

# Racial-Ethnic Segregation in Houston Schools, 2015-2016



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# History

- Prior to Civil Rights era – maximum “de jure” (by law) racial segregation of schools in the South under Jim Crow separation of Whites and Blacks; high, but slightly lower “de facto” racial segregation in non-Southern cities.
- Brown vs. Board (1954) ruled that “separate is unequal” in schools
- Many school desegregation lawsuits throughout the 70s and 80s first in the Jim Crow South; then soon after in the non-South
- Desegregation efforts strongly resisted in Texas

# Literature

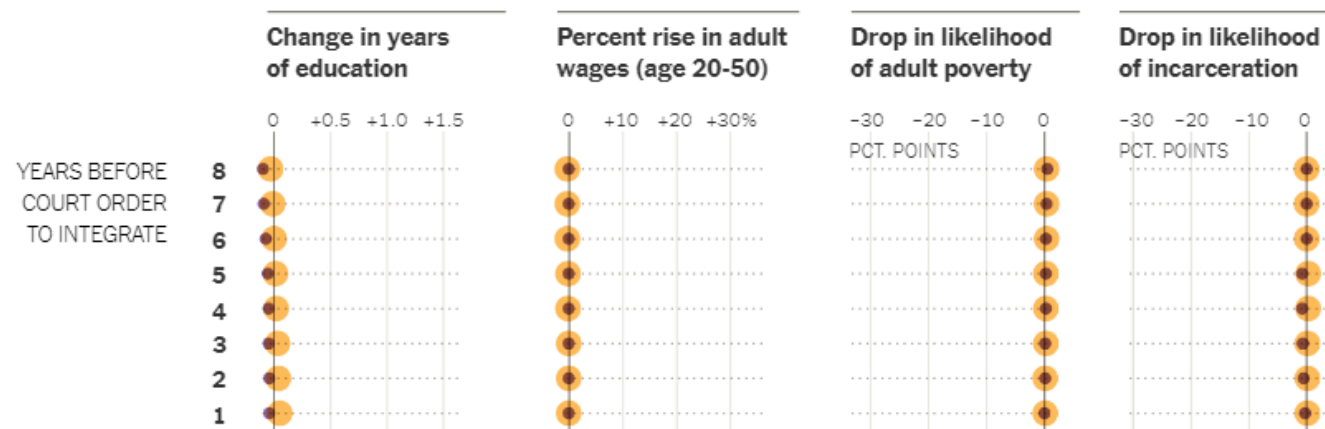
- More segregation between districts, not within (Clotfelter 2004)
- Decline in segregation sharpest in 70s and 80s in the South
- Trends after 2000 are less clear, but segregation is still lower in the South (Reardon 2014)
- There is a relationship between housing segregation and school segregation, but trends do not always move together (Reardon 2003)

# The Benefits of Integrated Schools

Estimates of the effects of court-ordered desegregation on black and white students.

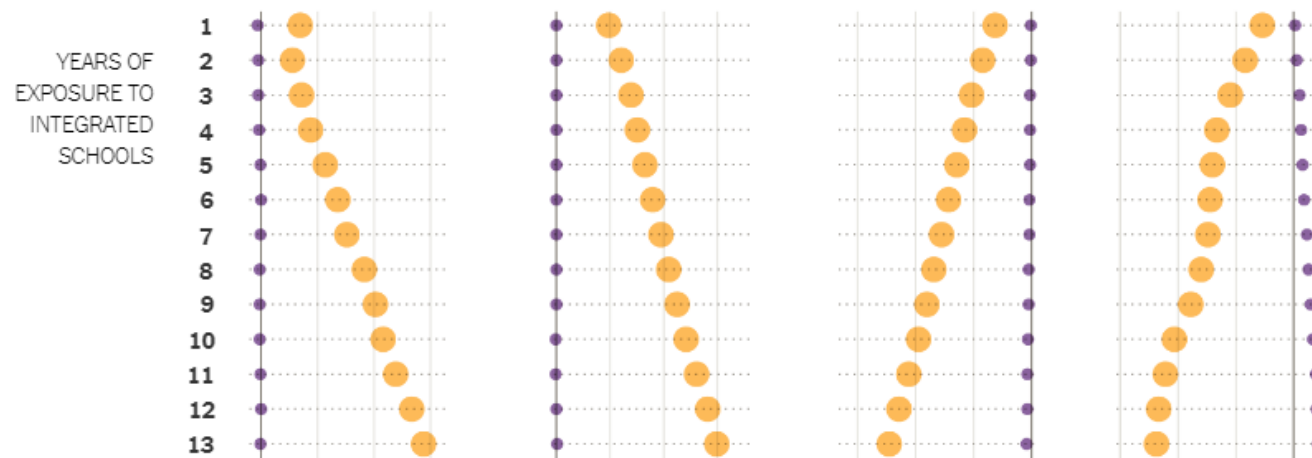
**BEFORE COURT ORDER:** In the 8 years prior, educational attainment and other indicators remain largely static.

● **AVG. BLACK STUDENT**  
● **AVG. WHITE STUDENT**



## ORDER TO INTEGRATE SCHOOL DISTRICT TAKES EFFECT

**AFTER COURT ORDER:** Black students who have just a portion of their schooling in integrated classrooms complete more years of education and have better economic futures, relative to students confined to segregated schools.



