Harris County, TX

Issuer: Harris County, TX		
Assigned	**Ratings**	**Outlook**
Permanent Improvement Refunding Bonds, Series 2023A	AAA	Stable
Unlimited Tax Road Refunding Bonds, Series 2023A	AAA	Stable
Affirmed	**Ratings**	**Outlook**
Tax and Subordinate Lien Revenue Certificates of Obligation	AAA	Stable

Methodology

- U.S. Local Government GO Methodology
- ESG Global Rating Methodology

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Rating Summary: The long-term rating reflects Harris County's (the "County") large and diversifying economy, strong tax base growth, favorable financial operating performance supporting ample balance sheet resources, and strong financial management practices. The rating reflects the ad valorem tax pledge that secures debt service with the County having ample headroom to raise the ad valorem tax levy to meet debt service for the Permanent Improvement Refunding Bonds. The ad valorem tax pledge securing the Unlimited Tax Road Refunding Bonds has no cap. In KBRA's view, these strengths largely mitigate the County's slightly elevated overall debt levels compared to its population, and exposure to climate-related environmental risks.

The Permanent Improvement Series 2023A Refunding Bonds and the Unlimited Tax Road Refunding Bonds Series 2023A are being issued to refinance and defease all or a portion of the County's General Obligation Commercial Paper Notes, Series B, C, D, D-2 and D-3, providing long-term financing for a variety of capital projects.

The Permanent Improvement Refunding Bonds Series 2023A are secured by ad valorem taxes on all taxable property in the County. Ad valorem taxes for purposes including debt service on Limited Tax Obligations, including Tax and Subordinate Lien Debt, are subject to a statutory limit of $0.80 per $100 of assessed value (AV). KBRA does not make a rating distinction between the unlimited and limited tax debt as the limited has ample headroom under the cap.

KBRA views the County's management structure and policies as strong, particularly given its comprehensive budgeting process, regularly updated multi-year revenue and expense forecasts, and frequent monitoring and reporting of fiscal conditions. With respect to a County reserve requirement, starting in FY 2023, the County targets a balance of 12.5% of projected General Fund revenue in the Contingency Fund as a reserve against major, unforeseen emergencies endangering public health, safety, and property. The County can make mid-year adjustments to spending, and frequently amends its budget mid-year to better reflect current conditions. Additionally, the County has ample headroom to raise property tax revenue for debt service, as the $0.40 per $100 of AV limit used by the State Attorney General is nearly eight times above the debt service portion of the levy in tax year 2023.

The County benefits from a large economy of over 4.7 million residents centered around the City of Houston ("the City"), the fourth largest city in the U.S. The County's population grew at a 1.44% compound annual growth rate (CAGR) from 2011 through 2021, similar to the overall population growth of Texas (the "State") and well ahead of the U.S. average of 0.63%. While the County's economy has historically been concentrated in oil and gas extraction and energy production, the local economic base has diversified, with growth particularly notable in the healthcare, education, and professional services sectors.

The County's per capita personal income was 110.1% of the State average in 2021. Unemployment rates and poverty rates slightly lag the State, reflecting the area's comparatively urban character. More importantly with respect to the strength of the ad valorem tax pledge, the County's taxable assessed value (TAV) has realized demonstrable growth over the past decade at a 6.2% CAGR. This level of growth is of particular importance due to the General Fund's material dependence on ad valorem tax revenues, as they constitute the vast majority of the tax revenue that equaled 81.8% of operating revenue in FY 2022.

Audited General Fund operating results were positive in the ten fiscal years through FY 2021, including periods during the energy-driven economic downturn of the mid-2010s and the first year of COVID-19 pandemic, which coincided with FY 2021. The General Fund ended FY 2022 with an operating deficit of $226.9 million, or 8.8% of expenditures, largely due to increases in expenses for the administration of justice. Nevertheless, the County ended FY 2022 with an unassigned

General Fund balance of $1.30 billion, or 50.5% of General Fund expenditures, a level that KBRA considers to be very strong and demonstrative of the County's ample financial capacity to absorb increases in expenses.

