Club Vita - US Public Plan Mortality Assumption Benchmarking Results, 2025

July 2025

We are pleased to share the results of Club Vita's **1st** US Public Plan Mortality Assumption benchmarking results!

148 US Public Pension Plans with **157** Distinct Longevity Assumptions

In August of 2024, the National Association of State Retirement Administrators (NASRA) released a comprehensive survey outlining the mortality assumptions for some of the largest Public Pension Systems across the United States.

To benchmark these assumptions across systems, we modeled the life expectancy **(LE)** at age 65 for both males and females based on each system's reported assumptions. This analysis incorporates base mortality tables, improvement scales and any scaling factors or adjustments applied to either the base and improvement components.

We hope that you find our report insightful. We would be pleased to meet with you to discuss the survey findings and elaborate further on the analysis included in this report.

Source: NASRA Mortality Assumption Search Tool – *Only Available to Members*

Carmen Gatta

Michael Reid

This analysis is for informational and illustrative purposes only and should not be relied upon for actuarial valuations or decision-making. Calculations are based on publicly available data from the NASRA August 2024 survey. The data in the survey is taken primarily from actuarial valuations dated in FY23 and may not reflect subsequent assumption updates or plan-specific nuances. While care was taken in the modeling process, errors or simplifications may exist. Users should consult the original sources or a qualified actuary before applying these findings to specific cases.

Executive Summary

Below are 3 key finding which we outline in the paper:

1. Large variation in assumed life expectancy within plan type

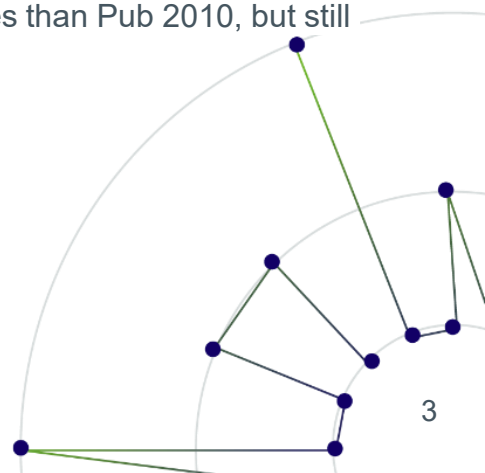
- The range of assumed life expectancies across plans varies by plan type:
  - General Plans: 5.0 years (males), 3.5 years (females)
  - Teacher Plans: 3.9 years (males), 2.9 years (females)
  - Public Safety Plans: 4.0 years (males), 5.9 years (females)
- Traditional mortality modeling often falls short of capturing the full range of life expectancy variation. Multi-factor approaches offer a best-in-class solution by accounting for key drivers where disparities exist.

2. Little to no regional variation observable in plan assumptions

- Statewide life expectancies show clear regional differences. These differences are much less pronounced, and sometimes absent, based on the life expectancies implicit in the assumptions used by individual plans.
- Plan level experience appears more driven by differences in socioeconomic status, affluence, and other demographic factors among plan populations, than by geographic location. This diversity is difficult to reflect using SOA Tables.

3. Plan assumptions typically reflect shorter lifespans than SOA baselines

- Our analysis reveals (pgs 13, 19, and 24) that the assumptions used by a majority of plans result in shorter life expectancies than the unadjusted SOA PUB tables with MP-2021 improvements.
- Pub 2016 tables generally predict lower life expectancies than Pub 2010, but still higher than the average public plan in the study.



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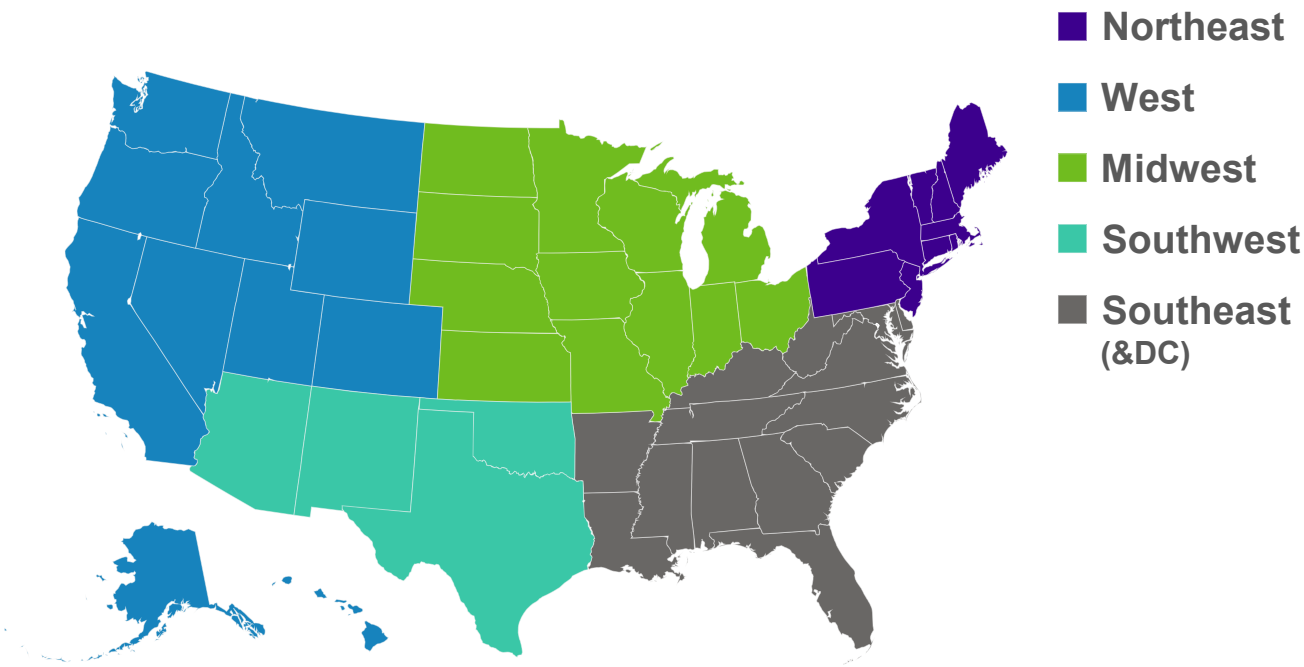
1. All Public Plans

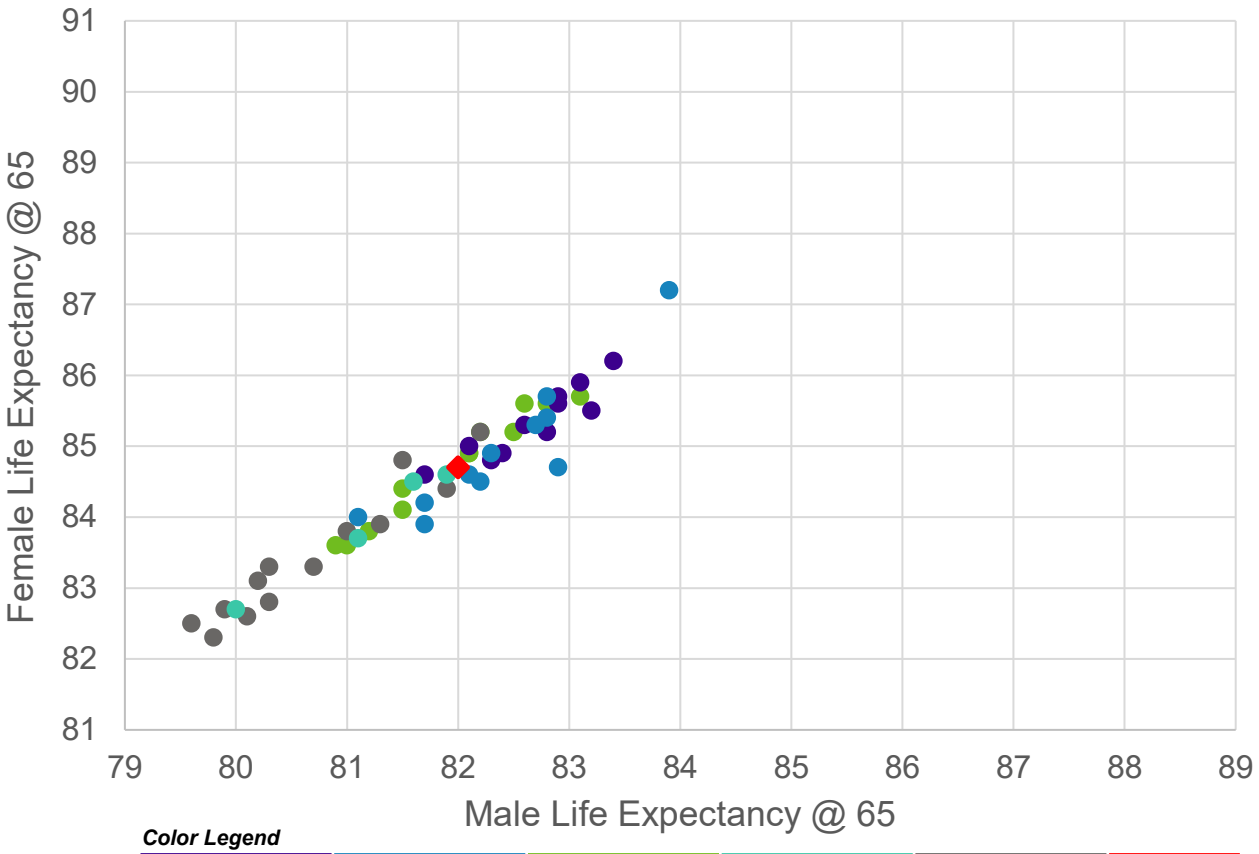
National Geographic Regions

Longevity is not a one-size fits all assumption and regional differences in life expectancy can be significant, driven by factors such as access to healthcare, lifestyle, income levels, and population demographics.

We've used the five-region model defined by *National Geographic* – **Northeast, West, Midwest, Southwest & Southeast** – to categorize states. We have grouped Washington D.C in with the Southeast. The map below serves as a visual reference to understand which states belong to each defined region. For clarity, we have retained this color-coding scheme for the remainder of this report.



