

# Analysis of the Continued Impact of COVID-19 on the City of Philadelphia's Tax Revenues

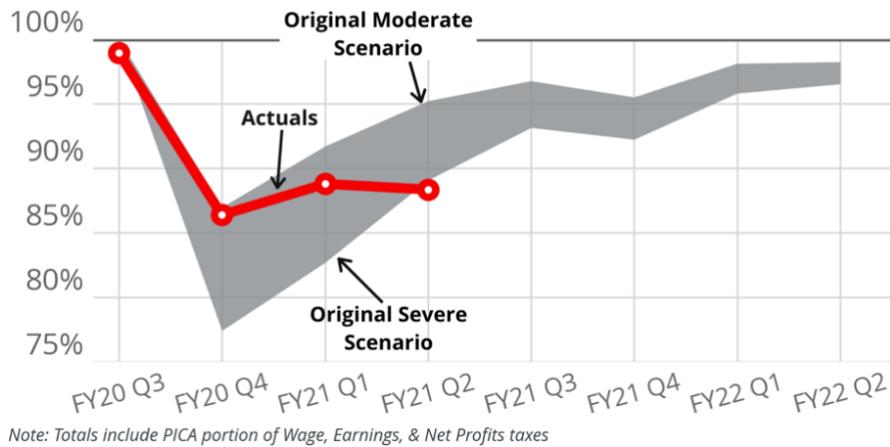
*March 2021*

Over the last twelve months, the City of Philadelphia (City) has dealt with the unprecedented challenges posed by the COVID-19 pandemic. Since the first stay-at-home order issued on March 23, 2020, restrictions on business activity have had a significant and ongoing impact on Philadelphia's economy. Social distancing measures continue to affect fundamental aspects of day-to-day life, with most businesses operating at limited capacity, public schools continuing to conduct virtual classes and many employees still working from home, a full year after the first COVID-19 case was confirmed in Philadelphia. These impacts have been felt across the country, with national unemployment reaching record highs and small businesses struggling to survive. This economic contraction has had a significant effect on the City's finances, with tax revenues falling hundreds of millions of dollars below previously projected levels.

In April 2020, the Controller's Office released a [report](#) that estimated the pandemic's potential impact on the City's tax revenues. With the ultimate impact unknown at the time, this original analysis considered two scenarios that varied the severity and length of the pandemic's economic impact. Relative to the City's pre-COVID forecasts, the report projected a substantial revenue shortfall ranging between \$263M and \$503M through the end of January 2021. Nearly a year later, actual tax collections have fallen within the forecasted range, with accumulated revenue losses totaling \$454M through the end of January 2021. These original forecasts, along with actual revenues, are shown relative to the pre-pandemic baseline in Figure 1 on the next page.

While the severity of the initial shock is now clear, the shape of Philadelphia's economic recovery remains uncertain. Original forecasts by the Controller's Office assumed a recovery to pre-pandemic revenue levels by the end of calendar year 2021, in line with other published forecasts at the time. As seen in Figure 1, revenue collections in recent months indicate that these forecasts likely overestimated the pace of the City's recovery. This report incorporates data from the last twelve months to revise these forecasts and recalibrate the pace of the local economy's recovery. Experience from the past year provides crucial insight into how the local economy has responded to changes in public health restrictions and which taxes have been most sensitive to the effects of the pandemic. Most notably, several federally approved COVID-19 vaccines are now being distributed throughout the city. Equipped with this new information, this analysis provides revised estimates of the pandemic's impact on City tax revenues through the end of June 2022. Currently, trends beyond June 2022 are difficult to forecast, as the full impact of the COVID-19 pandemic on the economy is not yet fully understood, and a number of structural changes to regional and national economies could impact the City's finances in the long term.

**Figure 1: Quarterly Tax Revenue Totals Relative to the Pre-COVID Baseline in the Original Analysis**



### Revised Tax Revenue Impacts

This report analyzes two possible scenarios for the city’s ongoing recovery, optimistic and pessimistic, and their associated tax revenue impacts. The projections examine the short-term impact to the City’s finances over the next 15 months, focusing on fiscal year 2021 (FY21) ending on June 30, 2021 and fiscal year 2022 (FY22) ending on June 30, 2022. The scenarios focus solely on the City’s major taxes and do not include costs associated with the pandemic response, state or federal aid, or impacts to the City’s non-tax revenues.