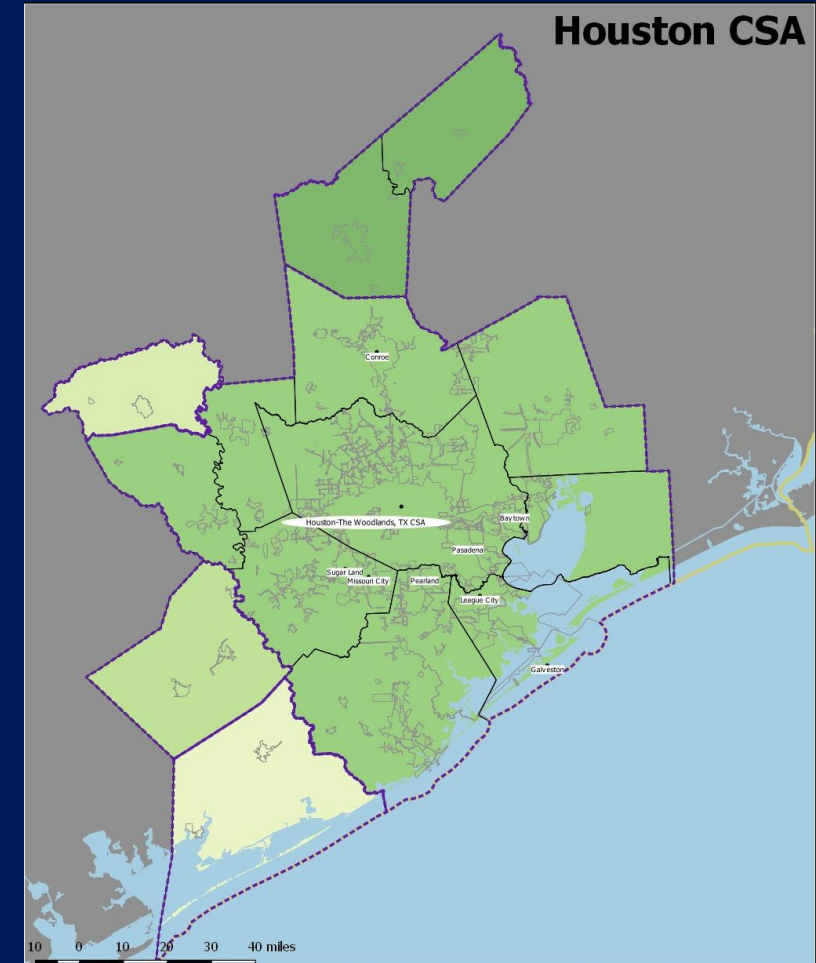
Black students schooled entirely in integrated schools maintain or improve upon these gains. This does not come at the expense of white students' status, which remains largely unchanged.

By Bill Marsh/The New York Times | Source: Rucker Johnson, University of California, Berkeley

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# Research Questions

- What does school segregation look like in the contemporary Houston metropolitan region (defined by the Houston CSA)?
  - Difference by major pan-ethnic groups (Whites vs. Blacks, Latinos, & Asians)
  - Public schools vs. charter schools vs. private schools
  - Urban vs. suburban
  - Differences between metropolitan areas
  - Relationship with residential segregation



# Data Source

## **Common Core of Data (CCD) by the National Center for Education Statistics**

- Complete directory of public and charter schools in the United States
- Widely used in scholarly research
- Data from 2015-2016 aggregated at the school level by race, grade, and sex

# Houston Metropolitan Region, 2015-2016

- 1.28 million students
- 135 Local Education Agencies
  - 81 school districts, 54 charter districts
  - Houston ISD largest: 200,553 students
  - 8 LEAs have half of students
  - 51 LEAs have 90% of students
- 1,688 schools
  - 1,537 in public districts
  - 151 in charter districts



# Measuring Segregation

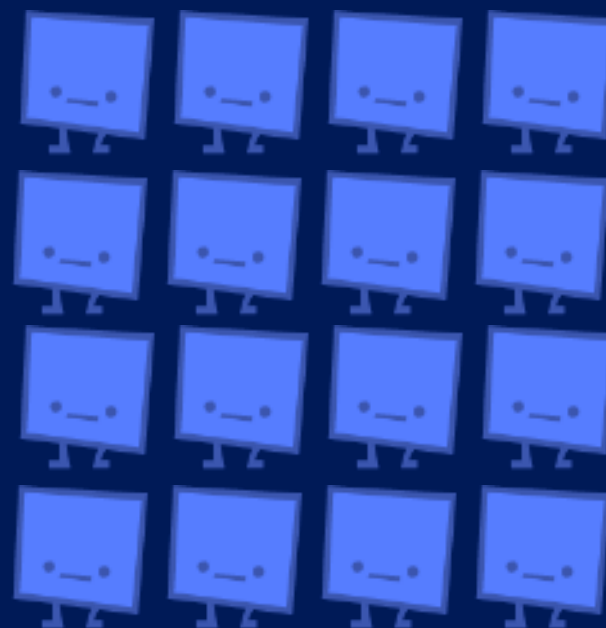
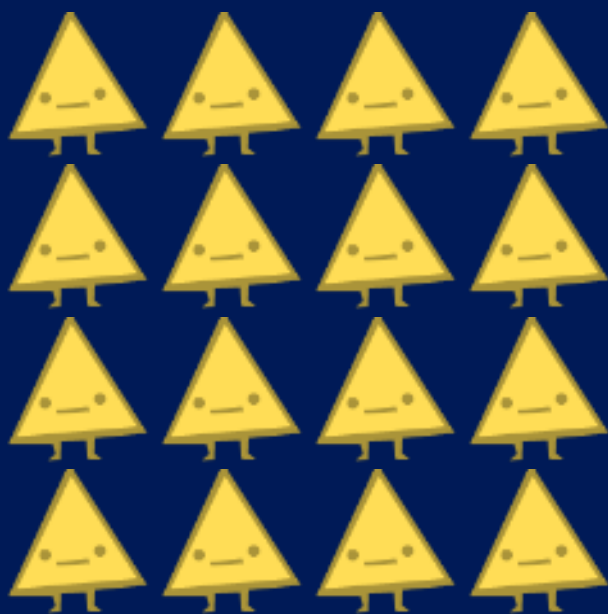
Example: 2 schools, students are half triangles, half squares





