MANAGEMENT AND BUDGET

March 13, 2026

Senator John Marty
Chair, Senate Finance Committee
3235 Minnesota State Building
Saint Paul, MN 55155

Senator Eric Pratt
Ranking Member, Senate Finance Committee
2217 Minnesota State Building
Saint Paul, MN 55155

Senator Ann Rest
Chair, Senate Taxes Committees
328 Capitol
Saint Paul, MN 55155

Senator Bill Weber
Ranking Member, Senate Taxes Committee
2211 Minnesota State Building
Saint Paul, MN 55155

Representative Cedrick Frazier
Co-Chair, House Ways and Means Committee
5th Floor, Centennial Office Building
Saint Paul, MN 55155

Representative Paul Torkelson
Co-Chair, House Ways and Means Committee
2nd Floor, Centennial Office Building
Saint Paul, MN 55155

Representative Greg Davids
Co-Chair, House Taxes Committee
2nd Floor, Centennial Office Building
Saint Paul, MN 55155

Representative Aisha Gomez
Co-Chair, House Taxes Committee
5th Floor, Centennial Office Building
Saint Paul, MN 55155

RE: Revenue Forecast Uncertainty Report

Dear Legislative Leaders:

Pursuant to MS. 16A.103, Subdivision 1h, please find the enclosed report, *Revenue Forecast Uncertainty*. You can direct any questions to State Economist, Dr. Anthony Becker at Anthony.D.Becker@state.mn.us.

Sincerely,

Erin M. Campbell

Erin Campbell
Commissioner

cc: Dr. Anthony Becker, State Economist, Minnesota Management and Budget
Ahna Minge, State Budget Director, Minnesota Management and Budget
Bryan Dahl, Financial Services Director, Minnesota Management and Budget
Eric Nauman, Senate Principal Fiscal Analyst
Emily Adriaens, House Chief Fiscal Analysis

Revenue Forecast Uncertainty Report

March 2026

Summary of Revenue Forecast Uncertainty for the Current Biennium

In Minnesota's February 2026 *Budget and Economic Forecast*, total revenues for the FY 2026-27 biennium are forecast to be $67.464 billion. This forecast was constructed seventeen months before the current biennium closes. If this forecast has the same accuracy measured by the percentage of closing revenues as our previous seventeen-months-ahead forecasts, then, on average, FY 2026-27 closing revenues should be between $65.411 and $69.517 billion ($67.464 ± $2.053 billion). An alternative approach for determining a likely range for closing revenues uses statistical variation in the historic errors, and it gives a range of $63.997 to $70.931 billion ($67.464 ± $3.467 billion) for closing revenues with 90 percent statistical confidence

Estimating Revenue Forecast Uncertainty

The forecast error, the difference between the level of revenues forecast and the amount of revenue collected by the close of a biennium, is the basis of all measurements of forecast accuracy. Because the magnitude of the State's revenues has varied over time, we measure forecast errors as percentages of closing revenues. The mean absolute percentage error (MAPE) is the mathematical average of the absolute values (that is, looking only at the magnitude of the error and ignoring the sign) of the percentage errors and is a common and useful measure of overall forecast accuracy.[1] A forecast with a lower MAPE is, on average, a more accurate forecast, other things equal. Another measure of overall forecast accuracy is the root mean squared error (RMSE) which is an estimate of the statistical variation (standard deviation) of the forecast errors. Like the MAPE, a forecast with a lower RMSE is considered a more accurate forecast, other things equal.

The accuracy of a forecast of a single biennium's revenues usually improves as the time until the close of the biennium decreases. Therefore, we calculate separate errors for each time a biennium is part of the forecast: 32, 29, 20, 17, 8 and 5 months from the close of the biennium. We then compute the forecast error statistics (MAPE and RMSE) for each time horizon using forecast experience for each biennium from FY 1990-91 to FY 2024-25, the most recently closed period.