Additionally, KBRA views the County's total governmental funds liquidity to be strong, with cash and investments equaling 258 days cash on hand (DCOH) at FYE 2022, or 220 DCOH when excluding the Mobility and Infrastructure Funds, in which cash and investments are restricted to transportation purposes. KBRA views this liquidity and the above-mentioned unassigned General Fund balance as key buffers against economic fluctuations as well as the limited ad valorem tax collection – due to collection timing – in Short Fiscal Year ("SFY") 2022 ending September 30, 2022. SFY 2022 was a transitional period for the County to adjust its fiscal year timing to better align revenue and expenses. While results for SFY 2022 showed significantly lower reserve levels, KBRA believes $335.9 million unassigned General Fund balance or 22.8% of General Fund expenditures is still an ample cushion.

While KBRA considers County-wide ad valorem tax debt (excluding Toll Road Unlimited Tax Bonds)[1] to be low, KBRA views the overall net debt burden to be slightly elevated on a per capita basis, largely attributable to debt obligations of overlapping governmental entities. County-wide and overlapping ad valorem tax debt represents $6,999 per capita and 4.4% of the County's FY 2023 full market value ("FMV"). The County's pension burden is very favorable, in KBRA's opinion, with the aggregated plans overfunded at a 106.5% ratio on December 31, 2021. The County's record of contributing over 100% of actuarially determined contributions (ADC) to pensions since FY 2014 is an additional credit strength. KBRA estimates that total fixed costs, which also include debt service and OPEB contributions, were equivalent to a manageable 14.6% of FY 2022 total governmental fund expenditures, down from 16.9% in FY 2021.

The Stable Outlook reflects KBRA's expectation that the County's economy, financial management practices, and capacity to raise ad valorem tax revenue will continue to provide robust flexibility for the County to meet its debt obligations.

Key Credit Considerations

The rating was assigned because of the following key credit considerations:

Credit Positives

- Sizable and diversifying economy, centered around the nation's fourth largest city, that has benefitted from above average property tax base growth.
- Strong financial profile supported by generally favorable operations and considerable balance sheet resources, derived from stable property tax collections.
- Robust financial management practices, including a comprehensive budgeting process, frequent intra-fiscal year monitoring, and the recent introduction of a funding (reserve) policy for the Contingency Fund.

Credit Challenges

- Slightly elevated overall net debt burden when considering debt issued by various overlapping entities, which is partially offset by the County's limited unfunded pension liability.
- Susceptibility to significant storm activity given its domicile on Texas's Gulf Coast, as evidenced by Hurricane Harvey and other tropical systems.

Rating Sensitivities

▪ Not applicable for this rating level.	+
▪ A sizable and sustained economic contraction for the County / Houston MSA. ▪ A material and sustained degradation in operating reserves and available liquidity.	-

Key Ratios	
Economic Ratios	
Harris County Population (2021)	4,728,030
Population CAGR 2011 to 2021	
Harris County	1.24%
Texas	1.41%
United States	0.6%
Per Capita Personal Income (2021) as a % of State	104.5%
Taxable Assessed Value CAGR - FY 2012 through FY 2022	6.5%
Financial Ratios	
Debt Service Ad Valorem Tax Levy as a % of State Attorney General's Limit (Tax Year 2022)[1]	7.7%
County-Wide and Overlapping Debt Per Capita	$6,999
County-Wide and Overlapping Debt as % of FY 2023 FMV	4.4%
Aggregate Pension Funding Ratio[2]	106.5%
General Fund Unassigned Fund Balance as % of Expenses	50.5%

1. $0.03084 vs. State Attorney General's $0.40 per $100 of AV limit. Tax year ends on December 31.

2. Combines the County's portion of the Texas County & District Retirement System plan and the Harris County Sports & Convention Corporation plan.

[1] The County's Toll Road Unlimited Tax Bonds have historically not needed support from ad valorem tax revenue.

Rating Determinants (RD)	
1. Management Structure and Policies	AAA
2. Debt and Additional Continuing Obligations	AA+
3. Financial Performance and Liquidity	AAA
4. Municipal Resource Base	AA+

A more detailed review of each rating determinant and KBRA's bankruptcy assessment can be found in the rating report dated November 21, 2022.

RD 1 Update: Management Structure and Policies

KBRA views the County's comprehensive budget process, frequent fiscal monitoring and reporting, multi-year capital project planning, and a newly implemented reserve policy as reflective of strong management policies and practices.

