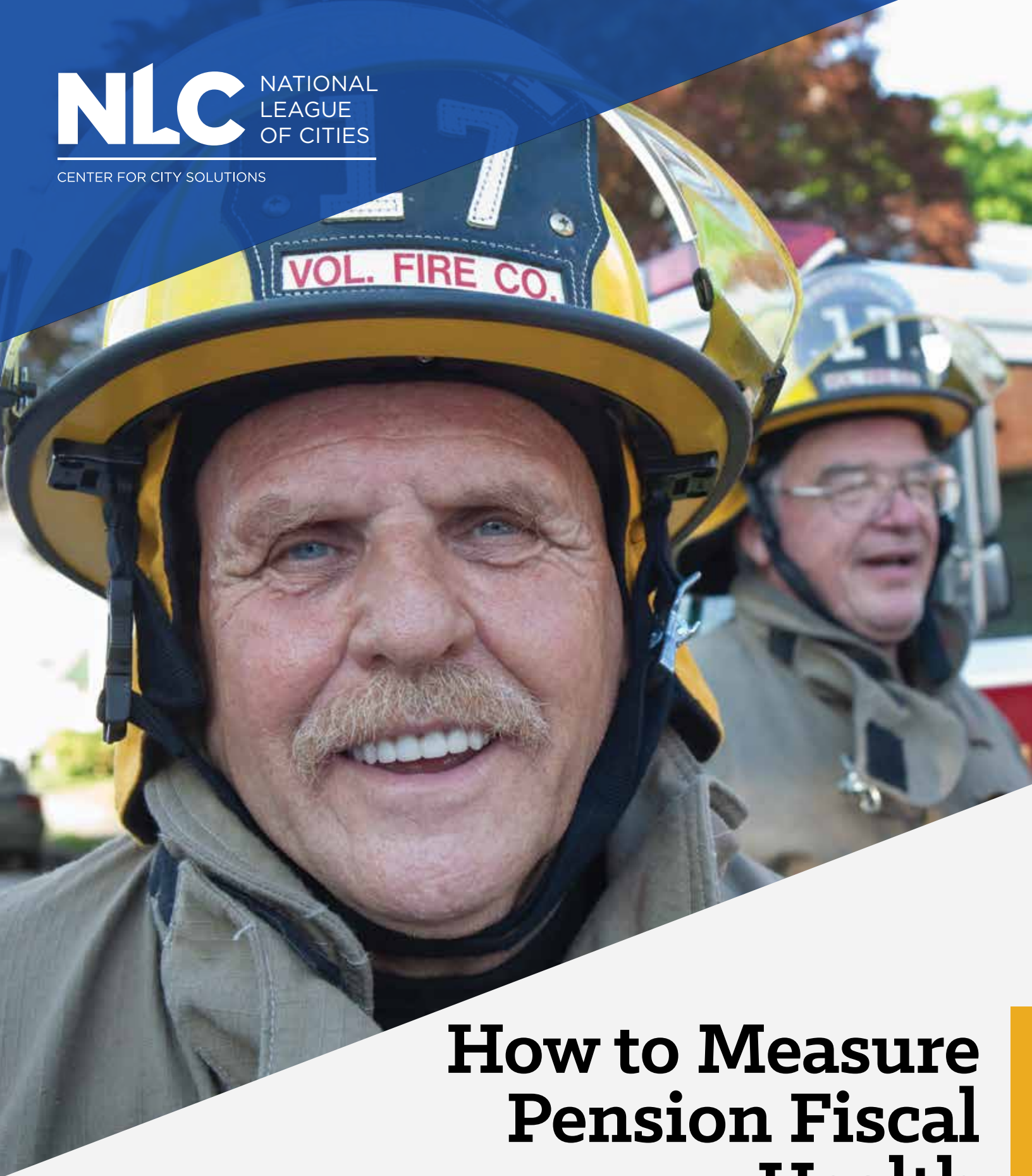


**NLC** NATIONAL  
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OF CITIES

CENTER FOR CITY SOLUTIONS



# How to Measure Pension Fiscal Health

MUNICIPAL ACTION GUIDE



CENTER FOR CITY SOLUTIONS

### **About the National League of Cities**

The National League of Cities (NLC) is the nation's leading advocacy organization devoted to strengthening and promoting cities as centers of opportunity, leadership and governance. Through its membership and partnerships with state municipal leagues, NLC serves as a resource and advocate for more than 19,000 cities and towns and more than 218 million Americans. NLC's Center for City Solutions provides research and analysis on key topics and trends important to cities and creative solutions to improve the quality of life in communities.