# Measuring Segregation

Example: 2 schools, students are half triangles, half squares

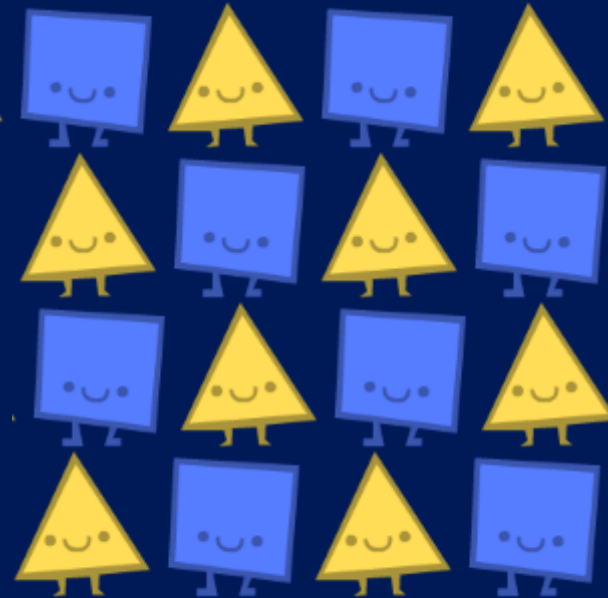
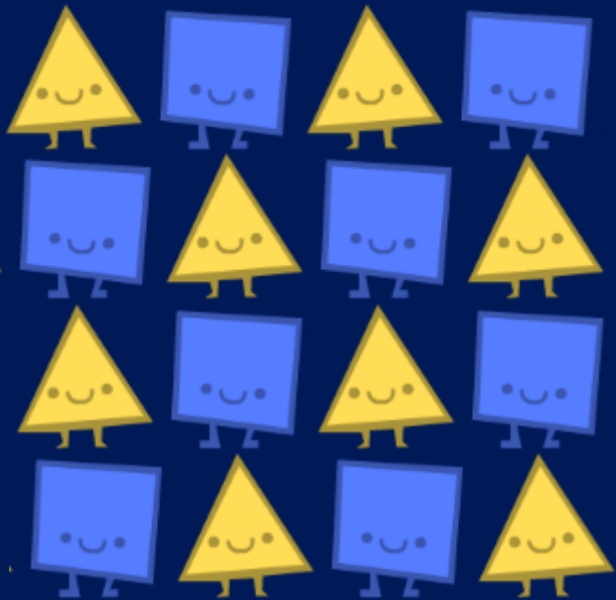


100% Segregated

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# Measuring Segregation

Example: 2 schools, students are half triangles, half squares



0% Segregated

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# Houston Metropolitan Region, 1<sup>st</sup>-4<sup>th</sup> Grade, 2015-2016

|          | White | Black | Hispanic | Asian |
|----------|-------|-------|----------|-------|
| All      | 24    | 17    | 50       | 6     |
| White    | 46    | 20    | 33       | 7     |
| Black    | 14    | 36    | 3        | 5     |
| Hispanic | 16    | 15    | 63       | 4     |
| Asian    | 29    | 15    | 31       | 22    |

n=415,472

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# Measuring Segregation: Separation (S)

- Many available measures
  - Dissimilarity index (D) and separation index (S) are the most common measures for unevenness
- Will show separation index
  - Measures group difference in average exposure to reference group
  - Can be decomposed into component parts (D cannot)

$$\begin{array}{|c|} \hline \text{Segregation b/w} \\ \hline \end{array} \begin{array}{|c|} \hline \text{and} \\ \hline \end{array} \begin{array}{|c|} \hline \text{Duke} \\ \hline \end{array} = \begin{array}{|c|} \hline \text{exposure} \\ \hline \end{array} \begin{array}{|c|} \hline \text{to} \\ \hline \end{array} \begin{array}{|c|} \hline \text{Duke} \\ \hline \end{array} - \begin{array}{|c|} \hline \text{exposure} \\ \hline \end{array} \begin{array}{|c|} \hline \text{to} \\ \hline \end{array} \begin{array}{|c|} \hline \text{Duke} \\ \hline \end{array}$$

