WASITO

CIVIL RIGHTS TRAINING SYMPOSIUM | AUSTIN 2019

Texas Department of Transportation

Title VI Best Practices – Data Collection and Analysis

March 6, 2019

WASHTO
CIVIL RIGHTS TRAINING SYMPOSIUM | AUSTIN 2019

Texas Department of Transportation

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Data Collection

United States Census 2010

This is the official form for all the people at this address.
It is quick and easy, and your answers are protected by law.

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

Use a blue or black pen.

Start here

The Census must count every person living in the United States on April 1, 2010.

Before you answer Question 1, count the people living in this house, apartment, or mobile home using our guidelines.

- Count all people, including babies, who live and sleep here most of the time.

The Census Bureau also conducts counts in institutions and other places, so:

- Do not count anyone living away either at college or in the Armed Forces.
- Do not count anyone in a nursing home, jail, prison, detention facility, etc., on April 1, 2010.
- Leave these people off your form, even if they will return to live here after they leave college, the nursing home, the military, jail, etc. Otherwise, they may be counted twice.

The Census must also include people without a permanent place to stay, so:

- If someone who has no permanent place to stay is staying here on April 1, 2010, count that person. Otherwise, he or she may be missed in the census.

1. How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?

Number of people =

2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1? *Mark ☒ all that apply.*

- ☐ Children, such as newborn babies or foster children
- ☐ Relatives, such as adult children, cousins, or in-laws
- ☐ Nonrelatives, such as roommates or live-in baby sitters
- ☐ People staying here temporarily
- ☐ No additional people

3. Is this house, apartment, or mobile home — *Mark ☒ ONE box.*

- ☐ Owned by you or someone in this household with a mortgage or loan? *Include home equity loans.*
- ☐ Owned by you or someone in this household free and clear (without a mortgage or loan)?
- ☐ Rented?
- ☐ Occupied without payment of rent?

4. What is your telephone number? *We may call if we don't understand an answer.*

Area Code + Number

___ - ___ - ___

OMB No. 0607-0919-C: Approval Expires 12/31/2011.

Form **D-61** (1-15-2009)

5. Please provide information for each person living here. Start with a person living here who owns or rents this house, apartment, or mobile home. If the owner or renter lives somewhere else, start with any adult living here. This will be Person 1.

What is Person 1's name? *Print name below.*

Last Name

First Name MI

6. What is Person 1's sex? *Mark ☒ ONE box.*

☐ Male ☐ Female

7. What is Person 1's age and what is Person 1's date of birth?
Please report babies as age 0 when the child is less than 1 year old.
Print numbers in boxes.

Age on April 1, 2010	Month	Day	Year of birth

➜ **NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.**

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

- ☐ **No,** not of Hispanic, Latino, or Spanish origin
- ☐ Yes, Mexican, Mexican Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

9. What is Person 1's race? *Mark ☒ one or more boxes.*

- ☐ White
- ☐ Black, African Am., or Negro
- ☐ American Indian or Alaska Native — *Print name of enrolled or principal tribe.*

- ☐ Asian Indian
- ☐ Japanese
- ☐ Native Hawaiian
- ☐ Chinese
- ☐ Korean
- ☐ Guamanian or Chamorro
- ☐ Filipino
- ☐ Vietnamese
- ☐ Samoan
- ☐ Other Asian — *Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.*
- ☐ Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*