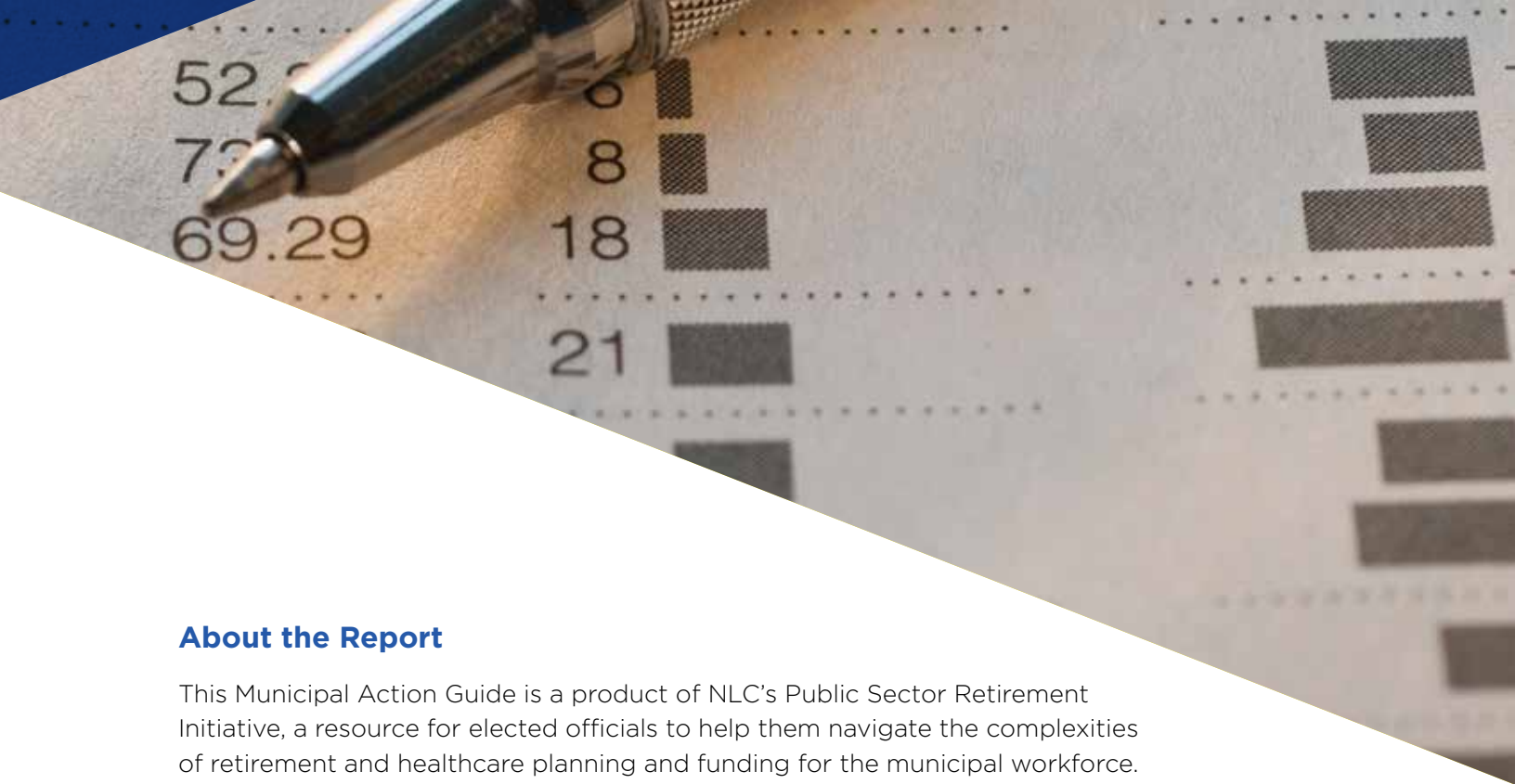
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## About the Report

This Municipal Action Guide is a product of NLC’s Public Sector Retirement Initiative, a resource for elected officials to help them navigate the complexities of retirement and healthcare planning and funding for the municipal workforce. The Initiative is sponsored by ICMA-RC, an NLC Capstone Corporate Partner and non-profit independent financial services corporation focused on providing retirement plans and related services for over a million public sector participant accounts and approximately 9,000 retirement plans.

