Modeling District Revenue to Certify Debt Service Obligations: Methodology Update 2025

February 28, 2025

A report by EY/Quantitative Economics and Statistics
for the Office of the D.C. Auditor

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Executive Summary

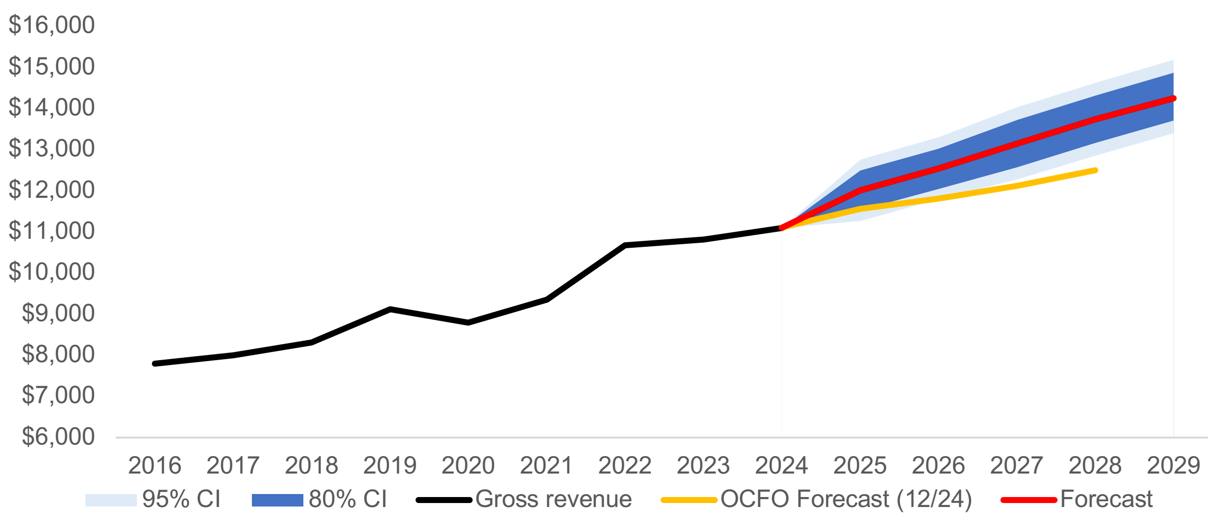
The District of Columbia Home Rule Act requires the Office of the District of Columbia Auditor (ODCA) to certify compliance with the 17% test prior to the issue of new general obligation bonds. To support this certification, ODCA engaged EY/Quantitative Economics and Statistics (EY/QUEST) in 2023 to develop forecasting models for District revenues, referred to as the "Certification Forecast." This forecast aims to provide an independent basis to determine that the official revenue projections prepared by the Office of the Chief Financial Officer of the District of Columbia (OCFO) support the proposed debt issuance. In 2024, ODCA re-engaged EY/QUEST to update these models for the 2025 certifications.

Updates to the model include the following:

1. Improved model for forecasting real property tax revenue
2. New model for universal paid leave employer contribution
3. Review of dedicated taxes

The Certification Forecast estimates gross revenue of $12.0 billion (comprising local fund and dedicated revenue) for FY 2025, compared to the OCFO December 2024 forecast of $11.6 billion.[1] Figure 1 illustrates the projected increase in gross revenue, expected to reach $14.2 billion by FY 2029, largely driven by growth in income and sales taxes. Additionally, the FY 2025 Budget Support Act of 2024 has contributed to revenue growth, including a transfer from the universal paid leave program and an increase to the general sales tax rate. The analysis indicates that the OCFO's December 2024 local fund estimate of $10.7 billion in FY 2025 falls within the confidence interval of the Certification Forecast, after accounting for revenues dedicated to other funds. However, beyond FY 2026, the OCFO forecast appears weaker than the confidence interval established by the Certification Forecast.

Figure 1. Total gross revenue forecast ($ in millions)



Sources: OCFO December 2024 Revenue Estimate, OCFO 2024 ACFR, ODCA (see Table A1 for inputs).

[1] Government of the District of Columbia, Office of the Chief Financial Officer. (2024, December 31). December 2024 Revised Revenue Estimates for FY2025 - 2028. Retrieved from: https://cfo.dc.gov/node/1759766

In addition, the Scenario section of this report outlines significant risks to District revenues that could result from initiatives of the new presidential administration and proposed federal legislation that could prohibit existing revenue-producing activities of the District.

I. Introduction

The Office of the District of Columbia Auditor (ODCA) is required to certify that total annual debt service on all bonds will not exceed 17% of the District's revenue (the "17% test") prior to the issuance of new general obligation bonds. To support this certification, ODCA engaged EY/Quantitative Economics and Statistics (EY/QUEST) in 2023 to develop models for forecasting District revenues, referred to as the "Certification Forecast." These models are designed to validate that the official revenue projections prepared by the OCFO are adequate for proposed debt issuance.

In 2024, the engagement was renewed to update the model for 2025 certification. This update incorporates several enhancements. First, the models projecting assessed real property have been improved and are more robust. Second, a model to project the distributions from the universal paid leave tax to the general fund was developed to provide validation of the OCFO forecast of this transfer. Finally, this document includes a review of some of the key dedicated taxes and recent policies modifying those dedications.

The forecast presented here is data-driven using econometric models to estimate the relationships between key economic and demographic variables and major revenue sources prior to any dedications. A complete list of inputs and sources for the models is provided in the appendix (Table A1). In cases where there is information about future tax changes (e.g., the implementation of the Fiscal Year 2025 Budget Support Act of 2024), that information is incorporated off-model. The Certification Forecast is meant to validate the official forecast prepared by the OCFO Office of Revenue Analysis (ORA) economists and not to replace it and should not be used as an official projection of District revenues.

Trends in the District economy

Over the last two decades, there have been several major developments in the District economy that will impact revenues and the modeling choices for those revenues. There are two trends that create a much more volatile fiscal environment. First, the District's population declined from 1964 to 2000. Beginning in 2005, that decline reversed as the District became a much more attractive place to live and work. An increase in population over two decades created pressure on housing markets, creating more demand in both traditionally strong neighborhoods and in newly competitive markets. The greatest growth was concentrated in relatively small land areas in the District, in most cases through infill development converted from other uses such as commercial and institutional buildings or underused land.[2] Despite infill development efforts, there was an overall tightening in the market due to increasing demand and declining housing production.[3]

The second major development was the COVID pandemic, which shuttered most of the District for several months and severely limited economic activity for over a year. It took the District four years to recover the lost population which is now about 700,000.[4] The slow population recovery during the period and the surge in technologically enabled remote work has created an enormous financial problem for the District, as it has for many large cities.

The District, as a result, may be going through a significant shift in its basic long term economic structure from a concentration in the federal and professional sectors to a concentration in the residential and tourism sectors. In the short term, the latter appears to be largely offsetting the former but over time it is not clear how damaging the loss of about half of the daytime population on any given day will be for the District. For example, the strength in recent years of sales tax has been more of a story of recovery than underlying strength in the tax base. And, while corporate and individual income tax revenue remains strong and resilient, office buildings in the central business district have suffered significantly, dragging down both deed and real property taxes. Recent announcements regarding potential federal workforce down-sizing or requiring federal employees to return to offices further confound the economic picture of the District.

For these reasons, the models used in the Certification Forecast allow for different trajectories of variables specific to these trends, providing “what-if” revenue forecast analyses under different scenarios. The models are also tailored to the affected major revenue sources: real property, sales and use, individual and business income, and deed taxes. The principal risk facing the District at this moment in time is the status of federal workers which will be elaborated in the Scenario section.

Outlook

The outlook for the District economy is for slowing growth in the short term, and while it does not include a recession, there are several risks facing the District. The population has been increasing and is projected to continue to increase albeit at a relatively slow rate. Remote work as measured by the Kastle index appears to have settled around 50% pre-COVID occupancy.[5] Across the country, some larger employers are beginning to require employees to return to the office, including in-person policies for the Washington Metropolitan Area Transit Authority and the

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[2] Brooks, L. & Schuetz, J. (2023). Does Housing Growth in Washington, D.C., Reflect Land Use Policy Changes? *U.S. Department of Housing and Urban Development, Office of Policy Development and Research.* Cityscape: A journal of Policy Development and Research, *Volume 25, Number 2.* Retrieved from: https://www.huduser.gov/portal/periodicals/cityscape/vol25num2/ch9.pdf

[3] Turner, M. A., Reynolds, K., Hendy, L., Shroyer, A., Martin, S., Brennan, M., Strochak, S., Su, Y., Tatian, P., & Fedoroqicz, M. (2019, September). Meeting the Washington Region’s Future Housing Needs: A Framework for Regional Deliberations. *Urban Institute.* Retrieved from: https://www.urban.org/sites/default/files/publication/100946/meeting_the_washington_regions_future_housing_needs_2.pdf

[4] In November 2024, Census published updated intercensal population figures for 2010-2020 which now show the District had not crested 700,000 as previously estimated. Pre-revision 2019 population was 708,253 and post revision it is 687,320, as reported in the OCFO FY 2024 annual comprehensive financial report (Exhibit S-4A). The decline due to COVID was still a significant 20,000.

[5] Kastle. (2023, September 26). Evidence of the New Hybrid Work Patter: Commercial Real Estate, Tenant. Retrieved from: https://www.kastle.com/resource/evidence-of-the-new-hybrid-work-pattern/

Washington Post, both with headquarters in Washington DC.[6] It has yet to be seen if other employers in the area will follow suit. The federal government has also announced an end to remote work policies.[7]

The primary risks to the District stem from what the Federal government might do in terms of workforce and budget. First, the new Administration appears to be interested in significant restructuring of government agencies and reducing or eliminating many programs. A similar but more cautious effort in the mid-1990s resulted in a District-specific recession as work undertaken by government agencies was transferred to contractors more likely to be outside the District (though still in the metro area).[8] Second, the federal debt ceiling has once again been reached and a government shutdown is a possibility. Third, inflationary policies like broad tariffs could raise interest rates as the Federal Reserve Federal Open Market Committee reconsiders further cuts to the federal funds rate, the anchor for other rates used for capital borrowing.[9] Fourth, a much more nuanced risk discussed later in the Scenario section is the possible reduction in federal workforce coupled with a federal return to office.[10] Finally, Congressional riders on appropriation bills that target the District could have a material impact on District finances.[11] In particular, a House rider on last year's appropriation bill would have prohibited the District from carrying out its program of automated traffic enforcement.[12] This program accounted for $180 million in FY 2024 and is expected to grow to $333 million in FY 2025.[13]

The Certification Forecast is modeled using endogenous economic and demographic variables from Oxford Economics, CoStar and the Congressional Budget Office. Table 1 summarizes the

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[6] Burke, K. (2025, January 5). Here's how some large employers are stepping up return-to-office mandates this year: escalated in person requirements may trigger spike in leasing. *CoStar News.* Retrieved from: https://www.costar.com/article/102840689/heres-how-some-large-employers-are-stepping-up-return-to-office-mandates-this-year

[7] The first executive order in 2025 was a call for federal employees to return to the offices: Return to In-Person Work – The White House

[8] From 1993 to 1998, the District federal workforce went from 230,000 to 183,400, a reduction of almost 50,000 employees or 20%. According to a 2007 analysis, revenue from 1993 to 1995 declined by 7% concentrated in real property and deed taxes. Government of the District of Columbia. (2007). Economic Report of the District of Columbia: A Fiscal Perspective 2007. Retrieved from: https://ora-cfo.dc.gov/sites/default/files/dc/sites/ocfo/publication/attachments/ocfo_economic_report_fy_2007.pdf.