- ☐ Some other race — *Print race.*

10. Does Person 1 sometimes live or stay somewhere else?

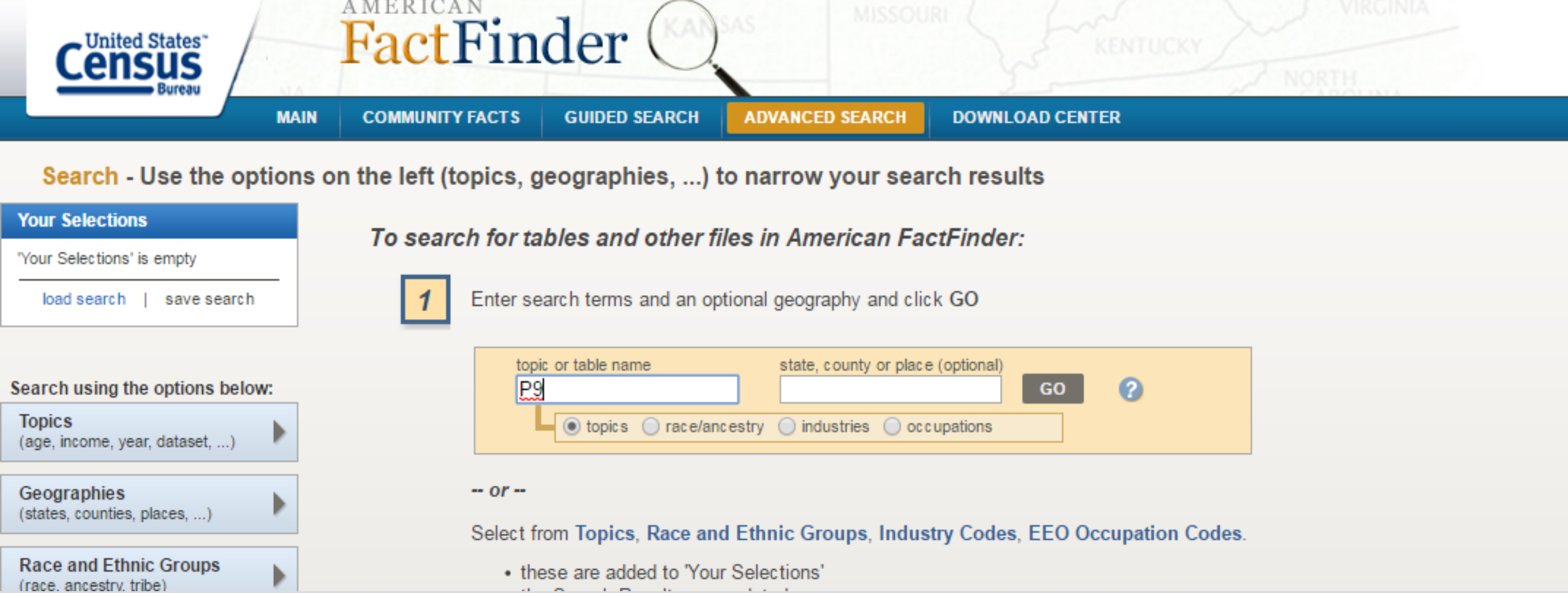
☐ No ☐ Yes — *Mark ☒ all that apply.*

- ☐ In college housing
- ☐ In the military
- ☐ At a seasonal or second residence
- ☐ For child custody
- ☐ In jail or prison
- ☐ In a nursing home
- ☐ For another reason