Statewide Life Expectancy at age 65 (CDC 2021) – **Period LE**



Color Legend

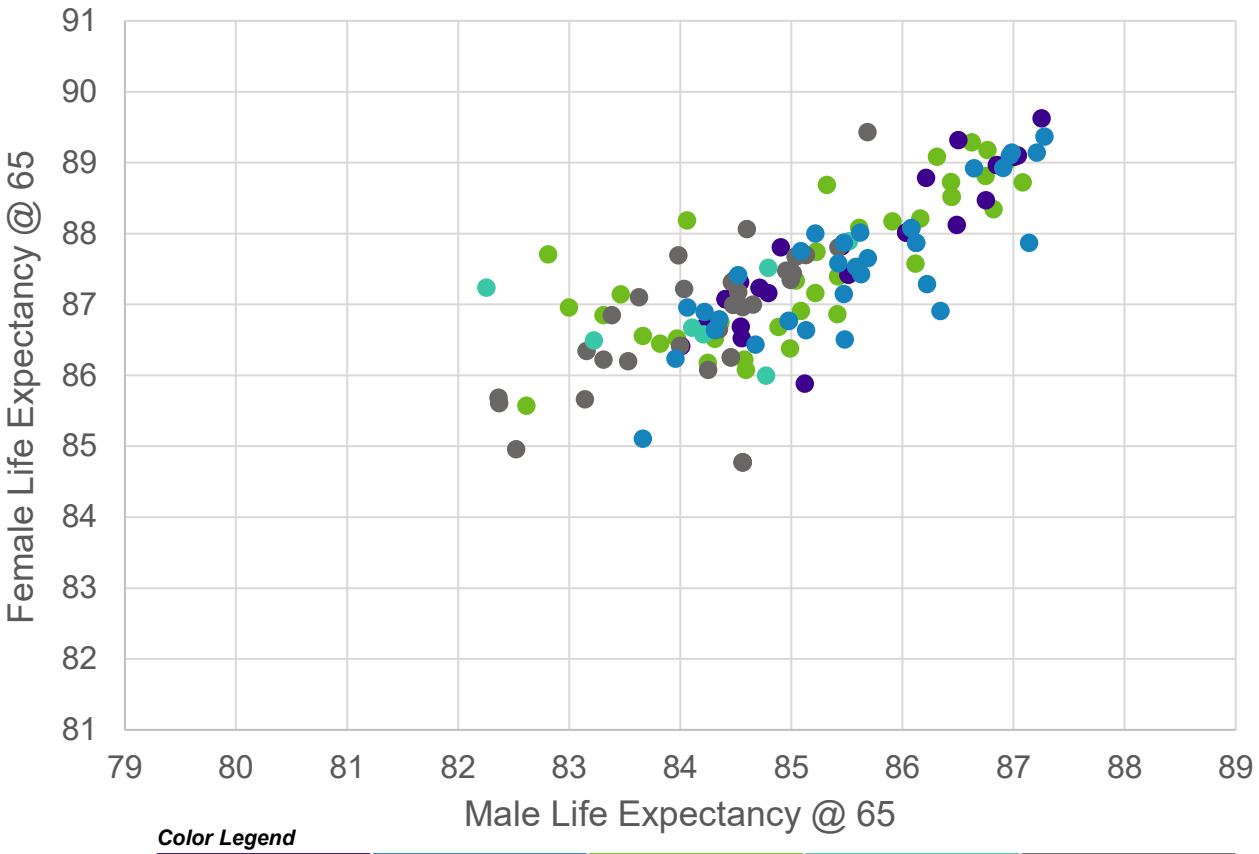
Avg. LE	Northeast	West	Midwest	Southwest	Southeast (& DC)	United States
Female	85.3	84.9	84.6	83.6	83.3	84.7
Male	82.6	82.4	81.9	80.9	80.6	82.0

Source: *https://www.cdc.gov/nchs/data/nvsr/nvsr73/nvsr73-07.pdf*

Key Insights & Observations

- Distinct regional differences can be observed. The Northeast and West data points are more concentrated to the upper right (higher LE) of the chart while the Southeast data points are concentrated to the bottom left (lower LE).
- Data points are tightly clustered along a 'trend' line, suggesting a strong correlation in life expectancy between males and females.

US Public Plans – Assumed Life Expectancy at age 65 by Region – **Period LE**



Color Legend

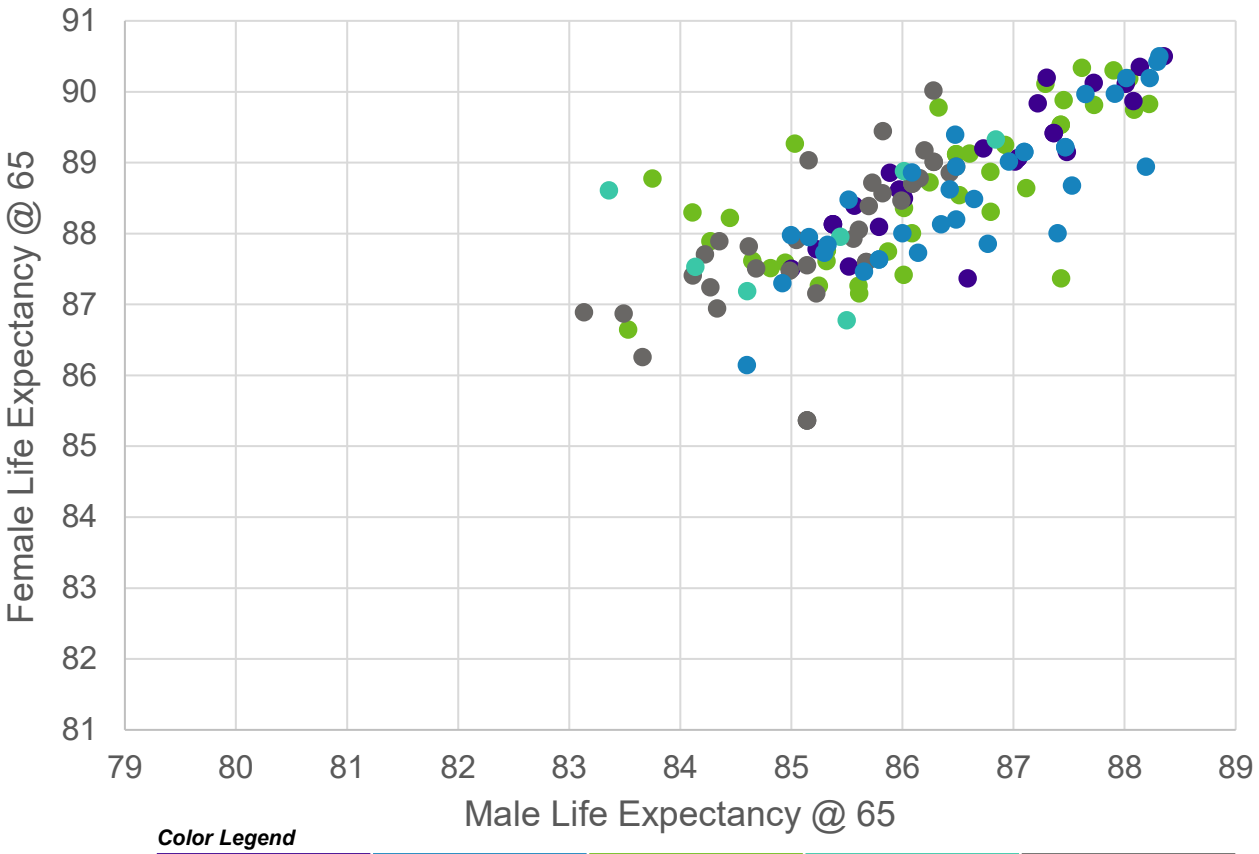
Avg. LE	Northeast	West	Midwest	Southwest	Southeast (& DC)
Female	87.7	87.5	87.5	86.9	86.8
Male	85.5	85.6	85.1	84.1	84.3

Source: *Club Vita modeled LE using NASRA 2024 Assumption Survey; base tables rolled to 2021 with plan-specific improvements. None applied beyond 2021.*

Key Insights & Observations

- Assumed Period Life Expectancy of US Public Pension are approximately **2.5 to 4 years** higher across all regions when compared to statewide averages.
- There are still clear regional patterns - however, the gap between regional averages is smaller. The variation in LE between plans is noticeably higher both within and between regions. Additionally, the data points are not as tightly clustered around a 'trend' line.

US Public Plans – Assumed Life Expectancy at age 65 by Region – **Generational LE**



Color Legend

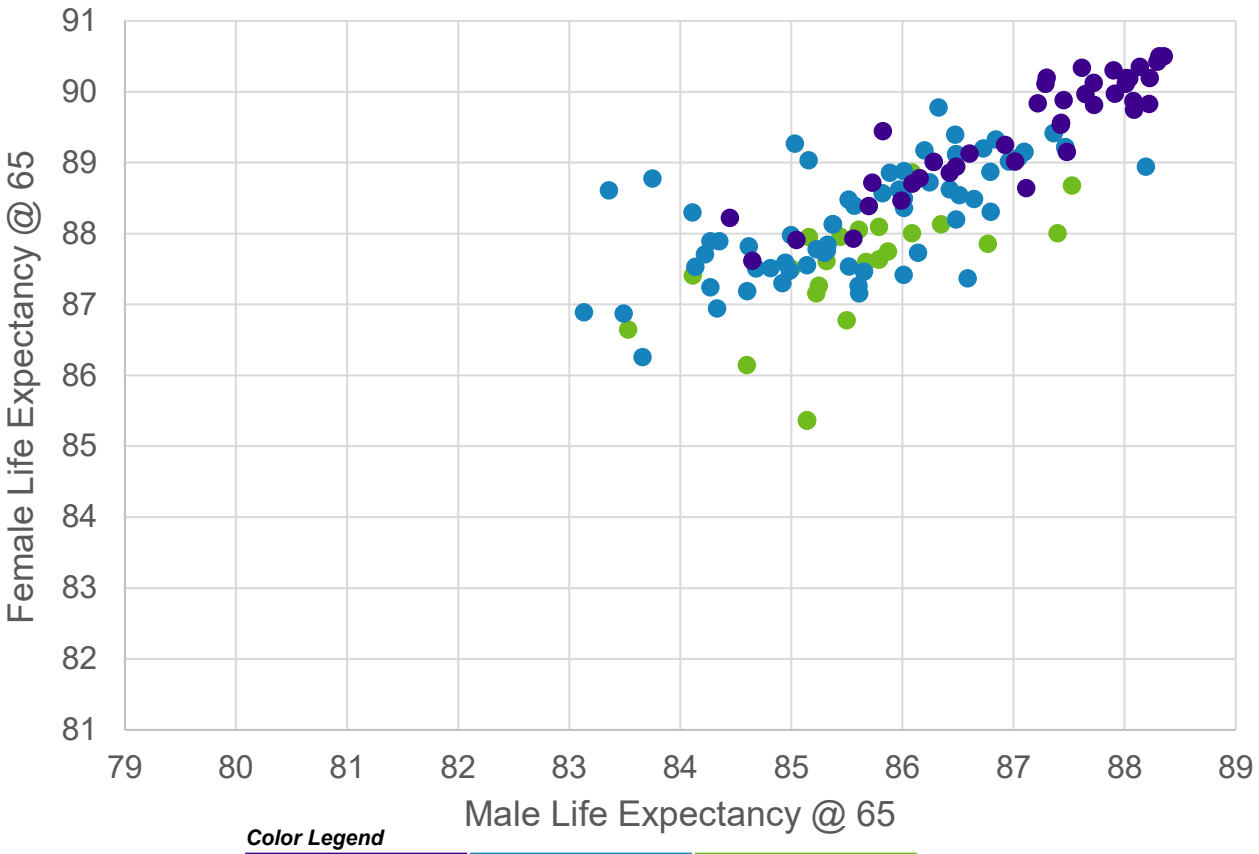
Avg. LE	Northeast	West	Midwest	Southwest	Southeast (& DC)
Female	88.9	88.6	88.6	88.0	87.9
Male	86.6	86.6	86.2	85.1	85.2

Source: *Club Vita modeled LE using NASRA 2024 Assumption Survey; Assumptions use plan-specific base mortality and improvement scales.; Calc year = 2024*

Key Insights & Observations

- Accounting for assumed improvements in LE, results in **an increase of about 1 year** to LE across all regions when compared to period LE averages.
- Although the Northeast and Southeast continue to show the highest and lowest life expectancies, respectively, the differences are marginal. The regional longevity patterns seen at the population level are not reflected in the assumptions made by the Plans.