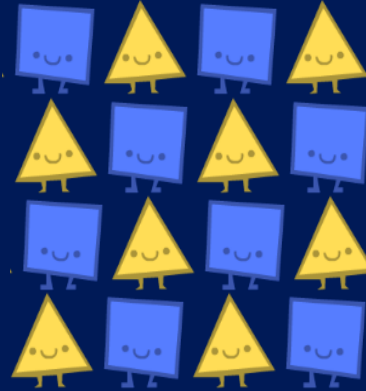
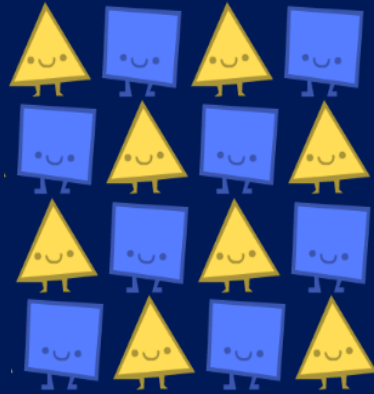
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# Measuring Segregation: Separation (S)

The diagram illustrates the measurement of segregation (S) using exposure to a specific group. It shows two groups of characters: yellow triangles and blue squares. The yellow triangles are arranged in a 4x4 grid, and the blue squares are arranged in a 4x4 grid. A vertical line separates the two groups. Below the yellow triangles, a box contains two yellow triangles with the text "exposure to" between them. Below the blue squares, a box contains a blue square and a yellow triangle with the text "exposure to" between them. The calculation is shown as:

$$100\% - 0\% = 100$$

# Measuring Segregation: Separation (S)



-



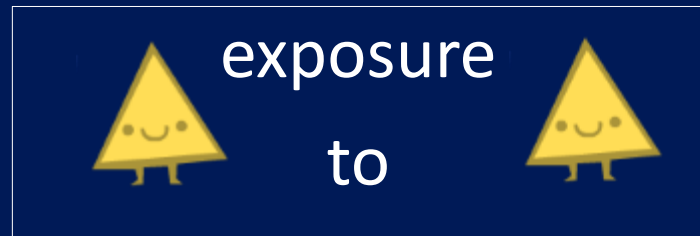
50% - 50%

= 0

## Guidelines for Interpreting Separation Indices (Fossett 2017)

| Low  | Medium | High  | Very High |
|------|--------|-------|-----------|
| 0-14 | 15-34  | 35-59 | 60-100    |

# Houston Metropolitan Region, 1<sup>st</sup>-4<sup>th</sup> Grade, 2015-2016



(White-White exposure)

-



(Minority-White exposure)

=



White-Black:

79.1

-

28.9

=

50.2

White-Hispanic:

57.4

-

20.6

=

36.8

White-Asian:

86.2

-

55.5

=

30.6

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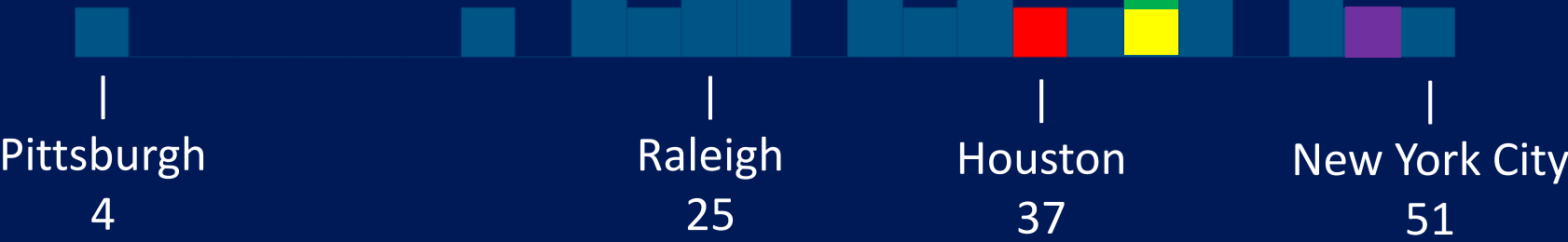
How does Houston compare to other large metro areas?

