

Office of the State Actuary

“Supporting financial security for generations.”

July 2022

Ms. Hailey Blankenship
Executive Secretary
Board for Volunteer Firefighters and Reserve Officers

SUBJECT: 2022 VFF ECONOMIC EXPERIENCE STUDY

Dear Hailey:

This letter shares the results of an economic experience study of the Washington State Volunteer Fire Fighters’ and Reserve Officers’ Relief and Pension Fund (VFF). The purpose of this study is to document the analysis that supports our Inflation and Investment Rate of Return assumptions that will be used as part of future VFF Actuarial Valuation Reports. Please replace this letter when more recent analysis becomes available.

Executive Summary

To prepare this analysis, the Office of the State Actuary (we) primarily relied on our [2021 Economic Experience Study](#) (EES), which covers the Washington State retirement plans administered by the Department of Retirement Systems (DRS). The following table summarizes our long-term economic assumptions for VFF.

Assumption	Rate
Inflation	2.25%
Investment Rate of Return	6.00%

- ❖ The Inflation assumption is used to model annual Cost-Of-Living Adjustments (COLAs) for the relief annuity benefits. Based upon the average period over which VFF benefits are expected to be paid and the inflation forecasts noted in the 2021 EES (as well as other considerations), we selected a 2.25 percent Inflation assumption. The Inflation assumption also serves as a building block for setting the Investment Rate of Return assumption.
- ❖ The Investment Rate of Return assumption is used to model expected annual returns on plan assets, as well as to estimate today’s value of future plan obligations. Based primarily on the VFF asset allocation recently adopted by the Washington State Investment Board (WSIB) and their simulated returns, we selected a 6.00 percent Investment Rate of Return assumption.

Please see the remainder of this letter for additional details on how we set these assumptions and our actuarial disclosures.

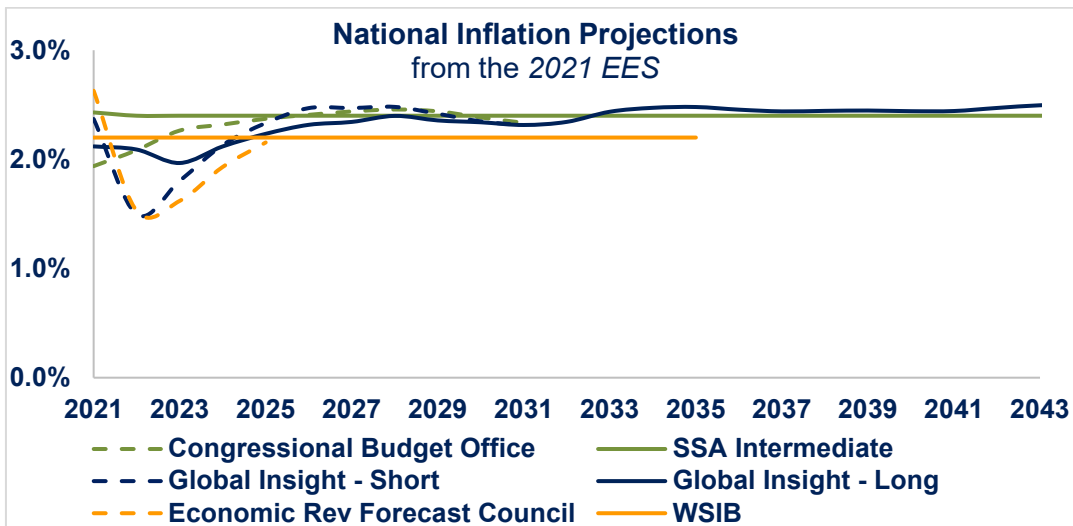


Inflation

The Inflation assumption is used to project the annual COLAs that are applied to VFF duty-related death and disability relief annuities. Per the Revised Code of Washington [41.24.150](#) and [41.24.160](#), the COLA is based on annual changes in the National Consumer Price Index for Urban Wage Earners and Clerical Workers, compiled by the United States Bureau of Labor Statistics. For context, relief annuities comprise roughly 3 percent of overall VFF plan liabilities; as a result, we do not expect changes to the Inflation assumption to have a significant impact to VFF.

In the 2021 EES, our office studied both National and Regional inflation. We believe the National inflation analysis serves as a reasonable basis for establishing an Inflation assumption for VFF. Below is a summary of the key takeaways from that study published in August of 2021.

- ❖ Historical inflation has shown a general downward trend over time. Additionally, the Federal Reserve has been maintaining a long-term inflation target of 2 percent, with a short-term target moderately exceeding 2 percent.
- ❖ External national inflation forecasts display mixed expectations, but most expect long-term inflation to be in the range of 2.2 to 2.5 percent (see graph below).