➜ **If more people were counted in Question 1, continue with Person 2.**

U S C E N S U S B U R E A U

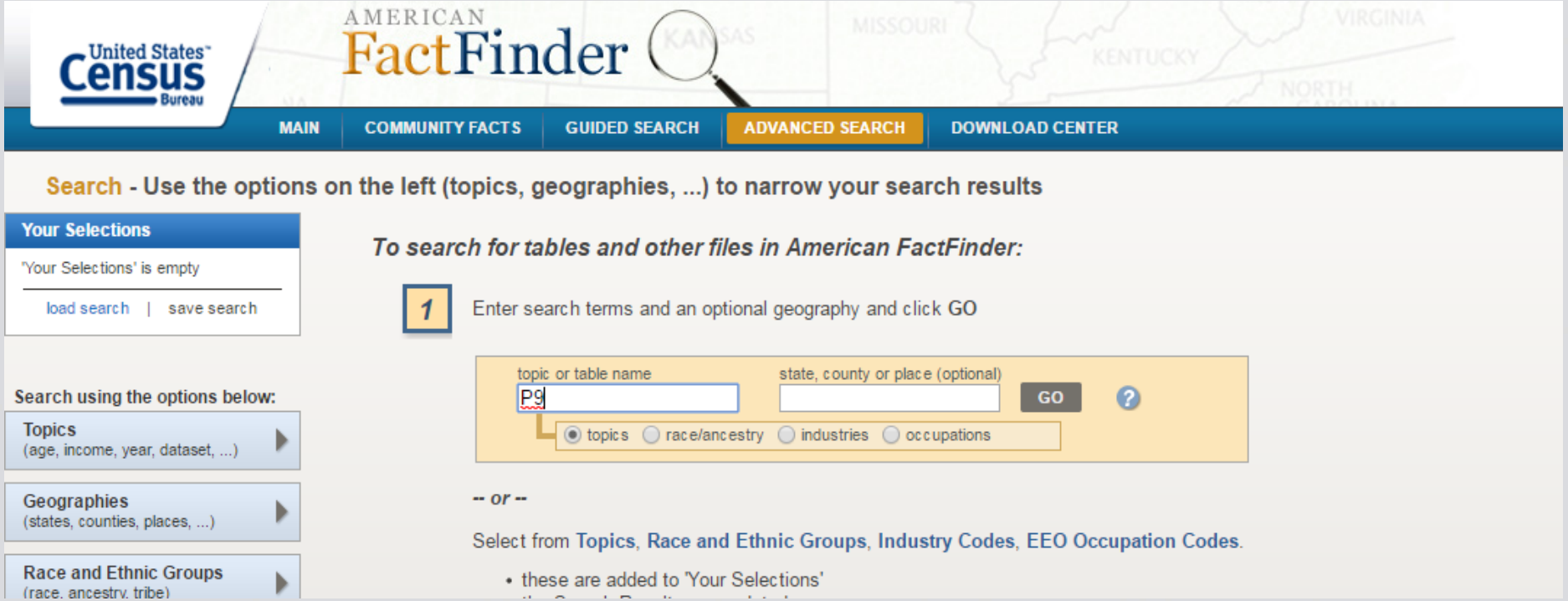
INFORMATIONAL COPY



Factfinder.census.gov

- 2010 Census: Table **P9**
- 5 year ACS: **Table B03002**

American Fact Finder



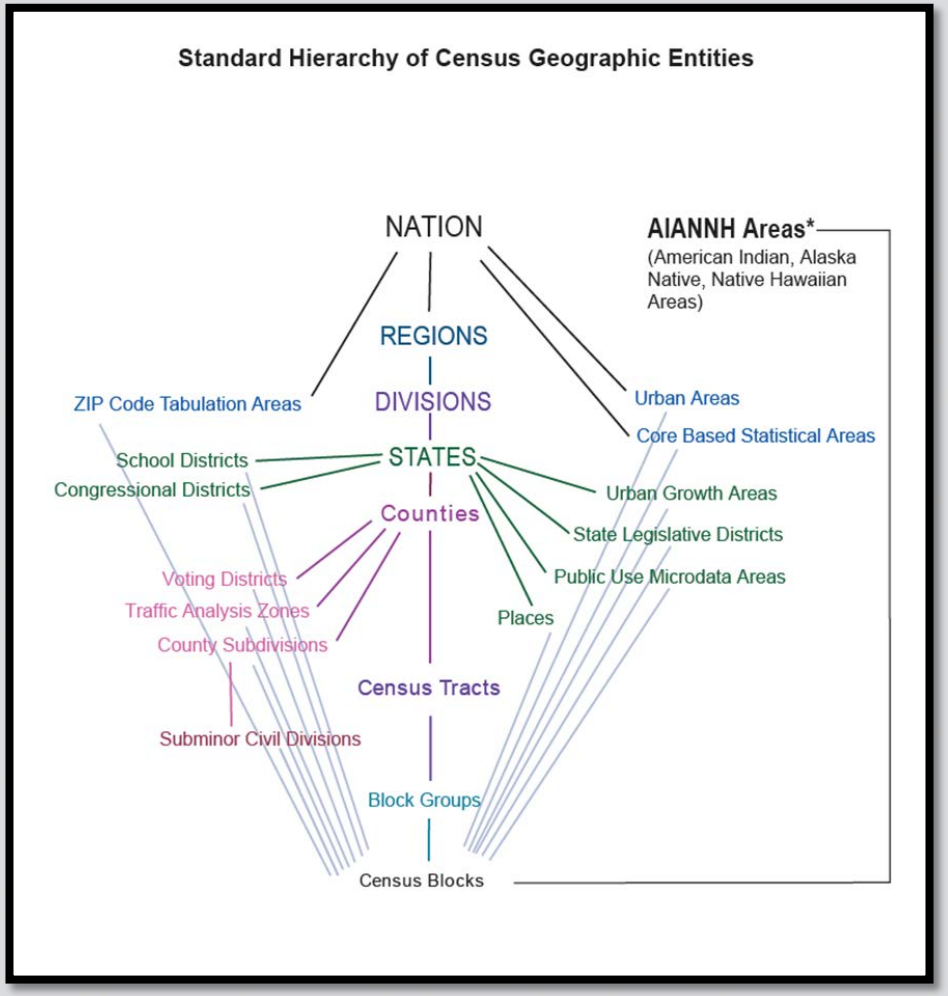
- Factfinder.census.gov
- 2010 Census: Table **P9**
- 5 year ACS: **Table B03002**

