1115 Congress Street, 6th Floor, Houston, Texas 77002 ■ (832) 927-6900

COVID-19 AGENDA

June 8, 2021

Honorable Lina Hidalgo and Members of Commissioners Court 1001 Preston Street, 9th Floor Houston, Texas 77002

RE: Transmittal of May update to the monthly memo on the distribution of COVID-19 vaccinations in Harris County

Dear Judge Hidalgo and Commissioners Ellis, Garcia, Ramsey, and Cagle:

In January 2021, Precinct Two requested the Analyst's Office produce a monthly memo regarding the distribution of COVID-19 vaccinations in Harris County. This is the fifth release of a standing monthly memo the Analyst's Office will produce as the vaccine distribution continues to evolve at the federal, state, and local levels.

The Analyst's Office respectfully transmits the enclosed memo via the Commissioners Court agenda.

Thank you for your consideration.

Katie Short

Director, Commissioners Court's Analyst's Office

1115 Congress Street, 6th Floor, Houston, Texas 77002 ■ (832) 927-6900

To: Harris County Precinct Two Commissioner Adrian Garcia

From: Katie Short, Director; Amber Weed, Chief of Staff and Policy Director;

Amy Rose, Senior Analyst; Ramin Naderi, Analyst

CC: Mike Lykes, Kris Banks, Mohammed Jamal with Precinct Two; Barbie

Robinson, Gwen Sims, and Will Hudson with Harris County Public

Health

Date: June 8, 2021

Re: Monthly Memo on COVID-19 Vaccine Distribution, May 2021

EXECUTIVE SUMMARY

In January 2021, Precinct Two requested the Analyst's Office produce a monthly memo regarding the distribution of COVID-19 vaccinations in Harris County. This is the fifth memo of a standing monthly memo the Analyst's Office will produce as the vaccine distribution continues to evolve at the federal, state, and local levels.

This memo provides an overview of the COVID-19 pandemic and vaccine distribution in Harris County. Key findings from the data in this memo include:

- As of May 23, 2021, **33.7%** (1,588,752) of individuals in Harris County were fully vaccinated.
- As of May 23, 2021, **12.8% (445,959) of individuals in Harris County were partially vaccinated**.
- Between April 26, 2021 and May 23, 2021, the percentage of individuals in Harris County vaccinated with at least one vaccine dose increased by 18.8% (from 1,712,901 to 2,034,711).
- Zip codes 77060 and 77013 have the fewest number of individuals per 100,000 residents vaccinated with at least one dose (25,533 and 26,900, respectively).
- Zip codes 77030 and 77046 have the greatest number of individuals per 100,000 residents vaccinated with at least one dose (174,897 and 153,093, respectively).ⁱⁱ
- The median of the median incomes of the fifteen Harris County zip codes with the fewest number of individuals per 100,000 residents vaccinated with at least one dose is \$39,879.

IMPORTANT NOTE: Not all data sums to totals reported. This is due to poor and inconsistent data reporting by providers, and because patients have not been required to disclose all demographic data. DSHS reports it is actively conducting county and provider-level analyses to identify if certain providers or areas are underreporting more than others for targeted data entry funding and training.

Note: Significantly large numbers of residents who were administered a vaccine in zip code 77030 report living at the same address. HCPH suggests that this discrepancy may be caused by hospital staff entering the same address for employees to speed up the vaccination process. According to HCPH, the vaccination rate of greater than 100% in zip code 77046 is likely due to the low population (approximately 1,000 residents) relative to other zip codes, which means measured parameters are sensitive to bad data such as data entry errors, individuals using business addresses in lieu of a home residence, and other factors.

- The median of the median incomes of the fifteen Harris County zip codes with the greatest number of individuals per 100,000 residents with at least one dose is \$81,803.
- For all individuals who received at least one vaccine dose from a Harris County provider,
 - 6.6% (134,724) are 76+ years old or older;
 - 20.6% (419,307) are ages 61-75;
 - 26.7% (544,478) are ages 46-60;
 - 27.2% (552,820) are ages 30-45; and
 - 18.9% (384,438) are ages 12-29.
- For all individuals who received at least one vaccine dose from a Harris County provider,
 - 29.6% (602,845) identify as White;
 - 33.5% (682,106) identify as Hispanic/Latino;
 - 10.9% (221,580) identify as Black;
 - 8.9% (181,107) identify as Asian or Pacific Islander;
 - 4.8% (97,778) identify as Multi-Race; and
 - 0.3% (5,219) identify as American Indian or Alaskan Native.
- Between January 1, 2020 and May 23, 2021:
 - All providers in Harris County administered a cumulative 4,515,821 COVID-19 PCR tests;ⁱⁱⁱ
 - There were 398,777 positive COVID-19 cases confirmed by a PCR test in Harris County; and
 - There were 4,526 confirmed COVID-19 related deaths in Harris County.

The Analyst's Office acknowledges Harris County Public Health for their significant contributions to this memo.

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 $^{^{\}hbox{\tiny III}}$ PCR refers to the polymerase chain reaction tests commonly used to test for COVID-19.

INTRODUCTION

In January 2021, Precinct Two requested the Harris County Commissioners Court's Analyst's Office (the "Analyst's Office") produce a monthly memo regarding the distribution of COVID-19 vaccinations in Harris County. This is the fifth memo of a standing monthly memo the Analyst's Office will produce as the vaccine distribution continues to evolve at the federal, state, and local levels.

This memo includes data and analysis regarding the COVID-19 vaccine administration in Harris County. This memo expands on the previous publications (the January, February, March, and April COVID-19 Vaccine Distribution memos) by including precinct-level data relating to age and race and ethnicity of vaccinated individuals in Harris County.

METHODOLOGY

Data utilized in this memo are from Harris County Public Health (HCPH); the Centers for Disease Control and Prevention (CDC); and Harris County's Applied Technologies Location Analysis and Statistics (ATLAS) System. Data reflect COVID-19 vaccine doses administered in Harris County by all providers from the beginning of the vaccine rollout, December 14, 2020, through May 23, 2021, and all testing, confirmed cases, and COVID-19-related death data from January 1, 2020 through May 23, 2021.

Data Collected from Harris County Public Health (HCPH)

The majority of data in this memo was sent to the Analyst's Office from HCPH, which pulls data from the Texas Department of State Health Services (DSHS) ImmTrac2 system. As the Local Health Authority for the County, HCPH also pulls testing, confirmed cases, and COVID-19-related death data received from local health providers (including the City of Houston) and other sources. HCPH data aided in the development of all tables and figures.