[9] Matthews, L., Krauskopf, L., McGee, S. (2025, January 31). Looming tariffs worry Wall Street over earnings hit, inflation pressure. *Reuters.* Retrieved from: https://www.reuters.com/markets/us/looming-tariffs-worry-wall-street-over-earnings-hit-inflation-pressure-2025-01-31/

[10] Allen, T. (2025, January 31). Trump: Federal Workers Will Be Fired Unless They End Remote Work and Return to Office Soon. *Forbes*. Retrieved from: https://www.forbes.com/sites/terinaallen/2025/01/31/trump-federal-workers-will-be-fired-unless-they-end-remote-work-and-return-to-office-soon/

[11] Friedman, D. (2024, June 12). Policy riders to watch as House appropriations mark up 2025 spending bills. *Federal News Network.* Retrieved from: https://federalnewsnetwork.com/budget/2024/06/policy-riders-to-watch-as-house-appropriators-mark-up-2025-spending-bills/

[12] Text - H.R.8773 - 118th Congress (2023-2024): Financial Services and General Government Appropriations Act, 2025 | Congress.gov | Library of Congress at § 823 (referring to Title IX of the Fiscal Year 1997 Budget Support Act of 1996, effective April 9, 1997 (D.C. Law 11-198; D.C. Official Code § 50-2209.01 *et seq.*)).

[13] Government of the District of Columbia, Office of the Chief Financial Officer. Retrieved from: Annual Operating Budget and Capital Plan | ocfo

primary economic variables that are used in the analysis. Further details about sources are included in the Appendix (Table A1).

Table 1. Summary of economic variables impacting the revenue outlook

Indicator	FY 2024 value	FY 2024-2029 CAGR* growth forecast	Use in models
DC GDP ($M)	183,735	4.3%	Business income
DC food and accommodation GDP ($M)	6,136	5.3%	General sales
DC wage and salary income ($M)	96,715	4.4%	Indiv. income, General sales, Deed tax, Lottery
DC office vacancy (rate)	17.28%**	3.0%	Real property (commercial assessed value)
DC office net deliveries (sq ft)	1,104,280***	N/A***	Real property (commercial assessed value)
US Capital gains ($M)	1,261,951	1.9%	Indiv. Income
S&P 500 (index)	5,067	6.1%	Business income
US Case Shiller housing price (index)	319	4.2%	Real property (residential assessed value)
US Single family home sales ($M)	3,609,168	3.5%	Deed tax
US Gross private domestic investment ($M)	5,227,063	4.4%	Licenses/fees
US nonresidential fixed investment ($M)	3,990,449	3.7%	Real property (commercial assessed value)
DC resident population (level)	688,448	0.6%	Licenses/fees, Charges
DC employment, incl. nonresidents (level)	772,020	0.9%	Fines

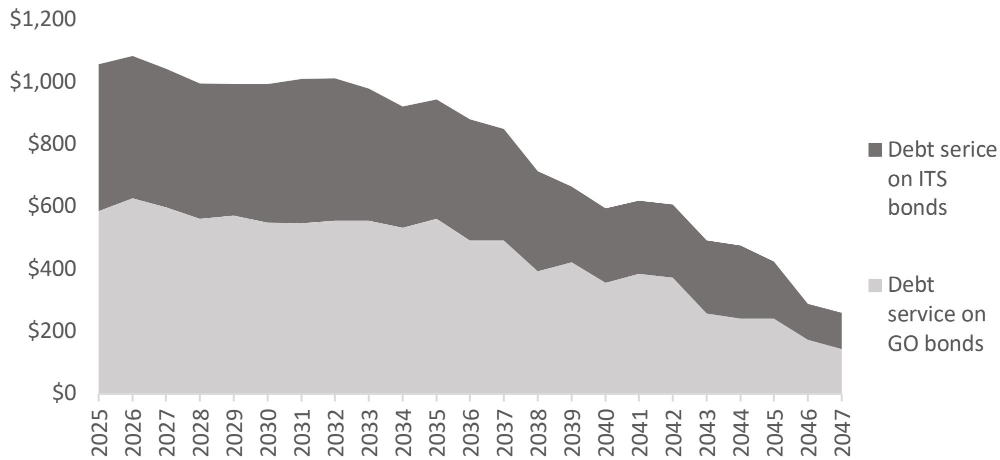
Sources: US Congressional Budget Office; US Bureau of Economic Analysis; US Bureau of Labor Statistics; US Census Bureau, CoStar; Oxford Economics (US BEA; S&P; Fiserv; Macro Markets LLC; National Association of Realtors; Haver Analytics).
*The compound annual growth rate (CAGR) is calculated from FY 2024-2029.
**DC office vacancy rate and net deliveries are shown for properties specifically located in the District.
***Office net deliveries reflect the difference between construction completed and demolition, changing from 1,104,280 sq ft in FY 2025 to -339,089 sq ft in FY 2029.

Debt issuance and ratings

Pursuant to the District of Columbia Home Rule Act, no new long-term general obligation debt can be issued that causes the principal and interest payments under all long-term debt to exceed 17% of revenues in the fiscal year the debt is issued.[14] This condition relates to principal and interest payments on general obligation (GO) bonds and income tax secured (ITS) bonds. ODCA is required to certify compliance with the 17% test before new general obligation bonds can be issued; however, the condition is deemed not to apply to ITS bonds. Figure 2 shows the combined projected debt service for GO bonds and ITS bonds.

[14] D.C. Home Rule Act, Section 603(b)(1).

Figure 2. Debt service on GO debt and ITS debt, FY 2025-2047 ($ in millions)



Source: DC ODCA; [September 2024 General Obligation Bonds, Series 2024ABC Official Statements]

At the current level of debt service, the ratio of debt service to revenue, according to the last certification issued to ODCA in October 2024, is 9.8%, well below the 17% threshold.[15] The District also has a local law capping the debt ratio at 12%, defined as the debt service to general fund expenditures, an alternative way to calculate the debt ratio.[16] Because of these safeguards and other factors, the District enjoys good bond ratings from Standard and Poor's (AA+), Moody's (Aaa) and Fitch (AA+).[17] In November 2023, Moody's affirmed the bond rating but revised the District's outlook to negative due to the close linkage with the federal government.[18] Moody's Investors' Service upgraded the rating on the District's ITS Revenue Bonds from Aa1 to Aaa in October 2024, following Moody's adoption of revised rating methodology in July 2024.[19] The most recent long-range capital plan issued by the OCFO recommends additional capital expenditure equivalent to 4.5% of general fund expenditure but financed through "pay-as-you-go" specifically allocated funding and not through additional debt.[20]

Overview of District revenue sources

As Table 2 shows, the District has three major revenue sources: taxes on individual income, general sales, and real property. These three sources account for 85% of District revenue. However, taxes including business franchise and deed taxes, which represent smaller shares of

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[15] Office of the District of Columbia Auditor (2024, October 11). Auditor Certifies Revenue In Support of General Obligation Bonds and Obligation Refunding Bonds. Retrieved from: https://dcauditor.org/report/certification-of-revenues-for-the-october-2024-general-obligation-debt-issuance/
[16] D.C. Code § 47–335.02. Borrowing limitation.
[17] District of Columbia. Bonds. Retrieved from: https://www.dcbonds.com/the-district-of-columbia-dc/bonds/i192
[18] District of Columbia. (2023, November 13). CFO's Statement on Moody's Ratings Outlook Change. Retrieved from: https://www.dcbonds.com/the-district-of-columbia-dc/about/news/i192?newsId=38011
[19] Government of the District of Columbia, Office of the Chief Financial Officer. (2025, January 31). Annual Comprehensive Financial Report 2024. Retrieved from: https://cfo.dc.gov/node/1764651
[20] Office of the Chief Financial Officer Long-Range Capital Financial Plan Report | ocfo, October 2024

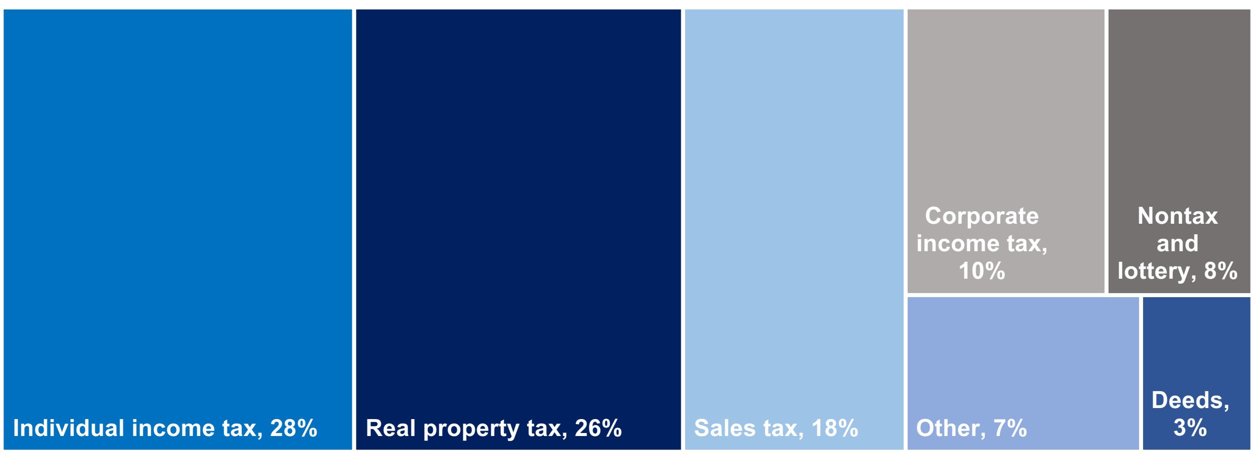
District revenue, account for an outsized share of the variability in District revenue. Most of the other revenues estimated by the OCFO are relatively small and stable. From 2013 to 2023, 50% of the growth in revenue came from individual and business income taxes even though they represent only 39% of total revenue.

Table 2. District Gross Revenue Sources over time in order of average annual growth, FY 2019-2023 in nominal terms ($ in millions)

	2019	2020	2021	2022	2023	% of pre pandemic	Avg. Annual Growth
Corporate income tax	643	728	863	991	1,126	175%	15%
Individual income tax	2,299	2,377	2,643	3,117	3,048	133%	7%
Nontax and lottery	664	561	537	665	815	123%	5%
Sales tax	1,598	1,222	1,203	1,702	1,922	120%	5%
Other	645	620	633	686	716	111%	3%
Real property tax	2,710	2,837	2,914	2,815	2,840	105%	1%
Deeds	561	453	554	690	339	60%	-12%
Total	**9,120**	**8,798**	**9,346**	**10,666**	**10,806**	**118%**	**4%**

Source: DC Office of the Chief Financial Officer (OCFO) Quarterly Revenue Estimates; gross revenue before distributions to other funds.

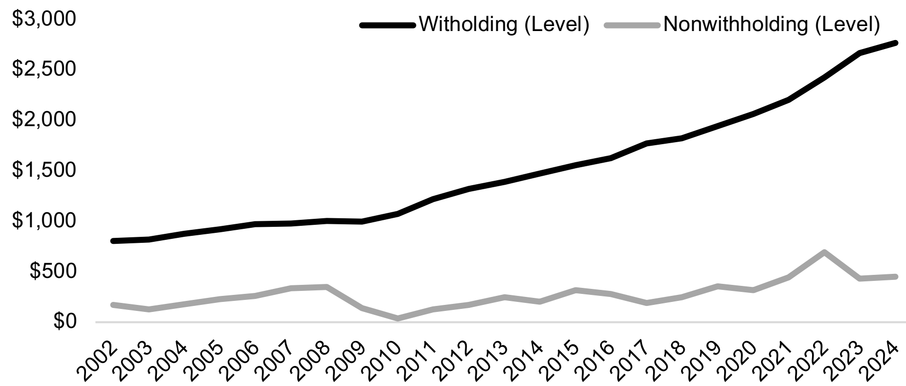
Figure 3. Composition of gross revenue in the District, FY 2023



Note: Totals do not sum due to rounding.
Source: DC Office of the Chief Financial Officer (OCFO) Quarterly Revenue Estimates; gross revenue before distributions to other funds

Individual income tax. The individual income tax makes up the largest share of District revenue at 28%. Revenue is collected mainly from monthly withholding of income taxes on employee payrolls. From 2002 to 2024, 74% to 97% of fiscal year collections for the individual income tax were from withholding, as shown in Figure 4. The other components are quarterly estimated payments and final payments with returns offset by refunds. While the non-withheld payments typically make up less than 20% of individual income tax collections, these payments can exhibit annual growth rates up or down in the double digits. Much of the volatility comes from realized capital gains on asset sales including stocks and property.