Under the optimistic scenario, the Controller’s Office estimates that the City would have a combined tax revenue shortfall of \$33M in fiscal years 2021 and 2022 relative to the City’s latest detailed budget projections released in February 2021. Under the pessimistic scenario, the City would face a combined tax revenue shortfall totaling \$284M for FY21 and FY22. Both scenarios assume widespread vaccine distribution in the summer of 2021 that results in a substantial increase in economic activity beginning in the second quarter of FY22. However, the scenarios differ in the assumed pace of recovery, particularly for service sectors most impacted by the pandemic. The optimistic scenario assumes a return to pre-COVID employment levels by mid-2023, while in the pessimistic scenario, this job recovery lasts until the end of calendar year 2023. However, in both scenarios the vast majority of the economic recovery occurs by the end of FY22. Both scenarios account for the effects of non-resident remote workers leaving the wage tax base during the pandemic. However, the full impact of this issue remains unclear as only some major employers have begun to withhold wage tax payments for non-resident remote employees.

Tax revenue impacts are summarized for each of the City’s major taxes in Table 1 below, with fiscal year totals shown in Figure 2. The net impact to the City’s finances in each scenario is

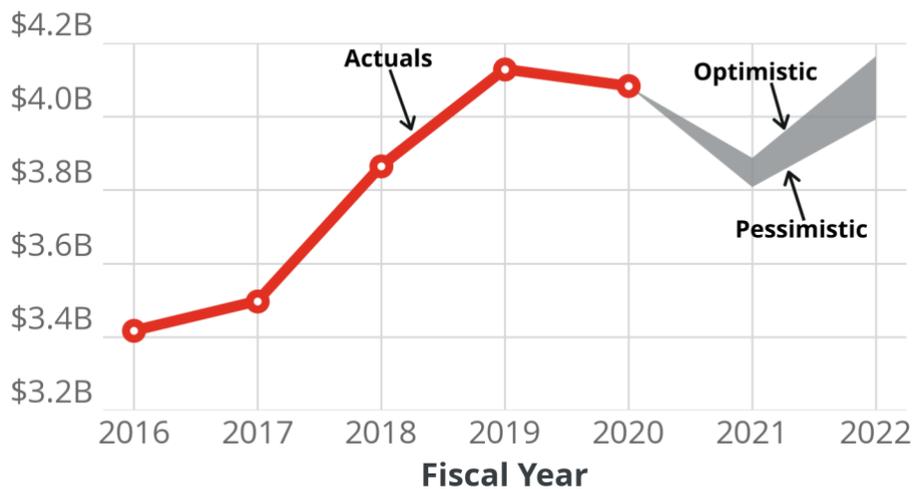
presented relative to the City’s latest budgeted tax revenue totals, denoted as “City Budget” in Table 1.<sup>1</sup> The effects on individual taxes will be discussed in detail later in the report.

**Table 1: Revised Tax Revenue Impacts for Major City of Philadelphia Taxes in Fiscal Years 2021 and 2022**  
*Dollars in thousands*

Tax	FY 2021			FY 2022			Net Impact	
	City Budget	Optimistic	Pessimistic	City Budget	Optimistic	Pessimistic	Optimistic	Pessimistic
Wage & Earnings <sup>†</sup>	2,000,565	1,974,546	1,969,315	2,166,519	2,115,451	2,038,272	(77,087)	(159,497)
Real Estate	684,288	684,288	684,288	731,697	699,204	699,204	(32,493)	(32,493)
BIRT	482,147	510,965	478,519	605,916	539,850	514,143	(37,248)	(95,401)
Realty Transfer	292,816	325,965	304,556	301,308	340,217	306,312	72,058	16,744
Sales	173,876	205,342	201,020	315,121	339,684	328,492	56,029	40,514
Parking	61,088	52,059	49,122	83,298	83,161	70,654	(9,166)	(24,610)
Net Profits <sup>†</sup>	56,218	63,119	52,771	72,253	69,747	65,544	4,396	(10,156)
Beverage	67,441	67,933	66,081	67,954	74,103	71,864	6,641	2,549
Amusement	12,818	3,074	2,372	26,116	19,816	15,258	(16,044)	(21,303)
<b>Total</b>	<b>3,831,257</b>	<b>3,887,291</b>	<b>3,808,044</b>	<b>4,370,182</b>	<b>4,281,234</b>	<b>4,109,742</b>	<b>(32,914)</b>	<b>(283,652)</b>