DSHS advised the following via email regarding the data available on ImmTrac2:

 Providers in Texas have up to 24-hours to report doses administered in ImmTrac2, and the dashboard is updated by 4:00 pm with data reported as of 11:59 pm the previous night. This means there could be as much as a 48-hour lag between when a dose is administered and when it appears on ImmTrac2.

UPDATE: Previous iterations of this memo provided updates and projections on vaccine allocations to the State of Texas or Harris County using DSHS data. However, as of May 10, 2021, DSHS announced it is no longer providing weekly allocations to providers due to a "sufficient supply of vaccine." Due to this changed strategy of allocating vaccine, this memo no longer provides updates and projections on vaccine allocations to the State of Texas or Harris County. In addition, as countywide efforts shift to reaching herd immunity, this memo no longer reports doses administered.

¹⁷ Department of State Health Services (DSHS) COVID-19 Vaccine Allocations. Retrieved May 27, 2021, from https://www.dshs.state.tx.us/coronavirus/immunize/vaccineallocations.aspx

Data Collected from Centers for Disease Control and Prevention (CDC)

The Analyst's Office collected data on Social vulnerability from the Centers for Disease Control and Prevention (CDC). Social vulnerability refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human caused threats, such as toxic chemical spills. The Social Vulnerability Index (SVI) was created by the CDC and depicts the social vulnerability of communities, at census tract level, within a given county. SVI groups fifteen census-derived factors into four themes that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability Index combines all the variables to provide a comprehensive assessment. SVI data aided with the development of Table 1.

Data Collected from Applied Technologies Location Analysis and Statistics (ATLAS) The Analyst's Office collected income data from Harris County's Applied Technologies Location Analysis and Statistics (ATLAS) System. Income data reflects American Community Survey, 2014-2018 Five-Year Estimates, which aided with the development of Table 1.

^v Centers for Disease Control (CDC) Social Vulnerability Index, a tool to identify socially vulnerable communities.

BACKGROUND

The spread of the novel coronavirus, the cause of COVID-19, began in the United States in early 2020. Since then, local health entities have tracked the testing, number of confirmed positive cases, and deaths related to COVID-19.

In December 2020, two-dose vaccines from two producers, Moderna and Pfizer-BioNTech, were authorized for emergency use from the US Food and Drug Administration (FDA). In February 2021, the FDA authorized Johnson & Johnson's (J&J) one-dose vaccine for emergency use.

For the bulk of vaccine allocation, the federal government distributed COVID-19 vaccine doses to the Texas Department of State Health Services (DSHS), which then allocated doses to local providers in Harris County. Any facility, organization, or healthcare provider licensed to possess or administer vaccine or provide vaccination services is eligible to enroll as a designated provider. Providers include: emergency services; health centers (community, federally qualified, migrant, rural); hospitals; long-term care; medical clinic/doctor's office; pharmacy; public health/government; federal long-term care; and other facilities. As of May 10, 2021, DSHS no longer provides direct allocations to local providers; providers are now able to order vaccines directly from DSHS on a daily basis as needed.

From December 2020 to March 28, 2021, vaccines were made available for individuals in DSHS's Phase 1A (front-line healthcare workers and residents of long-term care facilities) and 1B (individuals ages 65+ and individuals ages 16+ with "at least one chronic medical condition that puts them at increased risk for severe illness from the virus that causes COVID-19"). On March 29, 2021, Texas expanded vaccine eligibility to all individuals age 16 and older. Beginning May 12, 2021, Texas expanded vaccine eligibility to all individuals age 12 and older. Currently, all vaccines are authorized for individuals age 18 and older; the Pfizer vaccine is authorized for individuals age 12 and older. The population of individuals age 12 and older in Harris County is 3,873,534.xi

 $^{^{\}text{vl}}$ Department of State Health Services (DSHS) COVID-19 Vaccine Allocation Dashboard. Retrieved March 29, 2021, from https://tabexternal.dshs.texas.gov/t/THD/views/COVID-19 Vaccine in Texas Dashboard / Individuals Vaccinated

Department of State Health Services (DSHS) COVID-19 Vaccine Allocations. Retrieved May 27, 2021, from https://www.dshs.state.tx.us/coronavirus/immunize/vaccineallocations.aspx

Department of State Health Services (DSHS) COVID-19 Vaccine Allocation Phase 1 Definition

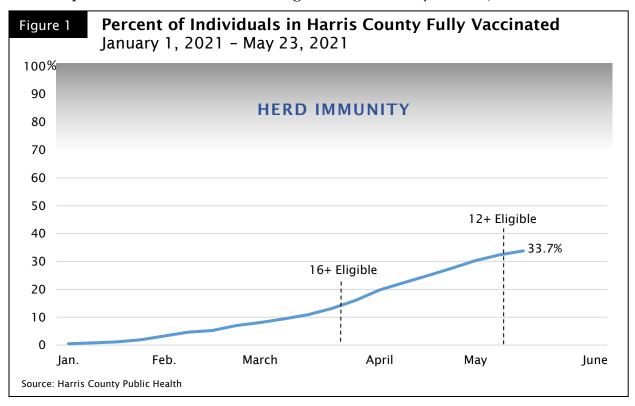
^{ix} Department of State Health Services (DSHS) COVID-19 Vaccine Allocation Phase 1B Definition

^{*} COVID-19 Vaccine Information. (n.d.). Texas Department of State Health Services. Retrieved May 27, 2021, from https://dshs.texas.gov/covidvaccine/

^{xi} U.S. Census Bureau QuickFacts: Harris County. (n.d.). Retrieved March 29, 2021, from www.census.gov/quickfacts/fact/table/harriscountytexas/PST045219

INDIVIDUALS IN HARRIS COUNTY FULLY VACCINATED

Figure 1 presents the percentage of Harris County individuals fully vaccinated between January 1, 2021 and May 23, 2021. This figure includes individuals vaccinated by Harris County Public Health (HCPH) and all other providers. HCPH reports countywide data regarding individuals fully vaccinated and partially vaccinated on a weekly basis—the data presented below extends through the week of May 17 – 23, 2021.