Looked at 30 CSAs with largest 1<sup>st</sup>-4<sup>th</sup> grade population

# White-Black



# White-Hispanic



- Houston
- Chicago
- Los Angeles
- Dallas-Fort Worth

# White-Asian



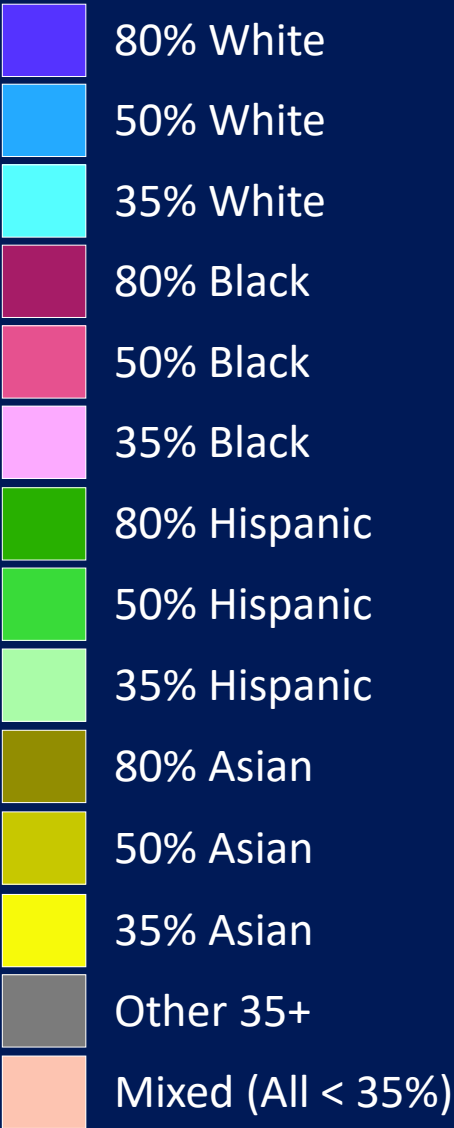
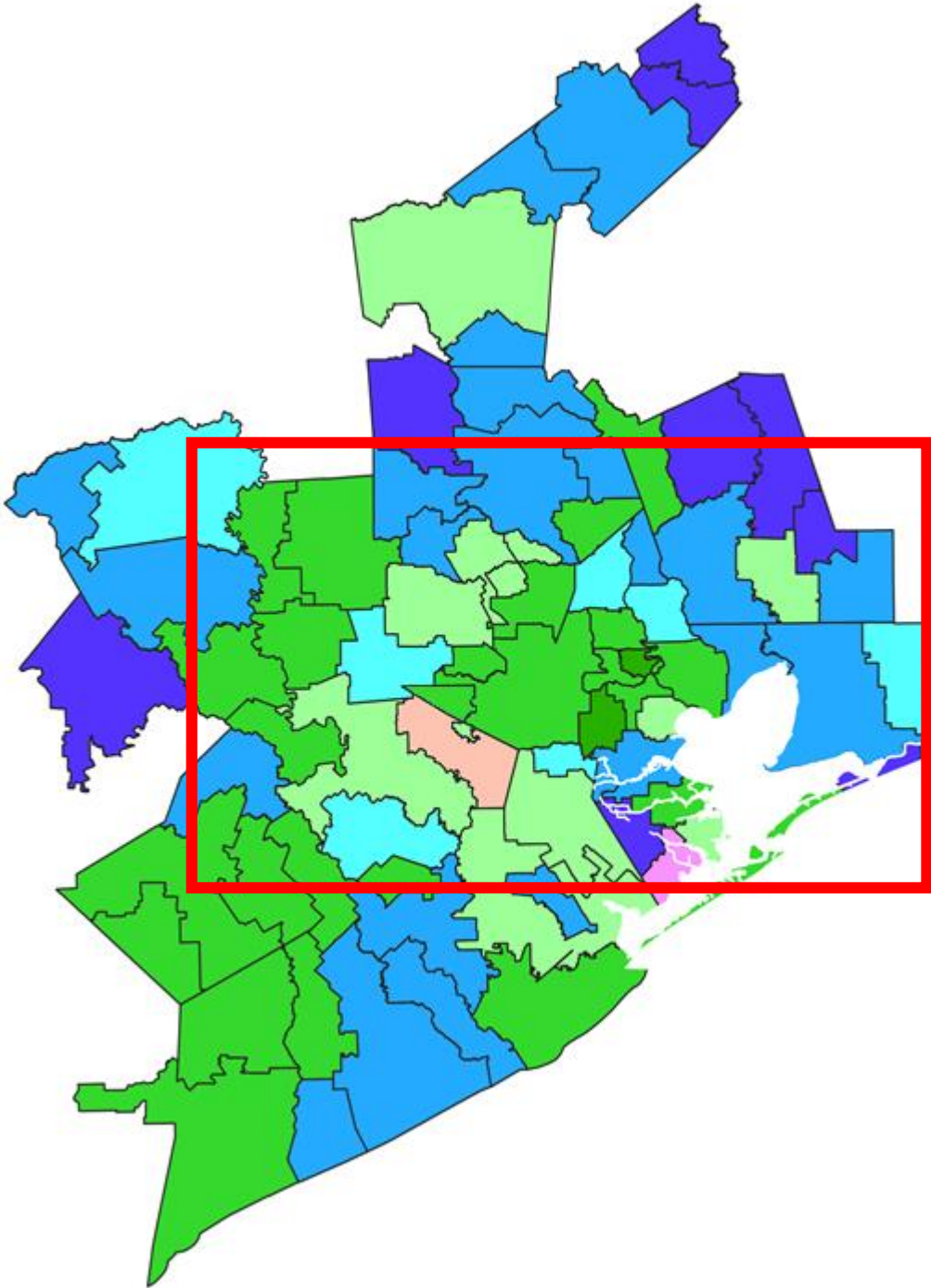
# Where is segregation taking place?

