
April 2021 Revised Baseline Estimates of D.C. Government Revenues

April 30, 2021

A Methodology Report by District Economics Group



Office of the District of Columbia Auditor

Kathleen Patterson, District of Columbia Auditor
www.dcauditor.org



April 30, 2021

The Hon. Phil Mendelson
Chairman
Council of the District of Columbia
1350 Pennsylvania Avenue N.W.
Washington, DC 20004

Dear Chairman Mendelson and Councilmembers:

In 2019 the Office of the D.C. Auditor published a revenue forecasting model to serve as an independent assessment of the revenue estimates provided by the Office of the Chief Financial Officer (OCFO) when the District of Columbia issues general obligation bonds. The D.C. Official Code § 1-206.03 (b)(1) requires that the D.C. Auditor certify the accuracy of the OCFO estimate as follows:

*No general obligation bonds... or Treasury capital project loans shall be issued during any fiscal year in an amount which would cause the amount of principal and interest required to be paid both serially and into a sinking fund in any fiscal year on the aggregate amounts of all outstanding general obligation bonds and such Treasury loans, to exceed 17% of the District revenues... which the Mayor estimates, **and the District of Columbia Auditor certifies**, will be credited to the District during the fiscal year in which the bonds will be issued...*

Today we share an update to the forecasting model developed for ODCA by the District Economics Group (DEG) titled **April 2021 Revised Baseline Estimates of D.C. Government Revenues**. We note that the District continues to experience significant effects from the COVID-19 global pandemic that bring ongoing uncertainty to the financial outlook. We will continue to update the model in preparation for revenue certifications in the upcoming year and appreciate the continuing assistance of Interim Chief Financial Officer Fitzroy Lee and his team in providing DEG with updated revenue data.

I hope this update and our ongoing independent assessment of the District's revenues will be of value to the D.C. Council as well as to the OCFO and others in the executive branch and District residents.

Sincerely yours,

A handwritten signature in blue ink that reads "Kathleen Patterson". The signature is written in a cursive, flowing style.

Kathleen Patterson
District of Columbia Auditor

**Revised Baseline Estimates of D.C. Government Revenues
For the Office of the District of Columbia Auditor**

April 20, 2021

Washington, D.C.

Introduction

In February, District Economics Group (DEG) provided the Office of the District of Columbia Auditor (ODCA) with an update on our model forecasts for the District's FY 2021 revenue streams and our thoughts on the COVID-19 pandemic's impact.

After monitoring for changes in national and D.C. GDP estimates and for the release of the Office of the Chief Financial Officer's (OCFO's) February 2021 Quarterly Revised Revenue Estimate, DEG has further revised its model to reflect the most recent data available. This report revises DEG's forecasts of the District's revenues for FY 2021 through FY 2025 and compares DEG's April 2021 estimated FY 2021 non-dedicated Local Fund Revenue estimate with that of the OCFO. This update reflects the impacts of the pandemic-induced shutdown on the District's revenue streams and the growth path of its economy through fiscal year 2025.

Changes to the economic forecast

DEG's April 2021 forecast of D.C. Gross Domestic Product (GDP) for Calendar Year 2021 is \$148.99 billion in comparison to its corresponding DEG February 2021 forecast of \$150.95 billion, \$1.96 billion or 1.3% less.¹

This revision incorporates the Bureau of Economic Analysis' (BEA) March 2021 release of a calendar year annual estimate of D.C. GDP for 2020. The BEA release underscores the impact of the COVID-19 pandemic on the District's economy, showing an almost negligible growth rate of 0.1% for D.C. GDP between CY 2019 and CY 2020 with its annual estimates at \$143.39 billion and \$143.53 billion, respectively.² DEG also takes into account the OCFO's growth outlook for D.C. GDP to create its calendar and fiscal year estimates for 2021. The OCFO's most recent release, the February 2021 Quarterly Revised Revenue Estimate, forecasted an annual growth rate of +3.8% for FY 2021, slightly lower than its +4.0% rate as part of the December 2020 Quarterly Revised Revenue Estimate.