As of May 23, 2021, 33.7% (1,588,752) of individuals in Harris County were fully vaccinated, meaning an individual has received both doses of either the Moderna or Pfizer vaccines or a single dose of the Johnson & Johnson vaccine.xiii

A total of 12.8% (445,959) of Harris County's residents were partially vaccinated as of May 23, 2021. **Individuals who are partially vaccinated and individuals fully vaccinated are mutually exclusive, meaning individuals partially vaccinated only includes individuals with one vaccine dose of a two-dose shot (Pfizer or Moderna) and individuals fully vaccinated includes individuals who have received either the Johnson & Johnson vaccine or two vaccine doses of Pfizer or Moderna.

On March 29, 2021, Texas expanded vaccine eligibility to all individuals age 16 and older. Beginning May 12, 2021, Texas expanded vaccine eligibility to all individuals age 12 and older.

x^{sti} Previous iterations of this memo presented partially and fully vaccinated individuals as a percentage of the total *eligible* population. Total population is used to calculate herd immunity.

Figure assumes Harris County's total population of 4,713,325, per American Community Survey 2019, 1 Year Estimates.
Figure assumes Harris County's total population of 4,713,325, per American Community Survey 2019, 1 Year Estimates.

NUMBER OF INDIVIDUALS PER 100,000 RESIDENTS VACCINATED WITH AT LEAST ONE VACCINE DOSE BY ZIP CODE

Table 1 presents the number of individuals per 100,000 residents vaccinated with at least one vaccine dose by zip code. The table also includes the median income, Social Vulnerability Index (SVI) score, and commissioner precinct for each zip code. Commissioner precinct boundaries do not align with zip code boundaries; some zip codes are in multiple precincts. Precincts are listed in order of the greatest to least percentage of zip code land mass within the precinct.

Social vulnerability describes a community's ability to prevent human suffering and financial loss in the event of disaster (such as a hurricane or disease outbreak). SVI rankings are based on percentiles valuing in range from 0 to 1 (with higher values indicating greater vulnerability). SVI data is often presented using quartile classification. This analysis utilizes CDC's SVI classifications as follows: 0-0.25 (lowest vulnerability); 0.2501-0.5 (moderate low); 0.5001-0.75 (moderate high); and 0.7501-1 (highest vulnerability).

Table 1 ranks zip codes within Harris County to show relative vulnerability in comparison to the rest of Harris County. The median of the median incomes of the fifteen Harris County zip codes with the **fewest number of individuals per 100,000 residents vaccinated with at least one dose is \$39,879. The median of the median incomes of the fifteen Harris County zip codes with the greatest number of individuals per 100,000 residents vaccinated with at least one dose is \$81,803.*****ixvii

XV Centers for Disease Control (CDC) SVI 2016 Documentation.

^{xvi} Note: Significantly large numbers of residents who were administered a vaccine in zip code 77030 report living at the same address. HCPH suggests that this discrepancy may be caused by hospital staff entering the same address for employees to speed up the vaccination process. According to HCPH, the vaccination rate of greater than 100% in zip codes 77010, 77056, 77046, and 77030 is likely due to the low population relative to other zip codes, which means measured parameters are sensitive to bad data such as data entry errors, individuals using business addresses in lieu of a home residence, and other factors. For a full list of zip codes, see Appendix D. ^{xvii} Analysis excludes zip codes with small percentage of land mass in Harris County and zip code 77507 which encompasses the Bayport Industrial District, a large commercial real-estate development area of Pasadena with no income data available.

Table 1

Number of Individuals Per 100,000 Residents Vaccinated With At Least One Dose by Zip Code, Median Income, SVI, and Commissioner Precinct

December 14, 2020 - May 23, 2021

Zip Codes With Fewest Number of Individuals Per 100,000 Vaccinated With At Least One Dose

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Zip Code	Number Per 100k	Median Income	SVI	Commissioner Precinct(s)
77060	25,533	\$30,342	0.94	1,2,4
77013	26,900	\$39,766	0.98	2,1
77090	28,021	\$39,879	0.70	1,4
77506	28,264	\$38,311	0.95	2
77083	28,415	\$85,000	0.53	3*
77067	28,995	\$41,859	0.79	4,1
77081	29,093	\$54,489	0.81	3
77078	31,017	\$37,356	0.89	1,2
77076	31,368	\$37,072	0.86	2,1
77050	31,586	\$56,275	0.71	1,2
77039	31,823	\$36,347	0.73	2,1
77093	31,917	\$31,261	0.97	2,1
77503	32,042	\$50,445	0.82	2
77336	32,469	\$69,512	0.30	2,4
77014	32,514	\$48,790	0.78	1,4

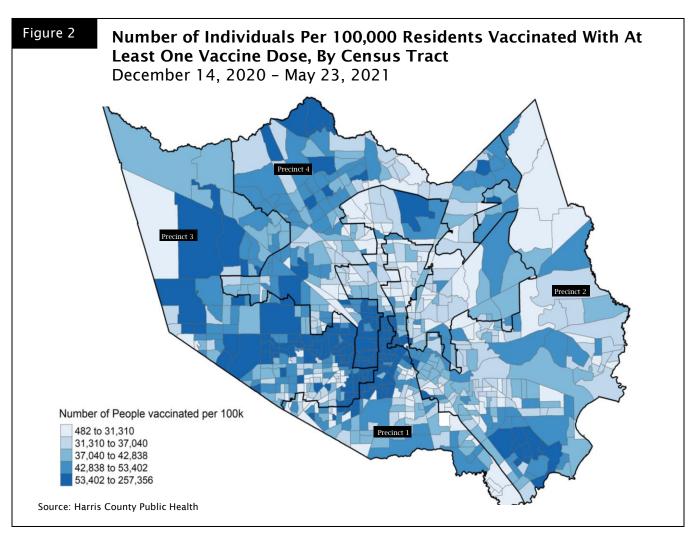
Zip Codes With Greatest Number of Individuals Per 100,000 Vaccinated With At Least One Dose

	Dose								
Zip Code	Number Per 100k	Median Income	SVI	Commissioner Precinct(s)					
77005	67,988	\$74,792	0.03	3,1					
77059	69,541	\$66,983	0.05	2					
77094	70,031	\$175,840	0.00	3					
77006	72,093	\$117,367	0.09	1					
77019	75,562	\$103,478	0.09	4,1					
77007	76,494	\$65,742	0.01	4,1,2					
77008	77,969	\$68,204	0.08	4,1					
77002	79,324	\$67,043	0.42	1,2					
77098	85,615	\$95,835	0.07	4,1,3					
77024	89,869	\$104,167	0.16	3,4					
77027	98,391	\$53,263	0.01	4,3					
77010	105,684	\$240,417	0.02	1					
77056	128,661	\$50,485	0.14	3					
77046	153,093	\$81,803	0.10	4					
77030	174,897	\$116,920	0.28	1					