<sup>†</sup> Includes both the City and PICA portions of the tax  
 Note: City Budget data reflects "Target Budget" totals in FY21 Q2 QCMR; FY22 baseline from Adopted FY21 - FY25 Five Year Financial Plan, June 2020

**Figure 2: Tax Revenue Estimates by Fiscal Year**



Note: Totals include PICA portion of Wage, Earnings, & Net Profits taxes

## Methodology and Assumptions

This analysis considers the impacts of COVID-19 on the City’s revenues under optimistic and pessimistic scenarios.<sup>2</sup> The assumptions for these scenarios were informed by recent forecasts at

<sup>1</sup> The comparison uses the FY21 "Target Budget" totals in the [FY21 Q2 Quarterly City Manager’s Report](#) and the FY22 totals in the [Adopted FY21 - FY25 Five Year Financial Plan](#) from June 2020.

<sup>2</sup> All software used in this analysis is available at <https://github.com/PhiladelphiaController/COVID19-forecaster>.

the federal, state, and local levels, including projections by the Congressional Budget Office (CBO) and Pennsylvania's Independent Fiscal Office.<sup>3</sup> The majority of these forecasts assume full employment recovery by the end of calendar year 2023. The scenarios in this report fall in line with these forecasts, with the vast majority of the economic recovery realized by the end of FY22. The scenarios considered are:

- **Optimistic:** A scenario resulting from sustained and substantial recovery rates across sectors, with employment returning to pre-pandemic levels by mid-2023. This scenario assumes that COVID-19 transmission rates continue to fall while more people become vaccinated, leading to easing of business restrictions and social distancing measures over the next twelve months.
- **Pessimistic:** A scenario in which the economy experiences slower recovery due to extended business restrictions and social distancing measures. Employment and wages across sectors improve throughout FY21 and FY22, but at a slower rate than in the optimistic scenario.

For both scenarios, forecasts rely on a combination of historical data and economic trends that have emerged since the start of the COVID-19 pandemic. Historical data at the industry level is used when available<sup>4</sup> in order to account for the disparate impact of the pandemic across different sectors of the economy.

The forecasted revenue totals for each tax, as well as the actual totals from calendar year 2020, are shown in Figure 3 on the following page. Totals are shown as a percent of the pre-pandemic revenue baseline, which provides a clear illustration of the varying impact of the pandemic across different taxes. Forecasts for the wage tax are shown at the industry level and will be discussed in greater detail in the next section.

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<sup>3</sup> For example, see recent analyses by the [Congressional Budget Office](#), [Pennsylvania's Independent Fiscal Office](#), the [City of Detroit](#), and the [Massachusetts Budget Office](#).

<sup>4</sup> Industry data is available for the City's wage, sales, and realty transfer taxes.