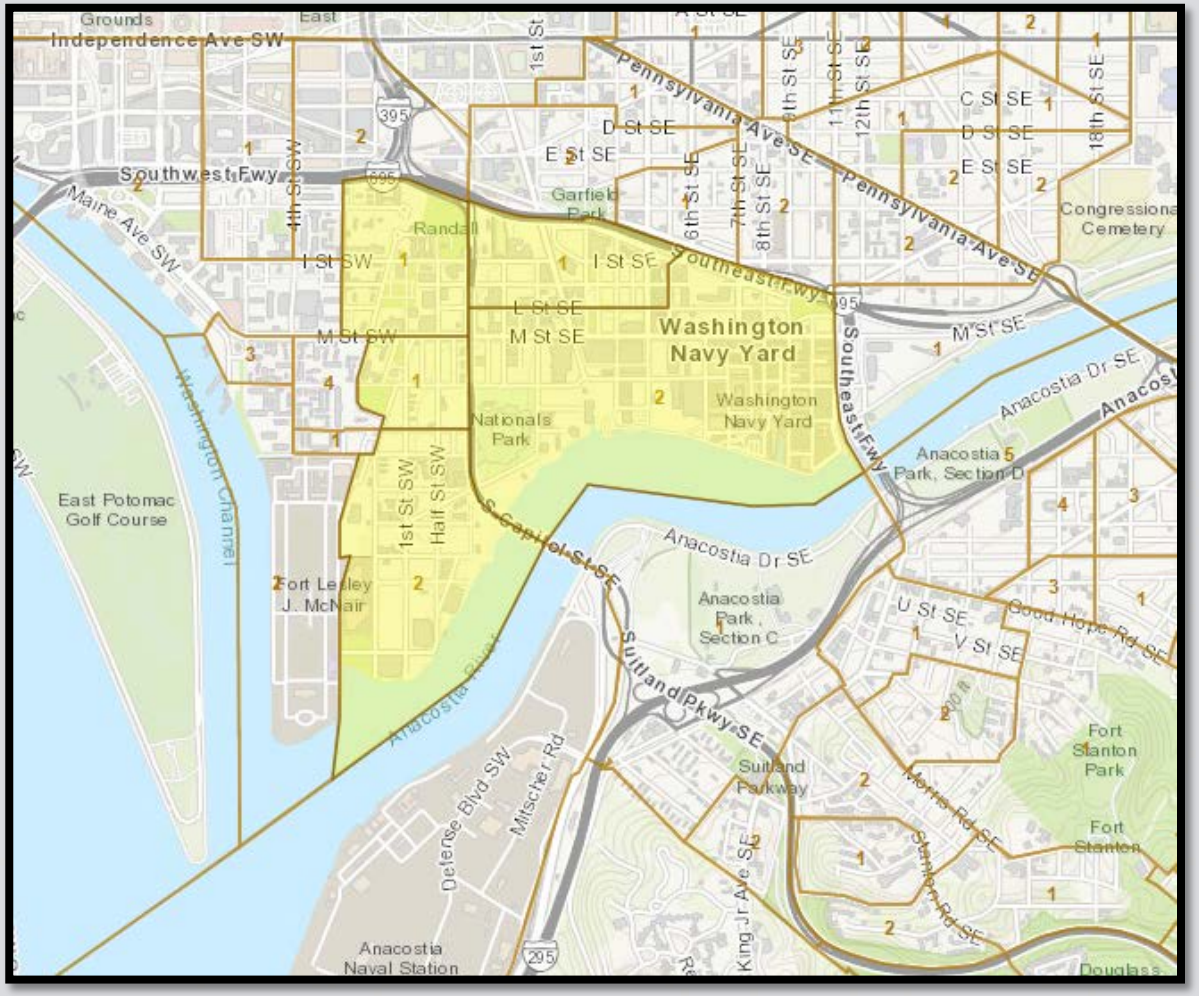
Use of Estimates

Distinguishing features of ACS 1-year, 1-year supplemental, 3-year, and 5-year estimates