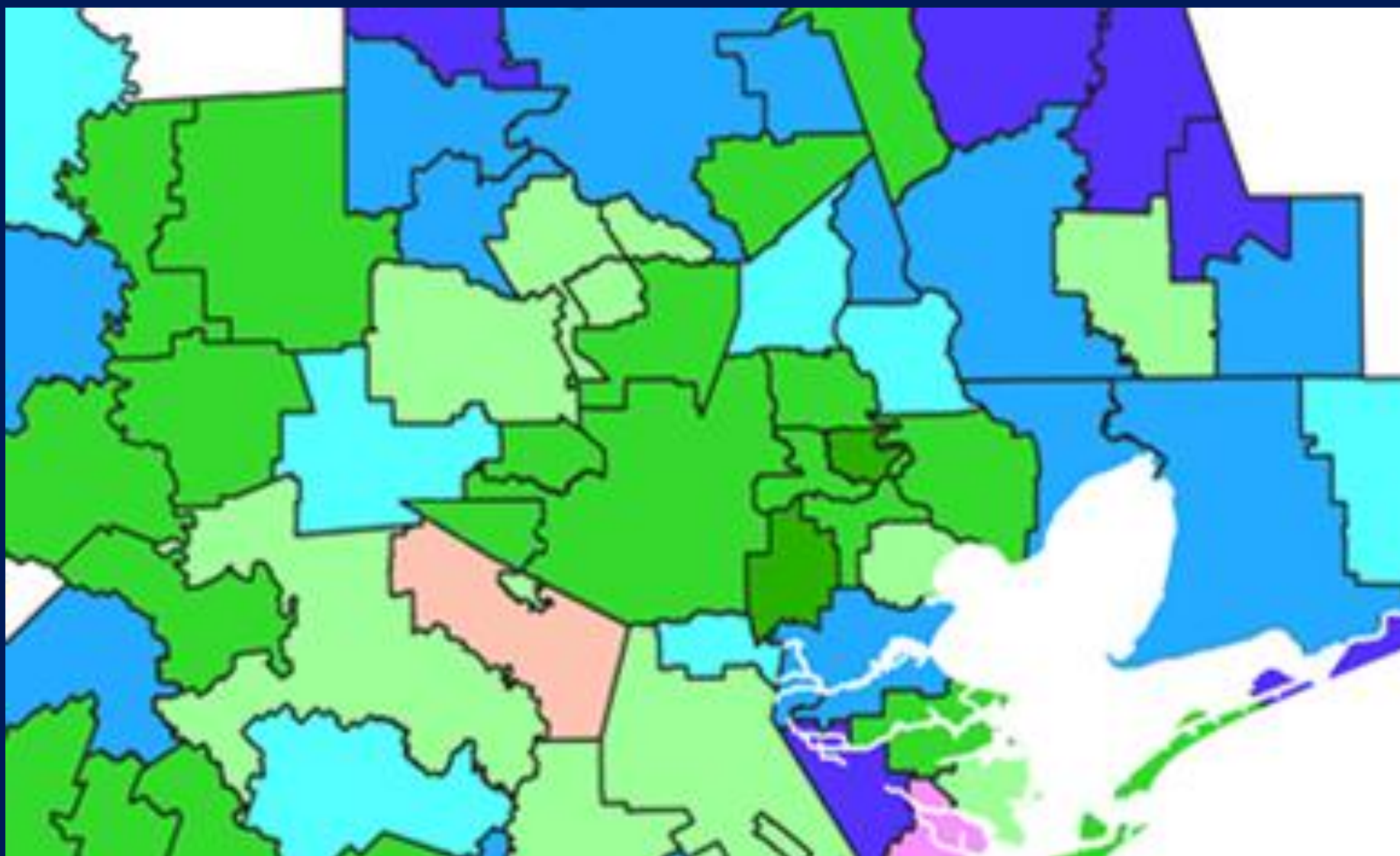
- Separation index permits decomposition analysis of segregation (Reardon and Firebaugh 2002)
  - Allows for better understanding of contributors to overall segregation
  - Policy options differ for distinct components of segregation
- Decomposing segregation
  - between urban and suburban areas
  - across school districts vs. within school districts
  - between public schools, charter schools, and magnet schools

Houston Metropolitan Area, 2015-16, 1<sup>st</sup>-4<sup>th</sup> grade

| <u>White-Black</u>  | <u>White-Hispanic</u> | <u>White-Asian</u> |
|---|-----------------------|--------------------|
| Overall segregation   |                       |                    |
| 50.2  | 36.8                  | 30.6               |
| Between districts   |                       |                    |
| 65%   | 58%                   | 61%                |
| Between urban and suburban                                  |                       |                    |
| 18%   | 16%                   | 3%                 |
| Between public schools, charter schools, and magnet schools |                       |                    |
| 10%   | 4%                    | 2%                 |