Figure 4. Components of individual income tax, FY 2002-2024 ($ in millions)

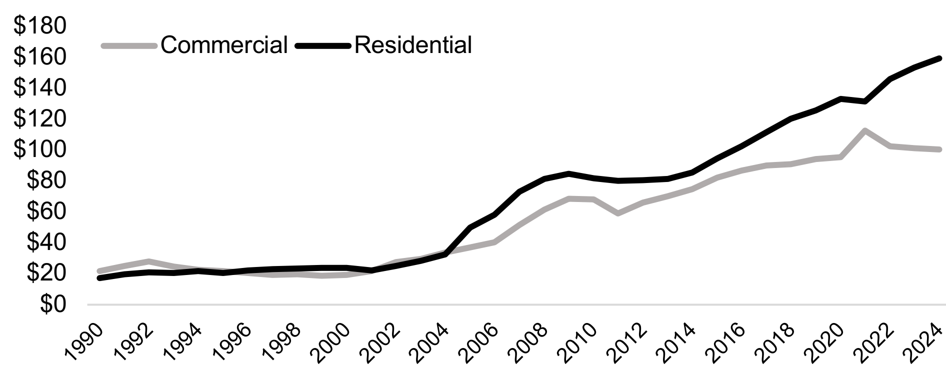


Source: Official statements for D.C. Income tax secured bond issues (Table 5 Collection of Pledged taxes); OCFO December 2024 Revenue Estimate.

Rates for the individual income tax are progressive, starting at 4% for the first $10,000 of taxable income and increasing to 10.75% (up from 8.95% in FY 2021) on taxable income over $1 million. Brackets are the same for all filing statuses.

Real property. Real property taxes, which account for 26% of revenue, are levied on the assessed value of real residential and commercial property in the District. Approximately 33% of real property is exempt from taxation because it is owned by the federal government, foreign government (embassies), District government, or nonprofits and religious entities. Of the taxable property, about 55% of the assessed value is residential (Class 1) and 45% is commercial (Class 2). The share of residential property tax revenue has increased over the last twenty years as population has increased, as shown in Figure 5. In FY 2022, commercial property value declined for the first time since the Great Recession and is not expected to recover in the financial plan forecast period due to the high vacancy rates of large office buildings that make up a significant share of real property valuation.[21]

Figure 5. Assessed value of real property in the District, FY 1990-2024 ($ in billions)



Source: DC OCFO Annual Comprehensive Financial Reports; estimated assessed value of taxable property.

[21] The Great Recession, occurring from late 2007 to mid-2009 corresponded with a negative impact on commercial assessed values from fiscal years 2010 through 2012, after which values increased through fiscal year 2021.

The tax rate for Class 1 property is $0.85 per $100 of assessed value, and there is a homestead exemption for owner-occupied property exempting the first $89,850 (in 2025) of assessed value. The FY 2025 Budget Support Act 2024[22] included a Real Property Tax Amendment Act of 2024 which splits the current Class 1 residential property tax rate into two categories: 1) multi-unit properties; and 2) single-family properties and condominium units. The latter has a two-tier tax rate with a higher marginal tax rate ($1.00 per $100) for assessed value greater than $2.5 million.

There remains a tiered rate structure for Class 2 properties: properties valued less than $5 million are taxed at $1.65 per $100 of assessed value; properties valued between $5 million and $10 million are taxed at $1.77 per $100; and properties valued above $10 million are taxed at $1.89 per $100 of assessed value.[23] Unlike the Class 1B marginal rates, the Class 2 rates tax all value at the rate of the property value. In other words, the total value of a building valued at $4.99 million would be taxed at $1.65 while a building value at $5.01 million would be taxed entirely at $1.77. The real property tax rates are shown below.

Table 3. Property tax rates (as of 10/1/2024)

Property tax class	Tax rate per $100 in assessed value	Description
1A	$0.85	Residential real property, including multifamily
1B	$0.85 (less than or equal to $2.5 M) $1.00 (greater than or equal to $2.5M)	Residential real property with no more than 2 dwelling units, where first $2.5M is taxed at the lower rate and the amount above $2.5M is taxed at the higher rate
2	$1.65	Commercial and industrial real property, including hotels and motels, if assessed value is not greater than $5 million.
2	$1.77	Commercial and industrial real property, including hotels and motels, if assessed value is greater than $5 million but not greater than $10 million.
2	$1.89	Commercial and industrial real property, including hotels and motels, if assessed value is greater than $10 million.
3	$5.00	Vacant real property.
4	$10.00	Blighted real property.

Source: DC OCFO Real Property Tax Rates; major taxes and rates.

General sales and use tax. The general sales tax in the District, which comprises 16% of revenue, is comprised of four major components: off-street parking charges which are taxed at 18%, hotel and short term rental receipts which are taxed at 15.95%, restaurant and bar sales which are taxed at 10% of receipts, and most retail sales, taxed at 6% of receipts.[24] The Sales

[22] Subtitle (VII)(Y) of the Fiscal Year 2025 Budget Support Act of 2024, effective Sep. 18, 2024 (D.C. Law 25-217).

[23] There are two additional tiers for vacant and blighted property at $5 and $10 per $100 assessed value respectively. Together, these tiers accounted for only 2.1% of tax liability in 2022.
Government of the District of Columbia. (2022, August). District of Columbia Data Book: Revenue and Economy. Retrieved from: https://ora-cfo.dc.gov/sites/default/files/dc/sites/ora-cfo/publication/attachments/FY%202021%20Economic%20Report%20of%20the%20District%20of%20Columbia.pdf

[24] Other special rates are for alcohol sold for off-premise consumption and rental cars (10.25%), medical marijuana (6%) and sugar-sweetened beverages (8%). The 15.95% rate for hotels includes a temporary surtax of 1% for Destination DC that will expire on March 31, 2027.

and Use Tax Amendment Act of 2024, which passed in the FY 2025 Budget Support Act of 2024 will raise the general sales tax rate to 6.5% in FY 2026, followed by 7.0% in FY 2027.[25] Trends in sales tax revenue by type are summarized in Table 4. More than one-fourth of the sales tax is dedicated for other funds and agency purposes, including a transfer for the Washington Metropolitan Area Transit Authority (WMATA) capital investment of $178.5 million annually.

Parking tax revenue before FY 2020 exhibited low volatility as most of the revenue is from dedicated parking garages, often serving regular monthly office clients. Parking revenue is dedicated completely to the annual District contribution to support WMATA operations (separate from the capital transfer noted above). Revenue from parking was cut in half due to the pandemic and the subsequent office vacancy and has largely recovered but is still below FY 2019 levels.

Hotel tax revenue is directly tied to business and leisure travel. The 15.95% hotel tax rate is composed of 10.2% which goes to the local fund, 4.45% which goes to the Washington Convention and Sports Authority d/b/a Events DC, and 1.3% which goes to Destination DC to market the District to visitors and businesses.[26] Like parking, the pandemic shutdown reduced hotel revenue significantly, declining 50% in FY 2020, and after an April 1, 2023 rate increase from 14.95% to 15.95% it has reached $350 million. Of this amount, $120 million was transferred to Events DC and Destination DC in FY 2023.

Table 4. Sales tax by type, FY 2019-2023 ($ in millions)

	2019	2020	2021	2022	2023*
Retail (6%)	692.3	685.8	743.8	894.9	869.5
Restaurants (10%)	446.8	271.7	255.5	420.6	553.6
Hotel (14.95%)	319.2	142.5	87.4	247.4	350.3
Parking (18%)	79.8	52.3	40.3	64.2	75.6
All Other	59.7	70.2	75.7	75.3	72.4
Gross Sales tax	**$1,597.8**	**$1,222.5**	**$1,202.7**	**$1,702.4**	**$1,921.5**
Addendum:					
Dedicated revenue	-505.8	-380.9	-335.2	-460.8	-545.8
Local fund sales tax	**$1,092.0**	**$841.6**	**$867.5**	**$1,241.6**	**$1,375.7**

*FY 2023 represents latest segmented sales tax data available in Table 3-6 of the FY 2025 Approved Budget and Financial Plan.
Source: DC OCFO District of Columbia Databook 2022; FY 2025 Approved Budget and Financial Plan, Table 3-6; estimated sales tax base, collections and transfers by sales tax type.

Bar and restaurant tax revenue is driven by tourism as well as local residents' ability to eat out or seek entertainment. One percentage point of the 10% rate goes to Events DC and the remaining nine percentage points go to the local fund. These sales declined 39% in the pandemic and recovered to $554 million in FY 2023.

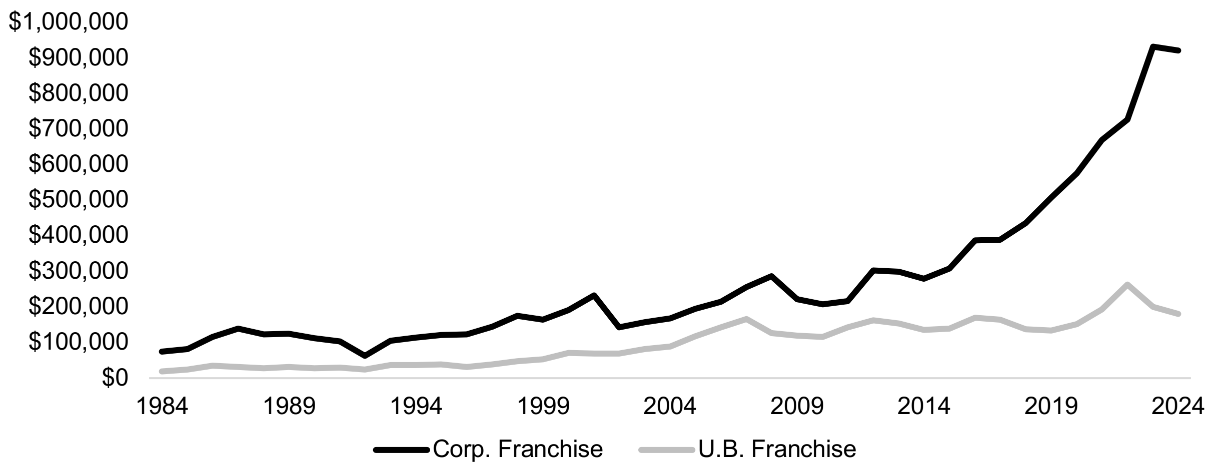
Retail sales, including online purchases, historically have been correlated with District wages, including those of commuters who shop around offices. Beginning in FY 2019, online remote retail

[25] Subtitle (VII)(F) of the Fiscal Year 2025 Budget Support Act of 2024, effective Sep. 18, 2024 (D.C. Law 25-217).
[26] For the period of time beginning on April 1, 2023 through March 31, 2027, the rate allocated to Destination DC is increased from 0.3% to 1.3%, raising the total rate from 14.95% to 15.95%. See D.C. Official Code §§ 47–2002.02, .03, and .03a.

sales were added to the sales tax base, significantly increasing revenue and protecting the retail sales tax base during the pandemic. A share of the tax collections attributable to retail sales goes to support the DC Commission on Arts and Humanities.

Business franchise (income) taxes. There are two types of business franchise taxes in the District. The first, the corporate franchise tax (CF) levies an 8.25% tax on net income and operates like the federal corporate income and other states' corporate income taxes. The rate was reduced from 9.975% in 2014 over 4 years. The second type of business franchise tax is the unincorporated business franchise tax (UB) which is structured very much like the CF but is for unincorporated businesses (partnerships and sole proprietorships) doing business in the District. The UB tax rate is equal to the CF tax rate. Figure 6 summarizes trends in business franchise taxes.

Figure 6. Business franchise taxes, FY 1984-2024 ($ in thousands)



Source: DC OCFO Quarterly Revenue Estimates; gross revenue before distributions to other funds.

Deed taxes. There are three types of deed taxes in the District. The deed transfer tax is a tax on sellers of property, payable when a property is sold. The deed recordation tax is a tax on buyers of commercial or residential property or on the refinancing of commercial property and is payable when the deed is recorded with the Recorder of Deeds, usually at the same time as the transfer tax.[27] There is also a tax on the transfer of economic interest which reflects the sale of shares in a property such as when a cooperative housing unit is sold – the unit is not sold but the equivalent share in the property representing a unit is sold. Another example is when an investor buys the shares of an LLC that owns a building rather than the building itself.