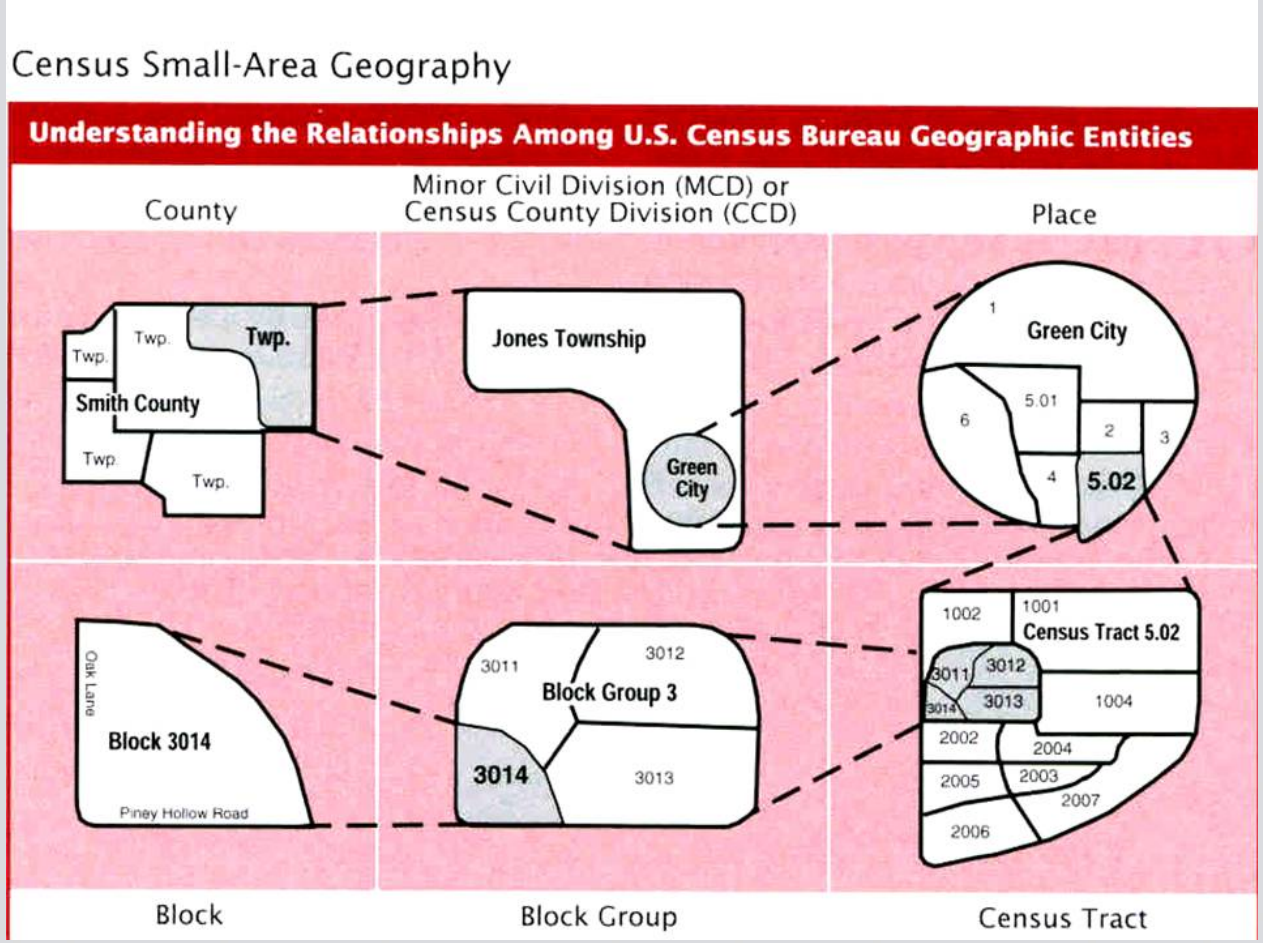
1-year estimates	1-year supplemental estimates	3-year estimates*	5-year estimates
12 months of collected data *Example:* 2015 ACS 1-year estimates *Date collected between:* January 1, 2015 and December 31, 2015	12 months of collected data *Example:* 2015 ACS 1-year supplemental estimates *Date collected between:* January 1, 2015 and December 31, 2015	36 months of collected data *Example:* 2011-2013 ACS 3-year estimates *Date collected between:* January 1, 2011 and December 31, 2013	60 months of collected data *Example:* 2011-2015 ACS 5-year estimates *Date collected between:* January 1, 2011 and December 31, 2015
Data for areas with populations of 65,000+	Data for areas with populations of 20,000+	Data for areas with populations of 20,000+	Data for all areas
Smallest sample size	Smallest sample size	Larger sample size than 1-year	Largest sample size
Less reliable than 3-year or 5-year	Less reliable than 5-year	More reliable than 1-year; less reliable than 5-year	Most reliable
Most current data	Most current data	Less current than 1-year estimates; more current than 5-year	Least current
Annually released: 2005-present	Annually released: 2014-present	Annually released: 2007-2013	Annually released: 2009-present
Best used when	**Best used when**	**Best used when**	**Best used when**
Currency is more important than precision Analyzing large populations	Currency is more important than precision Analyzing smaller populations Examining smaller geographies because the standard 1-year estimates are not available	More precise than 1-year, spans fewer years than 5-year Analyzing smaller populations Examining smaller geographies because the standard 1-year estimates are not available	Precision is more important than currency Analyzing very small populations Examining tracts and other smaller geographies because 1-year estimates are not available