Property Tax Revenue Raising Flexibility

The State Constitution limits the aggregate ad valorem tax rate to $0.80 per $100 of AV for all purposes of a county's general fund, permanent improvement fund, road and bridge fund, and jury fund. These purposes include debt service on bonds or other debt issued against such funds; for Harris County, this includes the Certificates of Obligation. Administratively, the Texas Attorney General does not permit the issuance of limited tax obligation that would result in debt service exceeding a level that could be paid from half, or $0.40 of the $0.80 tax limit.

For tax year 2022 (ending December 31, 2022), the County's aggregate tax rate was $0.3319 per $100 of AV and the portion utilized to pay debt service on Limited Tax Obligations was $0.03084. In KBRA's opinion, the County has a strong level of headroom to accommodate future debt service requirements since $0.03084 equals only 7.7% of the State Attorney General's $0.40 limit.

The County's ability to annually set a tax rate sufficient to pay debt service on the Bonds is not limited by the calculation of the "no-new-revenue tax rate" (discussed in RD 3).

Fiscal Monitoring and Budget Adjustments

The Budget Officer and Auditor are responsible for monitoring the expenditures of the various departments of the County to prevent expenditures from exceeding budgeting appropriations, and for keeping Court advised of the condition of the various appropriation accounts. The Court may transfer amounts among budget classifications in these funds, but no such transfer will increase the budget's total amount. The Court may adopt supplemental budgets for limited purposes, such as for new sources of revenue not anticipated at budget adoption or for bond-financed capital projects.

The Budget Officer and Auditor are further tasked with monitoring of expenditures to ensure they do not exceed budgeted appropriations. The OMB and Auditor have added procedures over the past two years to control labor expenses, such as restricting departments from hiring or raising salaries if labor expenses exceed the budget, until the shortfall has been closed. The Auditor publishes monthly unaudited financial statements, which include comparisons of budgeted versus actual financials, and cash flow projections through the end of the fiscal year. The OMB conducts a midyear financial review and prepares quarterly Investment Reports.

Reserve Policy

In April 2022, the Court approved a formal target policy for the fund balance of the Contingency Fund at 12.5% of the County General Fund revenue projected by the Auditor, applying first in FY 2023. The Contingency Fund, previously known as the Public Improvement Contingency Fund ("PIC"), will focus specifically on helping the County to respond to, mitigate, and recover from major emergencies endangering safety, public health, and property.

Bankruptcy Assessment

KBRA's bankruptcy assessment for this credit remains unchanged from the November 21, 2022 rating report.

RD 2 Update: Debt and Additional Continuing Obligations

Overall Ad-Valorem Tax

As of September 30, 2022, County-wide ad valorem tax debt, which incorporates other County-wide taxing entities such as the Harris County Flood Control District (the "HCFCD"), equaled only $652 per capita (based on CY 2021 population). However, when accounting for the $32 billion of ad valorem debt from overlapping entities, this ratio rises to $6,999, a moderate level in KBRA's view. As a percentage of the County's FMV, total County-wide and overlapping debt was relatively more favorable at 4.4%.

At the close of SFY 2022 (September 30), all of the County's ad valorem tax bonds were fixed rate. Besides these bonds, the County also had $133.7 million of outstanding commercial paper (CP), out of a total of $2.30 billion of available CP, $350 million of which is payable for Toll Road revenues.

Debt Service Profile

The current aggregate debt service schedule for County-wide ad valorem tax debt, inclusive of the impact of the Refunding Bonds excluding commercial paper and Toll Road Unlimited Tax Bonds, is descending after reaching maximum annual debt service (MADS) of $378.2 million in FY 2025.

Capital Improvement Program

In the SFY 2022 update to the CIP, the costs of proposed projects totaled $11.03 billion through FY 2026. The vast majority of these potential costs are for the HCFCD and the Harris County Toll Road Authority (HCTRA) at 48.3% and 34.6% shares, respectively. As a result, sources outside the County's limited tax obligations would constitute the bulk of the funding if the entire CIP were realized.

Pension and OPEB Liabilities

All permanent County employees receive pension benefits through the County's participation in the agent multi-employer Texas County and District Retirement System (TCDRS). The pension funding ratio, which averaged 89.3% from December 31, 2016, through December 31, 2020, improved to 103.2% as of December 31, 2021, which KBRA views favorably. Since FY 2014, the County annually contributed more than 100% of the ADC for its share of the TCDRS. The Harris County Sports & Convention Corporation (HCSCC), a blended component unit of the County, also has a separate, smaller pension plan in the TCDRS that was funded at 140.0% as of December 31, 2021. As a result of these plans being funded above 100%, aggregate net pension liability as a percentage of the County's FY 2022 FMV was essentially zero on December 31, 2021.