Table 5. Deed tax rates (as of 10/1/2024)

Deed tax type	Residential rate	Commercial rate
Recordation	0.725% of consideration or fair market value for qualified first-time homebuyers 1.1% for residential less than $400,000 1.45% for residential greater than $400,000	1.45% for transactions and refinancing 2.5% of consideration of fair market value for all mixed-use and commercial real estate transfers greater than or equal to $2,000,000

[27] Residential refinancing is not subject to the deed recordation tax.

Transfer	1.1% for residential less than $400,000 1.45% for residential greater than $400,000	1.45% for commercial transactions 2.5% for all mixed-use and commercial real estate transfers greater than or equal to $2,000,000
Economic interest transfer	2.2% for properties valued less than $400,000 2.9% for properties valued more than $400,000	2.9% for properties

Source: DC OCFO 2024 DC Tax Facts; major taxes and rates.

The distress in commercial office building occupancy has slowed sales significantly and greatly reduced the price on those buildings that do sell. This is particularly acute for older, less improved buildings (Class B and C) than for trophy and improved buildings (Class A). From October 1, 2020, to September 30, 2023, sales of commercial properties with market values greater than $2 million were taxed at 2.5% for recordation and 2.5% for transfer for a total tax rate of 5%.

Nontax and lottery. There are four main categories of nontax revenue in addition to lottery proceeds: licenses and permits, fines and forfeitures, charges for services, and miscellaneous. In FY 2024, the largest category was "miscellaneous", which includes interest income earned on fund balances and has benefited from higher interest rates over the last two years. This category is also where transfers into the general fund are posted and, starting FY 2025, there will be significant transfers from the universal paid leave fund resulting from 2024 legislation.[28] The next largest category is fines which includes automated enforcement fines from traffic cameras. The pandemic reduced the number of commuters which impacted this revenue.

Table 6. Nontax revenue and lottery, FY 2019-2024 ($ in thousands)

	2019	2020	2021	2022	2023	2024	*2024 share*
Licenses	146,956	125,584	126,367	135,008	146,979	142,462	16%
Fines	195,392	147,943	137,544	161,321	156,576	232,947	26%
Charges	77,487	68,723	80,588	78,407	70,544	73,875	8%
Misc.	199,407	180,645	143,999	249,429	407,949	415,834	46%
Lottery	45,050	38,060	48,150	40,670	33,450	39,350	4%
Total	**664,292**	**560,955**	**536,648**	**664,835**	**815,498**	**904,468**	**100%**

Source: DC OCFO. Quarterly Revenue Estimates; gross revenue before distributions to other funds, OCFO December 2024 Revenue Estimate

Beginning FY 2025, excess revenue from the universal paid leave payroll tax not needed for benefits will be transferred to the local fund and will show up as miscellaneous nontax revenue. An increase to the tax rate that is applied to all private wages paid in the District to 0.75% also went into effect. The initial revenue estimate in the FY 2025 BSA was more than $300 million annually.[29]

Dedicated tax revenue. Of the revenue collected in FY 2024, more than $800 million, almost 8 percent, is dedicated for specific programs, primarily related to debt service for specific projects

[28] Government of the District of Columbia, Office of the Chief Financial Officer. Annual Operating Budget and Capital Plan. FY 2025 Budget Documents. Retrieved from: https://cfo.dc.gov/node/289642
[29] Certification of Revenues for the October 2024 General Obligation Debt Issuance - Office of the DC Auditor, table 3.

outside of the GO and ITS debt. For example, the largest single dedication is $178.5 million from general sales tax revenue for the WMATA Dedicated Financing Fund, accounting for the District's contribution to the long term capital financing for WMATA.[30] WMATA also receives all parking sales tax revenue for off-street parking. Most of the dedicated revenue, roughly 60%, is from sales tax revenue, accounting for almost $600 million of revenue earmarked directly for specific purposes.

Table 7. Major dedicated sales taxes, FY 2019-2024 ($ in thousands)

	2019	2020	2021	2022	2023	2024
Sales	505,688	380,872	335,258	460,793	545,842	571,950
WMATA*	258,282	230,811	218,789	242,672	254,146	253,756
Convention Center**	147,633	74,067	54,932	122,280	176,796	199,297
Arts/Humanities	31,956	32,289	36,703	41,688	42,200	43,044
TIF/PILOT (sales tax only)	45,072	23,773	11,934	32,517	47,862	53,410
All other	22,745	19,932	12,900	21,636	4,838	22,292

*Includes $178.5m for capital projects
**Includes dedication to Events DC and Destination DC

Because so much of the dedicated revenue is from sales tax collections, recessions like the Great Recession of 2007-2009 and the COVID recession of 2020 have significant impact on the revenue. The annual revenue for Events DC in 2020 was decimated as hotel revenue, the primary source of funding, all but disappeared for several months and took several years to fully recover.

Other major dedications from revenue other than sales tax go to financing the baseball park (ballpark fee and nonresidential utility surcharge), housing production trust fund (deed taxes), and health care programs (gross receipts taxes). Property and sales tax revenue from tax increment financing (TIF) and payment in lieu of taxes (PILOT) developments that is above a set base or equivalent to a negotiated amount go to support those developments.

II. Revenue Forecast Methodology

The methodological approach is to construct detailed models that reflect unique aspects of each major revenue stream. Revenue forecasts run from FY 2025 through FY 2029. Additional attention is paid to the major revenues with the greatest volatility.

Data required for the analysis – economic and demographic variables

To forecast revenues, District-specific economic and demographic variables were used where available and appropriate from a variety of public data sources. Principal data sources include the U.S. Bureau of Economic Analysis (BEA) which publishes detailed data by state and for the District for gross domestic product, investment, and income and wages; CoStar, which publishes detailed data on office vacancy rates and net deliveries; and Oxford Economics which incorporates a mix of public and private sources within its historical and forecast data. Other sources include the U.S. Bureau of Labor Statistics (BLS), which publishes data on employment, consumer prices, consumer expenditures, and business dynamics, and the U.S. Census Bureau

[30] The compact between District, Maryland, and Virginia is for annual contributions of $500 million: District $178.5, Maryland $167 million, and Virginia $154.5 million. (source Official Statement)

which publishes population, construction, and retail sales indicators, and the Congressional Budget Office (CBO) which has historic data and forecasts for U.S. capital gains realizations.

Many of the economic and demographic indicators are forecast in logarithmic terms, a commonly used metric to normalize data that has grown exponentially over time as a means to make highly skewed indicators linear for use in ordinary least squares (OLS) and auto-regressive integrated moving average (ARIMA) regressions.

Data required for the analysis – revenue variables

Data on District revenues is sourced from a combination of publicly available sources on the ORA website as well as historical detail from ORA staff.[31] Key data aggregations are gross revenue, local revenue, and dedicated revenue. Gross revenue is the sum of local and dedicated revenue. Local revenue is what is available for annual general appropriations. Dedicated revenue is earmarked for specific purposes and can be divided into Agency dedications (part of the District General Fund) and Enterprise dedications (outside of the District General Fund).

Local fund revenue is used to determine the debt ratio. The models here focus on gross revenue to align with the economic variables. To derive local fund revenue, the OCFO estimates of dedicated revenue, many of which are specific formulas and not driven by economic behavior, are subtracted from gross revenue.[32]

Models and analysis

Real property tax

The real property tax forecast is comprised of separate forecasts for residential real property tax and commercial real property tax, both of which are derived from models for residential assessed value and commercial assessed value. The effective tax rates for residential and commercial properties are applied to predicted assessed value to obtain the final total real property forecast.

Real property is assessed as of January 1 of each year and mailed to owners in February. Following the assessment, property owners have until April 1 to appeal their assessments. In February of the following year, bills based on the final assessments (after appeals) are mailed to taxpayers and payments are due on March 30th and September 15th. Because of this schedule, the OCFO has reliable data on real property for the one year out estimate. In other words, in the February 2025 revenue estimate, the OCFO will know how much was billed to owners and payable in FY 2025 and the preliminary assessment, before appeals and improvements, of the bills that will be payable in FY 2026. As a result, the model for real property uses the OCFO forecast for the current (FY 2025) and subsequent fiscal year (FY 2026) and projects the next three years. For the years after the first two, separate models are used to forecast residential

[31] The contribution from ORA staff is greatly appreciated.
[32] Table 2 of December 2024 OCFO Revenue Estimate enumerates dedicated revenue. Government of the District of Columbia, Office of the Chief Financial Officer. (2024, December 31). Retrieved from: https://cfo.dc.gov/node/1759766

assessed value and commercial assessed value, after which effective tax rates are applied to obtain the property tax forecast.[33]

Residential real property

The residential real property model forecasts residential assessed value, and subsequently applies an effective tax rate of 0.74% to translate this value into a residential real property tax forecast, considering the homestead exemption on owner-occupied properties.[34] The residential assessed value dependent variable is estimated in logs given the exponential growth of real property values over time. After running tests for stationarity and serial correlation, the forecast ultimately uses an ARIMA model specification of (1,1,2). The first operator represents an auto-regressive parameter which identifies the number of time lags of the variable; the second represents the degree of difference between the current period and prior period values, and the third represents a moving average component indicating whether the error term from the prior time period should be included. The model uses the first difference and log of the dependent residential assessed value variable to help reduce the nonstationary trend in the residential assessed value data.

The model shown in Table 8 includes the US Case Shiller Housing Price Index (HPI) as an independent variable. The US HPI is from Oxford Economics forecasts, which incorporate information from S&P Fiserv, MacroMarkets LLC and Haver Analytics. This independent variable is modeled with a second difference of a 1-year lag which yields a strong fit. While assessed values are known approximately two years in advance, the correlation between changes in the Housing Price Index and the residential assessed value is stronger with a 1-year lag, indicating this variable may serve as a proxy of residential assessed value. Similarly, in the October 2024 certification, an existing sales variable was added to the model, which may serve as another proxy of values and helps improve joint significance. Both the US HPI and existing family homes are forecast to increase in the coming years. When compared to the forecasts at the time of the October 2024 Certification, US HPI has increased, while existing family home sales have decreased, resulting in only a modest net increase in the property tax forecast.

Table 8. Model specification for residential assessed value

	First differenced log of residential assessed value
Difference (1) 1yr lag for US Case Shiller Housing Price Index	0.006** (0.002)
US single family existing sales	4.65^{-8} *** ($1.30\text{x}10^{-8}$)
Auto Regressive term (L1)	0.722*** (0.136)
Moving Average term (L1)	-0.854*** (0.129)
Moving Average term (L2)	1.000*** ($8.6\text{x}10^{-5}$)

[33] The Office of Revenue Analysis for the Office of the Chief Financial Officer of the District of Columbia publishes effective tax rates in their DC Data Book. Table 4-4 of the DC Data Book: Revenue and Economy (August 2022) lists an effective tax rate of 0.74% for Class 1 residential property and 1.72% for class 2 commercial property. Retrieved from: https://ora-cfo.dc.gov/node/215922
[34] This effective rate is derived from historical data on residential property tax collected and assessments.

Constant	-0.179*** (0.064)
N	24
Wald chi2(4)	4.81×10^{8}***

Standard errors in parentheses
*** p<0.001, ** p<0.01, *p<0.05

Sources: OCFO (revenue history), Oxford Economics (S&P, Fiserv, MacroMarksLLC, Haver Analytics)

Commercial real property

The commercial real property model shown in Table 9 forecasts commercial assessed value and subsequently applies an effective tax rate of 1.72% to translate this value into a commercial real property tax forecast, incorporating the tiered rate structure. Similar to residential assessed value, a log transformation is applied to the dependent variable. An ARIMA model specification with a first difference (0,1,0) is used for dependent variable stationarity. The two-year lags of District office vacancy rates, District office net deliveries, and US nonresidential fixed investments are included in the estimation. These lags are applied due to the timing of property tax valuations. A log transformation is applied to the US nonresidential fixed investments variable given its growth over time. Vacancy rates are forecast to increase in the coming years and net deliveries are anticipated to be negative, resulting in an overall forecast decrease in commercial assessed value.

Office vacancy rates and net deliveries are sourced from CoStar, while US nonresidential fixed investments are available from the CBO. The CoStar DC vacancy rate we use is 17.78% for FY 2025 compared to 21.7% estimated by OCFO for the central business district office vacancy.