US Public Plans – Assumed Life Expectancy at age 65 by Employment Type – **Generational LE**



Color Legend

Avg. LE	Teachers	General	Public Safety
Female	89.4	88.2	87.6
Male	87.1	85.6	85.7

Source: *Club Vita modeled LE using NASRA 2024 Assumption Survey; Assumptions use plan-specific base mortality and improvement scales.; Calc year = 2024*

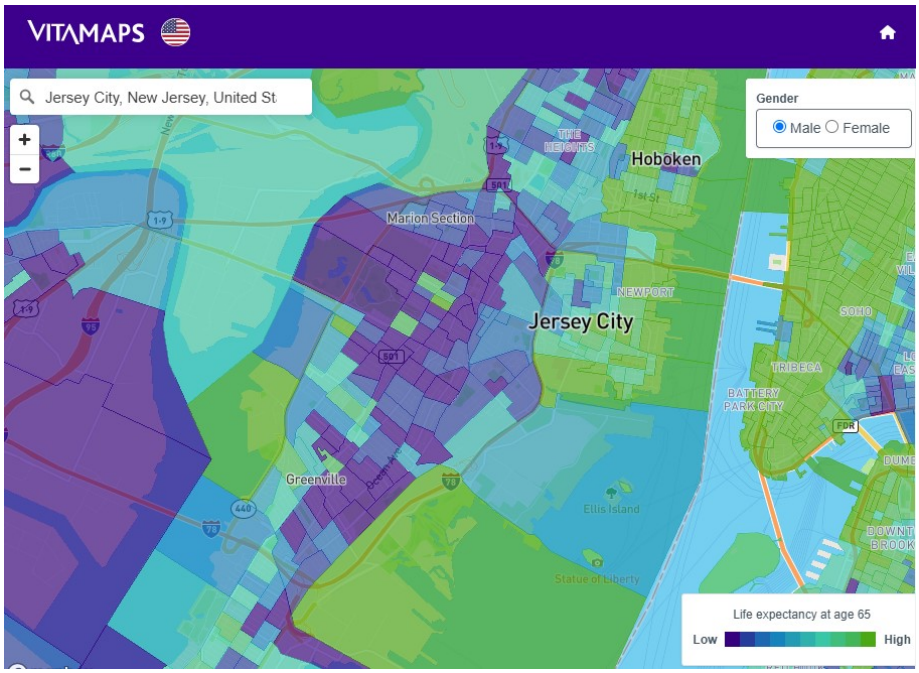
Key Insights & Observations

- Clear differences in average life expectancy and patterns emerge across employment type.
- Teachers are assumed to have the longest (LE).
- For females, General employees are assumed to have longer LE than Public Safety employees. For males, the assumed average life expectancy of Public Safety employees slightly exceeds that of General employees.

What is driving the spread in life expectancy assumptions?

Variation in life expectancy assumptions may be influenced by more than just regional factors. Key drivers likely include socioeconomic status, levels of affluence, and occupational characteristics unique to each plan's membership. These underlying factors, such as income, education, job type and access to healthcare, can vary significantly within a single geographic region.

Below is a snapshot from Club Vita's longevity maps, which overlay our multi-factor longevity model onto Google Maps. As illustrated in the example of the Hoboken and Jersey City region, areas in close proximity can exhibit substantial differences in life expectancy. Identifying and quantifying these variations is critical for developing more accurate, equitable, and plan-specific mortality assumptions.



https://maps.clubvita.us/

Key Questions to ask about your Plan's mortality

- How would the underlying demographic factors of your plan membership be expected to influence longevity?
- Are your current mortality assumptions adequately capturing the diversity within your membership?
- How do your members differ from the general population – or from those in other public plans?

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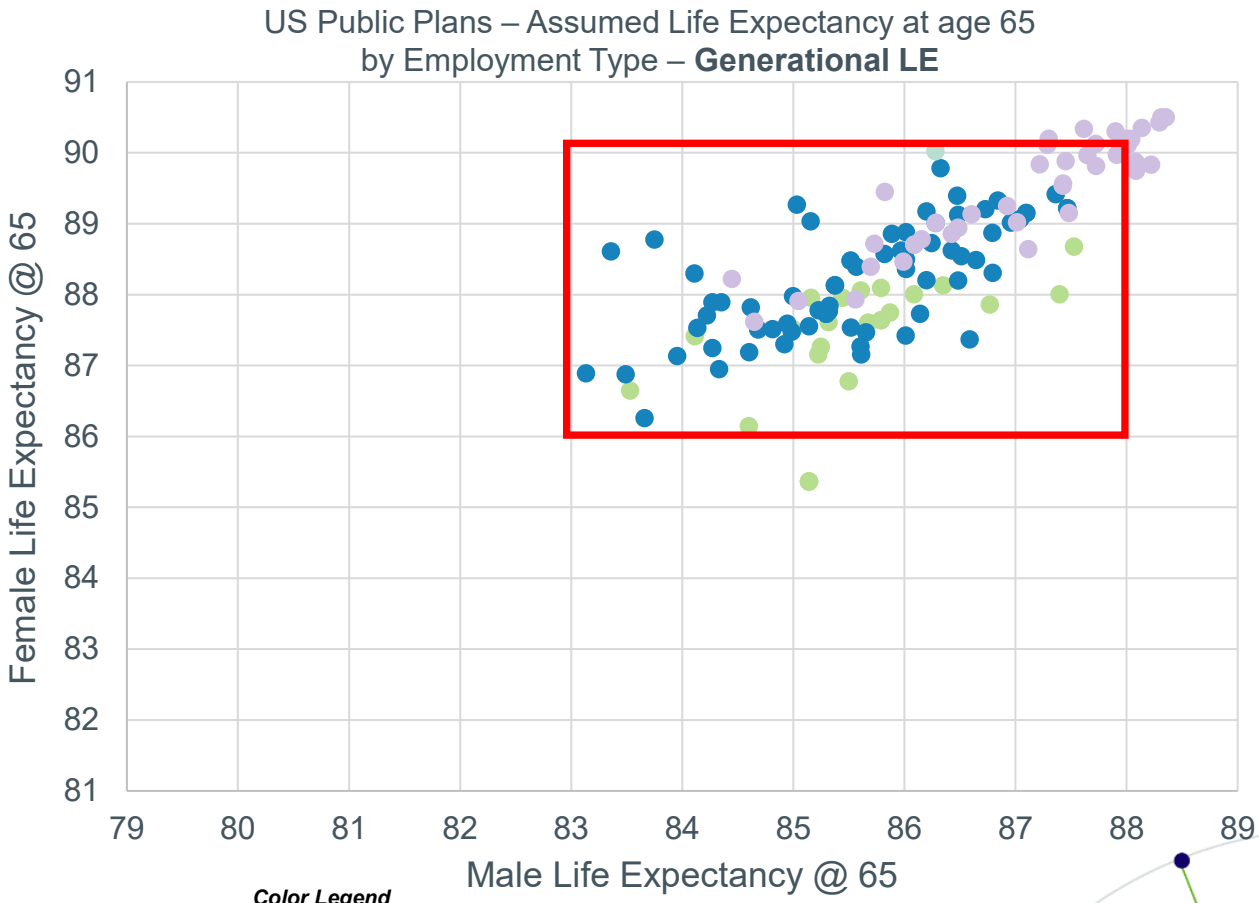
2. General Plans

General Plans

76 of the 157 plan assumptions reviewed were categorized as "General" coming from **67 Retirement Systems** across State, Local, Municipal and other types. (See full list of Plans in the appendix.) Regional counts included:

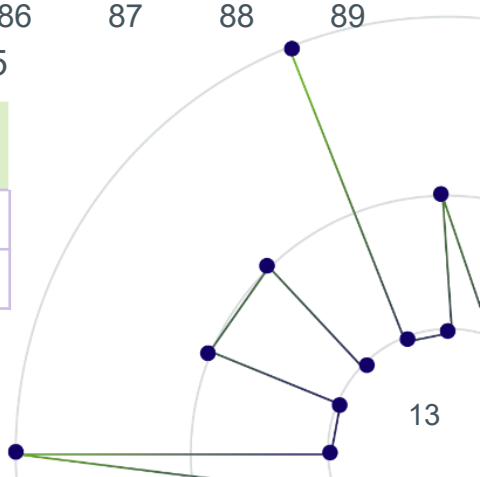
Northeast	West	Midwest	Southeast (& DC)	Southwest
13	19	19	15	8



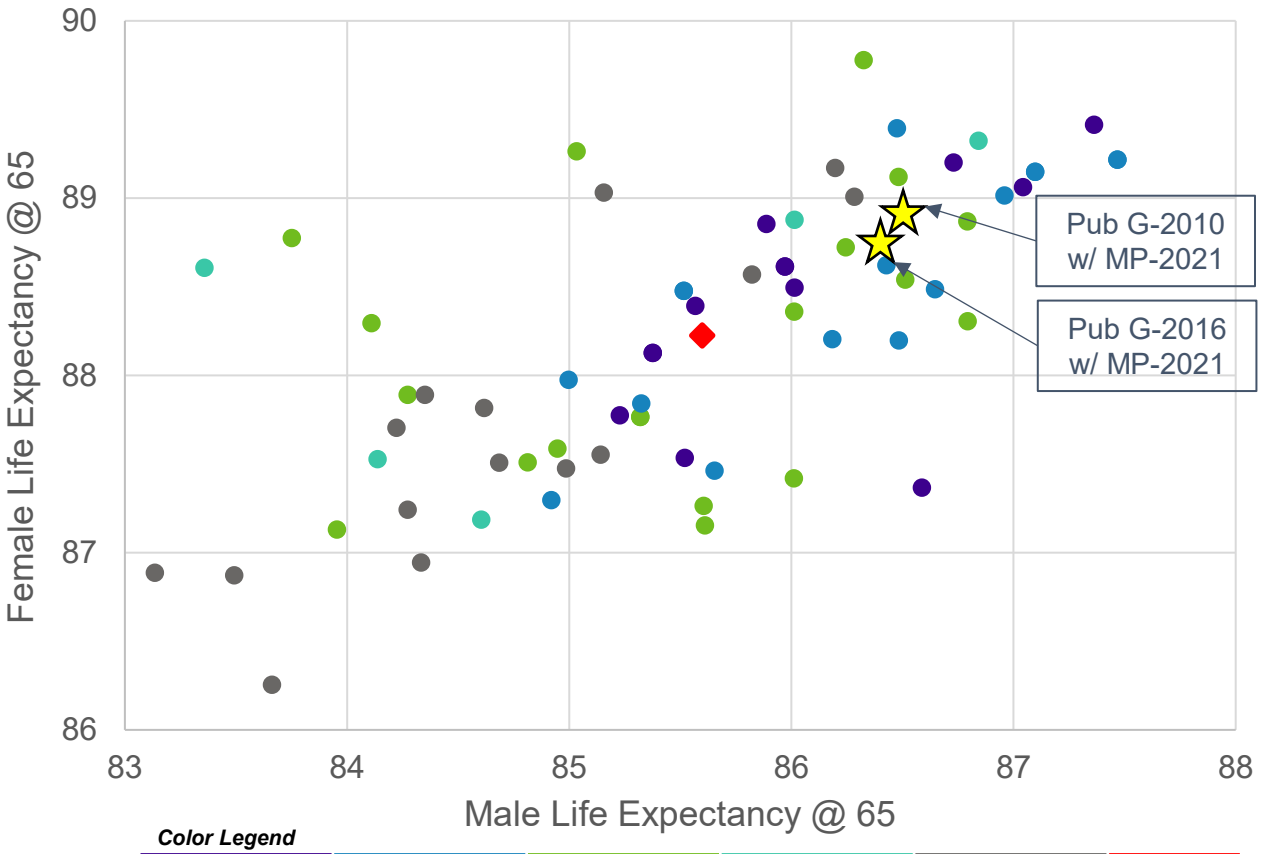
Color Legend

Avg. LE	Teachers	General	Public Safety
Female	89.4	88.2	87.6
Male	87.0	85.6	85.7

Source: *Club Vita modeled LE using NASRA 2024 Assumption Survey; Assumptions use plan-specific base mortality and improvement scales.; Calc year = 2024*



General – Assumed Life Expectancy at age 65 by Region – **Generational LE**



Color Legend

Avg. LE	Northeast	West	Midwest	Southwest	Southeast (& DC)	Avg.
Female	88.4	88.5	88.2	88.3	87.7	88.2
Male	86.0	86.4	85.5	85.0	84.7	85.6

Source: *Club Vita modeled LE using NASRA 2024 Assumption Survey; Assumptions use plan-specific base mortality and improvement scales.; Calc year = 2024*