The County offers an agent multi-employer OPEB plan for retired employees of the County, District, and certain other governmental entities. The plan provides medical, dental, vision, and basic life insurance benefits to plan members. The net ending obligation for this OPEB plan was approximately $3.94 billion on December 31, 2021.

Fixed Cost Burden

FY 2022 debt service was equivalent to around 6.4% of total governmental expenditures. KBRA estimates that total fixed costs, including the County's contributions to TCDRS and its OPEB plan and HCSCC's contribution to TCDRS, were equivalent to around 14.6% of FY 2022 total governmental expenditures.

RD 3 Update: Financial Performance and Liquidity

KBRA considers the County's financial performance to be strong, as evidenced by the generation of annual General Fund operating surpluses in almost all of the past ten consecutive fiscal years, high unassigned General Fund balances, and strong total government funds liquidity. The general trend of positive operations reflects both revenue growth derived from a robust economic and property taxing base and the County's conservative budgeting.

Revenue Diversity

General Fund revenues are primarily derived from tax collections, which accounted for approximately 81.8% of FY 2022 revenues. Property tax revenues comprise the vast majority of these collections, with HOT revenues constituting the remainder. Tax collections have shown steady growth, largely moving in lockstep with the growth realized in the County tax base. Primary reliance on ad valorem revenues allows the County to buffer against broader economic factors and recessionary events, such as fluctuations in energy industries.

FY 2022 General Fund Results

The General Fund is a group of funds that includes the General Operating, Public Contingency, Mobility, Infrastructure, and General Debt Funds. For FY 2022 (ended February 28), the County posted a General Fund operating deficit of $226.9 million, or 8.8% of spending, versus a $69.0 million operating surplus in FY 2021. Inclusive of other financing sources and uses, such as transfers, the net change in fund balance in FY 2022 was a decrease of $191.2 million. The primary reason for the operating deficit was a $243.2 million increase in administration of justice expenses, driven by factors such as the return of operations previously reduced during the pandemic, normal increases in pay, increased spending in departments such as jails, and lower reimbursements of costs by pandemic-related grants.

While the County's unassigned General Fund balance decreased slightly from $1.38 billion at FYE 2021 to $1.30 billion at FYE 2022, the balance represents 50.5% of FY 2022 General Fund expenses, which KBRA considers to be very strong. In KBRA's opinion, the County's success in maintaining an unassigned General Fund balance above 50% of expenses – as the County has done so since FY 2017 – despite the aforementioned deficit is demonstrative of the County's robust financial cushion.

Liquidity Position

In KBRA's view, the County's liquidity position is strong. At FYE 2022, the County had $2.94 billion of cash and investments in total governmental funds, which represents 258 DCOH. Excluding cash and investments and expenses of the Mobility and Infrastructure Funds, where cash and investments are restricted to transportation purposes, total government funds liquidity equaled 220 DCOH, a level that KBRA still views as strong.

Fiscal Year Change, SFY 2022, and FY 2023 Budget

In February 2022, the Commissioners Court adopted a new operating budget and implemented a fiscal year end change for the County, in an effort to better align the County's expenses and available revenues. With this change in the fiscal year end, the County had a transitional period, SFY 2022 (March 1, 2022 through September 30, 2022), which the County published audited financial statements for. The next full fiscal year is the current twelve-month period beginning on October 1, 2022, and ending on September 30, 2023.

Due to limited property tax collected during SFY 2022, the SFY 2022 budget estimates $306.2 million in General Operating Fund revenue and other financing sources, versus the $2.02 billion in revenue and other financing sources budgeted for FY 2022. Actual results underperformed expectations with only $232.3 million of General Fund revenues. Historically, the highest property tax collections are usually recognized in the final months of the calendar year and the first months of the next. The County relied on its reserves to help fund operations, with the reserves being replenished thereafter. However, along with fiscal year timing adjustment, the County created a new fund (CDBG-DR Harvey Fund) to serve as a special revenue fund to better account for Hurricane Harvey rebuilding monies. The CDBG-DR Fund revenues were $110.8 million and the APRA Fund provided another $4.95 million. Despite a $1.24 billion operating deficit, largely due to the timing of tax collection, the County maintained a still strong $335.9 million unassigned General Fund balance or 22.8% of General Fund expenditures.

