Portland Diamond Project
SB5 Revenue Modernization Analysis
March 2025

Project Understanding

The Portland Diamond Project (PDP) is seeking to finance a new baseball stadium located at Zidell Yards using various sources of funds, including municipal revenue bonds that are backed by Oregon personal income taxes generated from Major League Baseball players and staff. This funding method is permitted under Senate Bill 5 (SB-5), passed in 2003, which was designed to support a $300 million stadium with up to $150 million in public funding for a maximum period of 30 years.

Stadium costs and player salaries have increased dramatically since 2003. The following memo seeks to explore a variety of market scenarios to understand a reasonable upper limit that would update SB5 to current market conditions. There are a variety of public structures and types of bonds that are regularly used to finance sport stadiums across the country. What follows is an exploration of one possible structure that would establish a sports authority/public facilities district, paired with a particular type of tax-exempt municipal bond issuance. There are a number of potential structures and bonding mechanisms that have been recently used to publicly support stadium construction—a more thorough analysis should be conducted to evaluate the tradeoffs of different potential structures.

The amount of municipal bond financing that could be available in the future will ultimately depend on market conditions in 2030. Three key factors will influence whether the financing amount can achieve the maximum limit as outlined in an updated and modernized SB5. Various scenarios were modeled using different values for players' salaries, inflation, and interest rates—almost all supported a $900 million bond issuance with a 30 year or less repayment period.

DISCLAIMER: The following memo describes underlying assumptions and a high-level modeling approach to calculate potential amounts of municipal bonds that could be underwritten in the future. None of the following information should be construed as an investment recommendation, a revenue grade forecast, or legal advice. The primary purpose of the memo is to evaluate a variety of market scenarios to help inform PDP and conversations regarding the setting of a maximum public contribution limit for a potential SB5 update. Notwithstanding any information contained herein, any investment structures and decisions will need to be analyzed in the future based on the market conditions beyond the scope of this memo.

Debt security assumptions

The 2017 Tax Cuts and Jobs Act (TCJA) restricts the use of tax-exempt bonds for privately owned sports facilities. A common workaround is to create an agency that serves as a municipal corporation, specifically for the purpose of stadium construction and ultimately operation, to issue these bonds. Sports authorities or public facilities districts can qualify for tax exempt status if the stadium is also used for public events exceeding a minimum threshold of use.

The scenarios modeled in this memo assume a sports authority will be established due to the TCJA, and will issue 30-year revenue bonds backed by state personal income tax receipts as outlined in an a modernized SB5, starting January 1, 2030. The first game is expected to be played in 2031. These public entities typically own the stadium until the bonds are retired, at that point a new public-private partnership can be explored.

This analysis accounts for normal income tax revenue lags, with revenues projected to grow in line with team salaries for both players and non-players. SB-5 ensures this revenue stream remains protected from future income tax rate reductions.

The mismatch between revenue streams and traditional bond obligations presents a challenge when constructing a stadium. To address this mismatch, one commonly used approach to fund stadium construction is to issue original issue discount bonds (OIDs) that are continuously callable. The sale price of these bonds will be determined by the prevailing tax-exempt interest rate on 30-year municipal bonds.

As income tax revenue is collected, the sports authority will call bonds at the beginning of each year, gradually reducing the number of outstanding bonds until they are fully repaid.

Bondholders are highly sensitive to solvency. Since these bonds cannot be backed by the full faith and credit of the State of Oregon, we assume they will be supported by additional revenue streams as permitted for tax exempt bonds. These potentially include a variety of sources, such as lease payments, ticket taxes, and the net operating income of the PDP.

Model assumptions

In calculating organic income tax revenue from baseball teams, data sources included the State of Oregon, MLB, the U.S. Census Current Population Survey, and the U.S. Bureau of Labor Statistics. The following assumptions were used in the modeling:

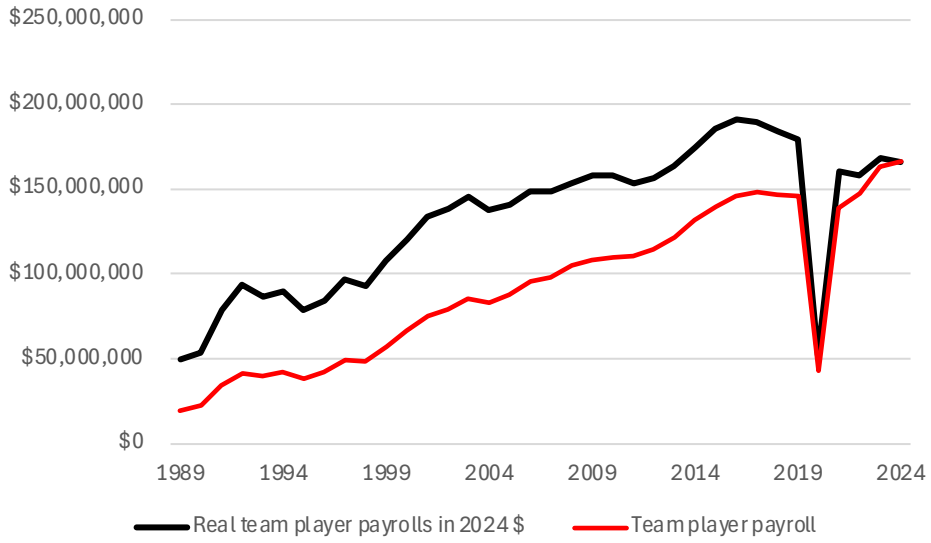
- MLB states that teams have 28 active player positions and 454 non-player employees, 54 of whom travel with teams.
- Non-player payroll averages 50% of player payroll.
- Non-players are assumed to pay 6.36% of their adjusted gross income in Oregon state personal income taxes, while players pay 8.62%.
- 83% of non-players are expected to reside in Oregon and file joint tax returns, and have an average of 1.64 additional wage earners per household. These additional earners are projected to earn $68,780 (2024 dollars).
- 75% of home team players are assumed to be full-year Oregon residents.
- 50% of non-players for the Portland franchise are expected to be working in Oregon in 2030, the year before opening day.

Baseball team payrolls

The Associated Press provides the most accurate assessment of team player salaries, with annual published payroll data going back to 1989.

These data show a consistent upward trend over time, with the notable exception of 2020, which was disrupted by COVID-19. Due to this anomaly, 2020 was excluded from the analysis. After adjusting for inflation, real payrolls have generally increased most years since 1990, as shown in in Figure 1.

Figure 1: Average MLB team player payrolls, 1989 to 2024, real 2024 inflation adjusted dollars and actual unadjusted dollars



Sources: Calculated by ECONorthwest using data from the US Bureau of Labor Statistics and Associated Press.

Payroll assumption

The analysis uses the 2024$ real average team player payroll data (the dark black line in Figure 1). For the payroll forecast, a logarithmic regression analysis was used to identify the best-fitted long-term trend, essentially overlaying a curved line on the data in Figure 1. This analysis produced a single estimated growth rate, along with a high and low range, which were incorporated into the bond repayment scenarios.

A regression analysis was conducted using payroll data from 1989 to 2024. However, the 1990s were an outlier due to expanding free agency, expanded TV and cable deals, and intense competition for talent, which resulted in an atypical period of salary growth. Since then, payroll growth has been more moderate. Trends for both the full 1989–2024 period and the more recent 2000–2024 period were calculated to account for similar potential future variations.

Looking ahead, a new collective bargaining agreement and renegotiation of national media rights in the next few years will directly impact team payrolls, adding another layer of uncertainty to future projections.

Inflation assumption

Three possible long-term inflation trends were included in the scenario analysis:

1. State of Oregon Forecast – 2.19% was the annual inflation rate from the last forecast year in the February 26, 2025, State of Oregon Economic Forecast.
2. Historical Inflation Trend –the long-term average inflation rate from the Consumer Price Index (CPI**)**, covering the entire series reported by the U.S. Bureau of Labor Statistics (1948–2024) is 3.82%.
3. Breakeven 30-Year Inflation Rate – Based on February data, the breakeven inflation rate calculated by the St. Louis Federal Reserve Bank, derived from the difference between 30-year nominal bonds and inflation-protected 30-year bonds is 2.33%.

Bond interest rate assumption

Research identified five fully tax-exempt Oregon municipal OID bonds with maturities of 20 years or more, all issued by school districts or counties. As of March 11, 2025, the interest rates on these bonds ranged from 4.264% to 4.837%.

Scenario Analysis Results

A variety of scenarios were created by adjusting each of the three key assumptions. The following 24 scenarios show the range assumptions that support a $900 million bond offering that could be paid off within 30 years under a modernized SB5.

While some combinations are less likely than others, inflation and interest rates are generally, but not always, positively correlated—meaning that when inflation rises, interest rates typically rise as well. However, real payroll growth for baseball teams is not strongly correlated with inflation since real payrolls are adjusted for inflation.