This guide is part of a series focused on strengthening the capacity of city leaders to ensure healthy public sector retirement outcomes. We start with the premise that desired goals for retiree savings, pension plans and other post-employment benefits balance municipal workforce/retiree needs with city fiscal responsibility. While the ultimate goal is the marriage of the two, it is important, at least initially, to distinguish between workforce health and fiscal health. This brief specifically examines how city leaders can measure the fiscal health of their pension plans.



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# Introduction

The state of retirement funding has become an obvious fiscal concern for city governments, especially since the Great Recession. In fact, a recent National League of Cities survey revealed the cost of employee/retiree pensions ranks third (following infrastructure needs and public safety needs) among the most negative factors impacting city budgets.<sup>1</sup> Perhaps more telling is the approximately 81 percent that indicated pension costs increased in the last year.

Meanwhile, many city officials have been making changes, including lowering their investment-return assumptions and increasing contributions by governments and employees, in response to lower expected returns (particularly those on fixed income investments such as bonds) resulting from the Great Recession.<sup>2</sup> But more conservative investment-return assumptions lead to higher pensions costs, since larger contributions will have to be made to offset reduced investment earnings.<sup>3</sup>

Coupled with that, it is recommended that pension plans have a strategy in place to attain a funded status of 100% or greater over a reasonable amount of time in order to secure participant benefits and build up a cushion to offset future adverse market conditions.<sup>4</sup> This poses a conundrum for city leaders trying to figure out how to ensure the viability of their pension plans. Ultimately, moving to long-term sustainability requires knowing how to assess and monitor all aspects of plan fiscal health.

As these pension challenges have become more apparent, local elected officials have gained increased expectation to ensure the health and viability of their pension plans. As a result, city leaders must be equipped with meaningful data about their city's plans. Even more important is understanding what the data is telling them about plan fiscal health.

This Municipal Action Guide equips city leaders with an understanding of their city's pension plan data so they can become more effective public sector retirement leaders. In particular, it assesses the utility and limitations of common fiscal metrics of plan health including unfunded pension liabilities, funded ratio, actuarially determined contributions and net amortization.

## Fiscal Metrics

### ***Unfunded Pension Liabilities***

Perhaps the most straightforward metric of pension health is unfunded pension liabilities. It is calculated as the difference between actuarial accrued liabilities and market value of assets.<sup>5</sup> Basically, the larger the amount of liabilities relative to assets, the worse the health of the plan. Of course, a large, healthy plan could have "large" liabilities but "large" assets, too. On the face of it, this is a simple



metric for determining whether a government plan is healthy enough to provide pension benefits to current and future retirees. And one that many are familiar with given the establishment of statements 67 and 68 by the Governmental Accounting Standards Board (GASB), which is the basis for calculating unfunded actuarial liabilities of pensions.

But depending on the discount rate applied, or the expected long-term rate of return on a plan's assets, unfunded liabilities can vary drastically. For example, while Scarborough and Walczak (2017) find that state and local pension plans are unfunded by approximately \$1.5 trillion, DeVore (2016) finds that if pension systems were to make

## How Do You Know if Your Pension Plan is Fiscally Healthy?

### ► **Unfunded pension liabilities**

are calculated as the difference between actuarial accrued liabilities and market value of assets.

assumptions on investment rates of returns more in the ballpark of 3 percent instead of the typical 7.0 to 7.5 percent currently used by many plan sponsors, unfunded liabilities would total approximately \$4.83 trillion. While the lower risk-free return assumption significantly understates potential returns of portfolios that invest in equities, corporate bonds and other non-governmental securities, it is important for plan sponsors to match return assumptions to the allocation of their assets and current long-term capital market assumptions.<sup>6,7</sup>

It's important to keep in mind the wide variation across plans, however. For example, according to the Public Plans Database (PPD), which represents about 60 percent of the total local plan members and assets surveyed by the Census of Governments, the Retirement System of the City of Memphis showed unfunded liabilities of approximately \$554 million in 2014.<sup>8</sup> Contrastingly, the Detroit Employees General Retirement System showed unfunded liabilities of approximately \$1.1 billion for the same period. But what does that mean? Both cities have similar populations of 650,000 and covered payrolls, with Memphis at approximately \$341 million and Detroit at approximately \$213 million.<sup>9,10</sup> However, some, including the National Association of State Retirement Administrators (NASRA), recommend using the ratio of unfunded liabilities to covered payroll to measure pension plan health. In this case, the ratios differ greatly,

with Memphis' unfunded liabilities at approximately 163 percent and Detroit's at approximately 508 percent.