The adopted FY 2023 budget is based on an annualization of the SFY 2022 budget since the County did not have a quorum to vote on a new tax rate by the deadline. A "no-new-revenue tax rate" budget freezes the level of property tax revenue to be collected, except for new revenue collected from property that had been added to the tax roll for the prior year. Given the lower level of budgeted revenue than in the originally proposed FY 2023 budget, the County has asked its departments to reduce expenses accordingly. Unaudited and unadjusted monthly financial reports show preliminary interim results tracking close to budget. The General Fund's interim unassigned cash balance was $1.1 billion (unaudited) as of April 30, 2023. KBRA believes that the County's conservative financial management will facilitate the closing of gaps between the budget and spending. KBRA credit analysis encompasses the liquidity level fiscal cycle rather than a point in time focus.

Figure 1

General Fund Summary Statement of Income and Balance Sheet FYE February 28 (Audited GAAP Basis) (dollars in thousands)	2018	2019	2020	2021	2022	SFY2022
Statement of Income						
Revenues	$ 2,104,966,396	$ 2,194,019,703	$ 2,297,280,445	$ 2,346,478,327	$ 2,339,403,583	$ 232,295,689
Expenditures	1,988,494,090	2,111,580,164	2,186,560,922	2,277,507,386	2,566,253,758	1,474,841,455
Excess of Revenues						
Over (Under) Expenditures	116,472,306	82,439,539	110,719,523	68,970,941	(226,850,175)	(1,242,545,766)
Other Financing Sources (Uses)	31,219,024	51,874,920	70,435,930	287,369,440	35,656,011	(1,858,900)
Net Change in Fund Balance	**147,691,330**	**134,314,459**	**181,155,453**	**356,340,381**	**(191,194,164)**	**(1,244,404,666)**
Beginning Fund Balance	1,587,501,039	1,735,192,369	1,869,506,828	2,050,662,281	2,407,002,662	2,215,808,498
Ending Fund Balance	**1,735,192,369**	**1,869,506,828**	**2,050,662,281**	**2,407,002,662**	**2,215,808,498**	**971,403,832**
Balance Sheet						
Assets						
Cash and Cash Equivalents	382,470,531	621,713,085	305,113,709	608,632,655	592,942,275	97,068,687
Investments	1,156,398,288	1,048,862,834	1,541,526,692	1,605,726,785	1,477,995,373	904,898,522
Receivables (Incl. Notes)	137,230,310	169,085,077	155,050,698	159,593,391	173,084,629	13,226,910
Due from Other Funds	11,605,158	13,163,247	36,479,415	83,804,086	143,193,796	193,407,778
Prepaids and other assets	5,937,797	6,894,011	10,102,105	2,321,860	4,315,892	12,374,991
Inventories	2,328,103	2,291,397	2,811,310	2,530,982	2,015,772	1,363,521
Advances to other funds	140,000	140,000	140,000	340,000	370,000	370,000
Restricted cash and cash equivalents	237,155,352	240,890,464	195,059,224	133,310,718	223,768,638	5,661,667
Restricted investments	50,999	46,361	53,396,106	135,189,577	7,599,707	3
Other	-	-	-	-	-	
Total Assets	**1,933,316,538**	**2,103,086,476**	**2,299,679,259**	**2,731,450,054**	**2,625,286,082**	**1,228,372,079**
Liabilities						
Vouchers payable	76,955,280	61,510,594	72,627,694	107,871,673	120,500,458	87,054,554
Accrued payroll and compensated absences	90,984,754	99,510,264	101,141,941	157,311,965	204,517,537	168,108,985
Retainage payable	4,921,739	4,873,197	1,857,109	12,447,968	4,877,418	6,129,510
Due to other funds	352,696	1,026,493	833,560	18,081,559	24,677,713	6,498,663
Due to other governmental units	-	-	-	-	-	
Other liabilities	230,561	283,661	151,461	151,461	151,461	151,461
Advances from other funds	-	-	-	-	-	
Unearned revenue	8,354,767	8,638,113	12,005,637	6,952,152	7,496,423	7,996,914
Total Liabilities	**181,799,797**	**175,842,322**	**188,617,402**	**302,816,778**	**362,221,010**	**275,940,087**
Deferred Inflows of Resources						
Unavailable revenue-property taxes	8,120,103	47,130,241	37,164,990	9,352,969	37,324,803	13,192,783
Unavailable revenue-other	8,204,269	10,607,085	23,234,586	12,277,645	9,931,771	11,429,243
Total deferred inflows of resources	16,324,372	57,737,326	60,399,576	21,630,614	47,256,574	24,622,026
Fund Balance						
Nonspendable	8,405,900	9,325,408	13,053,415	5,192,842	6,701,664	14,108,512
Restricted	512,962,739	532,074,026	533,151,681	994,737,889	781,834,387	541,094,389
Committed	-	-	-	-	73,236,166	19,437,780
Assigned	50,988,858	40,139,177	31,299,415	27,414,385	56,831,745	60,843,701
Unassigned	1,162,834,872	1,287,968,217	1,473,157,770	1,379,657,546	1,297,204,536	335,919,450
Total Fund Balance	**1,735,192,369**	**1,869,506,828**	**2,050,662,281**	**2,407,002,662**	**2,215,808,498**	**971,403,832**
Total Fund Balance as % GF Expenditures	*87.3%*	*88.5%*	*93.8%*	*105.7%*	*86.3%*	*65.9%*
Unassigned Fund Balance as a % of GF Exp.	*58.5%*	*61.0%*	*67.4%*	*60.6%*	*50.5%*	*22.8%*