Census Geographies





Census Geographies



Geography	Population Range	Optimum
Block	0 - 600	
Block Group	600 - 3000	1500
Census Tract	1200 - 8000	4000

https://pitt.libguides.com/uscensus/understandinggeography

Demographic Data Tables

2010 Census Summary File 1

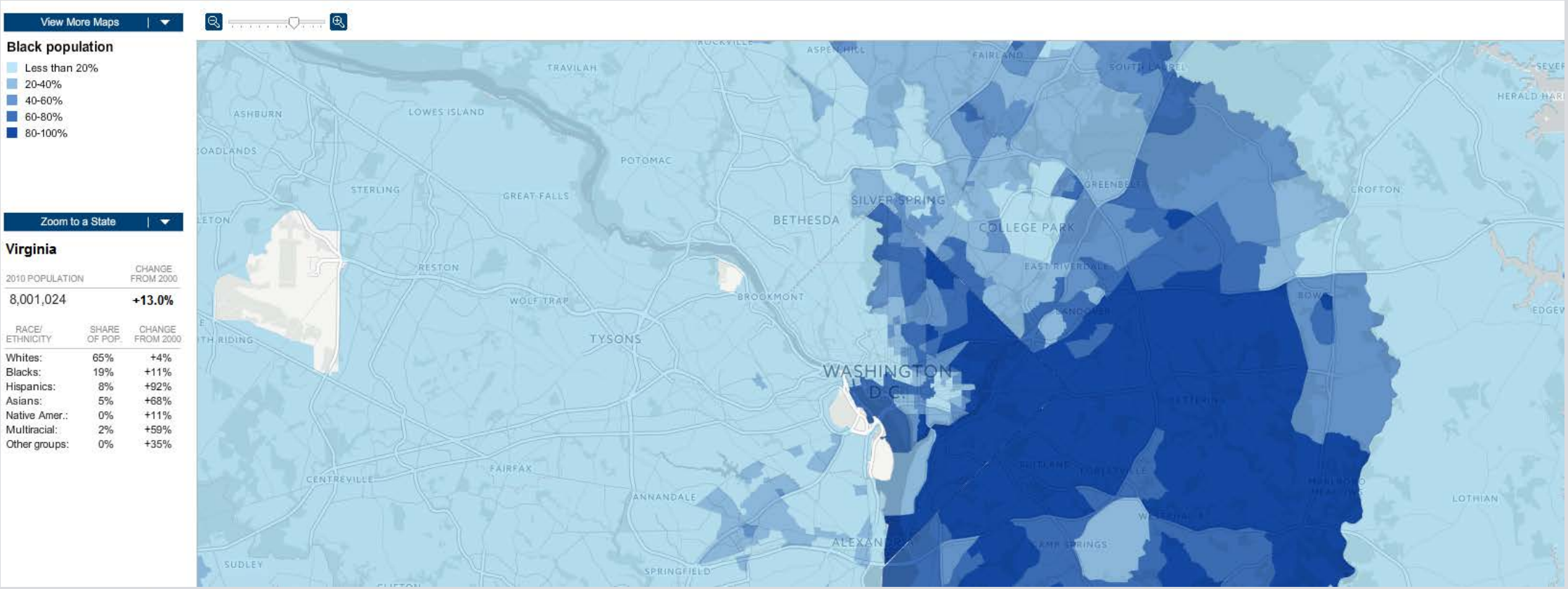
NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://www.census.gov/prod/cen2010/doc/

	Block Group	Block Group	Block Group	Block Group	Block Group
Total:	1,242	897	1,964	830	1,967
Hispanic or Latino	30	35	110	45	98
Not Hispanic or Latino:	1,212	862	1,854	785	1,869
Population of one race:	1,189	848	1,807	762	1,827
White alone	68	65	1,314	255	382
Black or African American alone	1,074	765	378	473	1,358
American Indian and Alaska Native	12	12	3	0	7
Asian alone	35	3	109	34	74
Native Hawaiian and Other Pacific	0	0	0	0	0
Some Other Race alone	0	3	3	0	6

- Table P9 – 2010 Census, Race/Ethnicity
- Table B03002 – 5 Year ACS, Race/Ethnicity
- Table B16001 – 5 Year ACS, Language