### Figure 3: Quarterly Tax Revenue Totals as Percent of the Pre-COVID Baseline

Wage Tax by Industry		Actual				Forecasted				
		FY20 Q4	FY21 Q1	FY21 Q2	FY21 Q3	FY21 Q4	FY22 Q1	FY22 Q2	FY22 Q3	FY22 Q4
Educational & Health Services	Optimistic	98%	97%	93%	93%	97%	98%	97%	97%	102%
	Pessimistic	98%	97%	93%	93%	97%	97%	97%	97%	102%
Financial Activities	Optimistic	100%	82%	78%	81%	84%	93%	97%	99%	104%
	Pessimistic	100%	82%	78%	81%	83%	85%	86%	87%	91%
Government	Optimistic	85%	125%	89%	93%	95%	96%	97%	97%	99%
	Pessimistic	85%	125%	89%	93%	94%	95%	95%	96%	98%
Information	Optimistic	92%	85%	74%	76%	81%	89%	92%	93%	101%
	Pessimistic	92%	85%	74%	76%	80%	82%	82%	82%	88%
Leisure & Hospitality	Optimistic	65%	64%	65%	71%	81%	86%	92%	97%	108%
	Pessimistic	65%	64%	65%	69%	80%	85%	87%	88%	94%
Manufacturing	Optimistic	90%	88%	94%	90%	94%	95%	95%	95%	99%
	Pessimistic	90%	88%	94%	90%	93%	93%	93%	93%	97%
Mining, Logging, & Construction	Optimistic	78%	90%	94%	93%	97%	98%	98%	98%	103%
	Pessimistic	78%	90%	94%	93%	96%	97%	97%	97%	101%
Other Services	Optimistic	89%	85%	87%	87%	92%	92%	93%	93%	97%
	Pessimistic	89%	85%	87%	87%	91%	91%	91%	91%	95%
Professional & Business Services	Optimistic	97%	87%	84%	84%	89%	94%	95%	97%	103%
	Pessimistic	97%	87%	84%	84%	88%	88%	87%	87%	91%
Trade, Transportation, & Utilities	Optimistic	92%	95%	96%	96%	100%	101%	101%	101%	105%
	Pessimistic	92%	95%	96%	96%	99%	99%	99%	99%	103%
<b>Wage Total</b>	Optimistic	92%	94%	88%	88%	93%	96%	96%	97%	102%
	Pessimistic	92%	94%	88%	88%	92%	93%	93%	93%	97%
<b>Sales</b>	Optimistic	73%	90%	94%	91%	93%	95%	96%	98%	99%
	Pessimistic	73%	90%	94%	89%	89%	91%	93%	95%	96%
<b>Amusement</b>	Optimistic	6%	1%	8%	10%	30%	50%	70%	90%	100%
	Pessimistic	6%	1%	8%	10%	20%	30%	50%	70%	90%
<b>Parking</b>	Optimistic	29%	32%	43%	50%	60%	70%	80%	90%	90%
	Pessimistic	29%	32%	43%	50%	50%	60%	70%	70%	80%
<b>Realty Transfer</b>	Optimistic	43%	91%	93%	79%	83%	90%	89%	92%	90%
	Pessimistic	43%	91%	93%	70%	70%	80%	79%	82%	84%
<b>Beverage</b>	Optimistic	70%	87%	87%	90%	90%	95%	95%	97%	99%
	Pessimistic	70%	87%	87%	85%	85%	90%	92%	95%	97%
<b>Business Income &amp; Receipts</b>	Optimistic	103%	144%	129%	92%	92%	105%	105%	105%	105%
	Pessimistic	103%	144%	129%	85%	85%	100%	100%	100%	100%
<b>Net Profits Tax</b>	Optimistic	64%	330%	91%	60%	60%	100%	102%	102%	105%
	Pessimistic	64%	330%	91%	40%	40%	98%	98%	98%	97%
<b>All Taxes Total</b>	Optimistic	86%	94%	90%	86%	89%	94%	95%	97%	101%
	Pessimistic	86%	94%	90%	84%	84%	90%	91%	92%	96%

Note: The pre-COVID baseline is defined as the revenue level during the four quarters prior to the onset of the COVID pandemic in FY20 Q4

## Individual Tax Revenue Impacts

The economic impact of COVID-19 has affected the City's taxes differently. The following sections summarize these unique impacts for each of the City's major taxes.

### Wage & Earnings Tax

The City's wage tax is its single largest tax revenue source<sup>5</sup> and is particularly sensitive to unemployment in the city. Since the beginning of the COVID-19 pandemic, the wage tax has sustained \$257M in losses relative to pre-pandemic forecasts. This accounts for more than half of the City's \$454M shortfall through January 2021. However, due to strong performance in the first three quarters of FY20 (pre-pandemic), wage tax collections in FY20 were still \$66M higher than in FY19. Collections over the first half of FY21 have more accurately reflected the economic impact of the pandemic, coming in \$40M less than FY19's Q1 and Q2 totals and \$96M less than FY20's Q1 and Q2 totals.

While every part of the economy has been impacted by the COVID-19 pandemic, some sectors have been affected more than others. Unemployment in the food, leisure, and hospitality industries has remained high since March 2020, though it has recovered somewhat in response to the easing of business restrictions. As seen in Figure 3 previously, wage tax collections from the leisure and hospitality industry have been most impacted, remaining about 65 percent of the pre-pandemic baseline since April 2020. Overall, the unemployment rate in the Philadelphia metro area has recovered from a peak of 15.4 percent in April 2020 to 7 percent as of December 2020. This analysis assumes that this economic recovery will continue as COVID-19 transmission rates continue to decline, vaccinations increase, and business restrictions are scaled back.