While the focus in the *Budget and Economic Forecast* is on total revenues, we compute our forecast errors considering only the non-dedicated revenues in the state's general fund. Non-dedicated revenues exclude revenues dedicated by law to specific programs, transfers from other funds, and

[1] Versions of the Revenue Forecast Uncertainty Report prior to December 2025 used the term "mean absolute error" (MAE) but calculated the errors in percentage terms. Beginning with the December 2025 report, we updated the term to "mean absolute percentage error" (MAPE) to be clear about our methods, but the calculation remains the same as in previous reports.

accounting adjustments from prior years.[2] For the FY 2026-27 biennium, non-dedicated revenues are forecast to be $67.004 billion, and total revenues are forecast to be $67.464 billion, a difference of $460 million ($0.460 billion).

The February 2026 forecast for FY 2026-27 revenues was conducted seventeen months from the biennium's close. The MAPE for our historic seventeen-month-ahead forecasts is 3.1 percent of non-dedicated revenues, or approximately $2.053 billion for the current biennium.[3] If this forecast performs as well as prior forecasts 17 months from the close, we expect that the forecast error will be ± $2.053 billion, on average. Consequently, for FY 2026-27 a possible range of closing values is $67.464 billion ± $2.053 billion, or $65.411 to $69.517 billion.

Another way to measure the degree of forecast uncertainty is to calculate a statistical confidence range (CR) for our revenue forecast closing value. A 90 percent CR for our revenue forecast is the range of values that statistical theory indicates will contain the actual value for total revenues with a probability of 90 percent. As with the MAPE, we calculate the CR using forecast errors expressed as percentages of non-dedicated revenues.[4] For FY 2026-27, the 90 percent confidence range is $67.464 ± 3.467 billion (± 5.2 percent) or $63.997 to $70.931 billion.

Note that all the error measures reported here are solely for the State's revenue forecasts. They do not include estimates of errors in forecasting state expenditures.