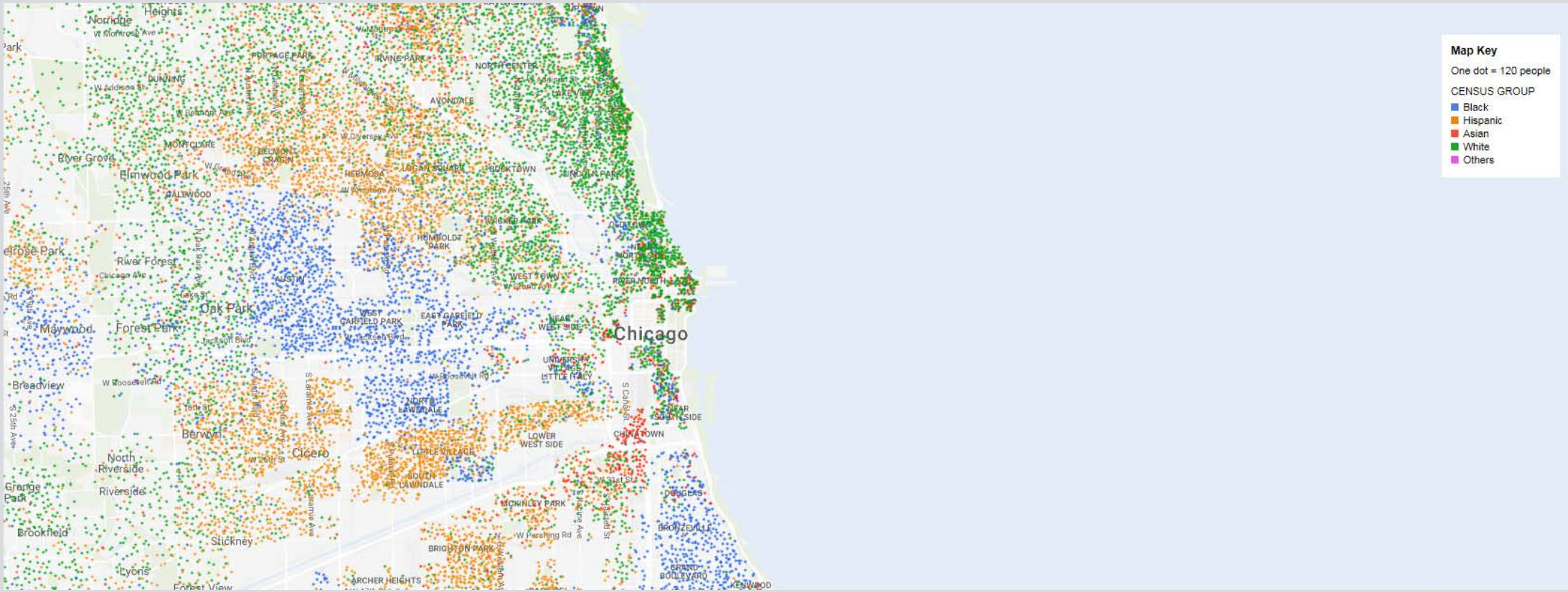
Census Maps

NY Times 2010 Census Map



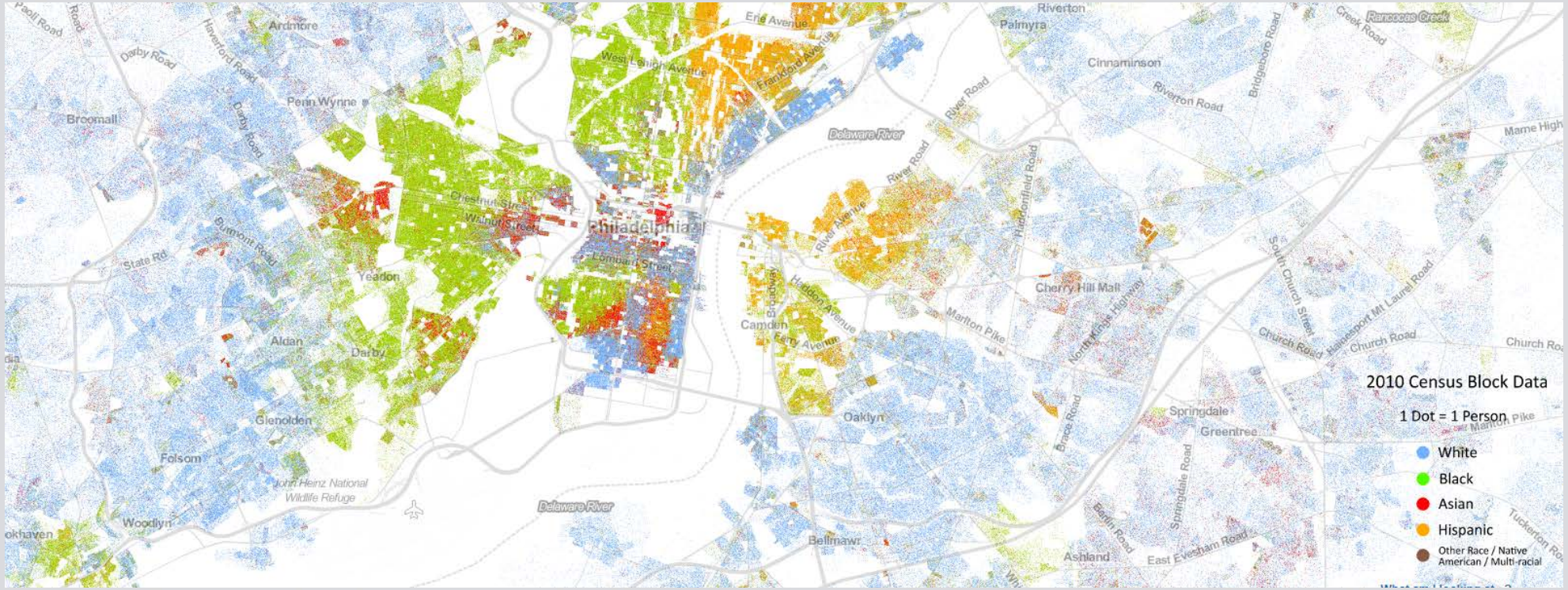