Source: County ACFRs

RD 4 Update: Municipal Resource Base

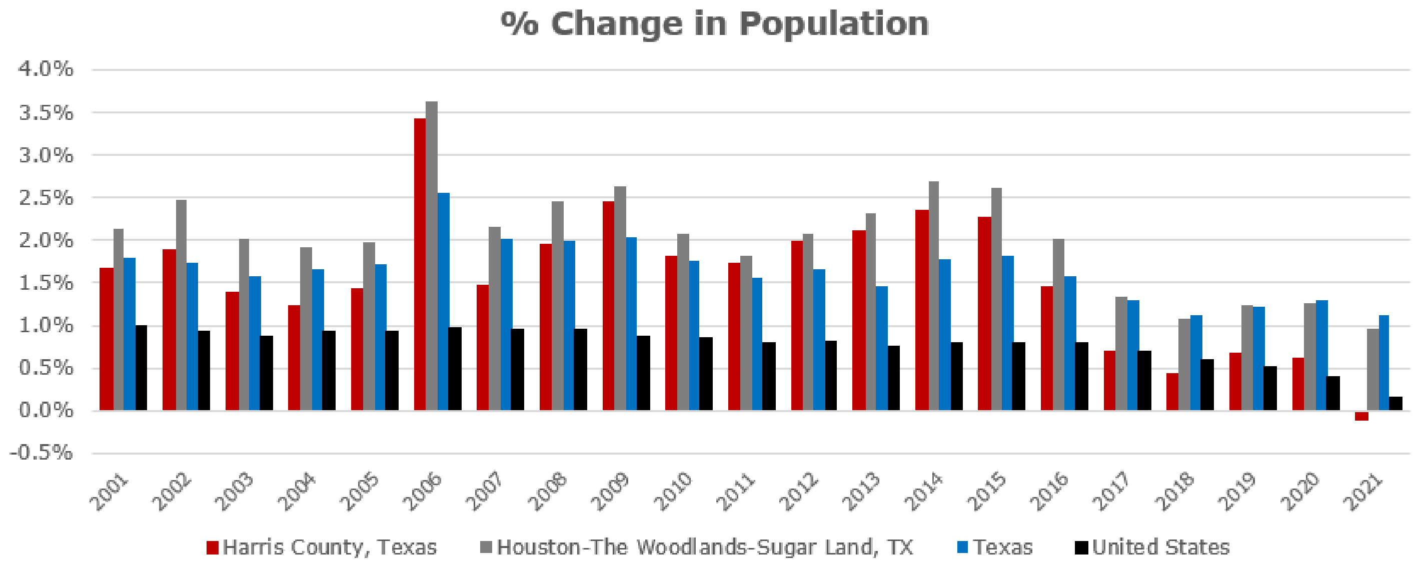
KBRA views the County's municipal resource base as strong given the growing population and increasingly diverse economy. With a population of over 4.7 million, Harris County is the most populous county in Texas. The county seat is Houston, the largest city in Texas and the fourth largest city in the U.S. Like other metropolitan areas across the nation, the County's economy and employment base were impacted by the COVID-19 pandemic as well as the volatility with the energy market.

