Amortization Methods for Unfunded Liabilities, 2011-12

Plan name	Amortization period (years)
LEVEL PERCENT OF PAY OPEN	
Alabama ERS[a,1]	30
Alabama Teachers[a,1]	30
Arkansas PERS	30
California PERF[a,b,2]	30
Delaware State Employees	20
Georgia Teachers	30
Houston Firefighters	30
Illinois Municipal[3]	15
Michigan Municipal[4]	20
Missouri Local[5]	15
North Dakota PERS	20
Phoenix ERS	20
St. Paul Teachers	25
Virginia Retirement System[6]	29
Washington PERS 1	10
Washington Teachers Plan 1	10
Wisconsin Retirement System[a,b,7]	20
Wyoming Public Employees[a]	30
STATUTORY CONTRIBUTION RATE	
Arkansas Teachers[b]	66
California State Teachers' Retirement System[a,8]	30
City of Austin ERS	27
Colorado Municipal[a,9]	25
Colorado School[a,10]	33
Colorado State[a,11]	35
Denver Schools	Infinite
Hawaii ERS[12]	30
Idaho PERS[13]	25
Montana PERS	Infinite
Montana Teachers[a,14]	23
New Mexico PERF	Infinite
New Mexico Teachers	56
North Dakota Teachers[a,15]	51

Plan name	Amortization period (years)
Ohio PERS	30
Ohio Police & Fire	Infinite
Ohio School Employees	30
Ohio Teachers	Infinite
Oklahoma Teachers	22
South Carolina Police[16]	29
South Carolina RS[16]	30
Texas ERS[a]	Infinite
Texas LECOS[a]	Infinite
Texas Teachers	Infinite
LEVEL DOLLAR	
Open	
Arizona SRS	30
Denver Employees[b]	30
Georgia ERS[a]	30
New Jersey PERS[17]	30
New Jersey Police & Fire[17]	30
New Jersey Teachers[17]	30
St. Louis School Employees	30
Fixed	
Indiana PERF[a,18]	30
Indiana Teachers[a]	30
Los Angeles County ERS	30
Louisiana SERS[a,19]	30
Louisiana Teachers[a,19]	30
Maine Local	16
Maine State and Teacher[20]	16
Nebraska Schools	30
Pennsylvania State ERS[a,21]	30
University of California[22]	30
Closed	
DC Police & Fire	20
DC Teachers	20
Michigan SERS[a]	24
North Carolina Local Government	12
North Carolina Teachers and State Employees	12
TN Political Subdivisions[a,23]	9

Plan name	Amortization period (years)
TN State and Teachers[a,24]	9
West Virginia PERS	23
West Virginia Teachers	22
LEVEL PERCENT OF PAY	
Fixed	
Alaska PERS[a]	25
Alaska Teachers[a]	25
Contra Costa County	18
Florida RS[a]	30
Maryland PERS[25]	25
Maryland Teachers[25]	25
Missouri PEERS[26]	30
Missouri Teachers[26]	30
Nevada Police Officer and Firefighter[27]	20
Nevada Regular Employees[27]	20
Oregon PERS[a,28]	16
Pennsylvania School Employees[a,29]	24
San Diego County	20
San Francisco City & County[30]	15
Texas County & District[a,31]	20
Closed	
Arizona Public Safety Personnel	24
Chicago Teachers[32]	47
Connecticut SERS	19
Connecticut Teachers	19
Duluth Teachers[33]	23
Fairfax County Schools[b]	27
Illinois SERS[34]	33
Illinois Teachers[a,34]	33
Illinois Universities[34]	33
Iowa PERS	30
Kansas PERS	20
Kentucky County	25
Kentucky ERS	25
Kentucky Teachers	25
Massachusetts SERS	28
Massachusetts Teachers[b]	29

Plan name	Amortization period (years)
Michigan Public Schools[a,35]	24
Minneapolis ERF[a]	19
Minnesota PERF[a,36]	19
Minnesota State Employees[36]	28
Minnesota Teachers[37]	25
Mississippi PERS[a,38]	30
Missouri DOT and Highway Patrol[a,39]	23
Missouri State Employees[a,40]	30
New Hampshire Retirement System[a]	26
Oklahoma PERS[a]	15
Rhode Island ERS	23
Rhode Island Municipal	23
South Dakota PERS[a,41]	29
Texas Municipal Retirement System[a,42]	25
Utah Noncontributory	21
Vermont State Employees	25
Vermont Teachers	25
Washington LEOFF Plan 1	12
AGGREGATE COST[43]	
New York State Teachers[a]	16
New York City ERS	Not available
New York City Teachers	Not available
NY State & Local ERS	14
NY State & Local Police & Fire	12
Washington LEOFF Plan 2	Not available
Washington PERS 2/3	Not available
Washington School Employees Plan 2/3	Not available
Washington Teachers Plan 2/3	Not available