Moderate High Vulnerability	Highest Vulnerability		Moderate Low Vulnerability		Lowest Vulnerability
*Indicates partial zip code land mass	is outside of Harris County.				
Source: American Community Survey	(ACS) 2018 5-year estimates do	ownload	ed from Harris County's Applie	d Techr	nologies Location
Analysis and Statistics (ATLAS), Cente	ers for Disease Control (CDC), a	nd Harr	is County Public Health (HCPH)		_

NUMBER OF INDIVIDUALS VACCINATED WITH AT LEAST ONE VACCINE DOSE PER 100,000 RESIDENTS BY CENSUS TRACT

Figure 2 presents the number of individuals per 100,000 Harris County residents vaccinated with at least one vaccine dose by census tract.

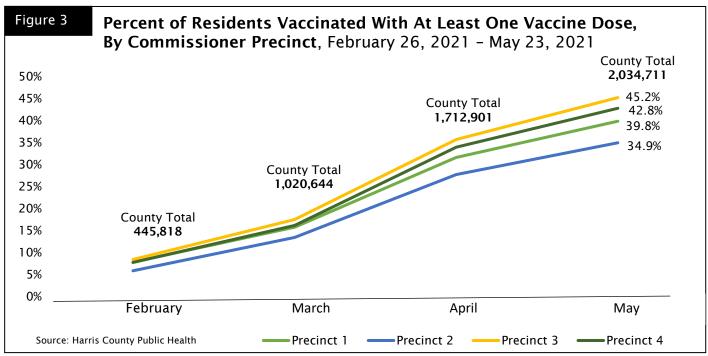


As of May 23, 2021, **43.2% (2,034,711) of Harris County residents received at least one vaccine dose**—52.8% of Harris County's eligible population, individuals age 12 and older.xviii

xviii Figure assumes Harris County's total population of 4,713,325, per American Community Survey 2019, 1 Year Estimates. Eligible individuals include individuals ages 12 and over, this population is estimated to be 3,852,215 in Harris County, per Analyst's Office analysis of American Community Survey 2019, 1 Year Estimates.

PERCENT OF RESIDENTS VACCINATED WITH AT LEAST ONE VACCINE DOSE BY COMMISSIONER PRECINCT

Figure 3 demonstrates the growth in the percent of residents vaccinated with at least one dose per commissioner precinct from February 26, 2021 through May 23, 2021 for all four Harris County commissioner precincts.



Between February 26, 2021 and March 29, 2021, the percentage of individuals in Harris County vaccinated with at least one vaccine dose increased by 128.9% (from 445,818 to 1,020,644). Between March 29, 2021 and April 26, 2021, the percentage of individuals in Harris County vaccinated with at least one vaccine dose increased by 67.8% (from 1,020,644 to 1,712,901). Between April 26, 2021 and May 23, 2021, the percentage of individuals in Harris County vaccinated with at least one vaccine dose increased by 18.8% (from 1,712,901 to 2,034,711). Second with a least one vaccine dose increased by 18.8% (from 1,712,901 to 2,034,711).

As of May 23, 2021:

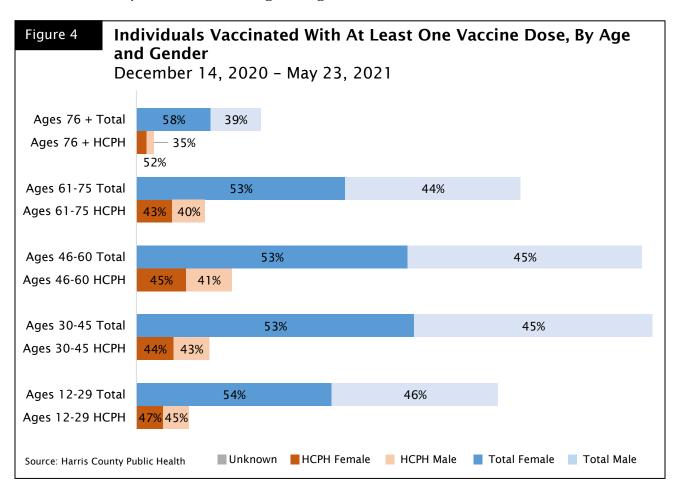
- 39.8% (458,195) of Precinct One residents received at least one vaccine dose—a
 26.1% increase over the prior month;
- 34.9% (388,113) of Precinct Two residents received at least one vaccine dose—
 the lowest percentage of the four precincts, but a 26.1% increase for the Precinct
 over the prior month;
- 45.2% (572,667) of Precinct Three residents received at least one vaccine dose—the greatest percentage of the four precincts, and a 26.8% increase over the prior month; and,
- 42.8% (517,308) of Precinct Four residents received at least one vaccine dose—
 a 26.1% increase over the prior month.

xix Figure assumes Harris County's total population of 4,713,325, per American Community Survey 2019, 1 Year Estimates.

^{**} Precinct totals do not sum to County total because 98,428 individuals have addresses that cannot be geo-coded into a Precinct.

INDIVIDUALS VACCINATED WITH AT LEAST ONE VACCINE DOSE BY AGE AND GENDER

Figure 4 and **Table 2**, which follows, reflect all individuals vaccinated with at least one dose by any provider in Harris County and those vaccinated by Harris County Public Health (HCPH) by the individual's age and gender.



Of the individuals who have been vaccinated with at least one dose by a Harris County provider, 53% (1,083,634) are female; 45% (911,239) are male; 0.01% (137) identify as "other"; and 2% (40,894) are recorded as unknown gender.xxi

xxi Age and gender totals do not sum to vaccine doses administered totals due to some records having incomplete or incorrect data.

INDIVIDUALS VACCINATED WITH AT LEAST ONE VACCINE DOSE BY AGE GROUP

Table 2 reflects all individuals vaccinated with at least one dose by providers in Harris County and those vaccinated by Harris County Public Health (HCPH) by the individual's age group and includes the age group percentage of the total vaccinated population.