The County's economic activity is largely centered in and around the City, which is commonly known as the "Energy Capital of the World". This concentration reflects the presence of the Port of Houston, a sprawling 50-mile-long port complex that is home to a large concentration of deep-water terminals, oil refineries, related petrochemical activity, and other industrial and shipping activity. The Houston-The Woodlands-Sugar Land MSA (the "MSA") is also home to extensive industry specializing in the design and manufacture of oil and gas equipment as well as petrochemical and plastics engineering. These activities contribute significantly to the economic output of the MSA, but concentration in these areas has eased in recent decades as the MSA has grown. Nevertheless, energy remains a key industry and movement in oil and gas prices remain an important driver of both economic growth and volatility year to year. Other significant contributors to the MSA economy include Texas Medical Center and the University of Houston.

Population Trends

Harris County continues to be the nation's third largest county with a 10-year population CAGR of 1.24%.

Figure 2



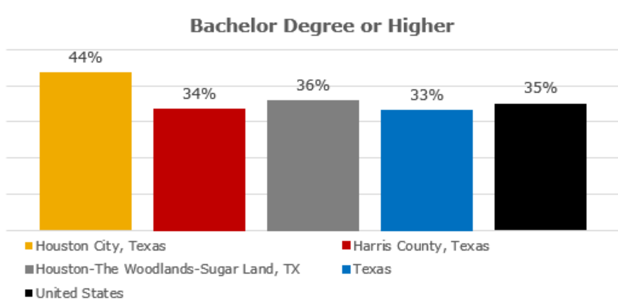
	2001	2011	2021	% Δ 2011 to 2021	10 Year CAGR (2021)
Harris County, Texas	3,471,291	4,178,781	4,728,030	13.1%	1.24%
Houston-The Woodlands-Sugar Land, TX	4,817,815	6,054,602	7,206,841	19.0%	1.76%
Texas	21,319,622	25,630,063	29,558,864	15.3%	1.44%
United States	284,968,955	311,841,632	332,031,554	6.5%	0.63%

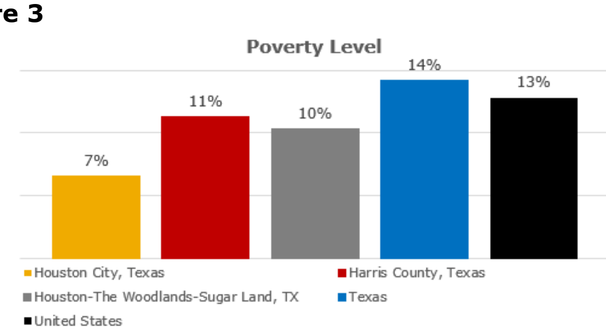
Source: U.S. Bureau of Economic Analysis

Personal Income, Education Attainment, and Poverty Level

The County's personal income per capita, as of 2021, is $65,869, which exceeds the State's $59,802 average and the national $64,117 average. While poverty level for the County is somewhat elevated reflecting the area's comparatively urban character, the level has trended downward since FY 2010. Education attainment has trended upward since 2010, ahead of the State.