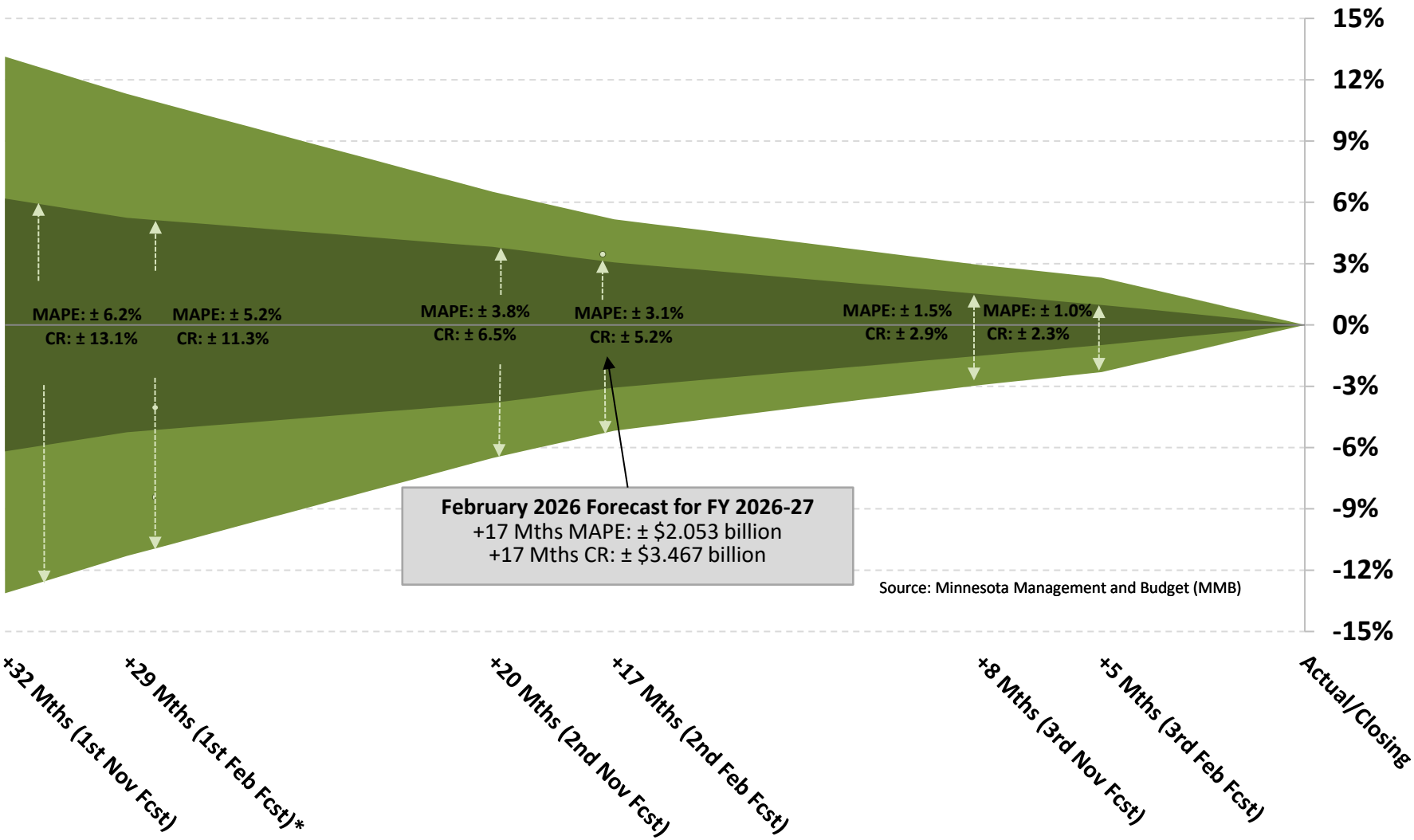
Sources of Revenue Forecast Uncertainty

Actual revenue collections never precisely match the forecast for various reasons. First, economic data from time periods preceding a forecast (such as employment or consumer spending data) are not perfectly measured and are frequently revised after they are used to construct a forecast. Second, even if past U.S. economic data were perfectly measured, modeling errors and the inability to foresee the direction and magnitude of all future random shocks to the economy would prevent our macroeconomic consultant from perfectly forecasting the U.S. economy. Third, errors in the U.S. forecast and in Minnesota's data history, coupled with inaccuracies in modeling the Minnesota economy introduce errors into our forecast of the State's economy. Fourth, even if the Minnesota economy were forecast with perfect accuracy, our forecasts of Minnesota tax revenues would still contain some error from imperfections in our revenue forecasting models, mismatches between the economic and tax definitions of income and spending items, inconsistencies in the timing of receipts from a given year's tax liability, and uncertainty about the revenue impacts of changes in state tax laws.

[2] Dedicated revenues refer to revenues that are statutorily directed for a specific purpose and do not benefit the general fund bottom line. Most dedicated revenues are deposited in other funds in the state treasury, such as the special revenue fund. The only dedicated revenues in the general fund are one percent of the tax on lawful gambling proceeds, which is dedicated to compulsive gambling programming within the Department of Human Services.
[3] Percentages are shown rounded to the nearest tenth of a percent. All calculations use full-precision values.
[4] The formula used to calculate the CR uses the RMSE. A more accurate forecast is one with a smaller RMSE, and it will have a narrower CR.

Average Revenue Forecast Uncertainty over Minnesota's Budget Cycle

Mean Absolute Percentage Error (MAPE) and 90 Percent Confidence Range (CR),
As a Percent of Net Non-Dedicated Revenue, Sample Period: FY1990-91 to FY2024-25



* +29 Mths (1st Feb) represents the MMB forecast on which the original budget for the biennium was based.

90% Confidence Range (CR) (Two-Tail) Mean Absolute Pct Error (MAE)

Notes: Adjusted for the effects of legislation. MMB uses the mean absolute percentage error (MAPE) as a measures of accuracy in its evalulation of forecast uncertainty. MAPE is calculated by averaging forecast deviations from actual without regard to arithmetic sign. Under the assumption that tax policies do not significantly change, a 90% confidence range (CR) is a measure based on our sample budget data, reporting that 90% of the times the lightest range will contain the actual value for total revenues.