Previous versions of this memo reflected age groups defined according to the State of Texas's phased eligibility for vaccines. As the State has expanded vaccine eligibility to include all adults and some children, the age groups have been adjusted to reflect regular intervals to allow for easier comparison.

Table 2

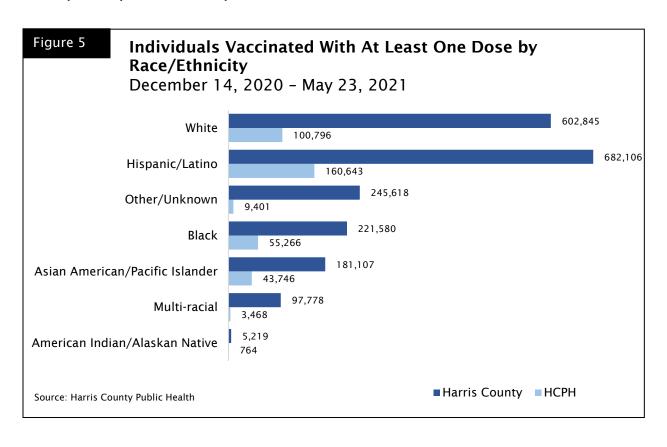
Individuals Vaccinated With At Least One Dose, By Age Group December 14, 2020 - May 23, 2021 **Number of** As Percentage of Harris **Age Group Individuals County's Vaccinated** Vaccinated **Population**^{xxii} **All Providers** 134,724 76+ 6.6% **HCPH** 21,118 **All Providers** 419,307 61-75 20.6% **HCPH** 87,656 **All Providers** 544,478 46-60 26.7% **HCPH** 116,669 All Providers 552,820 30-45 27.2% **HCPH** 88,446 **All Providers** 384,438 12-29 18.9% **HCPH** 60,270

Source: Harris County Public Health

xxii Reflects the total age group vaccinated with at least one dose as a percentage of all individuals vaccinated.

INDIVIDUALS VACCINATED WITH AT LEAST ONE VACCINE DOSE BY RACE AND ETHNICITY

Figure 5 and **Table 3**, which follows, reflect the race and ethnicity of individuals in Harris County who received at least one vaccine dose from any provider in Harris County and by Harris County Public Health (HCPH). XXIII



xouil Note: Prior to February 4, 2021, providers were not required to report race/ethnicity when reporting doses to Texas Department of State Health Services (DSHS) because vaccine recipients are allowed to decline disclosing their race/ethnicity to a provider.

INDIVIDUALS VACCINATED WITH AT LEAST ONE VACCINE DOSE BY RACE AND ETHNICITY

Table 3 reflects the race and ethnicity of individuals in Harris County who received at least one vaccine dose from a provider in Harris County and by Harris County Public Health (HCPH).xxiv For context, **Table 3** also includes the percentage of Harris County's total population by race and ethnicity.

Table 3

Individuals Vaccinated With At Least One Dose by Race/Ethnicity December 14, 2020 - May 23, 2021

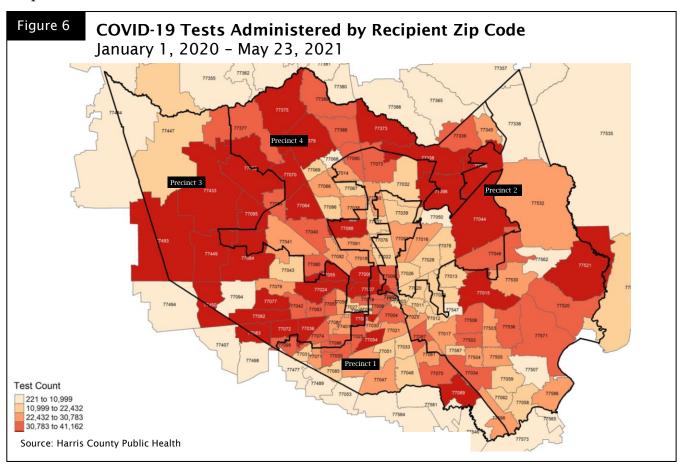
	Race/Ethnicity	Number of Individuals Vaccinated	As Percentage of Harris County's Vaccinated Population	As Percentage of Harris County's Total Population	
All Providers	White	602,845	29.6%	28.9%	
НСРН	white	100,796	29.0%	26.9%	
All Providers	Hispania/Latina	682,106	22.50/	42.20/	
НСРН	Hispanic/Latino	160,643	33.5%	43.3%	
All Providers	Other (Uselve source	245,618	12.10/	0.3%	
НСРН	Other/Unknown	9,401	12.1%		
All Providers	Dis als	221,580	10.00/	18.7%	
НСРН	Black	55,266	10.9%		
All Providers	Asian American/	181,107	0.00/	7.10/	
НСРН	Pacific Islander	43,746	8.9%	7.1%	
All Providers		97,778	4.00/	1.60/	
НСРН	Multi-racial	3,468	4.8%	1.6%	
All Providers	American Indian/	5,219	0.20/	0.2%	
НСРН	Alaskan Native	764	0.3%	0.2%	

Source: Harris County Public Health

xxiv Note: Prior to February 4, 2021, providers were not required to report race/ethnicity when reporting doses to Texas Department of State Health Services (DSHS) because vaccine recipients are allowed to decline disclosing their race/ethnicity to a provider.

COVID-19 TESTS BY ZIP CODE

Figure 6 reflects the total number of COVID-19 polymerase chain reaction (PCR) tests administered to Harris County residents by all providers in Harris County by zip code, and **Table 4** reflects the number of COVID-19 PCR tests administered by commissioner precinct.xxv



Between January 1, 2020 and May 23, 2021, providers in Harris County **administered 4,515,821 COVID-19 tests**. For a full list of tests administered by recipient zip code, see Appendix A.xxvi

Table 4

COVID-19 Tests Administered, by Commissioner Precinct and for Harris County, January 1, 2020 - May 23, 2021

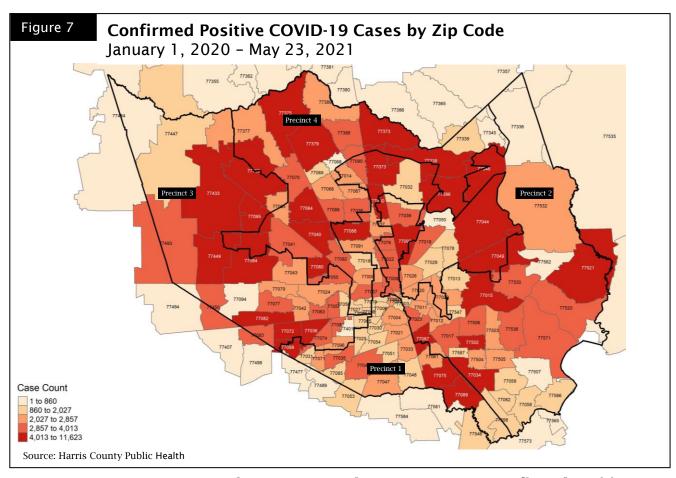
Precinct 1	Precinct 2	Precinct 3	Precinct 4	Total Tests	
1,071,756	964,618	1,129,315	1,077,673	4,515,821	

PCR refers to the polymerase chain reaction tests commonly used to test for COVID-19.

xxxi Precinct totals do not sum to Total Tests because 272,459 tests administered have addresses that cannot be geo-coded into a Precinct.