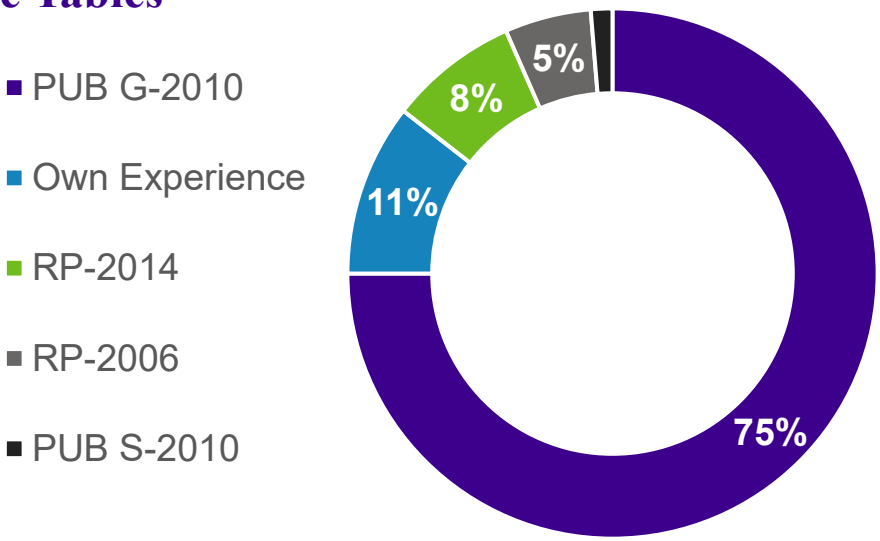
Key Insights & Observations

- There is an approximately 4.5-year gap between the highest and lowest LE for males and 3.5 years for females.
- Southeastern plans tend to assume lower LE, with no other distinct regional patterns.
- Average assumed LE at 65 are lower than the Pub G-2010 with MP-2021 improvements: 88.2 vs. 88.9 for females, 85.6 vs. 86.5 for males.

General Plans

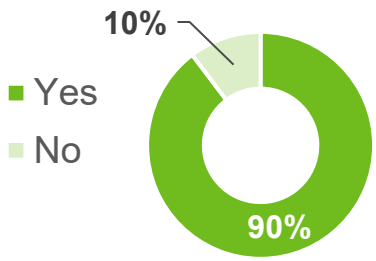
Mortality Assumption Table Benchmark Statistics

Base Tables

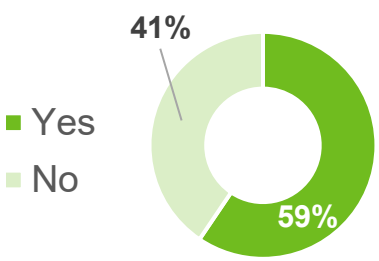


Of the Plans using SOA tables…

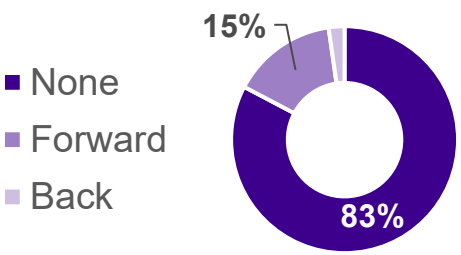
Use Amounts Weighted



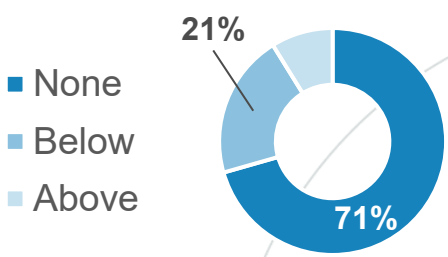
Use Base Table Scaling



Use Set Forward / Set Back



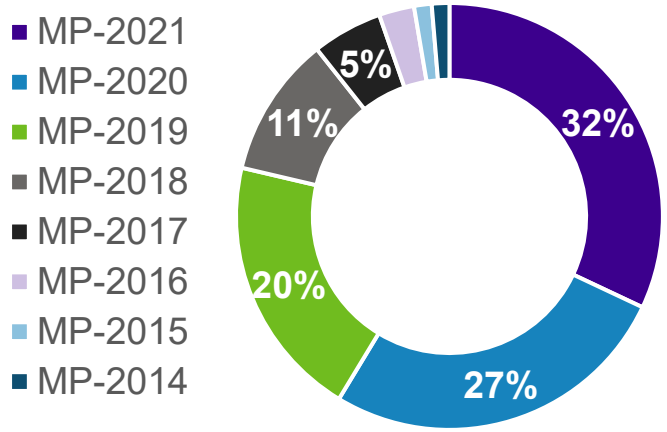
Use Above/Below Median

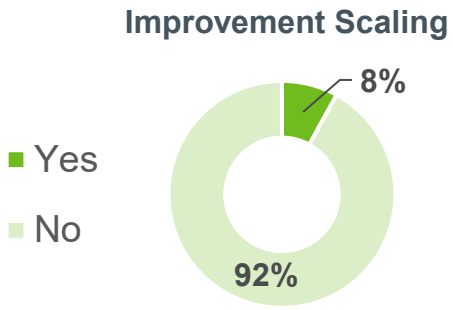


General Plans

Mortality Assumption Table Benchmark Statistics

Improvement Tables





Key Insights & Observations

- A Majority (75%) of the General Public Plans are using the Pub-2010 General mortality base table for healthy annuitants.
- All eight iterations of the MP Improvement scales released by the SOA are being used by at least one General public pension plan
- 87% of plan assumptions reflect shorter life expectancies for both males and females compared to the Pub-2010 General table with MP-2021 improvements
- 59% of Plans added scaling to their base line assumption - The average scaling factor for these plans was 108%

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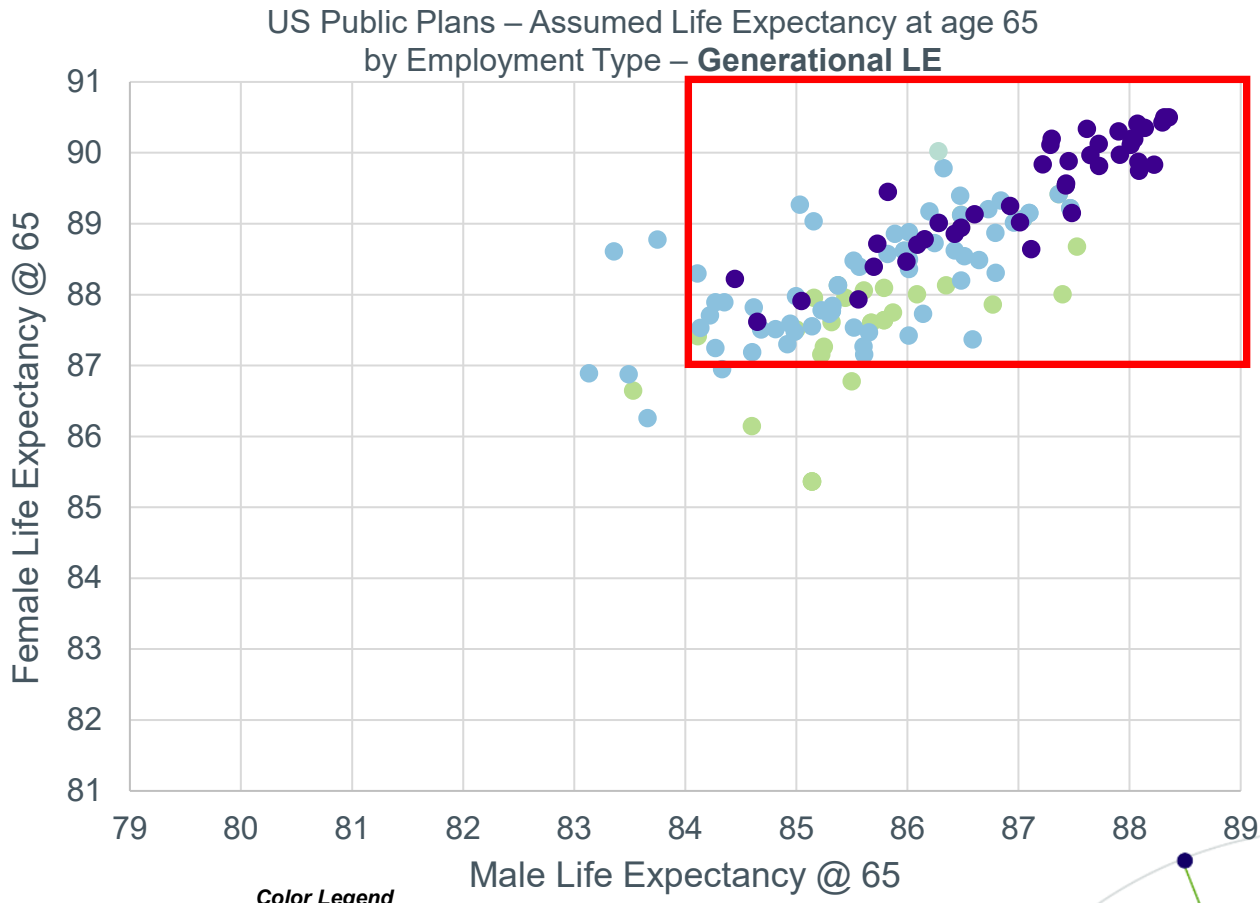
3. Teachers' Plans

Teachers' Plans

45 of the 157 plan assumptions reviewed were categorized as "Teacher" coming from **45 Retirement Systems**. (See full list of Plans in the appendix.) Regional counts included:

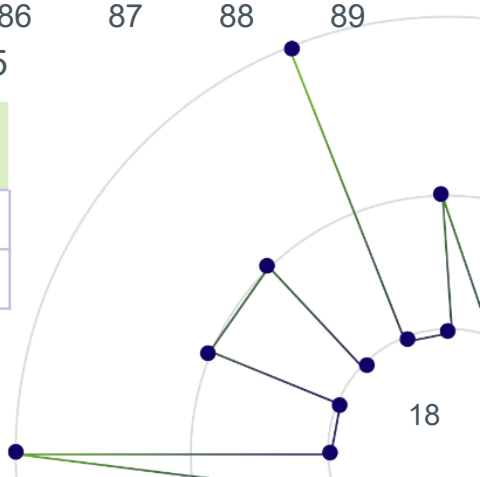
Northeast	West	Midwest	Southeast (& DC)	Southwest
10	7	16	11	1