Note: Funding under a closed approach dictates that the total unfunded liability must be paid off by a certain date (i.e. 2040). Each year, the remaining number of years over which to pay down the total UAAL gets shorter and shorter. On the other hand, funding under an open approach dictates that the total unfunded liability must be paid off within a certain number of years from when total UAAL is calculated (generally 20 to 30 years). In this method the funding horizon for the total UAAL is always 20 to 30 years away because each year, when the total UAAL is calculated, the amortization period is also reset. Funding under a fixed method falls somewhere between the open and closed methods. Under a fixed method, an *individual* UAAL is calculated for each year and amortized over a fixed period – generally 20 or 30 years. At any given point, the system will be paying down various individual UAALs created in past years, each with varying time remaining in their fixed period. As with the closed method, each *individual* UAAL must be paid off by a set date (20 to 30 years from the individual UAAL's creation). But, like the open period, the *total* UAAL (simply the sum of all the individual UAALs) will always have a horizon of 20 to 30 years – the period over which the most recent individual UAAL is scheduled to be paid off.
Source: Various 2011 and 2012 actuarial valuation reports.

[a] Reviewed by plan administrator.
[b] Data are based on the 2011 valuation, the most recent valuation available at the date of release.
[1] Beginning with the 2013 actuarial valuation, the boards for Alabama ERS and Teachers are considering a shift from their current method – a level percent of payroll, 30-year open – to a level percent of payroll, 30-year closed.
[2] Beginning with the 2013 valuation for Public Agency Plans and the 2014 valuation for State and Schools, all past and future gains and losses will be amortized over 30 years. Benefit improvements, method changes, and assumption changes will be amortized over 20 years. Contribution rates will have a 5-year ramp-up, 10-year peak rate, and a 5-year ramp-down.
[3] The amortization method used by the Illinois Municipal Retirement System varies according to an employer's taxing authority. For those with taxing authority, unfunded liabilities are amortized over a 29-year closed period (with a rolling period at 15 years). For non-taxing employers, the unfunded liabilities are amortized over a 10-year rolling period. Unfunded liabilities associated with benefit changes for SLEP members (Public Act 94-712) are amortized over 24 years for most employers.
[4] There are 27 years for positive unfunded liabilities and 10 years for negative unfunded liabilities. From 2012, the 27-year period will decline by one year in each of the following seven annual valuations. Then, a rolling 20-year amortization schedule will be used. For closed divisions (new hires are not covered by MERS defined benefit plan or hybrid provisions in a linked division) of active municipalities, the amortization period for positive unfunded liabilities is decreased annually by 2 years until the period reaches 5 years.
[5] For Missouri Local, actuarial gains or losses for each employer are amortized over various closed periods ranging from 15 to 30 years. Benefit changes adopted by employers are amortized over a closed 30-year period. Once a 15-year period is reached, the amortization period becomes open. Adoption of the Non-Contributory Refund provision is amortized over a closed 15-year period.
[6] For Virginia Retirement System, the amortization method is as follows: 29 years from 2012 valuation decreasing by one each year in subsequent valuations until reaching 20 years. From that point forward, the system will implement a 20-year open amortization, computed as level percent of payroll.