Below is a chart showing how the April 2021 DEG forecast of Calendar Year D.C. GDP (bold black dashed line) is below the February 2021 DEG forecast (bold maroon dashed line). Note that the forecast period changed between the two model updates: While this report forecasts for calendar years 2021-2025, the February report forecasted for calendar years 2020-2024. This explains why the dashed lines representing the two models begin and end at different years on the graph, with the February estimate line beginning at 2019, forecasting 2020 through 2024, and the April estimate line beginning at 2020, forecasting 2021 through 2025.

¹ DEG's February 2021 estimates for CY 2020 and CY 2021 D.C. GDP were \$145.40 and \$150.95 billion, respectively. That update focused on Calendar Year 2020 and incorporated an annual D.C. GDP growth rate of +1.4% for FY 2020 from the OCFO's December 2020 Quarterly Revised Revenue Estimate.

² BEA released new statistics for annual and quarterly D.C. GDP for CY 2020 on March 26, 2021. The annual revisions incorporated into DEG's model are available at <https://tinyurl.com/4k2et2d9>.

Chart 1. Revised DC GDP Forecast CY 2021-2025, as of April 20 2021

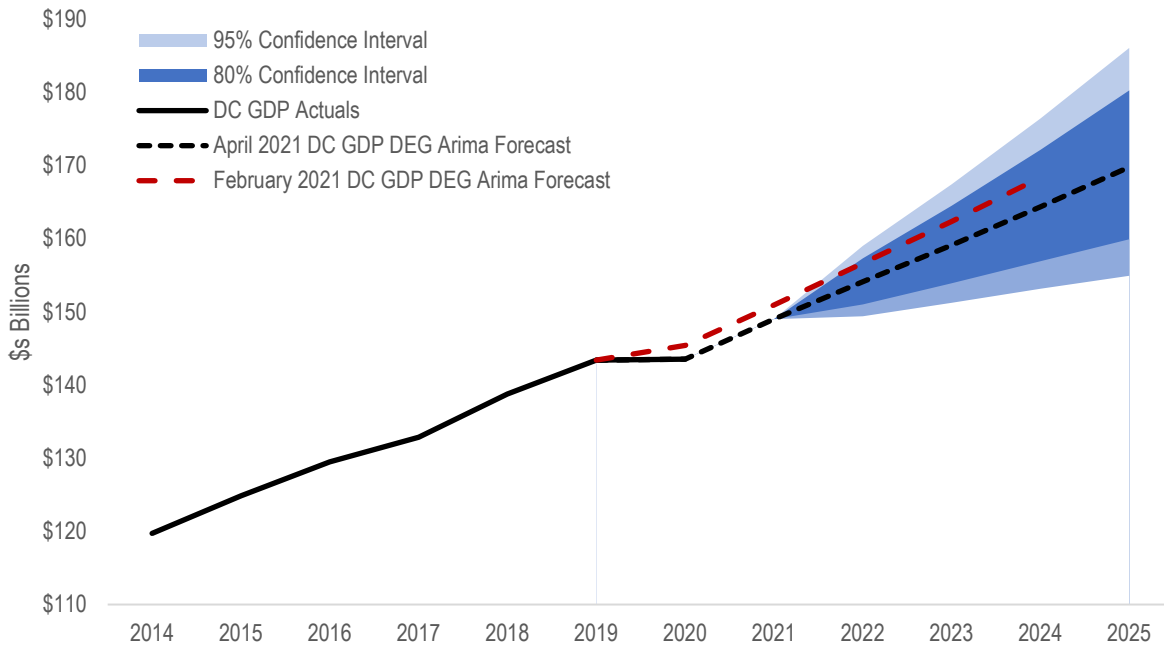


Table 1 below displays the DEG April 2021 D.C. GDP and gross revenue forecasts for FY 2021 – 2025 next to the D.C. OCFO’s forecasts from its February 2021 Revised Revenue Estimate. The DEG and OCFO gross revenue forecasts are similar but DEG’s estimates are slightly higher for each fiscal year. Notably, while both have similar estimates for FY 2021 D.C. GDP, DEG’s forecasts for the remaining fiscal years are significantly smaller. DEG’s gross revenue forecasts are based upon the long-run relationship between D.C. GDP and revenues and that relationship indicates stronger revenues than the OCFO forecast. Both the OCFO and DEG’s estimates of District revenues are greater than previous estimates – December revenues for the OCFO and February revenues for DEG. This is due to less severe reductions in the District’s income, property, and sales and excise tax revenues than had been anticipated as a result of the pandemic.

Table 1. Comparison of DEG April 2021 and OCFO’s February 2021 forecasts for Fiscal Year D.C. GDP and Gross Revenues as of April 20, 2021.

Fiscal Year	DEG D.C. GDP Forecast (\$billions)	D.C. OCFO GDP Forecast (\$billions)	DEG D.C. Gross Revenues Forecast (\$thousands)	D.C. OCFO Gross Revenues Forecast (\$thousands)
2021	147.6	148.8	8,849,819	8,641,969
2022	152.8	158.2	9,255,527	9,148,818
2023	157.9	165.2	9,629,365	9,516,128
2024	163.0	173.0	10,004,794	9,896,617
2025	168.4	181.4	10,406,377	10,207,903

Changes to the revenue forecast