School district demographics

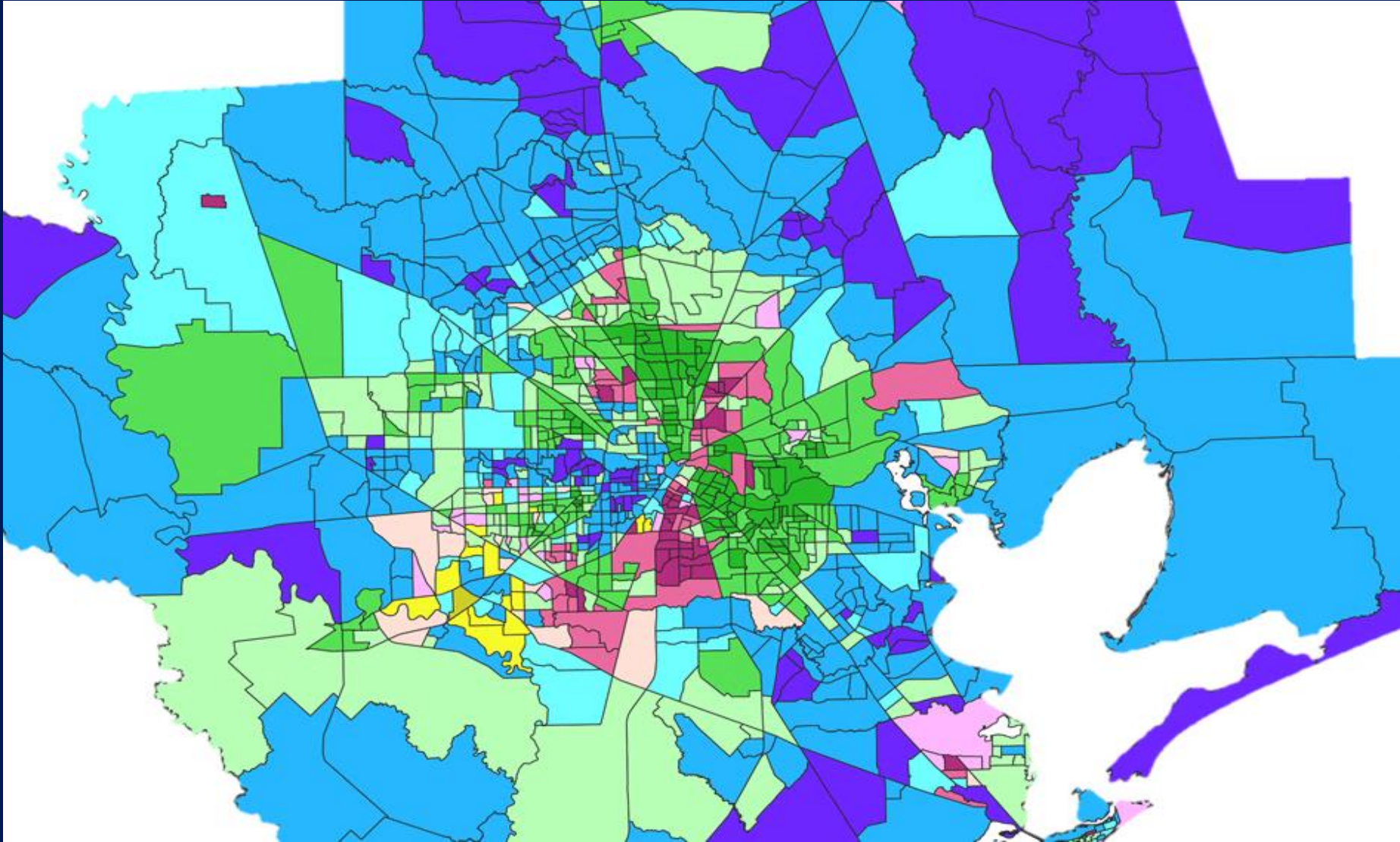




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## Census tract demographics (2010)



# Takeaways

- Among large metropolitan areas, Houston elementary schools are relatively segregated
- Compared with the largest, most diverse metropolitan areas, Houston is less segregated.
- Most segregation is happening between districts, not within districts
- Urban-suburban segregation and segregation between types of schools is modest



# Limitations

- Limited data to look at “choice” mechanisms within districts/Houston—where are students coming from?
- Data on private schools is incomplete and difficult to include
- No data to look at segregation within schools (via mechanisms like tracking)
- No detailed data on socioeconomic status within schools

# Implications

- Consequences
  - unequal resources and opportunities
  - segregation in schools fails to prepare students for life in a diverse society; it tacitly supports segregation in later life
- Policy Options and Issues
  - Supreme court has ruled against cross-district remedies (Milliken v. Bradley, 1974)
  - Remedies within districts – attendance zone boundaries; busing; others?
  - Trends in residential segregation; residential segregation is slowly declining; does this lead to reduced school segregation – not yet

# Acknowledgements

- Dr. Mark Fossett
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  - Dr. Mary Campbell, Dr. Alex Hernandez
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  - My cohort
- Vi Hart and Nicky Case: Parable of the Polygons



# Thank you!

## Questions?

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**Table 4. Comparison of Metrics**

| Type           | Dissimilarity (D) | Separation (S) |
|----------------|-------------------|----------------|
| White-Black    | 64.30             | 50.20          |
| White-Hispanic | 58.30             | 36.84          |
| White-Asian    | 54.57             | 30.61          |

**Table 2. Houston CSA Segregation by District (S)**

|                       | N   | White-Black | White-Hispanic | White-Asian |
|-----------------------|-----|-------------|----------------|-------------|
| Houston CSA           | 988 | 50.2        | 36.8           | 30.6        |
| HOUSTON ISD           | 178 | 55.9        | 40.1           | 22.7        |
| CYPRESS-FAIRBANKS ISD | 54  | 22.6        | 25.6           | 9.6         |
| FORT BEND ISD         | 47  | 41.1        | 37.2           | 23.4        |
| KATY ISD              | 37  | 16.3        | 19.3           | 9.4         |
| PASADENA ISD          | 35  | 21.1        | 5.8            | 28.6        |
| ALDINE ISD            | 33  | 10.8        | 1.4            | 33.2        |
| CONROE ISD            | 32  | 13.6        | 19.9           | 3.0         |
| ALIEF ISD             | 26  | 3.1         | 5.6            | 17.1        |

|               | Total   | White % | Black % | Hispanic % | Asian % |
|---------------|---------|---------|---------|------------|---------|
| All Districts | 404,586 | 25%     | 18%     | 51%        | 6%      |
| HOUSTON ISD   | 72,038  | 8%      | 24%     | 64%        | 4%      |
| CYPRESS-      |         |         |         |            |         |
| FAIRBANKS ISD | 32,736  | 27%     | 18%     | 47%        | 9%      |
| ALDINE ISD    | 23,037  | 2%      | 23%     | 74%        | 1%      |
| KATY ISD      | 21,472  | 40%     | 10%     | 36%        | 15%     |
| FORT BEND ISD | 20,356  | 19%     | 28%     | 28%        | 25%     |
| PASADENA ISD  | 17,423  | 6%      | 7%      | 84%        | 3%      |
| CONROE ISD    | 17,345  | 51%     | 7%      | 38%        | 4%      |
| ALIEF ISD     | 15,265  | 5%      | 29%     | 55%        | 11%     |