### **Funded Ratio**

Perhaps the funded ratio should be used to determine pension health instead. The ratio is the total value of a plan's assets weighed against its accrued liabilities. It has the benefit of comparing actual assets based on market rates of return against liabilities based on current employees and retirees.

► **The funded ratio** is the total value of a plan's assets weighed against its accrued liabilities.

According to S&P Global Ratings, at the end of fiscal year 2015 the median funded ratio across all state-sponsored plans was 74.6 percent. Based on the PPD, for local plans this was slightly lower at approximately 70 percent, with Providence, RI funded about 30 percent, New Orleans, LA funded about 65 percent and Milwaukee, WI funded about 97 percent. Generally speaking, there is wide variation in the funded status of defined benefit (DB) plans across the nation: 36 percent are more than 80 percent funded and only 20 percent are under 60 percent funded.<sup>11</sup> Because employees and retirees are considered in the calculation of liabilities, as with unfunded liabilities, the funded ratio is dependent on the assumed rate of investment return. Of course, even if there were no employees and only current retirees, some rate of return must still be assumed.

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## Fiscal Metrics, Pros and Cons

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	Pro (+)	Con (-)
<b>Unfunded pension liabilities</b>	Straightforward metric calculated as market value of assets minus actuarial accrued liabilities	Can vary drastically depending on expected long-term rate of return assumed
<b>Funded ratio</b>	Can compare actual assets based on market rates of return against liabilities based on current employees and retirees	Can vary drastically depending on expected long-term rate of return assumed
<b>Actuarially determined contributions</b>	Guides employers in adequately funding the pension benefits promised to their workers	Based on a given plan's own assumptions and therefore does not always indicate true fiscal health
<b>Net amortization</b>	Shows which pension systems are following contribution policies that allow them to sufficiently pay down their unfunded liabilities	May not always recognize funding policies that are sustainable over the long term

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## How Do You Know if Your Pension Plan is Fiscally Healthy?

### **Actuarially Determined Contributions**

The actuarially determined contribution (ADC) has also been a common metric for assessing contribution adequacy. An earlier version, the actuarially required contribution (ARC), was officially introduced in 1994 by the GASB (some form of the ARC has been around for much longer) to provide a measure of the extent to which employers were funding the pension benefits promised to their workers. In 2012, GASB established new accounting rules to increase transparency of pension information among states and municipalities.<sup>12</sup> While pension systems and their employers no longer need to report an ARC under those rules, they do need to provide detailed information regarding the calculation of the ADC.

The ADC is still based on a given plan's own assumptions and therefore does not always indicate true fiscal health, however. As a

▶ **Actuarially determined contributions (ADC)** provide a measure of the extent to which employers were funding the pension benefits promised to their workers

matter of fact, it is unclear what to make of two cities that make similar contributions but have quite different unfunded liabilities and, thereby, funded ratios. For example, both the Nashville-Davidson Metropolitan Area of Tennessee and Houston, Texas paid approximately 85 percent of their required contributions in 2014, yet while the former was funded approximately 98 percent, the latter was funded only 58 percent. A lot more information is needed to assess the difference in funded ratio, including long-term

contribution history, investment performance and changes to actuarial assumptions.

### **Net Amortization**

Another measure to understand whether a plan's funding policies are adequate to reduce pension debt is net amortization. Net amortization measures the extent to which total contributions to a pension system are sufficient to reduce unfunded liabilities if all expectations have been met for a given year. Basically, the metric reveals which pension systems are following contribution policies that allow them to sufficiently pay down their unfunded liabilities. As such, a Pew study (2016) found that 15 out of 50 states, including North Carolina and Utah, currently follow policies that meet the positive amortization benchmark, which is the portion of the ADC above the normal cost (or the annual cost of providing retirement benefits for current employees) that is greater than the interest on the unfunded pension liability.<sup>13</sup> Just like you would need to pay interest on an unpaid credit card bill, employers would need to make a large enough contribution to cover the interest on unpaid pension liabilities.