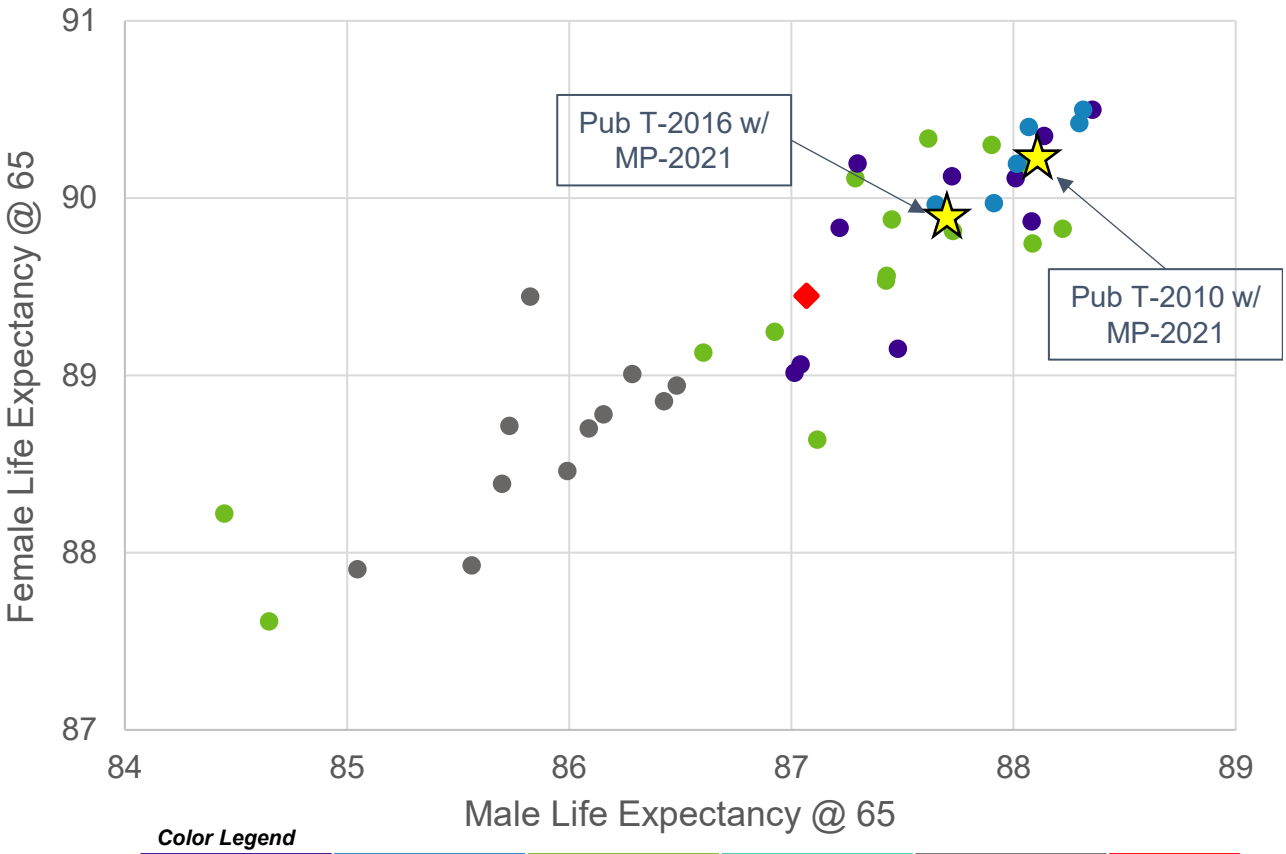
Color Legend

Avg. LE	Teachers	General	Public Safety
Female	89.4	88.2	87.6
Male	87.1	85.6	85.7

Source: *Club Vita modeled LE using NASRA 2024 Assumption Survey; Assumptions use plan-specific base mortality and improvement scales.; Calc year = 2024*



Teachers – Assumed Life Expectancy at age 65 by Region – **Generational LE**



Color Legend

Avg. LE	Northeast	West	Midwest	Southwest	Southeast (& DC)	Avg.
Female	89.8	90.2	89.3	N/A	88.6	89.4
Male	87.6	88.0	87.1	N/A	85.9	87.0

Source: *Club Vita modeled LE using NASRA 2024 Assumption Survey; Assumptions use plan-specific base mortality and improvement scales.; Calc year = 2024*

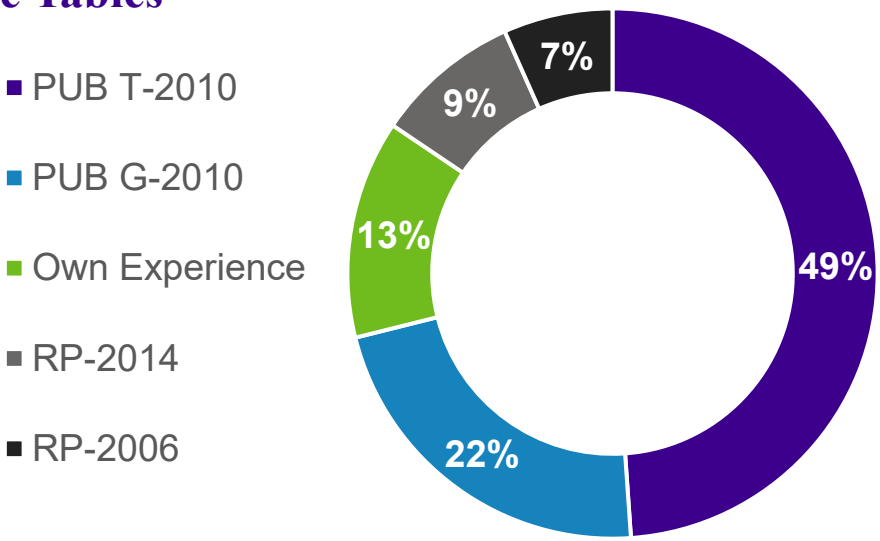
Key Insights & Observations

- There is an approximately 4-year gap between the highest and lowest LE for males and 3 years females.
- Southeastern plans tend to assume lower LE, with no other distinct regional patterns.
- Average assumed LE at 65 are lower that the Pub T-2010 with MP-2021 improvements: 89.4 vs. 90.2 for females, 87.0 vs. 88.1 for males.

Teachers' Plans

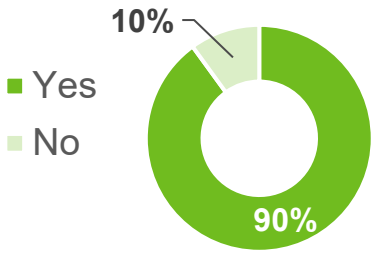
Mortality Assumption Table Benchmark Statistics

Base Tables

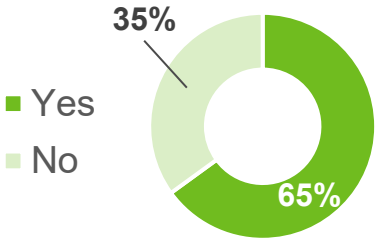


Of the Plans using SOA tables…

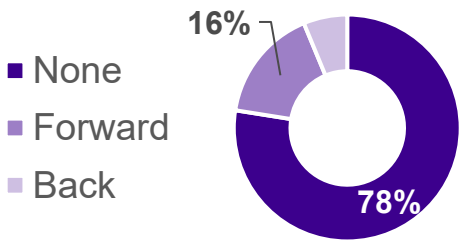
Use Amounts Weighted



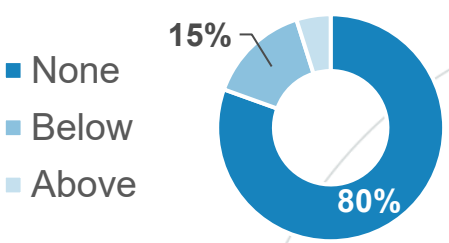
Use Base Table Scaling



Use Set Forward / Set Back



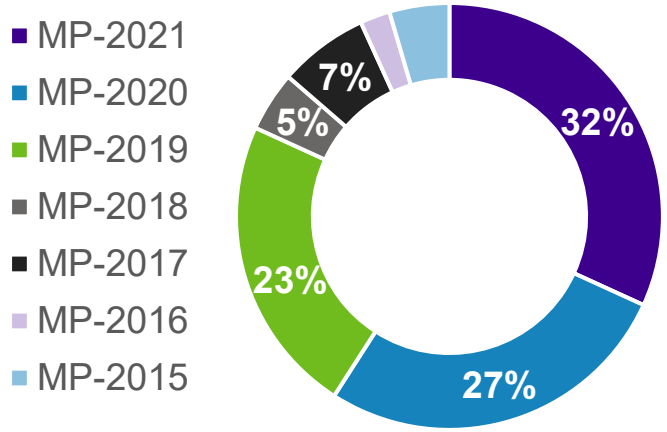
Use Above/Below Median

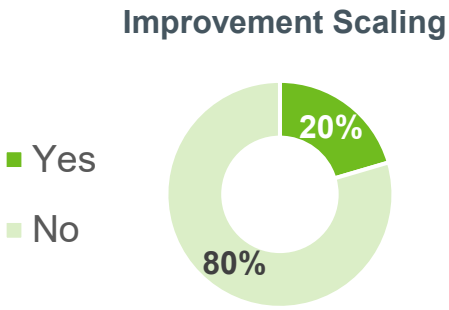


Teachers' Plans

Mortality Assumption Table Benchmark Statistics

Improvement Tables





Key Insights & Observations

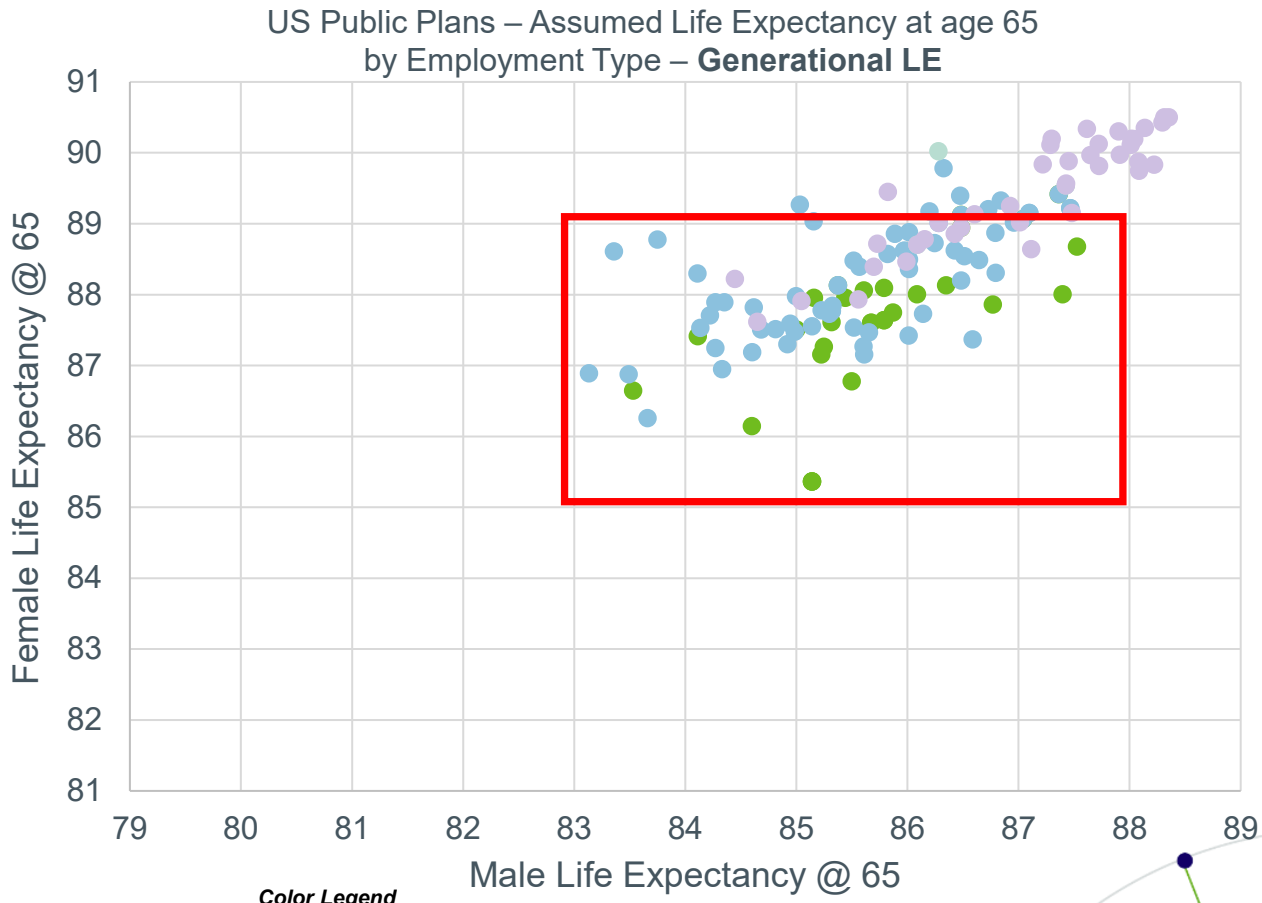
- Approximately half of the Teacher Public Plans are using the Pub-2010 Teacher mortality base table for healthy annuitants.
- 7 of the 8 iterations of the MP Improvement scales released by the SOA are being used by at least one Teacher public pension plan
- 88% of plan assumptions reflect shorter life expectancies for both males and females compared to the Pub-2010 Teacher table with MP-2021 improvements
- 65% of Plans added scaling to their base line assumption - The average scaling factor for these plans was 102%.