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| CSA_Name            | S_WB  | S_WL  | S_WA  | Pop    | S |
|---------------------|-------|-------|-------|--------|---|
| new york-newar      | 67.58 | 51.05 | 41.06 | 971693 |   |
| los angeles-long    | 49.76 | 40.44 | 35.95 | 848698 |   |
| chicago-napervil    | 70.85 | 48.82 | 21.96 | 451811 |   |
| washington-balti    | 54.69 | 42.06 | 24.11 | 427677 |   |
| dallas-fort worth   | 47.13 | 41.94 | 29.66 | 427367 |   |
| houston-the woo     | 50.2  | 36.84 | 30.61 | 404586 |   |
| san jose-san fran   | 47.27 | 40.05 | 40.87 | 340797 |   |
| atlanta--athens-c   | 52.61 | 43.26 | 28.24 | 330983 |   |
| boston-worceste     | 42.93 | 46.43 | 20.85 | 323829 |   |
| philadelphia-rea    | 57.6  | 46.33 | 20.58 | 299884 |   |
| miami-fort laude    | 49.58 | 34.18 | 9.88  | 271425 |   |
| detroit-warren-a    | 65.84 | 31.69 | 27.5  | 227824 |   |
| seattle-tacoma      | 28.59 | 20.01 | 23.48 | 178921 |   |
| minneapolis-st. p   | 45.41 | 30.19 | 38.68 | 177213 |   |
| denver-aurora       | 43.01 | 41.49 | 11.47 | 165785 |   |
| salt lake city-pro  | 8.52  | 25.73 | 6.97  | 161923 |   |
| orlando-deltona     | 37.15 | 27.69 | 8.27  | 136476 |   |
| cleveland-akron-    | 64.47 | 27.8  | 15.02 | 135889 |   |
| portland-vancou     | 20.45 | 23.81 | 16.1  | 131485 |   |
| charlotte-concor    | 41.3  | 38.24 | 19.5  | 130295 |   |
| st. louis-st. charl | 63.02 | 16.82 | 11.74 | 122426 |   |
| indianapolis-carr   | 55.72 | 34.93 | 16.82 | 115490 |   |
| sacramento-rose     | 41.21 | 30.29 | 34.11 | 115198 |   |
| kansas city-overl   | 49.18 | 35.29 | 14.69 | 114315 |   |
| columbus-mario      | 53.88 | 25.02 | 17.65 | 112052 |   |
| las vegas-hender    | 33.71 | 33.51 | 12.41 | 108861 |   |
| raleigh-durham-c    | 31.06 | 24.91 | 26.69 | 104104 |   |
| cincinnati-wilmir   | 59.31 | 21.65 | 12.69 | 96886  |   |
| pittsburgh-new c    | 51.33 | 3.82  | 9.05  | 95592  |   |
| nashville-davidso   | 40.37 | 31.02 | 9.47  | 92424  |   |
|                     |       |       |       |        |   |



# Private School Demographics

|          | % of race | % of private school |
|----------|-----------|---------------------|
| Total    | 5.2%      | 100.0%              |
| White    | 10.5%     | 55.4%               |
| Black    | 2.8%      | 9.3%                |
| Hispanic | 1.9%      | 17.4%               |
| Asian    | 8.8%      | 11.6%               |

|                                 |         |         |         |         |         |         |          |         |          |         |          |
|---------------------------------|---------|---------|---------|---------|---------|---------|----------|---------|----------|---------|----------|
| Houston CBSA Segregation Scores |         |         |         |         |         |         |          |         |          |         |          |
| N                               | D_WB    | D_WH    | D_WA    | S_WB    | S_WH    | S_WA    | white    | Black   | Hispanic | Asian   | Total    |
| "892"                           | "65.11" | "58.90" | "54.03" | "51.08" | "37.29" | "30.37" | "96752"  | "70642" | "203048" | "24838" | "395280" |
| Houston Between Districts       |         |         |         |         |         |         |          |         |          |         |          |
| N                               | D_WB    | D_WH    | D_WA    | S_WB    | S_WH    | S_WA    | white    | Black   | Hispanic | Asian   | Total    |
| "122"                           | "50.38" | "43.41" | "41.70" | "32.82" | "21.51" | "18.58" | "100045" | "72332" | "207270" | "24939" | "404586" |
| Houston CSA                     |         |         |         |         |         |         |          |         |          |         |          |
| N                               | D_WB    | D_WH    | D_WA    | S_WB    | S_WH    | S_WA    | white    | Black   | Hispanic | Asian   | Total    |
| "926"                           | "64.30" | "58.30" | "54.57" | "50.20" | "36.84" | "30.61" | "100045" | "72332" | "207270" | "24939" | "404586" |