Table 9. Model specification for commercial assessed value

	First differenced log of commercial assessed value
Differenced (1) of 2-yr lag of the DC office vacancy rate	-2.966* (1.323)
2-yr lag of DC office net deliveries	3.72×10^{-8}*** 1.15×10^{-8}
Differenced (1) of 2-yr lag for the log of US nonresidential fixed investments	0.584 (0.347)
Constant	-0.020 (0.029)
N	25
Wald chi2(3)	18.72***

Standard errors in parentheses
*** p<0.001, ** p<0.01, *p<0.05

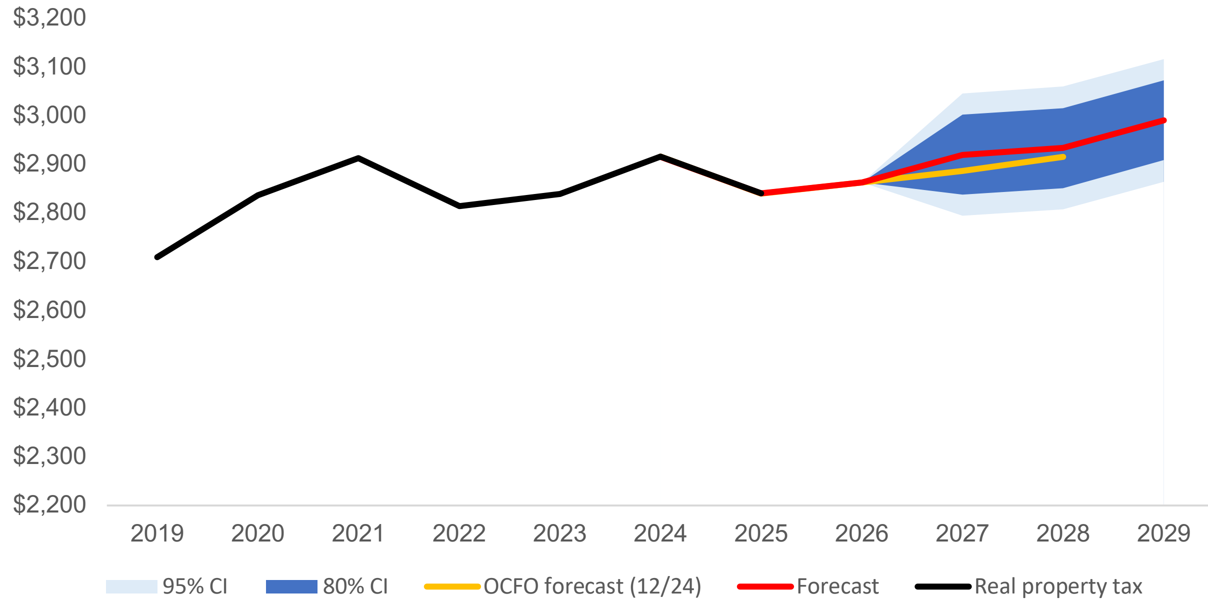
Sources: OCFO (revenue history), US CBO, CoStar

Total real property

After estimating the regressions, the results are translated into real residential property tax revenue using the 0.74% effective tax rate and real commercial property using the 1.72% effective tax rate. The growth in forecasted total property tax revenue (residential plus commercial) is applied to the OCFO FY 2026 property tax revenue to project revenues as shown in Figure 7.

Overall, the results suggest that forecasted real property tax revenues will grow from $2.8 billion in FY 2025 to $3.0 billion in FY 2029.

Figure 7. Real property tax forecast, FY 2019-2029 ($ in millions)



Sources: [OCFO December 2024 Revenue Estimate], [OCFO 2024 ACFR], ODCA

Individual income tax

The individual income tax is forecast as a function of the logs of US capital gains and District wage and salary income over the period from FY 1990 to FY 2024. Data for US capital gains is sourced from the Congressional Budget Office. The series for District wage and salary income is from Oxford Economics, reflecting historic District wage and salary income, 2024 estimates, and forecasts of earnings from employment (i.e. wages and salaries) from FY 2025-2029. Both capital gains and wages and salaries are positively correlated with income taxes and fluctuations in both generate changes in income tax collections. Table 10 presents the model specifications for the income tax calculation.

Table 10. Model specification for individual income tax

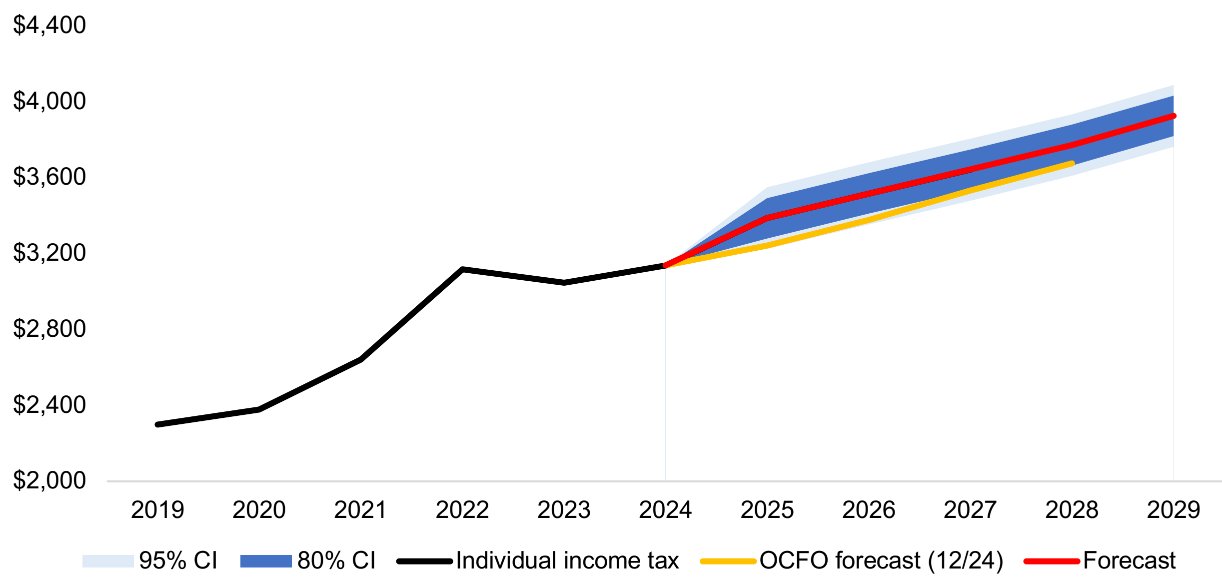
	Log individual income tax
Log US capital gains	0.295***
	(0.050)
Log DC wage and salary income	0.806***
	(0.071)
Constant	-5.435***
	(0.473)
N	30
R^2	0.962

Standard errors in parentheses
*** p<0.001, ** p<0.01, *p<0.05

Sources: OCFO (revenue history), US CBO (Capital gains), US BEA, Oxford Economics (wage forecast)

After estimating the regression, the model's growth rates are applied to the FY 2024 actual level to project revenues.[35] An off-model adjustment was used to account for additional income tax revenue collections and losses in the out-years due to the implementation of the FY 2025 Budget Support Act 2024.[36] Increased revenue ranging from $10-$16 million includes the Income Tax Secured Bond and Out of State Municipal Bond Tax of 2024, which modifies the definition of taxable income for individuals, estates, and trusts to include interest from non-District municipal bonds. Overall, as shown in Figure 8, the results suggest that individual income tax revenue will grow from $3.4 billion in FY 2025 to $3.9 billion in FY 2029.

Figure 8. Individual income tax forecast, FY 2019-2029 ($ in millions)



Sources: OCFO December 2024 Revenue Estimate, OCFO 2024 ACFR, ODCA

Business income tax (corporate and unincorporated franchise taxes)

The corporate and non-corporate franchise taxes are estimated together. The model is estimated as a function of the log of District GDP growth, lagged by one year, and the S&P 500 index. A lag is used because it appears that District GDP growth trends take time to be reflected in business income tax payments. The District's nominal GDP is sourced from the Oxford Economics DC GDP nominal personal income forecast and the log of the forecast is used as an exogenous variable. Forecast data on the S&P 500 Index is also sourced from Oxford Economics. Table 11 below presents the specifications for the business tax model.

Both the DC GDP and the S&P 500 index are expected to increase over time and their January 2025 forecasts demonstrate stronger growth than the June 2024 forecast for DC GDP and May 2024 forecast used for S&P 500 in the October 2024 Certification Forecast. From November to December 2024, the S&P Global Flash US PMI Composite Output had its fastest expansion in

[35] Government of the District of Columbia, Office of the Chief Financial Officer. (2025, January 31). Annual Comprehensive Financial Report 2024. Retrieved from: https://cfo.dc.gov/node/1764651
[36] Title (VII)(V) of the Fiscal Year 2025 Budget Support Act of 2024, effective Sep. 18, 2024 (D.C. Law 25-217).

business activity since March 2022 and the highest recorded continual growth since February 2023. The services sector, specifically, rose at a rate not seen since October 2021.[37] Regarding DC GDP, Oxford Economics estimates the broader Washington area economy expanded by 2.7% in 2024 and expects continued growth in eras such as the technology and lobbying sectors.[38]

Table 11. Model specification for business income tax

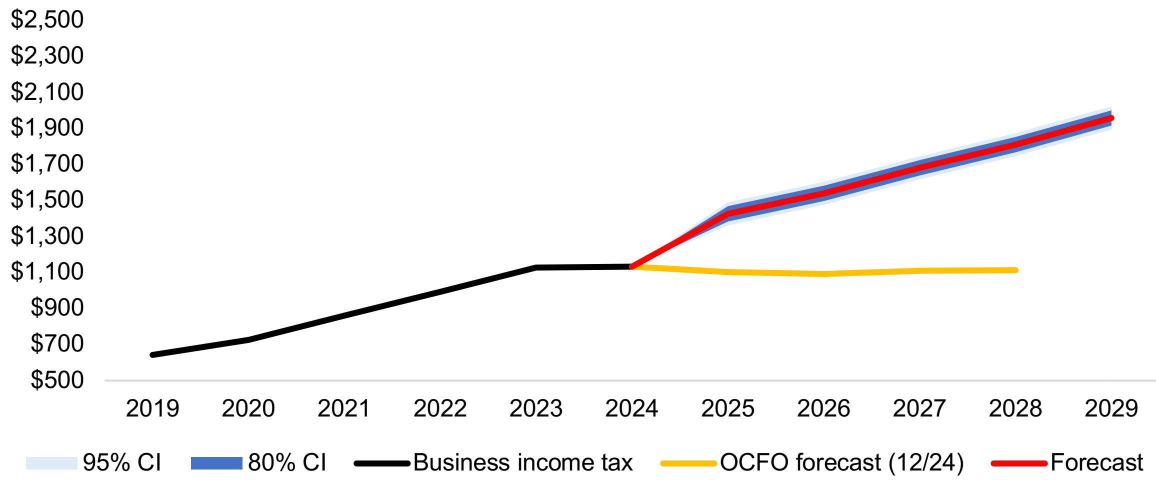
	Log business income tax
Log DC nominal GDP, 1 year lag	0.666*** (0.105)
S&P 500 index	2.2×10^{-4}*** (2.2×10^{-5})
Constant	-2.035*** (1.176)
N	27
R^2	0.1122

Standard errors in parentheses
*** p<0.001, ** p<0.01, *p<0.05
Sources: OCFO (revenue history), US CBO, Oxford Economics

After estimating the regression, the growth rates calculated from the forecasted business income tax revenues are applied to the FY 2024 actual level to project revenues. Again, an off-model adjustment was implemented to account for additional income tax revenue collections and losses in the out-years due to the implementation of the FY 2025 Budget Support Act 2024.[39] Losses include about $6 million each year associated with the Universal Paid Leave Program Amendment Act of 2024[40] and increases of $23.1 million for FY 2027 and $15.8 million for subsequent years for changes to corporate combined reporting requirements. Overall, as shown in Figure 9, the results suggest that forecasted business income tax revenues will grow from $1.4 billion in FY 2024 to $1.9 billion in FY 2029. Based on the model output, business tax growth is expected to slow in FY 2024 and FY 2025 and then rebound in FY 2026. Given the volatility of business tax revenue and the changes in the District economy, this optimism should be viewed with caution. In contrast, OCFO projects these revenues will remain flat over the financial plan period.