4. Public Safety Plans

Public Safety Plans

37 of the 157 plan assumptions reviewed were categorized as "Public Safety" coming from **37 Retirement Systems**. (See full list of Plans in the appendix.) Regional counts included:

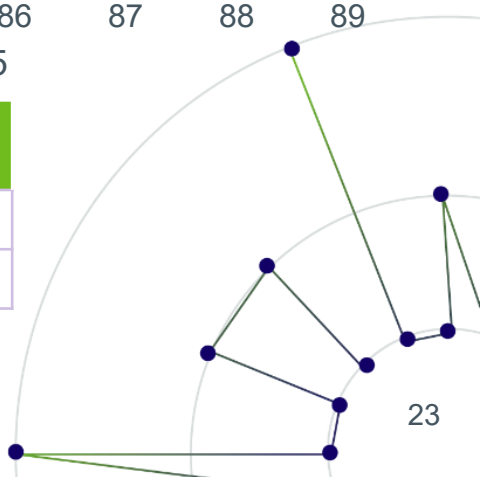
Northeast	West	Midwest	Southeast (& DC)	Southwest
6	13	6	9	3



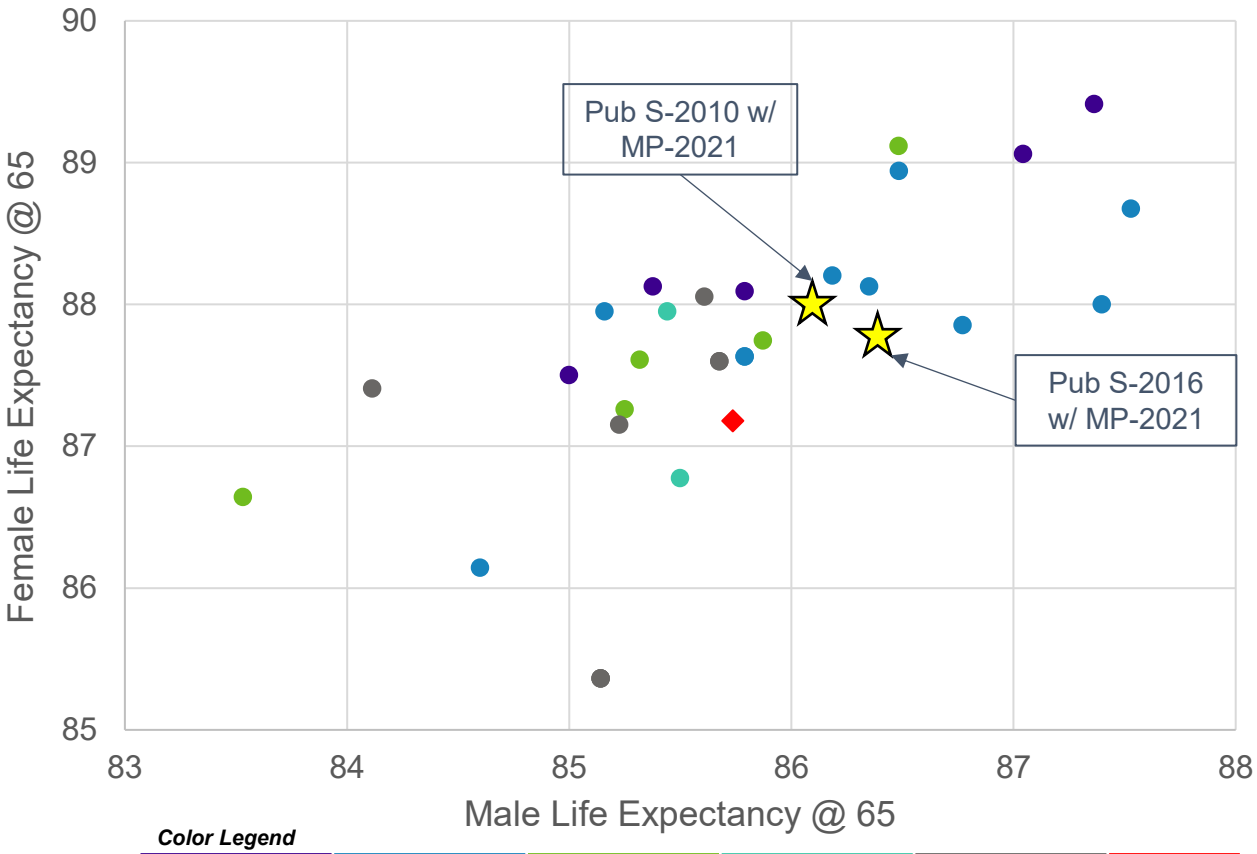
Color Legend

Avg. LE	Teachers	General	Public Safety
Female	89.4	88.2	87.6
Male	87.0	85.6	85.7

Source: *Club Vita modeled LE using NASRA 2024 Assumption Survey; Assumptions use plan-specific base mortality and improvement scales.; Calc year = 2024*



Public Safety – Assumed Life Expectancy at age 65 by Region – **Generational LE**



Color Legend

Avg. LE	Northeast	West	Midwest	Southwest	Southeast (& DC)	Avg.
Female	88.4	87.9	87.7	87.4	86.7	87.1
Male	86.1	86.2	85.4	85.5	85.2	85.7

Source: *Club Vita modeled LE using NASRA 2024 Assumption Survey; Assumptions use plan-specific base mortality and improvement scales.; Calc year = 2024*

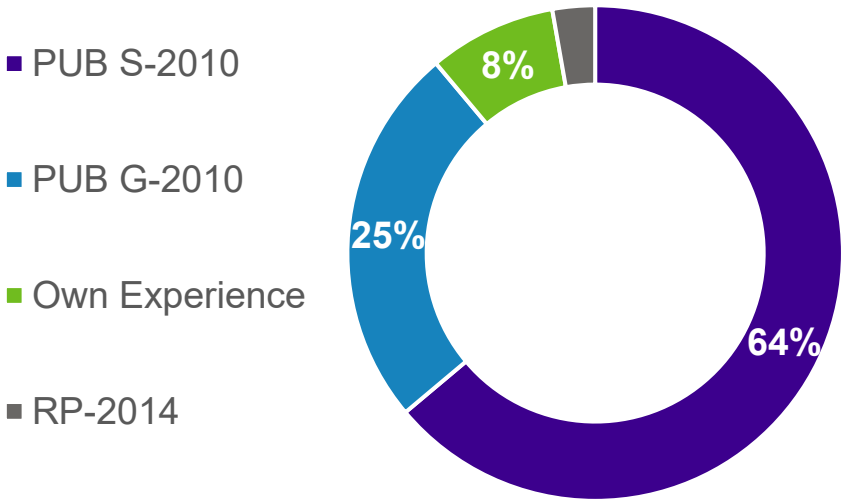
Key Insights & Observations

- There is an approximately 4-year gap between the highest and lowest LE for both males and females.
- There are no strong regional patterns, but six of the seven plans with the highest assumed LE are in the Northeast or West regions.
- Average assumed LE at 65 are lower that the Pub S-2010 with MP-2021 improvements: 87.1 vs. 88.0 for females, 85.7 vs. 86.1 for males.

Public Safety Plans

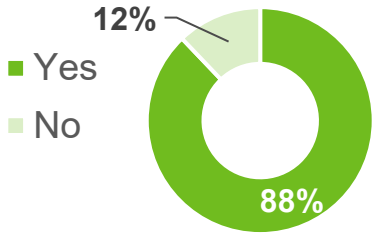
Mortality Assumption Table Benchmark Statistics

Base Tables

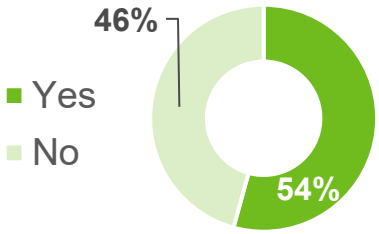


Of the Plans using SOA tables…

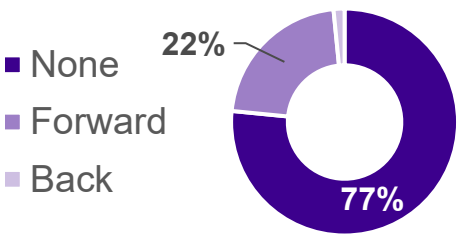
Use Amounts Weighted



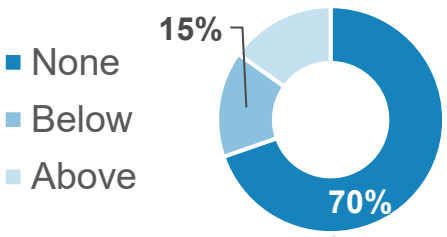
Use Base Table Scaling

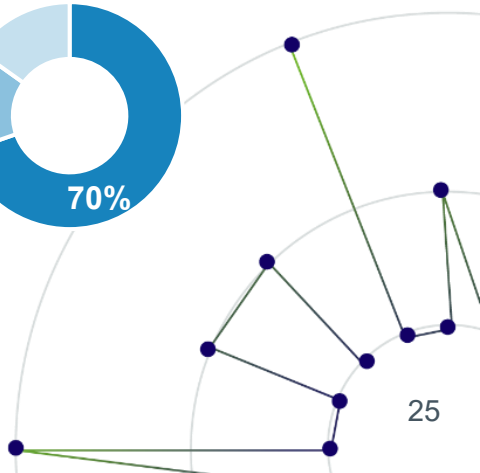


Use Set Forward / Set Back



Use Above/Below Median

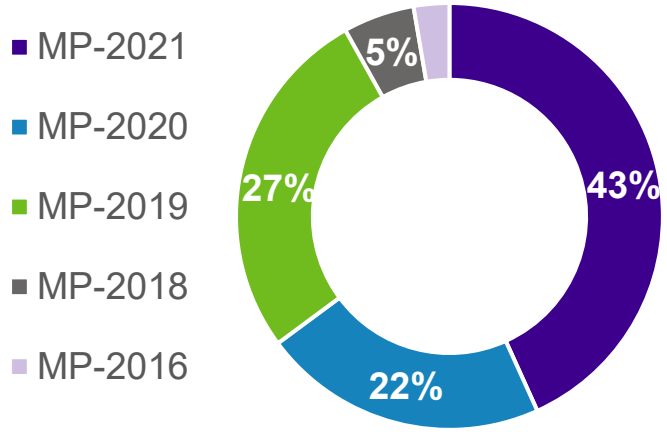




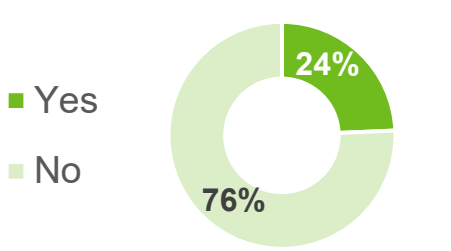
Public Safety Plans

Mortality Assumption Table Benchmark Statistics

Improvement Tables



Improvement Scaling



Key Insights & Observations

- A majority (64%) of the Public Safety Plans are using the Pub-2010 Public Safety mortality base table for healthy annuitants.
- 5 of the 8 iterations of the MP Improvement scales released by the SOA are being used by at least one public safety pension plan
- As seen in the chart on page 22, most plans use assumptions that produce life expectancies less than the baseline table
    - 54% of Plans added scaling to their base line assumption. The average scaling factor for these plans was 104%.