The tables that follow present a mean estimate, low estimate, and high estimate, referring to the assumed growth rate of real team payrolls. These annual growth rates extend to 2059, the 30th year, which is the longest period team payroll revenue may be used for bond repayment.

Each table includes:

- The first row: The assumed payroll growth rate. When based on historical growth from 1989 to 2024, the table title states "high payroll growth." When using data from 2000 to 2024, it is labeled "low payroll growth."

- The second row: The assumed long-term inflation rate, applied consistently across all forecast years. The table title specifies the rate used: "State 2.19 percent inflation rate," "1948-2024 U.S. inflation rate of 3.82 percent," or "30-year breakeven inflation rate of 2.33 percent."

- The third row: The interest rate for OID bonds issued in 2030. The acronym YTM (yield to maturity) represents the effective return on these bonds, which are sold at a discount and redeemed at full value. The table title indicates the assumed rate: "low OID rate of 4.264 percent" or "high OID rate of 4.837 percent."

- The fourth row: The final bond redemption year. As revenues accrue for the purpose of paying off bonds and accrued interest, the stadium authority will randomly call outstanding bonds for early redemption. Some bonds could be redeemed as late as the 30th year (2059).

Table 1: Bond performance assuming high payroll growth, State 2.19 percent inflation, and low OID rate of 4.264 percent

	Mean estimate	Low estimate	High estimate
Annual team real payroll growth 1989-2024	3.00%	2.43%	3.56%
Inflation	2.19%	2.19%	2.19%
Bond YTM when issued	4.26%	4.26%	4.26%
Final bond redemption year	2054	2056	2052

Table 2: Bond performance assuming high payroll growth, 1948-2024 U.S. inflation rate of 3.82 percent, and low OID rate of 4.264 percent

	Mean estimate	Low estimate	High estimate
Annual real team player payroll growth	3.00%	2.43%	3.56%
Inflation	3.82%	3.82%	3.82%
Bond YTM when issued	4.26%	4.26%	4.26%
Final bond redemption year	2050	2051	2048

Table 3: Bond performance assuming high payroll growth, State 2.19 percent inflation, and high OID rate of 4.837 percent

	Mean estimate	Low estimate	High estimate
Annual team real payroll growth 1989-2024	3.00%	2.43%	3.56%
Inflation	2.19%	2.19%	2.19%
Bond YTM when issued	4.84%	4.84%	4.84%
Final bond redemption year	2056	2058	2054

Table 4: Bond performance assuming high payroll growth, 1948-2024 U.S. inflation rate of 3.82 percent, and high OID rate of 4.837 percent

	Mean estimate	Low estimate	High estimate
Annual real team player payroll growth	3.00%	2.43%	3.56%
Inflation	3.82%	3.82%	3.82%
Bond YTM when issued	4.84%	4.84%	4.84%
Final bond redemption year	2051	2052	2049

Table 5: Bond performance assuming low payroll growth, 1948-2024 U.S. inflation rate of 3.82 percent, and low OID rate of 4.264 percent

	Mean estimate	Low estimate	High estimate
Annual real team player payroll growth	1.25%	0.81%	1.70%
Inflation	3.82%	3.82%	3.82%
Bond YTM when issued	4.26%	4.26%	4.26%
Final bond redemption year	2055	2057	2053

Table 6: Bond performance assuming low payroll growth, 1948-2024 U.S. inflation rate of 3.82 percent, and high OID rate of 4.837 percent

	Mean estimate	Low estimate	High estimate
Annual real team player payroll growth	1.25%	0.81%	1.70%
Inflation	3.82%	3.82%	3.82%
Bond YTM when issued	4.84%	4.84%	4.84%
Final bond redemption year	2057	2059	2055

Table 7: Bond performance assuming high payroll growth, 30-year breakeven inflation rate of 2.33 percent, and high OID rate of 4.837 percent

	Mean estimate	Low estimate	High estimate
Annual team real payroll growth 1989-2024	3.00%	2.43%	3.56%
Inflation	2.33%	2.33%	2.33%
Bond YTM when issued	4.84%	4.84%	4.84%
Final bond redemption year	2056	2058	2053

Table 8: Bond performance assuming high payroll growth, 30-year breakeven inflation rate of 2.33 percent, and low OID rate of 4.264 percent

	Mean estimate	Low estimate	High estimate
Annual team real payroll growth 1989-2024	3.00%	2.43%	3.56%
Inflation	2.33%	2.33%	2.33%
Bond YTM when issued	4.26%	4.26%	4.26%
Final bond redemption year	2054	2056	2052