Figure 3



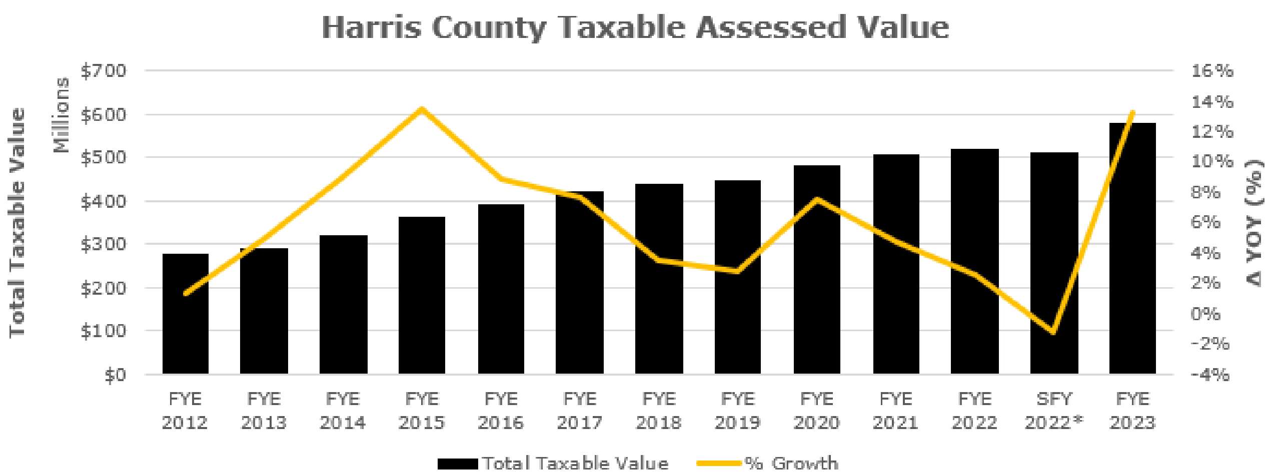


	As of 2021 Point Δ 2010 to 2021	As of 2021 Point Δ 2010 to 2021
Houston City, Texas		
Harris County, Texas	12.6	-7.9
Houston-The Woodlands-Sugar Land, TX	10.6	-5.6
Texas	7.2	-3.7
United States	6.8	-2.5

Source: U.S Census, ACS 1-Year Estimates
Bachelor degree or higher defined as "% of population over 25 with Bachelor's degree or higher".
Poverty level defined as "portion of population living below the poverty line".

Tax Base
The County's TAV has realized demonstrable growth over the past decade at a 6.3% CAGR between 2013 and 2023. While the top ten taxpayers are concentrated in the oil & gas industry, these taxpayers only account for 3.74% of TAV (see: Figure 4). Full market value per capita is strong at $109,508 based on the 2023 assessment.

Figure 4



** 9/30/2022 Short Fiscal Year*
Source: Harris County Tax Assessor-Collector and Harris County Auditor's Office

Employment and Unemployment
The COVID-19 pandemic, beginning in March 2020, weighed negatively on employment, due to various pandemic-related business restrictions and major volatility in the energy market tied to the demand shock associated with the sudden shift to work from home. West Texas Intermediate ("WTI") prices fell from $51 per barrel in February 2020 to $17 in March, before recovering to about $50 range in December 2020. As such, the County's unemployment rate surged to 13.8% in April 2020 at the peak of stay-at-home restrictions and distressed oil prices versus State and U.S. unemployment peaks of 12.1% and 14.4%, respectively.

As WTI prices have rebounded to an average of $67.99 per barrel in 2021, reaching $84 per barrel in September 2022, and are currently hovering around $76 per barrel. Unemployment rate has receded to 4.5% as of May 2023. The level of unemployment continues to exceed the State and U.S. unemployment rate at 4.1% and 3.4%, respectively, which is common for a large metropolitan area.

Harris County's current employment base[2] is well diversified with a degree of concentration in professional & business services as well as trade, transportation & utilities, and construction relative to the U.S. overall (see: Figure 5). The employment market has diversified since 2010 with increased focus in high value-added sectors including professional & business services and education & health services. Manufacturing employment concentration lessened over the period, reflecting declining reliance on oil and gas activity.

ESG Management
KBRA typically analyzes Environmental, Social, and Governance (ESG) factors through the lens of how issuers plan for and manage relevant ESG risks and opportunities. More information on KBRA's approach to ESG risk management in public finance ratings can be found here. Over the medium-term, public finance issuers will likely need to prioritize ESG risk management and disclosure with the likelihood of expansions in ESG-related regulation and rising investor focus on ESG issues.

KBRA analyzes many sector- and issuer-specific ESG issues but our analysis is often anchored around three core topics: climate change, with particular focus on greenhouse gas emissions; stakeholder preferences; and cybersecurity. Under environmental, as the effects of climate change evolve and become more severe, issuers are increasingly facing an emerging array of challenges and potential opportunities that can influence financial assets, operations, and capital planning. Under social, the effects of stakeholder preferences on ESG issues can impact the demand for an issuer's product and services, the strength of its global reputation and branding, its relationship with employees, consumers,

[2] Represented by the Houston-The Woodlands-Sugar Land MSA

regulators, and lawmakers, and, importantly, its cost of and access to capital. Under governance, as issuers continue to become more reliant on technology, cybersecurity planning and information management are necessary for most issuers, regardless of size and industry.

A discussion of certain credit relevant ESG factors is provided in KBRA's report dated November 21, 2022.