Table 2 below highlights the changes in the DEG forecast between the February and April forecasts. The April 2021 DEG forecasted revenue streams (orange shaded columns) are displayed next to DEG's prior estimates from February 2021 (gray shaded columns). As noted previously, the two DEG model updates focused on different forecast periods and so, the columns reflecting DEG's April 2021 model have estimates for FY 2025 whereas the columns reflecting its February 2021 model update do not.

The forecasts are *gross* revenue streams *before* the dedicated revenues are netted out. The white columns show the change in DEG's forecasts from February 2021 to April 2021. In comparison to its February 2021 update, DEG's April 2021 model update forecasts consistently higher income and property tax revenues as well as predominantly higher sales and excise tax revenues for FY 2021 – 2025. This is due to stronger actual revenues than had been anticipated. In contrast, it forecasts consistently lower other tax and gross receipts tax revenues as well as predominantly lower nontax and lottery revenues for the same forecast period.

DEG's February 2021 estimates for FY 2020 – FY 2024 were prepared using actual FY 2020 revenues from the OCFO's FY 2020 CAFR as well as additional revenue projections from the OCFO's December 2020 Revised Revenue Estimate, which detailed an upward revision of \$171 million as noted in DEG's February report. It also included an upward revision of \$68.4 million to its September 2020 estimate of \$7.83 billion for FY 2021, attributed to faster than anticipated economic recovery from the pandemic.^{3,4} For the February 2021 update to ODCA, DEG modeled the pandemic's effects on the District's revenues for FY 2021 – 2024 using this additional data while also factoring in the OCFO growth patterns from its December 2020 Revised Revenue Estimate to adjust each of the revenue streams shown in Table 2.

In contrast, DEG's April 2021 estimates for FY 2021 – 2025 are prepared using revenues from the OCFO's February 2021 Revised Revenue Estimate. In this release, the OCFO increased its FY 2021 Local Source, General Fund Revenue estimate by \$113.8 million, from \$7.89 billion to \$8.01 billion. Despite this upward adjustment, the OCFO notes that this FY 2021 revenue estimate is \$141.8 million or 1.74% below the FY 2020 revenue level of \$8.15 billion, and \$306.9 million or 3.69% below the FY 2019 level of \$8.31 billion. For this revision, as with its February 2021 update, DEG made adjustments "off-model" to incorporate and better reflect the pandemic's impact on certain D.C. revenue streams. These adjustments relied upon the OCFO's February 2021 Revised Revenue Estimates' annual growth rate projections for the three revenue sources forecasted to be most impacted by the pandemic: property taxes, sales and excise taxes, and non-tax and lottery revenues. In accounting for these streams' divergent paths, DEG's adjustments were overall downward for both FY 2021 and FY 2022.