Note that 35 of the 50 states are not meeting this benchmark. And this can be due to something called "level percent of pay," an amortization method used by many public defined benefit plans in determining their ADC that generates an increasing amortization charge, due to the assumption that aggregate payroll will rise and the calculated amortization charge rises at the same rate. The risk is that employers may find the increasing amortization charge becomes unsustainable at some future date. In other cases, funding may not be determined on an ADC basis but rather, established by statute.





► **Net amortization** measures the extent to which total contributions to a pension system are sufficient to reduce unfunded liabilities if all expectations have been met for a given year.

NASRA finds that net amortization may not always recognize funding policies that are sustainable over the long term, however.<sup>14</sup> This is because net amortization considers only contribution policies in a given year and not a sufficient period of time over which to assess a plan's long-term health. While Pew suggests net amortization is appropriate for pension systems following policies expected to address unfunded liabilities, it should be considered as another tool and certainly not *the* tool for assessing pension health.

## Comparison

So, what is the best fiscal indicator of pension health? It is worth examining the previously mentioned metrics through the lens of municipal employee retirement systems, of which all local government plan members make up only 12 percent (note most local plans belong instead to a state pension system).<sup>15</sup> Below is a snapshot of cities from throughout the U.S. and how they stack up across the metrics.

Strictly speaking, Nashville has the lowest unfunded pension liability and therefore the “best” funded ratio and so, it should be considered the healthiest. At the same token then, Providence should be considered the weakest. Yet, Providence paid 101 percent of its required contributions in 2014. So, what gives? Shouldn't Providence be lauded for contributing more than is being required

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City	Unfunded Pension Liability (\$1000s)	Funded Ratio	% Required Contributions Paid	Net Amortization <sup>1</sup>	Population <sup>2</sup>
Seattle, WA	\$1,165,800	64%	91%	Negative	704,352
Milwaukee, WI	\$138,045	97%	100%	Positive	595,047
Houston, TX	\$1,798,058	58%	85%	Negative	2.3 million
Nashville, TN	\$280,299	91%	85%	Positive	684,410
Baltimore, MD	\$669,993	70%	104%	Negative	621,849
Providence, RI	\$894,337	29%	101%	Negative	179,219

Source: Public Plans Database, 2014; Pew Study 2016

<sup>1</sup> The net amortization is based only on a statewide basis, as analyzed in Pew's (2016) study. The negative/positive qualification is generalized to the city level for illustration purposes only. Readers should exercise caution when interpreting this variable.

<sup>2</sup> Population is shown here for comparison. As we can see, the cities differ greatly in size, and this should be taken into consideration when comparing pension health. Note that covered payroll and income are also often used to standardize fiscal health indicators across cities, as mentioned above.

of them? In fact, Providence has been paying over 100 percent of their required contributions each year since almost 2007 (not shown here). To reiterate the point made above, it is difficult to assess whether the assumptions used to calculate the required contributions are adequate. Of course, we should also keep in mind that an unfunded liability accumulates over time, and therefore, takes time to pay off.

It does make sense that Nashville would then have a positive net amortization and Providence would have a negative net amortization based on their funded ratios. But again, how would we know that Providence has been making significant contributions? Similarly, as Baltimore and Seattle boast high percentages of required contributions paid, you would not expect them to have a negative net amortization. This is especially confusing given the relatively high funded ratios, especially for Baltimore.

Clearly, all of these common metrics have advantages and disadvantages. City leaders should consider all carefully in defining their pension health. As Keith Brainard of NASRA put it plainly, "the days of a single set of numbers, however, are gone."<sup>16</sup>

## Conclusion

Comparing these common metrics reveals that unfunded pension liabilities, funded ratio, ADC and net amortization, taken by themselves, do not tell the whole story of the fiscal health of pensions. These metrics tend to depend on a given plan's own assumptions, such as expected long-term rate of return on assets. Depending on the discount rate applied, not only can unfunded liabilities vary drastically but also the funded ratio. Additionally, as ADC is based on a given plan's history, it too does not always



indicate true fiscal health. Lastly, since net amortization considers only contribution policies in a given year, it does not allow for an assessment of a plan's long-term health.