[37] PMI by S&P Global. (2024, December 16). S&P Global Flash US PMI. Retrieved from: https://www.pmi.spglobal.com/Public/Home/PressRelease/8537676804634a8b9243c2911f2243a1
[38] (2025, January 10). Oxford Economics. City Economic Forecast: Washington. Retrieved from: https://my.oxfordeconomics.com/chapters/B5A908666BD74d818418Eb/WashingtonMostsector
[39] Title (IV)(H) of the Fiscal Year 2025 Budget Support Act of 2024, effective Sep. 18, 2024 (D.C. Law 25-217).
[40] The new revenue generated by this program is estimated below in the Nontax and Lottery proceeds section.

Figure 9. Business income tax forecast, FY 2019-2029 ($ in millions)



Sources: OCFO December 2024 Revenue Estimate, OCFO 2024 ACFR, ODCA

General sales tax

The general sales tax is estimated as a function of the logs of the food and accommodation industry's contribution to GDP and District wage and salary income. Data on food and accommodation contribution to GDP is sourced from Oxford Economics. This indicator is used to pick up the effects on revenue from commuters and tourists whose contributions are separate from the wage and salary income of residents. Table 12 presents the model specifications from the general sales tax calculation.

Table 12. Model specification for the general sales tax

	Log general sales tax
Log DC food and accommodation GDP	0.551*** (0.076)
Log DC wage and salary income	0.519*** (0.080)
Constant	-3.225*** (0.360)
N	28
R^2	0.984

Standard errors in parentheses
*** p<0.001, ** p<0.01, *p<0.05

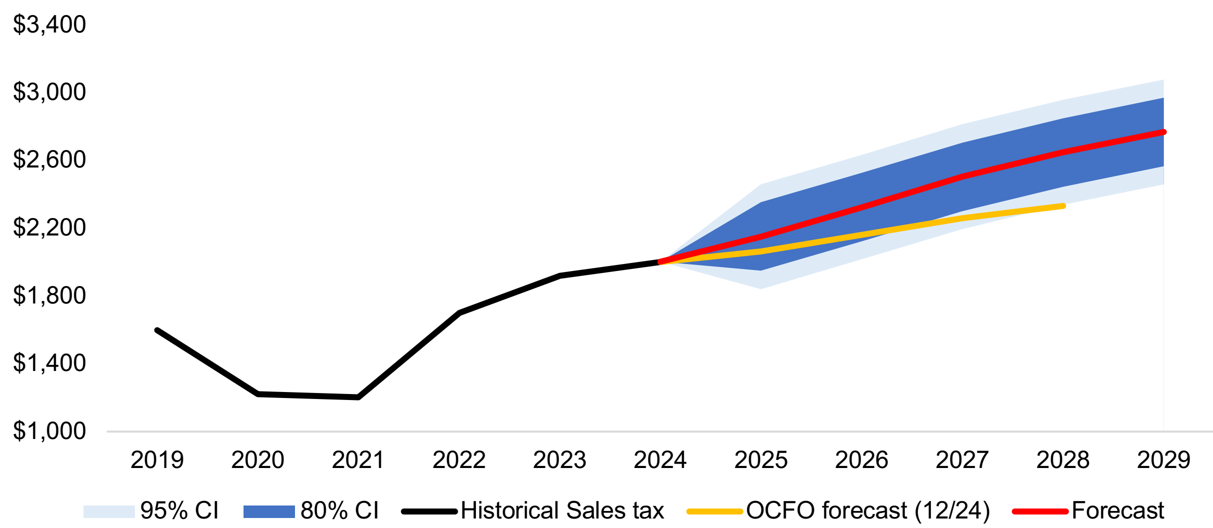
Sources: OCFO (revenue history), Oxford Economics

After estimating the regression, growth rates calculated from the forecasted sales tax revenues are applied to the FY 2024 actual level to project revenues. In addition, an off-model adjustment was implemented to account for additional sales tax revenue collections in the out-years due to the implementation of the FY 2025 Budget Support Act of 2024.[41] Among these amendments, the largest increase to the general sales tax revenue is estimated to come from the Sales and Use

[41] Title (VII)(F) of the Fiscal Year 2025 Budget Support Act of 2024, effective Sep. 18, 2024 (D.C. Law 25-217).

Tax Amendment Act of 2024, which will raise the general sales tax rate to 6.5% in FY 2026, followed by 7.0% in FY 2027. The District estimates this increased rate will increase general sales by $66.7 million in FY 2026 and $115.6 million in FY 2027 which increases the level for each year. The retail sales tax accounts for 45% of sales tax revenue (Table 4). The results shown in Figure 10 suggest that forecasted general sales tax revenues will grow from $2.2 billion in FY 2024 to $2.8 billion in FY 2029.

Figure 10. Sales tax forecast, FY 2019-2029 ($ in millions)



Sources: [OCFO December 2024 Revenue Estimate], [OCFO 2024 ACFR], ODCA

Deed recordation and transfer (including economic interest)

Deed recordation and transfer taxes are forecast in aggregate using the log-difference to reflect relatively consistent growth over time. An ARIMA model specification with a first difference (0,1,0) is used to make the dependent variable stationary. In addition, log transformations for US single family existing home sales and District wages and salaries were included as independent variables. The series for US single family home sales is sourced from Oxford Economics national forecasts which includes historical data from the National Association of Realtors and forecasts from Haver Analytics. Changes in US single family home sales as an indicator of overall market conditions are useful for forecasting residential deed taxes, while wages and salaries are a general economic condition indicator that drive both residential and commercial transactions. Changes in wages and salaries may reflect broader changes in the economy that imply larger purchasing power for potential residential and commercial owners. As mentioned, the series for District wage and salary is from the Oxford Economics forecast, reflecting historic District wage and salary income, 2024 estimates, and forecasts of earnings from employment (i.e. wages and salaries) from FY 2025-2029.

Both changes in US single family existing home sales and District wages and salaries are positively correlated with changes for deed and transfer tax collections. A dummy variable was also included for FY 2022 to control for a sharp increase caused by a few high-valued property transactions.[42] Table 13 presents the model specifications for the deed recordation and transfer tax calculations.

Table 13. Model specification for deed taxes

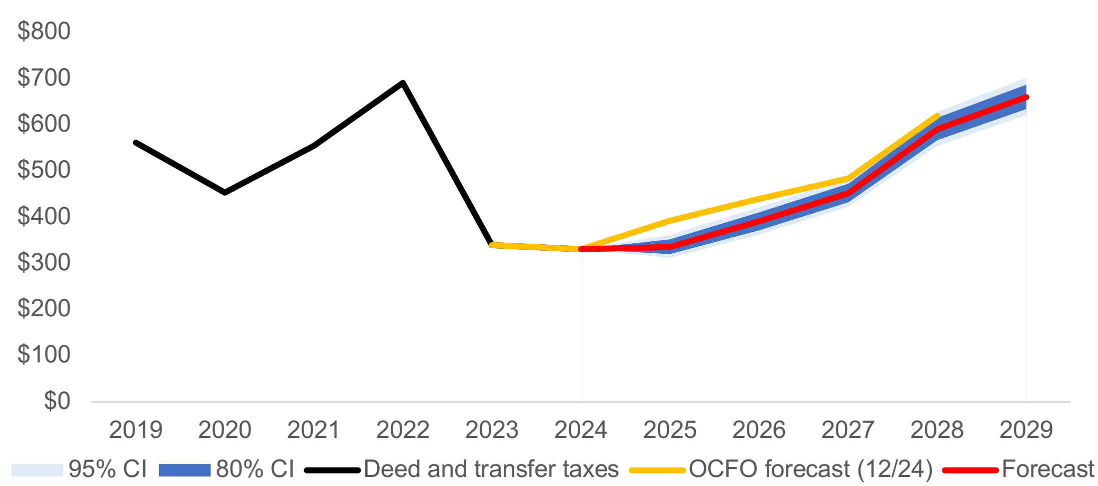
	First differenced log of deed taxes
Differenced (1) log of US single family existing home sales	1.591*** (0.449)
Differenced (1) log DC wage and salary income	3.096 (2.245)
Binary dummy for commercial activity in 2022	0.289*** (0.074)t
Constant	-0.083 (0.102)
N	33
Wald chi2(3)	25.33***

Standard errors in parentheses
*** p<0.001, ** p<0.01, *p<0.05

Sources: OCFO (revenue history), Oxford Economics (National Association of Realtors, Haver Analytics)

After estimating the regression, the growth rates calculated from the forecasted deed recordation and transfer tax revenues are applied to the FY 2024 actual level to project revenues, as shown in Figure 11. Overall, the results suggest that deed and transfer taxes will grow from $335 million in FY 2024 to $633 million in FY 2029.

Figure 11. Deed recordation and transfer tax forecast, FY 2019-2029 ($ in millions)



Sources: OCFO December 2024 Revenue Estimate, OCFO 2024 ACFR, ODCA

[42] According OCFO's September 2023 Revenue Estimates, FY 2022 revenue was driven by a sharp increase in high-valued property transactions, which have been largely absent in FY 2023. Retrieved from: https://cfo.dc.gov/sites/default/files/dc/sites/ocfo/release_content/attachments/Sep_2023_Estimate_letter_09292023_FINAL.pdf

Nontax and lottery proceeds

Nontax and lottery proceeds include forecasts for licenses and fees, fines, charges, and lottery revenue, as well as the prior five-year moving average for miscellaneous revenue (excluding UPL – see below). Several variables are used to forecast these revenue sources. District population and employment data are from Oxford Economics, which uses data from the Census Bureau and the US Bureau of Labor Statistics, respectively. The US gross domestic price index comes from January 2025 CBO estimates. The District wage and salary income variable used in several of the models mentioned above is from Oxford Economics. Table 14 shows the regression results for the nontax and lottery models.

Table 14. Model specifications for nontax and lottery proceeds

	Licenses and fees
DC population	0.0002** (0.0001)
US gross domestic price index	0.0002*** (0.0000)
Constant	-89.060* (39.848)
N	34
R^2	0.93

	Fines
DC employment	0.0009*** (0.0001)
Constant	-520.564*** (51.387)
N	34
R^2	0.83

	Charges
DC population	0.0004*** (0.0001)
Constant	-129.98*** (24.887)
N	34
R^2	0.63

Standard errors in parentheses
*** p<0.001, ** p<0.01, *p<0.05

	Lottery
Log DC wages and salaries	-44.244*** (6.063)
Constant	546.196*** (67.445)
N	23
R^2	0.80

Standard errors in parentheses
*** p<0.001, ** p<0.01, *p<0.05

Sources: OCFO (revenue history), US CBO, US BEA, US Census Bureau, Oxford Economics