³ See the February 2021 Revised Revenue Estimates released on February 26 and the December 2020 Revised Revenue Estimates released on December 30 by the Office of the Chief Financial Officer of the Government of the District of Columbia. <https://cfo.dc.gov/node/305482>

⁴ The FY 2020 Comprehensive Annual Financial Report can be found at <https://cfo.dc.gov/page/comprehensive-annual-financial-report-cafr-2020>. Revenue stream actuals sources from Exhibit A-4 District of Columbia Schedule of Local Source Revenues (page 173).

Table 2. Revised Gross Fiscal Year Revenue Stream Forecasts as of April 2021 (in orange) and February 2021 (in grey) as of April 20, 2021 (\$ Thousands). Actual amounts in bold correspond to the OCFO's February 2021 Revised Revenue Estimates.

Fiscal Year	Income tax revenue			Property tax revenue			Sales and excise tax revenue		
	Feb-21	April-21	Difference	Feb-21	April-21	Difference	Feb-21	April-21	Difference
2020	\$3,104,933	\$3,104,933	\$0	\$2,910,481	\$2,954,093	\$43,612	\$1,280,662	\$1,316,574	\$35,912
2021	\$3,080,130	\$3,205,829	\$125,699	\$2,894,971	\$3,061,561	\$166,590	\$1,164,862	\$1,208,702	\$43,840
2022	\$3,217,528	\$3,334,602	\$117,074	\$2,865,918	\$2,924,391	\$58,473	\$1,457,179	\$1,578,336	\$121,157
2023	\$3,355,489	\$3,458,339	\$102,850	\$2,938,526	\$3,044,885	\$106,359	\$1,581,187	\$1,648,398	\$67,211
2024	\$3,499,057	\$3,586,215	\$87,158	\$3,022,147	\$3,169,409	\$147,262	\$1,727,161	\$1,720,803	-\$6,358
2025	-	\$3,718,985	-	-	\$3,298,700	-	-	\$1,795,979	-
Fiscal Year	Other tax revenue			Gross receipts revenue			Nontax and lottery revenue		
	Feb-21	April-21	Difference	Feb-21	April-21	Difference	Feb-21	April-21	Difference
2020	\$427,351	\$489,988	\$62,637	\$323,597	\$371,123	\$47,526	\$560,955	\$560,955	\$0
2021	\$555,493	\$501,699	-\$53,793	\$404,234	\$395,099	-\$9,135	\$425,334	\$476,928	\$51,595
2022	\$599,887	\$539,456	-\$60,432	\$407,477	\$387,867	-\$19,610	\$523,798	\$490,876	-\$32,923
2023	\$644,762	\$572,507	-\$72,255	\$417,163	\$400,959	-\$16,204	\$547,831	\$504,277	-\$43,554
2024	\$694,424	\$609,425	-\$85,000	\$423,198	\$400,815	-\$22,382	\$546,927	\$518,127	-\$28,800
2025	-	\$650,915	-	-	\$409,291	-	-	\$532,507	-

Note: The FY 2020 property tax, sales and excise tax, other tax, and gross receipts revenues differ between DEG's February 2021 and April 2021 estimates. These should be the same as occurs in the income tax and nontax and lottery revenue segments because the row for FY 2020 reflects actuals and not forecasted values. However, if there is a difference it reflects differing amounts between the OCFO's FY 2020 CAFR (the FY 2020, February 2021 rows) which was incorporated into DEG's February revenue estimates and the OCFO's February 2021 Revised Revenue Estimates (the FY 2020, April 2021 rows). The latter are bolded because they are incorporated into DEG's new April 2021 revenue estimates. If both are bolded, that means they coincide.

Source: Office of the Chief Financial Officer; DEG estimates based upon Office of the Chief Financial Officer data.