CONFIRMED POSITIVE COVID-19 CASES BY ZIP CODE

Figure 7 reflects the total number of COVID-19 positive cases confirmed by a PCR test in Harris County, reported by zip code and **Table 5** reflects the number of positive COVID-19 cases by commissioner precinct.xxvii



Between January 1, 2020 and May 23, 2021, there were **398,777 confirmed positive** cases of COVID-19 in Harris County. For a full list of positive cases by zip code, see Appendix B. **xxviii*

Table 5

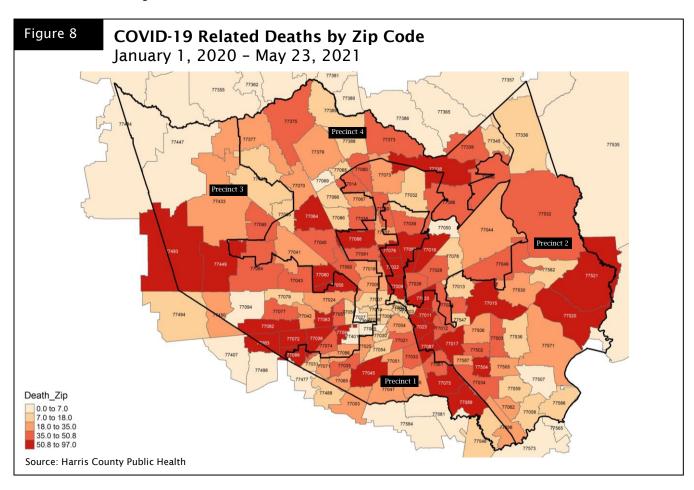
Con	Confirmed Positive Cases by Commissioner Precinct and for Harris County, January 1, 2020 - May 23, 2021										
Precinct 1 Precinct 2			cinct 2	Pred	inct 3	Pred	inct 4	County			
Number of Cases	% of Precinct Population	Number of Cases	% of Precinct Population	Number of Cases	% of Precinct Population	Number of Cases	% of Precinct Population	Number of Cases	% of County Population		
104,982	9.1%	100,576	9.1%	96,238	7.6%	93,976	7.8%	398,777	8.5%		

xxxii PCR refers to the polymerase chain reaction tests commonly used to test for COVID-19.

xxxiii Precinct totals do not sum to Total Cases because 3,005 confirmed cases have addresses that cannot be geo-coded into a Precinct.

CONFIRMED COVID-19 RELATED DEATHS BY ZIP CODE

Figure 8 reflects the total number of confirmed COVID-19 related deaths in Harris County by zip code and **Table 6** reflects the number of COVID-19 related deaths by commissioner precinct.



Between January 1, 2020 and May 23, 2021, there were **4,526 confirmed COVID-19 related deaths** in Harris County. For a full list of deaths by zip code, see Appendix C. xxix

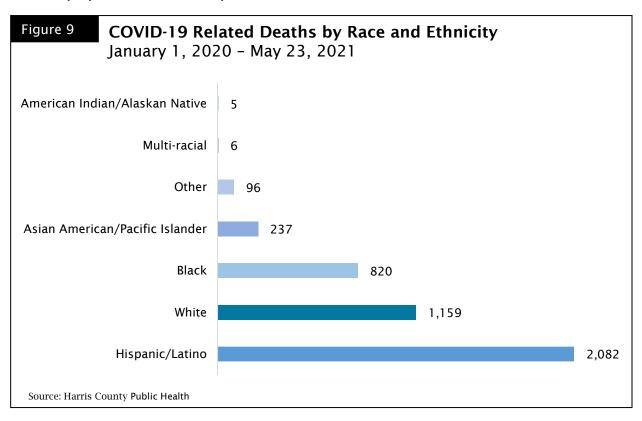
Table 6

COVI	COVID-19 Related Deaths by Commissioner Precinct and for Harris County, January 1, 2020 - May 23, 2021									
Pred	Precinct 1 Precinct 2		Pred	Precinct 3		Precinct 4		County Total		
Number of Deaths	% of Precinct Population	Number of Deaths	% of Precinct Population	Number of Deaths	% of Precinct Population	Number of Deaths	% of Precinct Population	Number of Deaths	% of County Population	
1,370	0.12%	1,306	0.12%	1011	0.08%	808	0.07%	4,526	0.10%	

xxix Precinct totals do not sum to Total Deaths because 31 deaths have addresses that cannot be geo-coded into a Precinct.

COVID-19 RELATED DEATHS BY RACE AND ETHNICITY

Figure 9 reflects the total number of confirmed COVID-19 related deaths in Harris County by race and ethnicity.^{xxx}



Of the 4,526 individuals in Harris County who died of a COVID-19-related death:xxxi

- 0.1% (5) identified as American Indian or Alaskan Native, and for context, 0.2% of County residents identify as American Indian or Alaskan Native;
- 0.1% (6) identified as Multi-racial, and for context, 1.6% of County residents identify as Two or More Races:
- 2.1% (96) were recorded as Other race and ethnicity;
- 5.2% (237) identified as Asian or Pacific Islander, and for context, 7.1% of County residents identify as Asian, Pacific Islander, or Native Hawaiian;
- 18.1% (820) identified as Black, and for context, 18.7% of County residents identify as Black;
- 25.6% (1,159) identified as White, and for context, 28.9% of County residents identify as White; and
- **46.0% (2,082) identified as Hispanic,** and for context, 43.3% of County residents identify as Hispanic.

xxx Race and ethnicity totals do not sum to Total Precinct Deaths because 121 deaths do not have race and ethnicity data available.

xxxi County-level race and ethnicity data are derived from US Census Bureau Population Estimates.