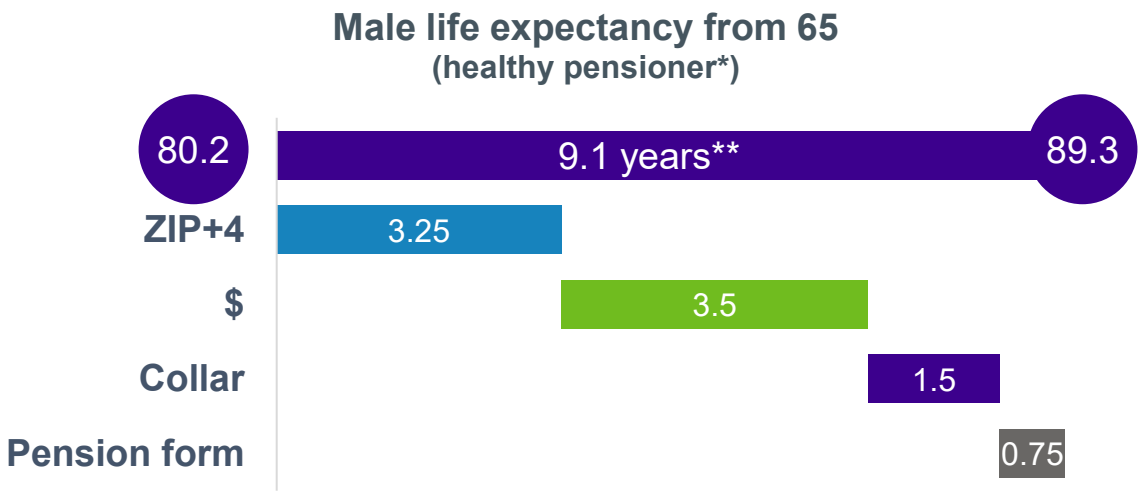
5. Benefits of Club Vita

Capturing Member Diversity

The benefits of multi-factor modeling

The graphic below illustrates how life expectancy at age 65 for a healthy male pensioner can vary by over 9 years, depending on a few key personal characteristics. While traditional models use broad averages (like age and gender), multifactor mortality modeling breaks longevity down further using data points like ZIP+4 (which captures local socioeconomic conditions), income or benefit amount, occupation type (blue-collar vs. white-collar), and the form of pension received. Each of these factors contributes additional insight, allowing actuaries to move from a single plan level assumption to a personalized longevity forecast.

For public pension plans, this approach can significantly improve the precision of liability estimates and funding strategies, especially among subgroups. By understanding the longevity patterns within different segments of the membership, rather than relying on averages, plans can better allocate resources, evaluate fairness across tiers, and support more accurate actuarial valuations. It also lays the groundwork for more equitable and data-driven discussions around benefit design and sustainability.



Source: Club Vita CV24 Mortality Model;

*For disabled pensioner curves add another ½ year to life expectancy range.

**Sum of individual impacts may not be equal to total impact due to rounding.

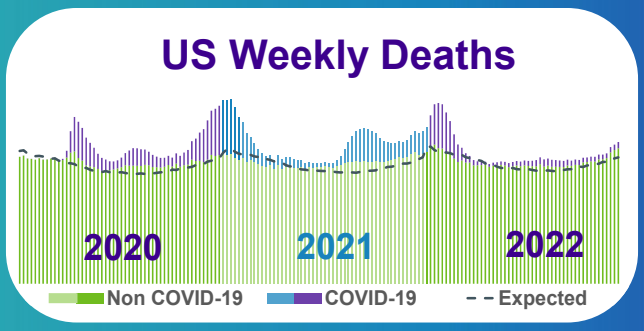
Note: Indicative impact of changing one variable in isolation. Exact impact varies depending on values taken by other variables.

Mastering your longevity risk: 5 essential considerations for Public Plans

CLUB VITA

1 Understand the demographic profile of your participants and benchmark against your peers.

2 Use the latest available data to validate your assumptions and understand how emerging trends and evolving best practice might impact your Plan in the wake of COVID-19.



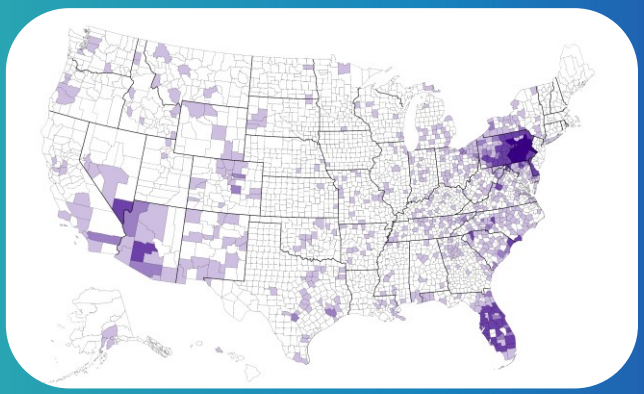
Number of pension recipients identified as dead

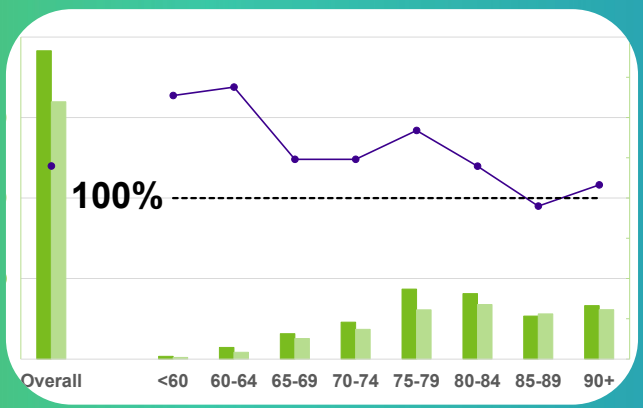
Potentially recoverable payments

$751k

3 Regular data quality screenings, leading to potential record cleansing and identification of areas where immediate cost savings can be made.

4 ZIP code modeling empowers Public Plans to capture the diversity of their specific participants rather than relying on national averages.





5 Annual experience studies to fine tune your assumptions to Plan experience and stay up-to-date with the latest information.

If you would like to discuss the survey results, please do not hesitate to contact us. We hope you found these results insightful!

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Director, Client Delivery
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Michael Reid
Head of North American Pensions
michael.reid@clubvita.net

Appendix – Full List of Modeled Plans

General Plans

Below is a list of 73 systems and plans whose assumptions were included in the report, organized by state.

Please contact Club Vita if your plan is not listed and you're interested in participating in future analyses.

Alabama

- Employees Retirement System of Alabama

Alaska

- Public Employees' Retirement System of Alaska

Arizona

- City of Pheonix Employees' Retirement System
- Arizona State Retirement System

Arkansas

- Arkansas Public Employees' Retirement System
- Arkansas State Highway Employees' Retirement System

California

- California Public Employees' Retirement System
- Contra Costa County Employees' Retirement Association
- Los Angeles County Employees Retirement Association
- Orange County Employees Retirement System
- San Diego County Employees Retirement Association
- San Francisco Employees' Retirement System

Colorado

- Colorado Public Employees' Retirement Association – Local Government Division
- Colorado Public Employees' Retirement Association – State Division
- Denver Employees Retirement Plan

General Plans (cont.)

Connecticut

- Connecticut State Employees Retirement System

Delaware

- Delaware Public Employees' Retirement System

Florida

- Florida Retirement System

Georgia

- Employees’ Retirement System of Georgia

Hawaii

- Employees’ Retirement System of the State of Hawaii

Idaho

- Public Employee Retirement System of Idaho

Illinois

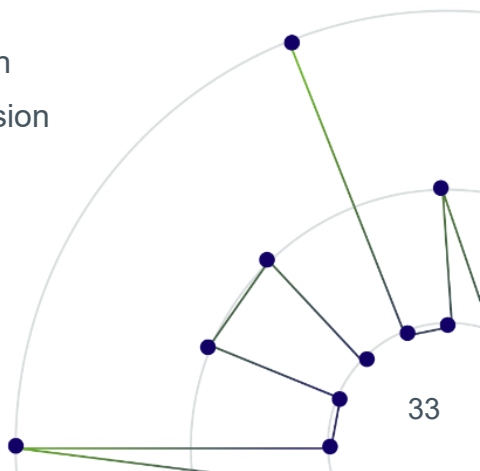
- Illinois Municipal Retirement Fund
- State Employees' Retirement System of Illinois
- Municipal Employees’ Annuity and Benefit Fund of Chicago

Iowa

- Iowa Public Employees' Retirement System – State Division
- Iowa Public Employees' Retirement System – General Division

Kansas

- Kansas Public Employee Retirement System - State
- Kansas Public Employee Retirement System - Local



General Plans (cont.)

Kentucky

- Kentucky Employees Retirement System

Louisiana

- Louisiana Parochial Employees' Retirement System
- Louisiana State Employees' Retirement System

Maine

- Maine Public Employees Retirement System – Local Government
- Maine Public Employees Retirement System – State Government

Maryland

- Maryland State Retirement and Pension System – State Employees
- Maryland State Retirement and Pension System – Municipal Employees

Massachusetts

- Massachusetts State Employees' Retirement System

Michigan

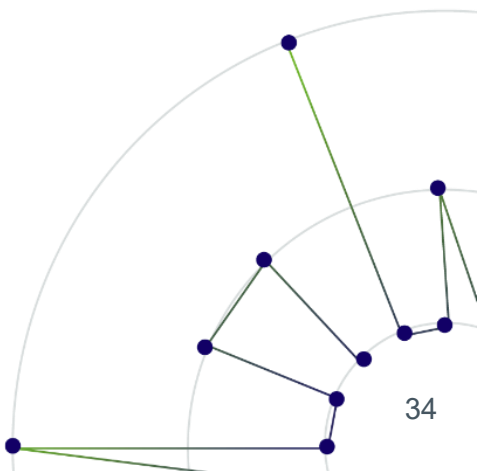
- Michigan Municipal Employees' Retirement System
- Michigan State Employees' Retirement System

Minnesota

- Minnesota Public Employees Retirement Association
- Minnesota State Employees Retirement System

Mississippi

- Public Employees' Retirement System of Mississippi



General Plans (cont.)

Missouri

- Missouri Local Government Employees Retirement System
- Missouri State Employees Retirement System

Montana

- Montana Public Employees' Retirement Association

Nevada

- Public Employees' Retirement System of Nevada

New Hampshire

- New Hampshire Retirement System

New Jersey

- New Jersey Public Employees' Retirement System

New Mexico

- New Mexico Public Employees’ Retirement System

New York

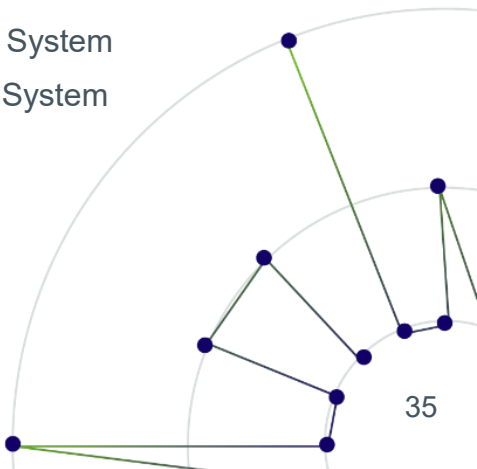
- New York City Employees’ Retirement System
- New York State and Local Retirement System

North Carolina

- North Carolina Local Governmental Employees' Retirement System
- North Carolina Teachers' and State Employees' Retirement System

North Dakota

- North Dakota Public Employees Retirement System



General Plans (cont.)