But what we also need to understand is that it's not all bad news. These common metrics have guided public sector retirement leaders for decades. And over time, new accounting standards have emerged from GASB as a means of improving transparency

and equipping state and local officials with meaningful information in assessing the health of their pension systems. City leaders should familiarize themselves with these changes and take a closer look at their pension data. And while one metric may be saying one thing, and another metric a slightly different thing, ultimately, city leaders may need to use all fiscal metrics in reckoning whether their pension plans are generally healthy.

## How Do You Know if Your Pension Plan is Fiscally Healthy?

### Endnotes

- <sup>1</sup> McFarland, C. & Pagano, M. A. (2017, Sept. 12). City Fiscal Conditions 2017. Retrieved from <http://www.nlc.org/sites/default/files/2017-09/NLC%20City%20Fiscal%20Conditions%202017.pdf>
- <sup>2</sup> McFarland, C. (2017) Making Informed Changes to Public Sector Pension Plans. Retrieved from <http://nlc.org/sites/default/files/2017-03/MakingInformedChangestoPublicSectorPensionPlans.pdf>
- <sup>3</sup> National Association of State Retirement Administration. "NASRA Issue Brief: Public Pension Plan Investment Return Assumptions." 2017. <http://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf>
- <sup>4</sup> American Academy of Actuaries. "The 80% Pension Funding Standard Myth." Issue Brief July 2012. [https://www.actuary.org/files/80\\_Percent\\_Funding\\_IB\\_071912.pdf](https://www.actuary.org/files/80_Percent_Funding_IB_071912.pdf)
- <sup>5</sup> GASB Statement 68, which went into effect in FY 2015, now mandates the use of market value of assets instead of actuarial value of assets.
- <sup>6</sup> Scarborough, Morgan and Jared Walczak. "How well funded are pension plans in your state?" Tax Foundation. 2015. <https://taxfoundation.org/state-pensions-funding-2017/>
- <sup>7</sup> DeVore, Chuck. "How You Will Bail Out State Pension Systems." Forbes. 2016. <https://www.forbes.com/sites/chuckdevore/2016/09/30/how-you-will-bail-out-state-pension-systems/#65d223143c1f>
- <sup>8</sup> The Public Plans Database is developed and maintained by the Center for State and Local Government Excellence, the National Association of State Retirement Administrators and the Center for Retirement Research at Boston College. The data span fiscal years 2001 to 2014 and include basic actuarial funding data such as actuarial assets, actuarially accrued liabilities, funded ratio, the annual required contribution (ARC), and percent of ARC paid.
- <sup>9</sup> Memphis Comprehensive Annual Financial Report. 2014. [http://www.memphistn.gov/Portals/0/pdf\\_forms/CAFR\\_2014.pdf](http://www.memphistn.gov/Portals/0/pdf_forms/CAFR_2014.pdf)
- <sup>10</sup> Detroit Comprehensive Annual Financial Report. 2014. <http://www.detroitmi.gov/Portals/0/docs/finance/cafr/Final%20CAFR.pdf>
- <sup>11</sup> Center for State and Local Government Excellence and AARP. "Understanding Public Pensions: A Guide for Elected Officials." 2017. <http://slge.org/wp-content/uploads/2017/04/4-19-17-PensionGuide-FINAL.pdf.pdf>
- <sup>12</sup> In June 2012, the Governmental Accounting Standards Board (GASB) made significant changes to the accounting and financial reporting standards for state and local government pension plans, as well as for their sponsoring governments.
- <sup>13</sup> The Pew Charitable Trusts. "The State Pension Funding Gap: New Accounting Rules Help Provide a Clearer Picture." 2016. <http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2016/08/the-state-pension-funding-gap-2014>
- <sup>14</sup> National Association of State Retirement Administrators, letter to Moody's Investors Service, Oct. 8, 2014, <http://www.nasra.org/files/Letters/NASRatoMoody100814.pdf>.
- <sup>15</sup> Urban Institute. "State and Local Government Pensions." 2014. <https://www.urban.org/policy-centers/cross-center-initiatives/state-local-finance-initiative/projects/state-and-local-backgrounders/state-and-local-government-pensions>
- <sup>16</sup> Brainard, Keith. "Books, Budgets, and Bonds What Do All Those Pension Numbers Mean?" Government Finance Review. 2013. [http://www.nasra.org/files/Articles/GFR\\_apr\\_13\\_Keith\\_Brainard\\_Commentary.pdf0H\\_\\_.pdf](http://www.nasra.org/files/Articles/GFR_apr_13_Keith_Brainard_Commentary.pdf0H__.pdf)



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