APPENDIX A

			ID-19 Tests A Administered				
Zip Code	Tests Administered	Zip Code	Tests Administered	Zip Code	Tests Administered	Zip Code	Tests Administered
77565	221	77029	14,895	77504	28,136	77099	39,724
77362	253	77069	14,982	77017	28,388	77502	39,883
77381	273	77085	15,251	77532	28,865	77388	41,012
77382	332	77587	15,314	77056	29,015	77064	41,388
77380	440	77011	15,720	77598	29,135	77088	41,636
77354	694	77033	15,921	77079	29,369	77015	42,502
77507	756	77003	15,934	77081	29,459	77008	44,220
77010	770	77447	15,965	77041	29,744	77054	45,126
77355	868	77058	15,997	77047	30,135	77024	45,214
77477	874	77026	16,566	77505	30,411	77070	45,361
77386	1,094	77059	17,650	77093	30,530	77055	45,367
77535	1,106	77067	19,315	77045	30,653	77072	46,358
77489	1,138	77098	20,347	77042	30,815	77044	47,132
77581	1,473	77039	20,633	77025	31,081	77338	47,288
77357	1,533	77086	20,839	77035	31,684	77373	49,107
77053	1,650	77022	21,167	77087	31,687	77082	49,362
77498	1,705	77020	21,397	77506	32,321	77007	50,832
77046	2,152	77048	21,425	77065	32,395	77036	50,938
77365	2,276	77027	21,666	77019	32,527	77089	54,312
77407	2,319	77043	21,740	77096	33,030	77077	55,082
77584	2,356	77062	22,196	77080	33,068	77493	55,365
77573	2,441	77076	22,429	77520	33,139	77375	57,822
77546	3,212	77030	22,443	77006	33,239	77450	59,100
77494	3,253	77038	22,692	77034	33,557	77521	59,171
77050	3,335	77061	22,706	77073	33,623	77083	64,226
77562	6,971	77091	22,899	77075	33,674	77396	65,100
77094	8,054	77060	23,121	77389	34,113	77346	69,143
77484	8,076	77586	23,149	77377	34,140	77095	70,213
77068	8,597	77014	24,569	77090	35,150	77379	71,633
77547	8,834	77021	24,901	77057	35,348	77429	79,487
77336	10,822	77016	24,933	77074	35,570	77084	88,304
77078	11,117	77066	25,026	77536	36,157	77433	92,199
77013	11,485	77092	25,098	77049	36,669	77005	113,001
77031	11,985	77345	25,589	77002	36,831	77449	119,116
77523	12,497	77023	25,663	77571	37,494		
77032	12,982	77071	25,980	77009	38,477		
77028	13,017	77401	26,085	77063	38,515		
77037	13,235	77503	27,230	77004	38,563		
77012	14,016	77530	27,339	77339	39,478		
77051	14,681	77018	27,833	77040	39,501		

APPENDIX B

Total COVID-19 Confirmed Positive Cases by Zip Code										
	Ordered by Positive Cases, January 1, 2020 - May 23, 2021									
Zip Code	Positive	Zip Code	Positive	Zip Code	Positive	Zip Code	Positive			
-	Cases	·	Cases		Cases	•	Cases			
77362	1	77547	1,126	77504	2,488	77083	3,872			
77381	1	77027	1,202	77033	2,490	77493	3,872			
77355	2	77058	1,279	77377	2,500	77055	3,980			
77382	2	77339	1,321	77389	2,535	77077	3,983			
77565	2	77006	1,389	77091	2,598	77081	3,987			
77535	4	77031	1,419	77067	2,632	77506	4,002			
77354	6	77051	1,462	77042	2,665	77060	4,029			
77386	8	77056	1,508	77014	2,697	77082	4,053			
77380	11	77078	1,508	77065	2,715	77075	4,064			
77357	16	77586	1,521	77503	2,715	77338	4,098			
77573	17	77062	1,525	77020	2,753	77049	4,118			
77498	25	77025	1,569	77047	2,811	77034	4,120			
77365	27	77013	1,624	77532	2,818	77064	4,134			
77407	44	77028	1,641	77066	2,851	77080	4,214			
77507	46	77019	1,653	77057	2,858	77040	4,263			
77010	49	77032	1,669	77035	2,872	77087	4,314			
77584	54	77054	1,676	77063	2,912	77375	4,491			
77523	73	77053	1,700	77092	2,932	77502	4,616			
77581	111	77598	1,745	77016	2,935	77044	4,665			
77046	128	77048	1,841	77022	2,975	77073	4,772			
77477	159	77587	1,898	77041	3,037	77099	4,791			
77484	217	77018	1,934	77450	3,075	77373	4,834			
77050	386	77085	2,026	77571	3,084	77093	5,216			
77494	421	77021	2,033	77007	3,112	77396	5,254			
77489	525	77011	2,045	77536	3,140	77521	5,264			
77094	578	77004	2,059	77039	3,145	77072	5,293			
77562	657	77026	2,129	77023	3,182	77088	5,295			
77336	709	77029	2,140	77086	3,233	77095	5,370			
77345	785	77096	2,157	77090	3,284	77089	5,584			
77068	842	77002	2,163	77038	3,308	77346	5,640			
77401	855	77037	2,210	77045	3,314	77015	5,682			
77059	864	77043	2,242	77530	3,458	77379	5,710			
77030	906	77505	2,309	77009	3,498	77429	5,850			
77098	951	77012	2,310	77520	3,535	77036	6,387			
77546	1,025	77079	2,385	77076	3,616	77433	7,146			
77005	1,095	77024	2,387	77074	3,677	77084	10,500			
77447	1,098	77071	2,409	77017	3,738	77449	11,623			
77069	1,104	77061	2,426	77388	3,740		,			
77003	1,126	77008	2,437	77070	3,867					