- ❖ We assumed national inflation would be 2.35 percent based on a projection period (or duration) of 10 to 25 years for the Washington State retirement systems managed by DRS. This duration represents the average length of time for plan liabilities, measured on a present value basis, to be disbursed as benefit payments.

VFF has a shorter plan duration (10 to 15 years) compared to the majority of the DRS plans. Based upon this information and our professional judgement, we selected a slightly lower Inflation assumption of 2.25 percent for VFF. Please see the 2021 EES for additional details on the information and considerations outlined above.



As of publication of this letter, the United States is in a period of higher inflation relative to the past 20 years. We did not adjust our assumption to reflect this short-term inflationary experience due to the nature of our long-term assumptions. We will review the Inflation assumption again for our 2023 EES and will make adjustments at that time if needed. Any assumption changes resulting from the 2023 EES will be considered for the next VFF Economic Experience Study.

Investment Rate of Return

The Investment Rate of Return assumption is used to project the annual, long-term expected return on plan assets. This assumption also serves as the plan’s discount rate, which is used to estimate the present value of future plan obligations (i.e., benefit payments).

In 2021, WSIB established a new set of Capital Market Assumptions (CMAs) as well as a new target asset allocation for VFF. Collectively, this represents the expected asset performance and their weighting. The following table displays the expected arithmetic return and standard deviation by asset class from the WSIB 2021 Capital Markets White Paper¹, as well as the target allocations for the asset classes which VFF funds are invested in.

2021 CMAs			
Asset Class	Target VFF Allocation	Arithmetic Return	Standard Deviation
Public/Global Equity	70%	8.10%	19.00%
Fixed Income*	30%	3.50%	5.70%

**Reflects the "Intermediate Credit" sub-class that WSIB is using for VFF.*

As an additional reference point, WSIB provided our office with simulated future investment returns under varying projection periods for VFF. The median (50th percentile) simulated geometric returns were roughly 6.0 to 6.2 percent over a 5- to 20-year projection period.

WSIB Simulated Investment Returns over Various Projection Periods				
	5 Years	10 Years	15 Years	20 Years
75th Percentile	10.71%	9.42%	8.61%	8.29%
50th Percentile	6.24%	6.04%	6.10%	5.97%
25th Percentile	1.77%	2.94%	3.48%	3.82%

Similar to the 2021 EES, we considered a series of adjustments to the WSIB CMAs. However, we do not believe these considerations will materially impact our Investment Rate of Return assumption for VFF. This is due to (1) the asset classes available to the VFF investment portfolio, (2) WSIB’s 15-year projection period more closely aligning with the duration of the VFF plan, and (3) our 2.25 percent Inflation assumption for VFF being much closer to WSIB’s 2.20 percent inflation assumption than the 2.35 percent inflation assumption we set for the DRS plans.

¹This communication is not on the WSIB website; with their approval, we can provide a copy upon request.



Lastly, the VFF plan assets have historically been invested by both WSIB and the Washington Office of the State Treasurer (OST). The distribution of plan assets between these accounts has fluctuated over time; however, it is our understanding that the VFF Board intends to limit investments with OST to 1 to 2 percent of the overall plan assets. As a result, we do not expect the investment experience of the OST assets to have a material impact on future VFF investment returns.

Based upon this information and our professional judgement, we selected a 6.00 percent Investment Rate of Return assumption for VFF. Please see the 2021 EES for additional details on the information and considerations outlined above.

Since the publication of our 2021 EES, the VFF trust fund has experienced lower investment returns. We did not adjust our assumption to reflect this short-term investment experience due to the nature of our long-term assumptions. We will review the Investment Rate of Return assumption again as part of our 2023 EES and incorporate any applicable changes in the next VFF Economic Experience Study.

Actuarial Disclosures

Please read the analysis shown in this communication as a whole. Distribution of, or reliance on, only parts of this communication could result in its misuse and may mislead others.

Unless noted otherwise, we relied on the data, assumptions, and methods disclosed in the 2021 EES and our [2020 VFF Actuarial Valuation Report](#) to prepare this analysis; we believe they are reasonable and appropriate for the purpose stated above. The use of another set of data, assumptions, and methods may also be reasonable and could result in a materially different set of economic assumptions.

We prepared this analysis as of the date shown in the footer. We intend this analysis to be used strictly for informational purposes by the Board for Volunteer Fire Fighters and as support for future actuarial valuations. The economic analysis contained herein will change over time, so we intend to update this analysis every two to four years, or as we deem appropriate. Please replace this letter when the next VFF Economic Experience Study becomes available.

We prepared this analysis and provided opinions in accordance with Washington State law and accepted Actuarial Standards of Practice. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. While this communication is meant to be complete, we are available to provide extra advice and explanations as needed.

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