To demonstrate the effect of the revised gross revenue streams on the ODCa certification estimates, Table 3 below provides an updated segment of the D.C. Auditor Certification Table alongside DEG's February 2021 estimates, with any dedicated revenues netted out from the gross revenue amounts. DEG's April 2021 estimate of the District's Total Local Source, General Fund Revenue for FY 2021 is approximately \$8.22 billion, which is \$323 million or 4.1% greater than DEG's February 2021 estimate of \$7.89 billion.

Table 3. DEG February 2021 and April 2021 Estimates of FY 2021 Total Local Source, General Fund Revenue (Net of Dedicated Taxes) as of April 20, 2021 (\$ Thousands).

Revenue Source	DEG February 2021 FY 2021 Estimated Revenues (Net of Dedicated Taxes)	DEG April 2021 FY 2021 Estimated Revenues (Net of Dedicated Taxes)
Property Taxes	\$2,847,436	\$3,009,823
Sales Taxes	\$784,408	\$827,852
Income Taxes	\$3,080,130	\$3,205,829
Gross Receipts Taxes	\$268,822	\$261,754
Other Taxes	\$486,348	\$433,678
Total Taxes	\$7,467,144	\$7,738,936
Total Non-Tax and Lottery Revenues	\$425,334	\$476,928
Total Local Source, General Fund Revenue Estimate	\$7,892,477	\$8,215,865

Issues with forecast revision

For this update, DEG sourced revenue collections data and estimates for FY 2020 – FY 2025 from the OCFO’s February 2021 Revised Revenue Estimates. Overall, the OFCO expects the economy to continue its current path of recovery. This is largely attributed to 1) the availability and deployment of vaccines and 2) the large injection of federal spending through the “enhanced unemployment insurance, extended Paycheck Protection Program (PPP), additional economic impact payments, and substantial state government assistance” intended to support the economy as public health restrictions are lifted.⁵ While these two are expected to accelerate the District’s recovery, their buttressing may be counteracted by the pandemic’s long-term impact on the performance of certain revenue streams.

The OCFO states that revenue sources reliant on in-person customers, commuters, or occupied offices, such as sales and deed taxes and licenses and fines, were most affected by the business activity restrictions put in place to control the spread of COVID-19. Combined, these taxes declined by more than 20% in FY 2020 and the OCFO expects them to decline further in FY 2021, with sales tax revenues specifically not anticipated to recover to their FY 2019 level until FY 2023. Additionally, the OCFO expects that the COVID-19 impact on commercial real property markets will be a drag on revenue growth in FY 2022 and beyond. The lower income from hotel, apartment, and office properties in CY 2020 will affect the District’s property tax revenues for FY 2022 due to a delay between when real property tax assessments are made and when the revenues based on those assessments are collected.⁶ And beyond FY 2022, it is the OCFO’s expectation that greater levels of remote work will limit demand for and growth in the value of commercial office and apartment properties.

In contrast, District revenue from individual and business income taxes has not been disrupted by the pandemic. Between FY 2019 to FY 2020, it grew approximately 5.54% overall from \$2.94 billion to \$3.10 billion, buoyed by the ability of many employers and their workers to transition to telework as well as business relief through federal and District programs such as the PPP and those aimed at supporting rent payments.

DEG’s model, which is based on an autoregressive moving average of GDP, forecasts future estimates for D.C. GDP based off of historical values for D.C. GDP. Therefore, it does not fully capture the divergence among the revenue streams directly impacted by the pandemic due to the loss of hospitality and office-worker and tourist traffic in the District from those that are less impacted, like income taxes. To account for this, as noted on page 4, DEG relied on the OCFO’s February 2021 Revised Revenue Estimates to make “off-model” adjustments to reflect annual changes in expected revenues consistent with the impacts of the pandemic.

For sales and excise tax revenues, DEG uses the OCFO’s growth path for FY 2021 and FY 2022 to better capture an expected further decline in this fiscal year due to continued public health restrictions followed with a large rebound in the next. For property tax revenues, DEG maintained its FY 2021 forecast and then used the OCFO’s growth path for FY 2022 to factor in the delay from when property

⁵ See section entitled “Re-open assumptions underlying estimate” on page 2 of the OCFO’s February 2021 Revised Revenue Estimates.