APPENDIX C

	Total Confirmed COVID-19 Related Deaths by Zip Code								
	Ordered	d by Numb	er of Deaths,	January 1,	2020 - May 2	23, 2021			
Zip Code	COVID Deaths	Zip Code	COVID Deaths	Zip Code	COVID Deaths	Zip Code	COVID Deaths		
77010	0-5	77336	8	77571	25	77035	46		
77046	0-5	77345	8	77047	26	77012	48		
77050	0-5	77546	8	77018	27	77061	48		
77069	0-5	77002	9	77450	27	77034	49		
77094	0-5	77007	9	77598	27	77074	49		
77354	0-5	77066	9	77008	28	77091	50		
77355	0-5	77065	10	77433	28	77023	52		
77357	0-5	77389	10	77506	28	77081	52		
77362	0-5	77547	11	77530	29	77015	54		
77365	0-5	77058	12	77053	30	77064	54		
77380	0-5	77086	13	77070	30	77075	54		
77381	0-5	77388	14	77044	31	77063	55		
77382	0-5	77013	15	77004	33	77504	55		
77386	0-5	77562	15	77028	35	77076	56		
77407	0-5	77056	16	77038	35	77493	56		
77447	0-5	77078	16	77090	35	77080	58		
77477	0-5	77079	16	77039	36	77011	59		
77484	0-5	77429	16	77021	37	77045	59		
77498	0-5	77536	16	77043	37	77017	60		
77507	0-5	77003	17	77057	37	77020	60		
77523	0-5	77031	17	77092	38	77082	60		
77535	0-5	77032	17	77029	39	77521	60		
77565	0-5	77067	18	77033	39	77016	63		
77573	0-5	77379	18	77084	39	77083	63		
77581	0-5	77587	18	77503	39	77089	63		
77584	0-5	77096	20	77040	40	77520	63		
77005	6	77024	21	77373	42	77009	64		
77027	6	77377	21	77375	42	77099	64		
77401	6	77025	22	77532	42	77093	67		
77006	7	77051	22	77014	43	77022	74		
77054	7	77037	23	77026	43	77088	75		
77059	7	77071	23	77049	43	77055	76		
77068	7	77062	24	77060	43	77338	77		
77489	7	77073	24	77077	43	77449	77		
77494	7	77505	24	77339	43	77087	79		
77586	7	77041	25	77396	43	77036	88		
77019	8	77042	25	77502	43	77072	97		
77030	8	77048	25	77095	44				
77098	8	77085	25	77346	45				

APPENDIX D

Number of Individuals Per 100,000 Residents Vaccinated With at Least One Dose and Social Vulnerability Index (SVI), Ordered by Residents Vaccinated, December 14, 2020 – May 23, 2021****

Zip Code	Per 100k Rate	SVI									
77060	25,533	0.94	77074	35,137	0.86	77066	40,945	0.59	77041	53,221	0.31
77013	26,900	0.98	77598	35,145	0.57	77040	41,004	0.55	77018	53,866	0.48
77090	28,021	0.70	77532	35,170	0.37	77065	41,330	0.43	77089	54,134	0.47
77506	28,264	0.95	77073	35,358	0.50	77004	41,665	0.53	77077	54,836	0.29
77083	28,415	0.53	77012	35,376	0.99	77085	41,896	0.60	77009	55,188	0.62
77067	28,995	0.79	77587	35,440	0.91	77505	41,932	0.24	77054	57,792	0.26
77081	29,093	0.81	77015	35,505	0.76	77023	42,192	0.76	77079	58,280	0.27
77078	31,017	0.89	77502	36,204	0.89	77063	42,296	0.57	77003	59,650	0.61
77076	31,368	0.86	77086	36,380	0.78	77449	42,517	0.36	77433	59,718	0.11
77050	31,586	0.71	77396	36,473	0.51	77044	43,197	0.41	77025	61,527	0.32
77039	31,823	0.73	77338	36,511	0.58	77047	43,280	0.55	77493	63,968	0.34
77093	31,917	0.97	77571	36,614	0.38	77084	43,405	0.36	77389	64,251	0.14
77503	32,042	0.82	77028	36,649	0.84	77011	43,538	0.96	77401	65,674	0.03
77336	32,469	0.30	77031	36,804	0.64	77064	43,679	0.47	77005	67,988	0.03
77014	32,514	0.78	77504	36,880	0.88	77071	43,697	0.68	77059	69,541	0.05
77036	32,670	0.93	77075	36,977	0.61	77070	43,724	0.49	77094	70,031	0.00
77450	32,843	0.18	77099	37,077	0.80	77082	44,175	0.54	77006	72,093	0.09
77447	32,854	0.45	77020	37,275	0.89	77055	44,485	0.68	77019	75,562	0.09
77037	32,957	0.69	77080	37,428	0.83	77346	44,986	0.12	77007	76,494	0.01
77091	33,112	0.92	77339	37,964	0.32	77388	45,238	0.13	77008	77,969	0.08
77026	33,521	0.94	77373	38,003	0.30	77377	45,745	0.24	77002	79,324	0.42
77034	33,680	0.67	77536	38,249	0.44	77429	45,957	0.06	77098	85,615	0.07
77520	33,770	0.82	77022	38,257	0.97	77095	46,162	0.23	77024	89,869	0.16
77061	33,772	0.70	77045	38,381	0.84	77068	46,529	0.43	77027	98,391	0.01
77092	33,926	0.75	77032	38,501	0.99	77586	46,810	0.18	77010	105,684	0.02
77033	34,137	0.93	77035	38,843	0.74	77069	48,341	0.22	77056	128,661	0.14
77016	34,250	0.89	77017	39,444	0.66	77345	48,445	0.05	77046	153,093	0.10
77562	34,306	0.63	77029	39,895	0.88	77058	49,607	0.46	77030	174,897	0.28
77521	34,473	0.64	77042	39,960	0.38	77379	50,214	0.21			
77038	34,491	0.50	77087	39,963	1.00	77043	50,371	0.52			
77051	34,676	0.80	77021	40,158	0.74	77057	51,035	0.34			
77547	34,822	0.66	77072	40,265	0.87	77062	51,449	0.19			
77088	34,914	0.77	77049	40,463	0.63	77096	52,063	0.39			
77530	34,940	0.59	77048	40,850	0.85	77375	52,869	0.45			

xxxii Table excludes data for zip codes with large portions of Census Tracts in another County.



The Harris County Commissioners Court's Analyst's Office provides the Harris County Commissioners Court members with objective, nonpartisan, and timely fiscal and policy analysis related to the efficiency and effectiveness of various County operations.

This memo was prepared by Amy Rose, Senior Analyst, and Ramin Naderi, Analyst.

Commissioners Court's Analyst's Office 1115 Congress Street, 6th Floor Houston, Texas 77002

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