[7] As of 2012, the remaining amortization period for the frozen initial unfunded liability for Wisconsin RS is 17 years.
[8] Contributions to California State Teachers Retirement System (CalSTRS) are set by statute, but the amortization period is not. The amortization period chosen by CalSTRS (30 years for active members and 15 years for retired members) reflects its methodological approach to measuring its unfunded liability.
[9] Colorado Municipal is projected to be fully funded in 2037, and potentially earlier based on the outcome of litigation.
[10] Due to a scheduled increase in the statutory rate, Colorado Schools is projected to be fully funded in 2045.
[11] Due to a scheduled increase in statutory rate, Colorado State is projected to be fully funded in 2047.
[12] Hawaii ERS uses an open group calculation that incorporates the reduction to new hire benefits into its projections of contribution adequacy.
[13] For Idaho PERS, statute dictates that the rate must be adequate to pay off the UAAL within a maximum of 25 years. As of the 2012 actuarial valuation, the statutory contribution rate is sufficient to amortize the unfunded liability within 8.2 years.
[14] In 2013, the Montana Legislature passed HB 377 which, as of July 1, 2013, will fully fund the teachers system in 22 years.
[15] For North Dakota Teachers, the statutory rates are intended to be sufficient to pay normal cost and to amortize the UAAL over a period of 30 years beginning July 1, 2013, although at any given time the statutory rates may be insufficient.
[16] As specified by South Carolina statute, in the event that the scheduled employer and member contribution rate is insufficient to maintain a 30-year amortization period for financing the unfunded liability of the System, the Board shall increase the employer and member contribution rates in equal amounts, as necessary, to maintain a funding period that does not exceed 30 years.
[17] For New Jersey PERS, Police and Fire, and Teachers, beginning with the July 1, 2010 actuarial valuation: 30-year level dollar open; beginning with the July 1, 2019 actuarial valuation: 30-year level dollar closed; beginning with the July 1, 2029 actuarial valuation (when the remaining amortization period reaches 20 years): a maximum of 20-year level dollar open period.
[18] Indiana PERF re-established its total UAAL in 2006.
[19] For Louisiana SERS and Teachers, the initial UAAL is scheduled to be paid off by 2029. Experience gains and losses are amortized over 30 years. Benefit increases are amortized over 10 years.
[20] For Maine PERS, the initial UAAL was set in 1997 and is scheduled to be paid off by 2028.
[21] The Pennsylvania State ERS re-established its total UAAL on December 31, 2009, to be amortized over a closed 30-year period beginning July 1, 2010 and ending on June 30, 2040. The impact of Act 2010-120 will be amortized over a 30-year period beginning July 1, 2011 and ending on June 30, 2041. Other actuarial gains and losses occurring after 2009 are amortized over a 30-year period. Benefit improvements, including cost-of-living increases, are amortized over a 10-year period.
[22] The University of California RS re-established its total UAAL on July 1, 2010, to be amortized over 30 years. Any changes in UAAL due to actuarial experience gains or losses after July 1, 2010 are amortized over a 30-year period. Any changes in UAAL due to a change in actuarial assumptions or plan provisions are amortized over a 15-year period.
[23] Each political subdivision participating in the Tennessee Retirement System may choose the appropriate amortization period for its unfunded liability in order to manage contribution rate volatility.