Ohio

- Ohio Public Employees Retirement System

Oklahoma

- Oklahoma Public Employees Retirement System

Oklahoma

- Oregon Public Employees’ Retirement System

Pennsylvania

- Pennsylvania State Employees' Retirement System

Rhode Island

- Employees' Retirement System of Rhode Island
- Municipal Employees' Retirement System of Rhode Island

South Dakota

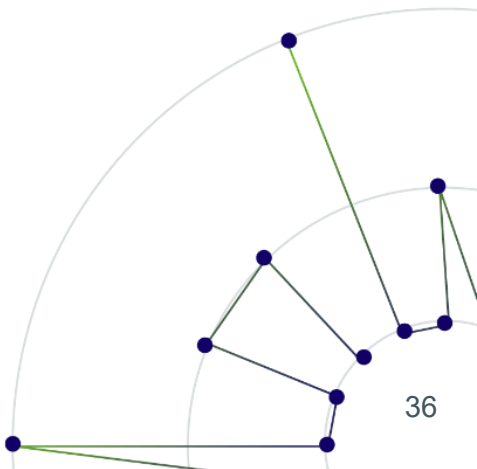
- South Dakota Retirement System

Tennessee

- Tennessee Consolidated Retirement System

Texas

- City of Austin Employees' Retirement System
- Employees Retirement System of Texas
- Texas County & District Retirement System
- Texas Municipal Retirement System



General Plans (cont.)

Vermont

- Vermont State Employees' Retirement System

Virginia

- Virginia Retirement System – General Employees
- Virginia Retirement System – State Employees
- Virginia Retirement System – Political Subdivision Employees

West Virginia

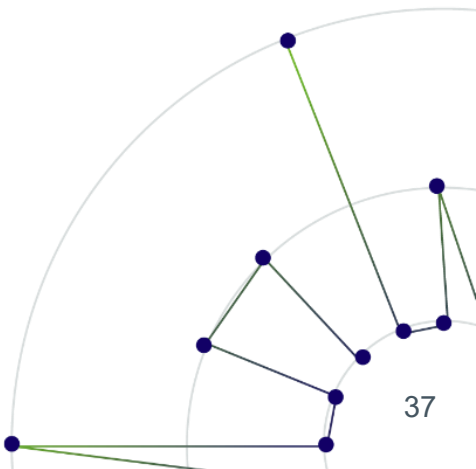
- West Virginia Public Employees Retirement System

Wyoming

- Wyoming Retirement System

Washington

- Washington Public Employees' Retirement System
- Washington School Employees' Retirement System



Teachers' Plans

Below is a list of 45 systems and plans whose assumptions were included in the report, organized by state.

Please contact Club Vita if your plan is not listed and you're interested in participating in future analyses.

Alabama

- Teachers' Retirement System of Alabama

Alaska

- Teachers' Retirement System of Alaska

Arkansas

- Arkansas Public Employees' Retirement System

California

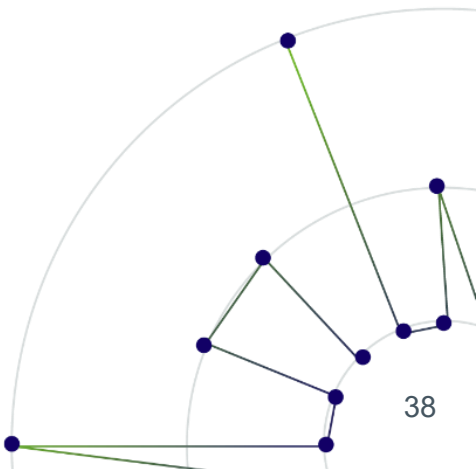
- California State Teachers' Retirement System

Colorado

- Colorado Public Employees' Retirement Association – School Division
- Denver Public Schools Retirement System

Connecticut

- Connecticut Teachers' Retirement Board



Teachers' Plans (cont.)

District of Columbia

- District of Columbia Teachers' Retirement Plan

Florida

- Florida Retirement System

Georgia

- Teachers Retirement System of Georgia

Hawaii

- Employees' Retirement System of the State of Hawaii

Illinois

- Public School Teachers' Pension and Retirement Fund of Chicago
- Teachers' Retirement System of the State of Illinois
- State Universities Retirement System of Illinois

Indiana

- Indiana State Teachers' Retirement Fund

Iowa

- Iowa Public Employees' Retirement System – Teachers Division

Kansas

- Kansas Public Employees Retirement System – School Employees

Kentucky

- Teachers' Retirement System of Kentucky

Teachers' Plans (cont.)

Louisiana

- Teachers' Retirement System of Louisiana

Maine

- Maine Public Employees Retirement System

Maryland

- Maryland State Retirement and Pension System

Massachusetts

- Massachusetts Teachers' Retirement System

Michigan

- Michigan Public Employees' Retirement System

Minnesota

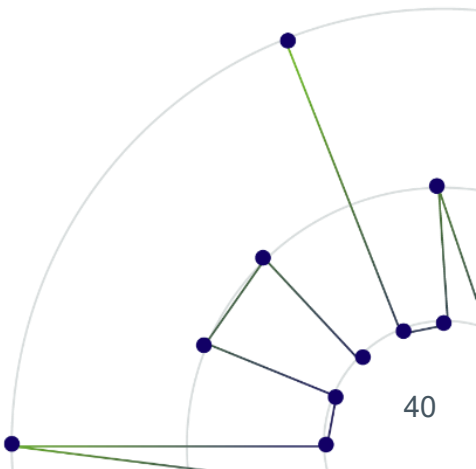
- Minnesota Teachers Retirement Association
- St. Pauls Teachers Retirement Fund

Missouri

- Public School Retirement System of the City of St. Louis
- Public School Retirement System of Missouri

Montana

- Montana Teachers' Retirement System



Teachers' Plans (cont.)

Nebraska

- Nebraska School Employees Retirement System

New Jersey

- Teachers' Pension and Annuity Fund of New Jersey

New York

- New York State Teachers' Retirement System
- Teachers' Retirement System of the City of New York

North Carolina

- North Carolina Teachers' and State Employees' Retirement System

North Dakota

- North Dakota Teachers' Fund for Retirement

Ohio

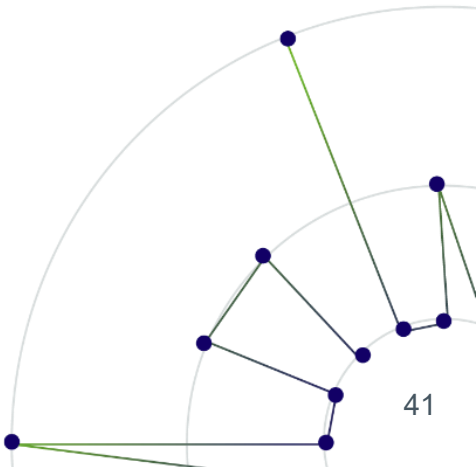
- School Employees Retirement System of Ohio
- State Teachers Retirement System of Ohio

Pennsylvania

- Pennsylvania Public School Employees' Retirement System

Rhode Island

- Employees' Retirement System of Rhode Island



Teachers' Plans (cont.)

South Dakota

- South Dakota Retirement System

Tennessee

- Tennessee Consolidated Retirement System

Texas

- Teacher Retirement System of Texas

Vermont

- Vermont State Teachers' Retirement System

Virginia

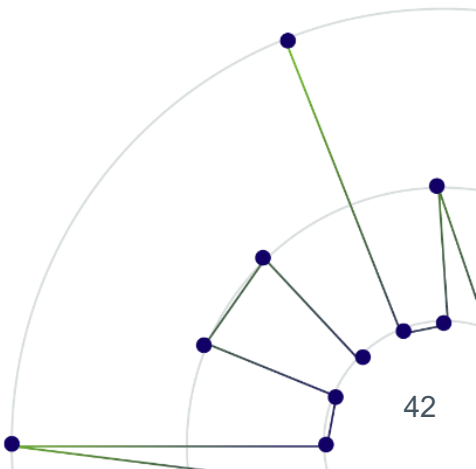
- Virginia Retirement System

West Virginia

- West Virginia Teachers' Retirement System

Washington

- Washington State Teachers' Retirement System



Public Safety Plans

Below is a list of 37 systems and plans whose assumptions were included in the report, organized by state.

Please contact Club Vita if your plan is not listed and you're interested in participating in future analyses.

Alabama

- Employees' Retirement System of Alabama

Alaska

- Alaska Public Employees' Retirement System

Arizona

- Arizona Public Safety Personnel Retirement System

California

- California Public Employees' Retirement System
- Contra Costa County Employees' Retirement Association
- Los Angeles County Employees Retirement Association
- Orange County Employees Retirement System
- San Francisco Employees' Retirement System

Colorado

- Colorado PERA – Local Government Division
- Colorado PERA – State Division

Connecticut

- Connecticut State Employees Retirement System

Public Safety Plans (cont.)

District of Columbia

- District of Columbia Police Officers and Firefighters' Retirement Plan

Florida

- Florida Retirement System

Idaho

- Public Employee Retirement System of Idaho

Illinois

- Illinois State Employees' Retirement System

Iowa

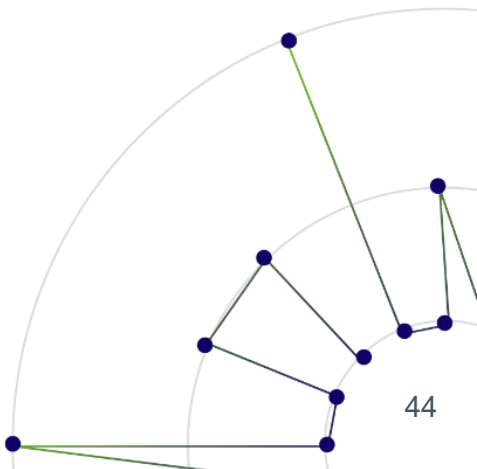
- Iowa Public Employees' Retirement System

Kansas

- Kansas Public Employees Retirement System

Maryland

- Maryland State Retirement and Pension System



Public Safety Plans (cont.)

Nevada

- Nevada Public Employees' Retirement System

New Hampshire

- New Hampshire Retirement System

New Jersey

- New Jersey Police and Firemen's Retirement System

New York

- New York State and Local Police and Fire Retirement System

North Carolina

- North Carolina Local Governmental Employees' Retirement System
- North Carolina Teachers' and State Employees' Retirement System

North Dakota

- North Dakota Public Employees Retirement System

Ohio

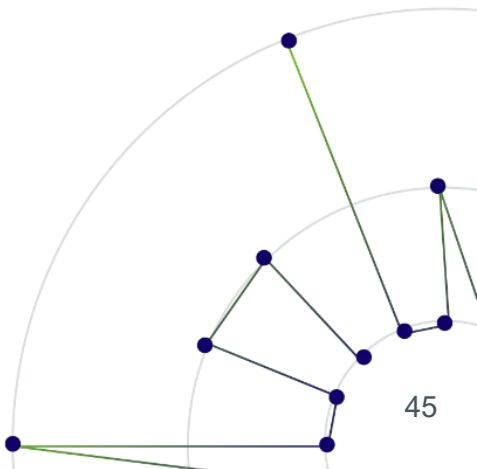
- Ohio Police & Fire Pension Fund

Rhode Island

- Employees' Retirement System of Rhode Island

South Carolina

- South Carolina Police Officers Retirement System



Public Safety Plans (cont.)

South Dakota

- South Dakota Retirement System

Texas

- Houston Firefighters' Relief and Retirement Fund
- Texas Employees Retirement System – Law Enforcement and Custodial Officers

Virginia

- Virginia Retirement System – State Police Officers' Retirement System
- Virginia Retirement System – Political Subdivisions with Hazardous Duty Coverage
- Virginia Law Officers' Retirement System

Washington

- Washington Public Safety Employees' Retirement System
- Washington Law Enforcement Officers' and Fire Fighters' Retirement System
- Washington State Patrol Retirement System