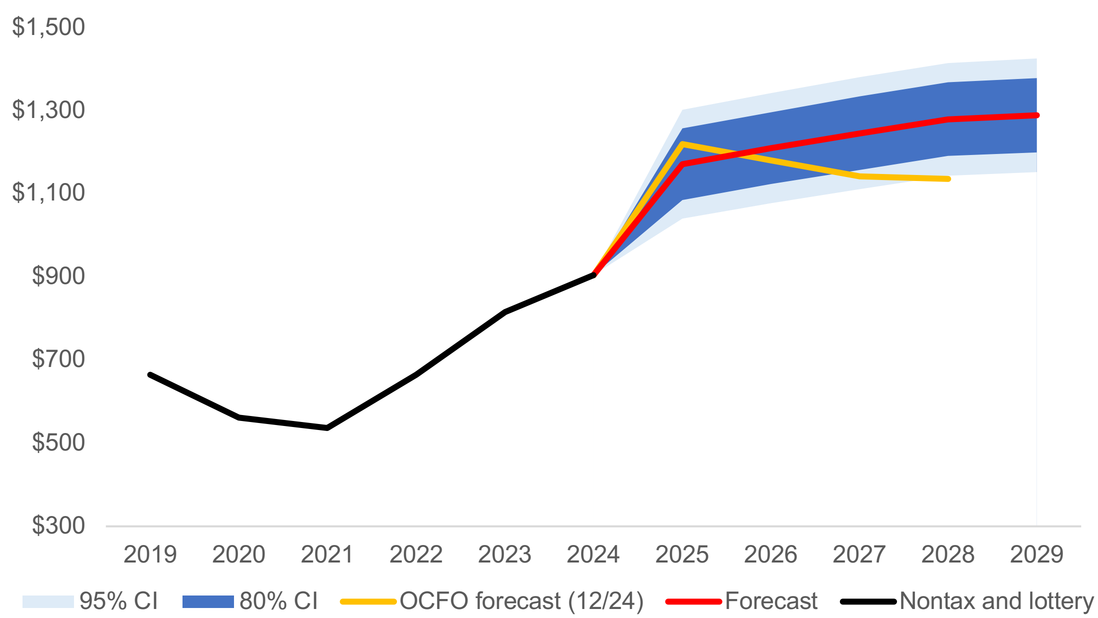
Manual adjustments are also made to incorporate estimated revenue changes for nontax and lottery legislation passed in the FY 2025 Budget Support Act of 2024.[43] An estimate of the UPL transfer, which is part of miscellaneous nontax revenue, is included in this model update. As of July 1, 2024, the rate private employers pay for UPL increased from 0.26% to 0.75% and it is levied on all wages.[44] To estimate the transfer, regression analysis could not be used as the program is too recent to have enough data so a simple model using private wages and annual benefits was constructed. The wage forecast uses the forecast for total District wages and the benefits forecast uses the five-year average benefit per employee applied to the forecast of

[43] Subtitle (IV)(L) of the Fiscal Year 2025 Budget Support Act of 2024, effective Sep. 18, 2024 (D.C. Law 25-217).
[44] Former D.C. Official Code § 32–541.03 (as revised through D,C. Law 24-45, effective Nov. 13, 2021) had set the rate at 0.62% or a lower rate based on needed resources for the program. Prior to amendment, the rate was set at 0.26% in FY 2023.

private employment.[45] The estimate used for this update is about $20 million higher than the estimate in the FY 2025 BSA.

After estimating the regressions, the growth rates calculated from the nontax and lottery forecasts are applied to the FY 2024 actual level to project revenues and adjusted manually for the amendments, as shown in Figure 12. Overall, the results suggest that nontax and lottery proceeds will increase from $1.2 billion in FY 2025 to $1.3 billion in FY 2029. The Certification Forecast expects growth, albeit slow, over time, while the OCFO forecast reflects assumptions that better-than-expected receipts from nontax revenue sources are one-time occurrence after which growth will slow or decline.

Figure 12. Nontax and lottery proceeds forecast, FY 2019-2029 ($ in millions)



Sources: OCFO December 2024 Revenue Estimate, OCFO 2024 ACFR, ODCA

All other taxes

As noted, the Certification Forecast focuses on major revenue sources and uses specific modeling based on directly related variables. All of the other tax revenue, consisting of 6.1% of gross tax revenue in FY 2024, include the following: personal property, public space rental, excise taxes, insurance premium tax, toll telecommunications, public utility, baseball fee, health related taxes, private sports gaming, games of skill, and estate taxes. Most of these smaller revenue streams were modeled using the 3- or 5-year average, as shown in Table 15. For many, this is due to the relatively low volatility and for others like the estate tax, the unpredictability unrelated to economic conditions.

Table 15. Summary of other tax forecasts

Aggregate	Components	Method

[45] Appendices Report-Mayors (Includes Enterprise Funds)

Other property	Public space rental, personal property	3-year moving average
Excise	Alcohol, cigarette, motor vehicle, motor fuel	3-year moving average
Gross receipts	Public utilities, toll telecommunication, insurance premium, ballpark fee, private sports wagering, games of skill, health related	3-year moving average
Estate tax	Estate tax	5-year moving average

Sources: OCFO (revenue history)

Forecast accuracy

Assessing the Certification Forecast accuracy is important to instilling confidence in the certification that adequate revenue is available for debt service. On February 2024, ODCA issued an updated model and revenue forecast following a change in advisors preparing the forecast. Actual collections for FY 2024 show that the September 2024 Certification Forecast was 2% under the ACFR actual total. Real property tax and nontax revenue were the drivers of the underestimation. For real property, the ODCA estimate is the same as the OCFO estimate and the driver of the underestimation was stronger commercial property tax collected in 2024 than estimated. For nontax, the error was in fines, where automated traffic enforcement was much stronger due to additional traffic cameras deployed, and in miscellaneous, related to one-time transfers into the General Fund that could not be anticipated last February.[46]

Figure 13. FY 2024 Forecast Accuracy ($ in millions)

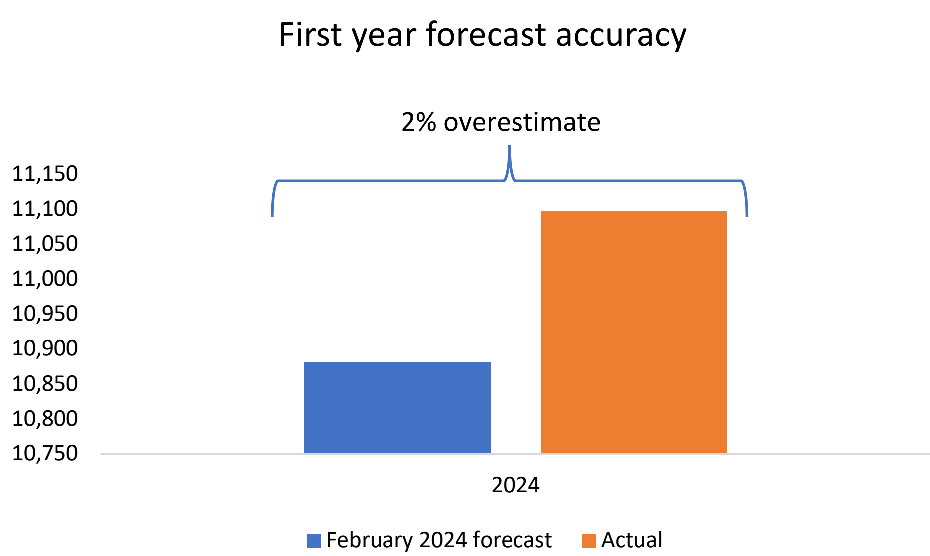


Table 16. Forecast accuracy: Difference between ODCA Feb 2024 forecast of FY 2024 and actual collections

	$ difference	Percentage difference	Over/Underestimate
Property	-105	-3.6%	Underestimated
Sales	36	1.8%	Overestimated

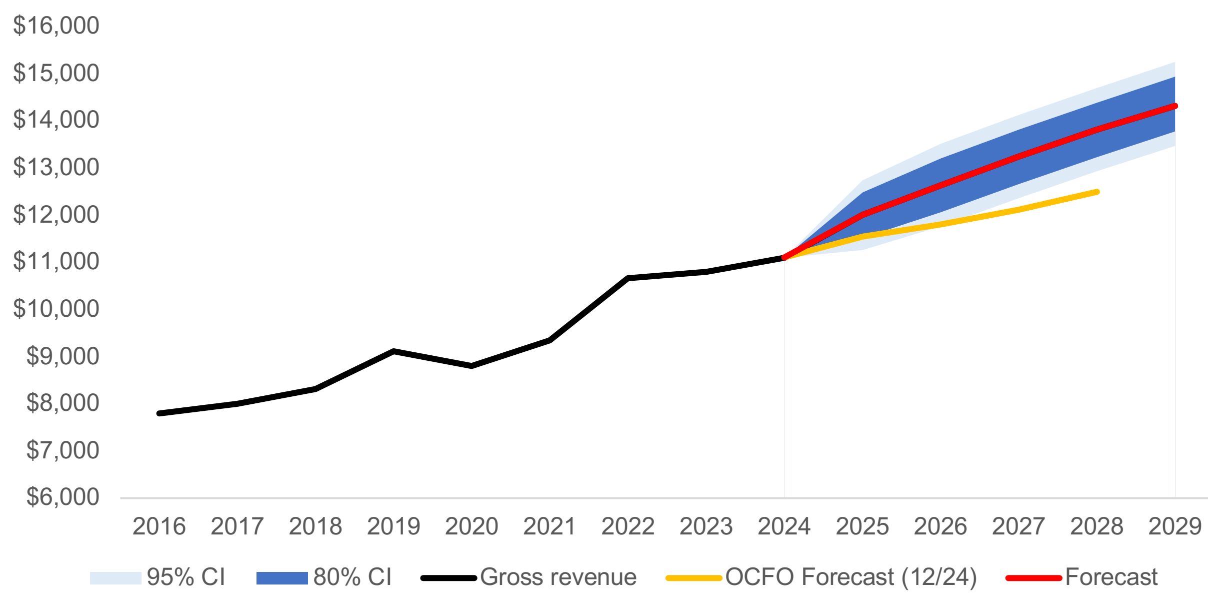
[46] According to DDOT, the number of speed and redlight camera increased from 139 in October 2023 to 259 in September 2024.

Ind. Income	61	1.9%	Overestimated
Bus Income	13	1.1%	Overestimated
Deeds	40	12.1%	Overestimated
Nontax	-255	-28.2%	Underestimated
Other	-12	-1.8%	Underestimated
Gross	-216	-1.9%	Underestimated

III. Revenues

Gross revenue. For FY 2025, the Certification Forecast estimates $12.0 billion in gross revenue (local fund plus dedicated revenue). Much of this growth is due to growth in individual income and corporate income taxes, property taxes, and sales taxes as well as the new transfer of excess payroll taxes from the Universal Paid Leave Fund. Figure 14 below depicts the total gross revenue forecast.

Figure 14. Gross revenue forecast, FY 2016-2029 ($ millions)



Sources: [OCFO December 2024 Revenue Estimate], [OCFO 2024 ACFR], ODCA

By FY 2026, the Certification Forecast projects over $500 million more revenue than OCFO. Table 16 provides additional detail on the composition of gross revenue.

Table 17. Revenue forecast comparison, FY 2024-2029, ($ in millions)

Certification Forecast – February 2025									
	Real Property	General Sales	Individual Income	Business Income	Deeds	Nontax	All Other	Gross	Annual change
2024	2,918	2,002	3,139	1,133	330	904	672	11,098	2.7%
2025	2,841	2,152	3,388	1,427	335	1,171	691	12,006	8.2%
2026	2,864	2,327	3,518	1,541	390	1,210	690	12,539	4.4%
2027	2,920	2,505	3,644	1,684	452	1,246	698	13,149	4.9%
2028	2,935	2,650	3,773	1,811	590	1,279	699	13,737	4.5%
2029	2,991	2,770	3,927	1,959	633	1,289	677	14,246	3.7%

	Real Property	General Sales	Individual Income	Business Income	Deeds	Nontax	All Other	Gross	Annual change
Certification Forecast – September 2024									
2024	2,812	2,053	3,246	1,140	328	661	669	10,909	0.9%
2025	2,794	2,169	3,339	1,298	346	688	682	11,317	3.7%
2026	2,846	2,269	3,398	1,384	383	713	682	11,676	3.2%
2027	2,864	2,368	3,474	1,432	425	745	686	11,993	2.7%
2028	2,906	2,467	3,582	1,487	478	758	690	12,367	3.1%
Certification Forecast (February 2025 variance from September 2024)									
	Real Property	***General Sales***	***Individual Income***	***Business Income***	***Deeds***	***Nontax***	***All Other***	***Gross***	***Annual change***
2024	*+106*	*-51*	*-107*	*-7*	*+2*	*+244*	*+2*	*+189*	*+1.8pp*
2025	*+46*	*-16*	*+48*	*+129*	*-11*	*+483*	*+9*	*+689*	*+4.4pp*
2026	*+18*	*+57*	*+120*	*+156*	*+7*	*+497*	*+8*	*+864*	*+1.3pp*
2027	*+57*	*+138*	*+170*	*+252*	*+27*	*+501*	*+12*	*+1,156*	*+2.1pp*
2028	*+29*	*+182*	*+191*	*+325*	*+112*	*+521*	*+9*	*+1,370*	*+1.3pp*