[24] The Tennessee State and Teachers plans re-established their total UAAL on July 1, 2009, to be amortized over a closed 20-year period. Effective July 1, 2011, the amortization period was reset to 9 years for the State and 6 years for Teachers.
[25] For Maryland PERS and Teachers, the unfunded liability base as of July 1, 2000 is being amortized over a 20-year closed period (with 8 years remaining as of July 1, 2012).
[26] For Missouri PEERS and Teachers, increases or decreases in the liability caused by changes in the benefit provisions are amortized over 20 years.
[27] For the Nevada Retirement Systems, the actuarial experience gains and losses (including those from 2011/2012) will be amortized over the truncated average remaining period of all prior amortization layers until the average remaining amortization period is less than 20 years. At that point, fixed amortization periods of 20 years will be used.
[28] The Oregon Retirement System employs various amortization methods for each plan within the system:
OPSRP – Each year's additional UAAL is amortized as a level percent of payroll over 16 years.
Tier 1/Tier 2 – Each year's additional UAAL is amortized as a level percent of payroll over 20 years.
Pre-SLGRP – The UAAL is amortized as a level percent of payroll to be paid off in full by 2027.
Initial UAL for employers first joining the SLGRP before Dec. 31, 2009 – The UAAL is amortized as a level percent of payroll to be paid off in full by 2027.
Initial UAL for employers first joining the SLGRP in 2010 or later – Each year's additional UAAL is amortized as a level percent of payroll over 18 years from the last odd-year actuarial valuation.
[29] The Pennsylvania Act 2010-120 sets a 24-year amortization period for the unfunded accrued liability as of June 30, 2010 and each change in the unfunded accrued liability due to actuarial experience after the June 30, 2010 valuation. Any legislation after June 30, 2010 that increases the liability will be funded over 10 years.
[30] For the San Francisco City and County Retirement System, actuarial gains and losses, assumption changes, and supplemental COLAS are amortized over an open 15-year period; plan amendments and changes in interest crediting rate are amortized over 20-year closed periods.
[31] For Texas County and District, changes to the UAAL due to actuarial gains and losses, assumption changes, or plan changes that result in UAAL decreases are amortized over a new 20-year period. Plan changes that result in UAAL increases are amortized over new 15-year periods.
[32] According to Illinois state statute, the Chicago Teachers must be 90 percent funded by 2059.
[33] For Duluth Teachers, the initial UAAL is scheduled to be paid off by 2035 (23 years). Any new UAAL arising due to plan design or assumption changes is scheduled to be paid off within 30 years of the UAAL's creation. If you add the two contribution rates generated from the amortization of these two UAALs under their specific amortization schedule, you would be able to pay off the total UAAL over 27 years.
[34] According to Illinois state statute, the Illinois SERS, Teachers, and Universities must be 90 percent funded by 2045.
[35] According to Public Act 300 of 2012, the impact of the Early Retirement Incentive program of 2010 will be re-amortized over a 10-year period for Michigan Public Schools.
[36] For Minnesota PERF and State Employees, any negative UAAL is amortized over 30 years as a level percentage of payroll.
[37] For Minnesota Teachers, any negative unfunded actuarial accrued liability is amortized over 30 years as a level percentage of payrolls. For increases in the unfunded actuarial accrued liability due to a change in the actuarial assumptions, plan provisions, or actuarial cost method, a new amortization period is determined by blending the period needed to amortize the prior unfunded actuarial accrued liability over the prior amortization period and the increase in unfunded actuarial accrued liability amortized over 30 years. If there is a decrease in the unfunded actuarial accrued liability, no change is made to the amortization period.
[38] Mississippi PERS has a funding target of at least 80 percent by 2042. If the projected funded ratio in 2042 is less than 75 percent, the contribution rate will be increased until the projected 80 percent target is reached. If a funded ratio of 100 percent or more is attained, and is projected to remain above 100 percent for the ensuing 30 years, a reduced contribution pattern will be established provided the projected funded ratio remains at or above 100 percent in every future year.
[39] The board for Missouri DOT and Highway Patrol initiated a temporary accelerated funding policy in 2009. It stipulated a closed 12-year amortization period for unfunded retiree liabilities and a closed 27-year amortization period for other unfunded liabilities. Both amortization periods start July 1, 2013. This policy will remain in effect until the retiree liability is 100 percent funded or the permanent policy – a closed 23-year period (starting July 1, 2013) for all the UAAL – produces a higher contribution rate.
[40] During the 2030 actuarial valuation, the Missouri State Employees retirement board shall reexamine the amortization period to determine whether or not it should be reduced below 15 years.
[41] The South Dakota PERS Board of Trustees established a funding policy objective that the statutorily required contributions were sufficient to amortize the UAAL over a period of 29 years effective June 30, 2012, declining by one year until a 20-year funding period is achieved.
[42] For Texas Municipal Retirement System, the amortization method varies according to the size of the participating municipality. For cities with an unfunded liability and 20 or more employees, the amortization as of the valuation date is a level percentage of payroll over a closed period of either 25 or 30 years. The surplus for overfunded cities is amortized over a 25-year open period. Ad hoc benefit enhancements are amortized over individual 15-year periods using a level dollar policy.

[43] Plans that use the aggregate cost method do not calculate *accrued* liabilities. These plans derive their underfunding by taking the difference between their assets and the *total* liability. To calculate the required contribution, the plan amortizes the funding gap as a level percent of future payrolls for *current* employees only. This has three major implications. First, by measuring underfunding as the difference between assets and total liability, rather than assets and accrued liability, the aggregate cost plans aim to fund a larger gap. Second, because the contribution rate is a percent of future payroll for current employees only, rather than current and new employees, contributions are less backloaded. This is because total payrolls for current employees will only begin to decline as they leave the workforce or retire. Total payrolls would continue to increase, if you allowed for replacement of current employees by new hires. Lastly, because contributions are a calculated as a percent of future payrolls for current employees, they must also be made over the remaining career of current employees. Currently, the remaining career for state and local workers is, on average, about 10 to 15 years – at the low end of amortization periods used by most plans.