Other sectors, such as information,<sup>6</sup> financial activities and professional services, have seen wage tax revenue declines without significant increases in unemployment. This is likely due to non-resident employees that are exempt from the wage tax while working remotely during the pandemic. Several large employers in Philadelphia stopped withholding wage tax for non-resident employees during 2020. The outsized decline in wage tax collections relative to job losses in these industries, in addition to the fact that these industries are more likely to support remote work, suggest that telecommuting for non-residents has already had a substantial effect on the City's finances.

While the ultimate impact is still unknown, estimates for the effect of non-resident remote work are included in the scenarios in this analysis. In particular, wage tax collections in industries such as information and financial activities are significantly slower to recover in the pessimistic scenario, reflecting the possibility that a portion of employees may be shifted to permanent remote work after the pandemic ends. With non-residents representing about 40 percent of the wage tax base, the overall impact to City finances relative to pre-pandemic forecasts could be

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<sup>5</sup> Note that this analysis projects both the City and PICA portion of the wage and earnings taxes.

<sup>6</sup> The information sector includes the publishing, telecommunications and internet industries.

substantial, as large as \$220M in FY21.<sup>7</sup> It is clear that a permanent shift towards remote work in the local economy represents a risk to the City's finances. The Controller's Office will continue to monitor wage tax collections in the coming months.

## Sales Tax

Due to the restrictions placed on businesses and economic activity contracting significantly in the early months of the pandemic, sales tax revenue fell about 27 percent below baseline projections during the last quarter of FY20. Sales revenue recovered in the first half of FY21 as businesses reopened, with revenue for FY21 Q1 and Q2 coming in at 90 percent and 94 percent of their respective projected totals.

It is important to note that Philadelphia's sales tax does not apply to online sales, which contributed to declines as consumer spending shifted to e-commerce during the pandemic. As cases decline and more of the population becomes vaccinated, consumer spending in local businesses is expected to continue to recover. Sales tax revenue is forecasted to reach baseline projections by the end of FY22 in the optimistic scenario and 96 percent of baseline projections by the end of FY22 in the pessimistic scenario. Both scenarios assume that the pandemic's outsized impact on the service industry, as well as increased vacancy in the city's downtown and other commercial centers, will result in depressed sales revenue for these industries relative to pre-pandemic levels throughout the forecast period.<sup>8</sup>

## Business Taxes

The pandemic is expected to have a significant impact on business tax collections for tax year 2020, which are due in April 2021. To estimate the economic effect on the Business Income and Receipts Tax (BIRT), this analysis assumes a 7.5 percent (optimistic) and 15 percent (pessimistic) decline from baseline projections in FY21, with collections fully recovering to pre-pandemic levels by FY22. These reductions are consistent with the magnitude of revenue declines in the years following the Great Recession. However, it is worth noting that BIRT collections are particularly challenging to forecast due to a number of policy and accounting complexities. BIRT payments in April 2021 will provide the first assessment of the pandemic's impact on the City's largest business tax.

The analysis assumes larger potential contractions for the net profits tax (NPT) in FY21. In FY21 Q4, projections show NPT collection contractions could range from 40 percent (optimistic) to 60 percent (pessimistic). The forecast takes a conservative approach to FY21 due to the potential impact of remote work during the pandemic. Non-residents account for about 50 percent of NPT

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<sup>7</sup> Assuming the entirety of non-resident workers (40% of total) in the financial activities, information, and professional service industries are able to work from home.

<sup>8</sup> <https://www.inquirer.com/business/retail/center-city-philadelphia-retailed-rittenhouse-shoes-clothes-walnut-chestnut-street-20201204.html>

collections and are not responsible for the net profits tax while working remotely outside city limits during the pandemic.<sup>9</sup>

### Beverage Tax

Since March 2020, the beverage tax has declined due to tight restrictions on hospitality businesses and generally depressed economic activity. Beverage tax revenues for FY20 Q4 fell to 70 percent of baseline projections but recovered to 87 percent for the first two quarters of FY21. This recovery is expected to continue at a modest pace in the optimistic scenario, reaching 90 percent recovery by the end of FY21 and a nearly full recovery by the end of FY22. Recovery is robust but a bit slower in the pessimistic scenario, maintaining revenues at 85 percent of baseline projections through the end of the fiscal year and recovering to 97 percent of the baseline projections by the end of FY22.