⁶ This delay is why property tax revenues increased between FY 2019 and FY 2020 despite the pandemic-induced shutdown: that growth represented increases in property assessments during FY 2019.

tax assessments are made to when they appear in the District's revenues. After making these short-term revenue adjustments, we use the ARIMA model forecasted long-run growth rates to create estimates for these two streams for FY 2023–2025. For nontax and lottery revenues, DEG made a one-time, downward adjustment to miscellaneous nontax revenues following the OCFO's estimates of the same. This one-time adjustment reduces nontax revenues by approximately \$100 million per year.

Looking forward, the course of and economic damage from the pandemic, including the resurgence of the virus late last year, have created an uncertain outlook for the District. As the OCFO's February 2021 Revised Revenue Estimate indicates, while there have been improvements on the public health side with the availability of at least two vaccines, significant risks still remain regarding the containment of the virus and the pace of the District's economic recovery: the build-up of deferred rent, utility payments, and additional credit card debt could challenge revenue collections; long-term, there could be less appetite for conventions and entertainment activities such as dining, performances, and sports if consumers lose confidence in their ability to safely participate in them or have less desire to travel, whether that be for business or leisure; and, office workers may decide to permanently work from home reducing the need, and over time the demand, for office space. These risks render modeling future D.C. revenues difficult, relying on assumptions about the District's path toward recovery, taking into account these sustained risks as well as the pandemic's long-term effects.

Outside of the scope of revenues, a notable and substantial risk to the District remains: The Unemployment Insurance Trust Fund (UITF), a fiduciary fund which is "used to pay benefits for private and public sector employees during periods of unemployment" through a business payroll tax, has been severely depleted during the pandemic.⁷ Pre-pandemic, at the beginning of March 2020, the balance of the UITF was approximately \$519 million, and as of April 20, 2021, the balance is approximately \$25 million, \$494 million or 95.2% less.⁸ This is and will be an emerging government finance issue for the District as it will need to stabilize the UITF moving forward, not only through but also beyond the pandemic.

Conclusion

DEG's estimate of FY 2021 non-dedicated Local Fund Revenue is \$8,215,865,000, or 104.1% of our estimate of \$7,892,477,000 shown in our February 2021 model update to the D.C. Auditor. Our FY 2021 estimate is 102.6% of the OCFO's estimate of \$8,008,015,000. Significant challenges remain to this forecast as the course of the pandemic remains uncertain.

⁷ For a description of the Unemployment Insurance Trust Fund and its budget, see <https://cfo.dc.gov/publication/2021-ui0-unemployment-insurance-trust-fund>.

⁸ Balances for the Unemployment Insurance Trust Fund are collected from the TreasuryDirect website at <https://www.treasurydirect.gov/>. The corresponding path to use when navigating the website from the home page is Government > Reports > Funds Management Program: Unemployment Trust Fund Reports > select the month, year, and type of report (account statement) > for state, select District of Columbia.

District Economics Group

Michael Udell

Managing Member, District Economics Group, LLC

Cell: (408) 562 6479 michael.udell@districteconomics.com

Lori Stuntz

Principal, District Economics Group, LLC

Cell: (202) 527 2116 lori.stuntz@districteconomics.com

Danielle Sockin

Senior Analyst, District Economics Group, LLC

Cell: (845) 709 5361 danielle.sockin@districteconomics.com

District Economics Group

www.districteconomics.com

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.

Office of the District of Columbia Auditor

717 14th Street N.W.

Suite 900

Washington, DC 20005

Call us: 202-727-3600

Email us: odca.mail@dc.gov

Tweet us: https://twitter.com/ODCA_DC

Visit us: www.dcauditor.org



Information presented here is the intellectual property of the Office of the District of Columbia Auditor and is copyright protected. We invite the sharing of this report, but ask that you credit ODCA with authorship when any information, findings, or recommendations are used. Thank you.