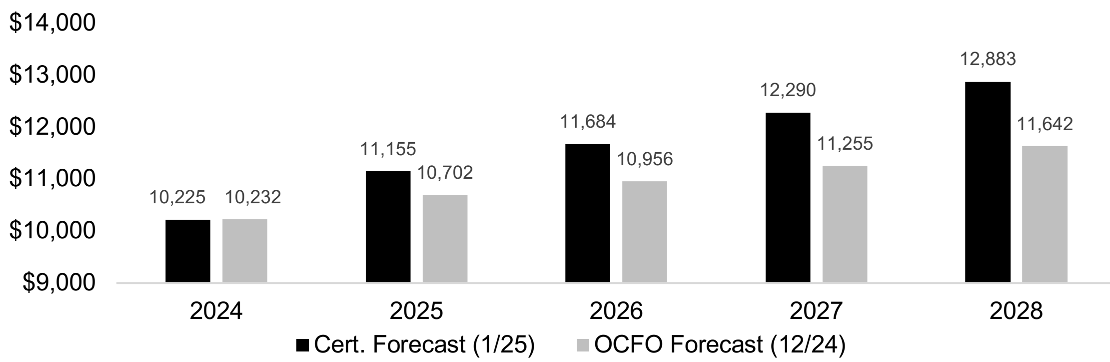
	Real Property	General Sales	Individual Income	Business Income	Deeds	Nontax	All Other	Gross	Annual change
OCFO Forecast – December 2024									
2024	2,917	2,002	3,139	1,133	330	904	680	11,105	1.2%
2025	2,841	2,066	3,242	1,102	392	1,220	691	11,553	5.6%
2026	2,864	2,164	3,377	1,092	439	1,181	694	11,811	2.2%
2027	2,888	2,260	3,532	1,112	484	1,143	697	12,114	2.6%
2028	2,916	2,333	3,677	1,114	619	1,136	702	12,496	3.2%
Certification Forecast (February 2025) variance from OCFO Forecast (December 2024)									
	Real Property	***General Sales***	***Individual Income***	***Business Income***	***Deeds***	***Nontax***	***All Other***	***Gross***	***Annual change***
2024	*+1*	*0*	*0*	*0*	*0*	*0*	*-8*	*-7*	*+1.5pp*
2025	*0*	*+87*	*+146*	*+325*	*-57*	*-49*	*+1*	*+453*	*+2.5pp*
2026	*0*	*+163*	*+141*	*+448*	*-49*	*+29*	*-4*	*+728*	*+2.2pp*
2027	*+33*	*+245*	*+112*	*+572*	*-32*	*+103*	*+1*	*+1,035*	*+2.3pp*
2028	*+19*	*+317*	*+97*	*+698*	*-29*	*+144*	*-3*	*+1,241*	*+1.3pp*

Source: OCFO December 2024 Revenue Estimate, Gross totals from sum of columns – February 2025 Certification Forecast and ORA December (and September) Estimate gross totals include FY 2025 Budget Support Act of 2024 provisions which increased the totals reported in Table 1.

Dedicated revenue. For the dedicated revenue to other agencies or funds, the Certification Forecast uses the most recent OCFO forecast of dedicated revenues. The bulk of the dedicated revenue is sales tax, where over $500 million, or about one-fourth, is dedicated, including $100 million (in FY 2022) of hotel and restaurant tax revenue that was dedicated to Events DC and $178.5 million annually that is dedicated to support WMATA capital investments.

Local revenue. Local revenue is calculated as gross revenue less dedicated revenue and is used for the 17% test. Figure 15 shows that the Certification Forecast estimates that local revenue will grow from $10.2 billion in FY 2024 to $12.9 billion in FY 2028. The Certification Forecast and OCFO diverge more over time, in large part due to the data driven nature of the Certification Forecast. It is also important to note the OCFO forecast in December was unchanged from September 2024 and the stronger economic performance and revenue collections are not reflected. In the December forecast, OCFO increased FY 2024 by $169.7 million, or about 1.5%, which suggests the February 2025 forecast may be revised upward. As mentioned above, the 2024 OCFO forecast was 2% below the actual values that came in.

Figure 15. Local fund revenue, FY 2024-2028 ($ in millions)



Sources: OCFO December 2024 Revenue Estimate, ODCA

IV. Scenarios and risk assessment

Federal workforce

The uncertain future of the federal workforce is likely the biggest current risk to the District economy and revenues. Beginning in January 2025, several news reports, announcements, and official documents have suggested that federal workers will have to return to the office, downsizing of the federal workforce would be happening, and federal leases of buildings would be reconsidered and potentially canceled. While executive actions have begun to reduce the federal workforce, it is not clear what the final outcome will be or the impact on the District. The most recent data on initial claims for unemployment show a surge in January and February.[47] Downsizing the federal workforce would likely have a large impact on District revenue. Below are descriptions of the risks.

1. A reduction in federal workforce that comes from downsizing agency headcount would have a significant impact on the District. A 25% reduction in federal headcount would reduce District employment by 50,000 and reduce District resident employment by 14,000 based on shares of federal government employment. Using average wages for federal employees, this would reduce District wages by 7.3% and District resident wages, the driver of individual income tax, by 5.3%. Economic output as measured by gross domestic

[47] United States Department of Labor Employment & Training Administration. Retrieved from: https://oui.doleta.gov/unemploy/archive.asp

product for DC would decline by 1.1%. Impacts this large would have a material effect on revenues and could reduce income and sales tax revenue by $450 to $550 million.[48]

There would also be significant indirect effects from disruption in federal contracts, particularly government service providers (e.g. caterers, janitorial, security, childcare), and potential negative impacts on WMATA ridership.

2. A reduction in federal workforce due to attrition from onerous/undesirable return to work policies or policies to encourage resignations and early retirement would have a disproportionate impact on non-resident federal workers who may quit or retire rather than begin commuting again. Most District resident federal employees would likely continue working even with the obligation of returning to an office. As a result, while total employment may decline from the attrition, any impact on DC resident employment, and more importantly DC resident wages, would be mitigated.

3. Pre-COVID federal leasing was approximately 21 million square feet and in December 2024, federal leasing was 17 million square feet, a drop of 4 million square feet. With a return-to-work order, this could change the demand for office space in the District.[49]
    a. Increased demand for office space would increase rents and thus assessed value and market value, increasing deed taxes in the current year (from higher sale prices) and commercial real property taxes two years out (2027).
    b. Assuming a 6.3% cap rate,[50] the additional demand for office space at current rent levels for federal leasing, $48 per square foot, translates into increased property tax revenue of $54 million, or an increase of 1.9%.
    c. However, if there is a significant reduction in the federal workforce, there could be further contraction of federal office space demand in the District, increasing office vacancy rates and ultimately reducing property tax revenue.

<u>Congressional block on automated traffic enforcement (speed and red-light cameras):</u>

The appropriations bill for general government operations which includes the District's budget have historically included "riders," restrictions on the use of appropriated funds. In the past, many of these have been approved and as a result the District has been unable to fund recreational marijuana regulations, abortion procedures for Medicaid recipients, and clean needle exchange as examples. In the last Congress, H.R. 8773 included a rider prohibiting the use of funds for implementing and administering automated traffic enforcement, but H.R. 8773 was not approved.[51] Traffic fine revenue in FY 2025 is estimated to be $333.4 million.[52]

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[48] Preliminary estimated impacts on the federal workforce were used to adjust the DC employment, wage, and GDP inputs to the ODCA models which were re-run with the new inputs. The adjustments were to the levels in FY 2025 and then the previously assumed growth rates for FY 2026 and subsequent years.
[49] https://www.gsa.gov/real-estate/real-estate-services/leasing
[50] Cap rate for Class A office buildings: TY 2025 Pertinent Data Book
[51] Text - H.R.8773 - 118th Congress (2023-2024): Financial Services and General Government Appropriations Act, 2025 | Congress.gov | Library of Congress at § 823.
[52] FY 2025 Annual Budget, Table 3-15

V. Certification

District law states that ODCA is required to certify compliance with the 17% test before new general obligation bonds can be issued. OCFO's December 2024 estimate of $10.70 billion in FY 2025 local fund revenue is within the confidence interval of the Certification Forecast, adjusting for revenues dedicated to other funds.

In addition, the September GO bond issue set GO debt service to $586.4 million in FY 2025 which would be 5.3% of the forecasted FY 2025 general fund revenue. Including ITS debt as well, debt service totals of $1.06 billion would be 9.5% of the forecasted FY 2025 general fund revenue, meeting the 17% requirement test.[53] For comparison, debt service would be 9.9% of OCFO's forecasted revenue. Table 18 details the calculation for the 17% requirement test.

Table 18. Calculation of debt certification, FY 2025 ($ in millions)

	Debt service on GO indebtedness only	Debt service on GO and ITS indebtedness combined
Debt service	$586	$1,057
Local revenue	$11,155	$11,155
Share of local revenue	**5.3%**	**9.5%**

Source: Certification Forecast revenue analysis. Final Calculation of Limitation on Borrowing received 9/19/2024 from OCFO.

Another test is to estimate the maximum annual debt service (MADS) as a share of revenue. MADS occurs in FY 2026 when debt service is $628.2 million for GO bonds and $455.9 million for ITS bonds, a total of $1.08 billion. This represents 9.7% of forecasted FY 2025 revenue and 9.3% of forecasted FY 2026 revenue. To reach 17% of local revenue, annual debt service would need to exceed $1.90 billion in FY 2025 and $2.00 billion in FY 2026.

IV. Conclusions

The Certification Forecast estimates $12.0 billion in gross revenue (local fund plus dedicated revenue) in FY 2025 and $11.2 billion in local revenue. The results of the analysis suggest that OCFO's December 2024 estimate of $10.7 billion in FY 2024 local fund revenue is near the lower bound but within the confidence interval of the Certification Forecast. The debt service of $1.06 billion, composed of $586.4 million of GO debt service, including the 2024ABC series, and $470.6 million of ITS debt service, is 9.5% of the forecasted FY 2025 local fund revenue, meeting the 17% test requirement. The Maximum Annual Debt service (MADS) is in FY 2026 when debt service is $1.08 billion, or 9.3% of FY 2026 revenue.

The 17% test is still met if a 25% reduction in federal workforce results in $450 million to $550 million decline in revenue. In this scenario, revenue would be $10.6 billion to $10.7 billion, under 10% of $1.075 billion in debt service.

[53] Office of the District of Columbia Auditor (2023, April 5). Auditor Certifies Revenue In Support of General Obligation Bonds and Obligation Refunding Bonds. Retrieved from: https://dcauditor.org/report/auditor-certifies-revenue-in-support-of-general-obligation-bonds-and-obligation-refunding-bonds/

Appendix

Table A1. Certification Forecast sources for explanatory variables

Explanatory variable	Source	Last update
DC food and accommodation GDP ($M)	Oxford Economics (US BEA)	December 2024
DC wage and salary income ($M)	Oxford Economics (US BEA)	December 2024
DC office vacancy (rate)	CoStar	October 2023
DC office net deliveries (level)	CoStar	October 2023
Capital gains ($M)	US CBO	January 2025
S&P 500 (index)	Oxford Economics (S&P), (S&P \Haver Analytics)	January 2025
US Case Shiller housing price (index)	Oxford Economics (S&P, Fiserv, MacroMarks LLC, Haver Analytics)	January 2025
US single family home sales ($M)	Oxford Economics (National Association of Realtors, Haver Analytics)	January 2025
US gross private domestic investment ($M)	US CBO	January 2025
US nonresidential fixed investment ($M)	US CBO	January 2025
DC population (level)	Oxford Economics (US Census Bureau)	December 2024
DC employment (level)	Oxford Economics (BLS)	December 2024

Note: Acronyms are as follows: Office of the Chief Financial Officer (OCFO) US Bureau of Economic Analysis (BEA), US Congressional Budget Office (CBO), US Bureau of Labor Statistics (BLS).

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About ODCA

The mission of the Office of the District of Columbia Auditor (ODCA) is to support the Council of the District of Columbia by making sound recommendations that improve the effectiveness, efficiency, and accountability of the District government.

To fulfill our mission, we conduct performance audits, non-audit reviews, and revenue certifications. The residents of the District of Columbia are one of our primary customers and we strive to keep the residents of the District of Columbia informed on how their government is operating and how their tax money is being spent.

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