### Parking Tax

Parking tax revenue has sharply declined since March 2020, with the last quarter of FY20 totaling only 29 percent of the pre-pandemic baseline. The recovery for the parking tax has been slow relative to other taxes, having only recovered to 43 percent of the baseline by the end of FY21 Q2. As public health restrictions continue to lift, parking tax revenue is projected to recover at a modest pace through FY21, reaching 90 percent of projected baseline levels by the end of FY22 in the optimistic scenario. The recovery is delayed by a fiscal quarter in the pessimistic scenario due to slower projected easing of restrictions, which in turn, delays the city's return to full economic activity.

### Amusement Tax

The City's public health restrictions have had the largest impact on revenue from the amusement tax, which is imposed on admission fees to activities like concerts, movies, night clubs, and athletic events. The vast majority of these events have remained prohibited throughout the pandemic, with the City only recently relaxing restrictions on crowd limits to allow fans at games for the city's sports teams. Amusement tax collections totaled close to zero during summer 2020, recovering to ten percent of the pre-COVID baseline by FY21 Q2.

Forecasts assume the majority of social distancing measures will remain in place through the first quarter (optimistic) or second quarter (pessimistic) of FY22, until vaccines become widely available. Collections are projected to slowly recover to pre-pandemic levels during calendar year 2022, assuming a phased relaxation of public health restrictions that gradually allows larger over time. This recovery will also depend on the rate at which residents become more comfortable attending large gatherings.

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<sup>9</sup> See [recent guidance](#) from the City's Revenue Department on paying business taxes during the pandemic.

## Realty Transfer Tax

Due to a strong local housing market, the realty transfer tax has remained relatively unaffected during the COVID-19 pandemic. After falling to 43 percent of baseline projections at the end of FY20, the realty transfer tax bounced back to generating more than 90 percent of projected baseline revenue through the first half of FY21. The observed trends in the realty transfer tax revenue reflect pent-up demand in the market over the last six months as a result of real estate activity being suspended due to mandated restrictions during the first three months of the pandemic. Residential and non-residential sales fell by about 50 percent during these months but have since largely recovered to pre-pandemic levels. The residential housing market in particular has had a substantial recovery, with housing prices increasing by 5 percent during the fourth quarter of calendar year 2020 and growing by more than 12 percent year-over-year.<sup>10</sup> The projected forecast is conservative in that it assumes the spike in real estate activity will slow over the next several months, assuming residential prices will stabilize while the non-residential market will continue its recovery from the pandemic at a slower pace.

## Real Estate Tax

The City announced in September 2020 that it will keep property assessments fixed at pre-pandemic levels for FY21 and FY22, delaying a planned citywide reassessment until FY23.<sup>11</sup> Previously, the City's budget had assumed a 4.5 percent growth in property assessments in FY22. As such, this delay will result in an expected \$30M revenue shortfall in property tax collections for FY22.

## Conclusion

After a full year of grappling with the COVID-19 pandemic, the City is beginning to experience moderate amounts of economic recovery that fall in line with previous projections released by the Controller's Office, though new data suggests that the length of the recovery period is now expected to be longer than originally thought. With \$454M in total revenue losses from April 2020 through January 2021, the pandemic has had a significant impact on City services and operations. This report estimates that the pandemic's economic impacts will continue, with the City potentially facing an additional revenue shortfall as large as \$284M in FY22.

However, with cases declining and vaccinations increasing, a return to pre-pandemic normality is within sight. Optimistically, the city's recovery will strengthen over the next few quarters, with full recovery for most revenue streams being realized in FY22. In this case, the City's revenue shortfall would be a more modest \$31M in FY22. In the pessimistic case, this recovery is expected to be more sluggish, but revenues will still return close to pre-pandemic levels by the end of FY22. With a substantial aid package recently passed by the federal government, the City is close to

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<sup>10</sup> Source: Kevin Gillen's [Housing Report](#) for 2020 Q4.

<sup>11</sup> <https://www.phila.gov/2020-09-09-philadelphia-to-forego-property-reassessments-for-tax-year-2022-due-to-pandemic/>

weathering the COVID-19 public health and economic crises. As the city enters into the second year of the pandemic, the Controller's Office will continue to monitor the state of the City's finances and work to ensure effective and efficient use of taxpayer dollars through this unprecedented time.