- 2010 Data
- Limited to Tract Level

NY Times 2015 Segregation Map

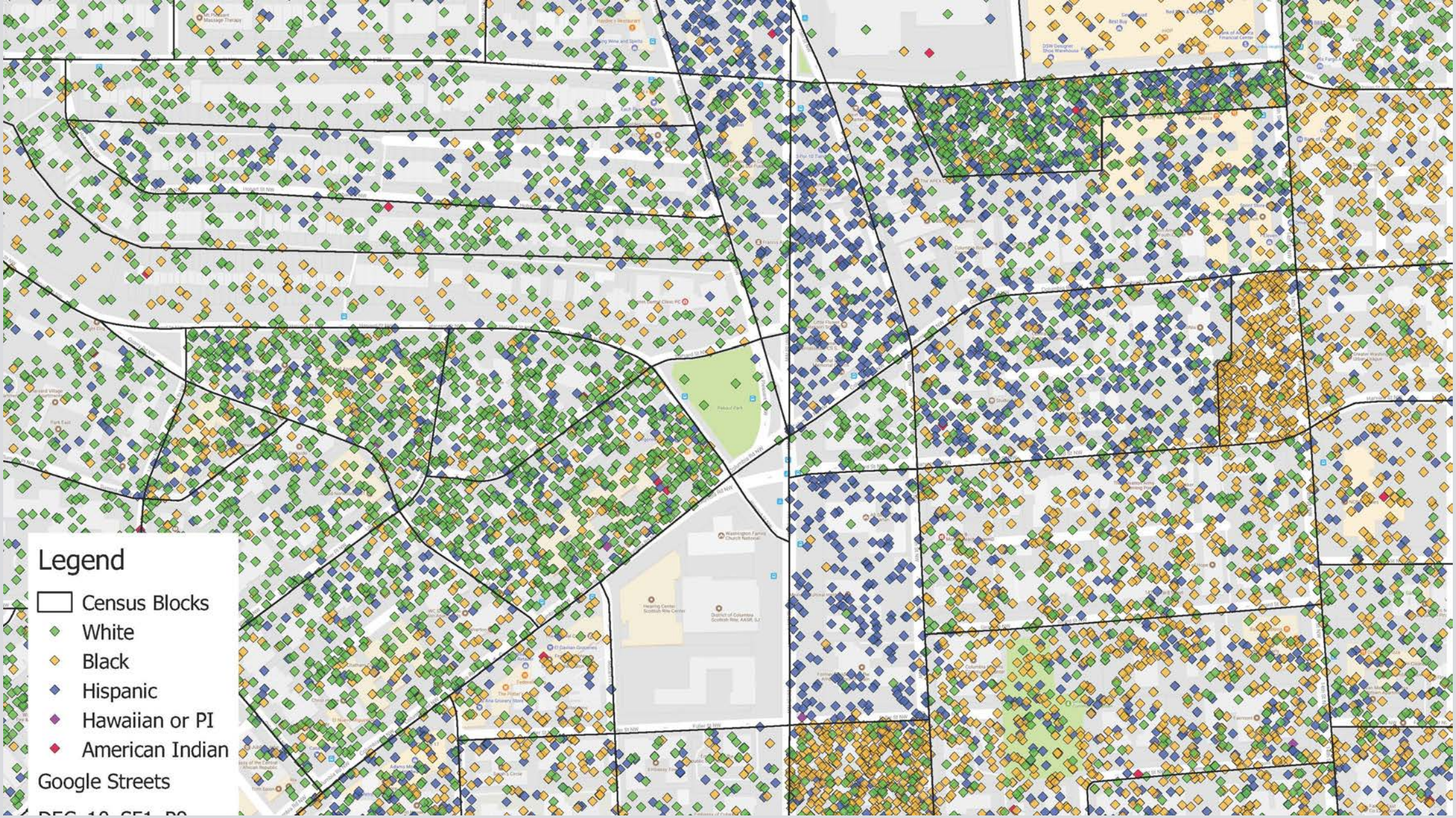


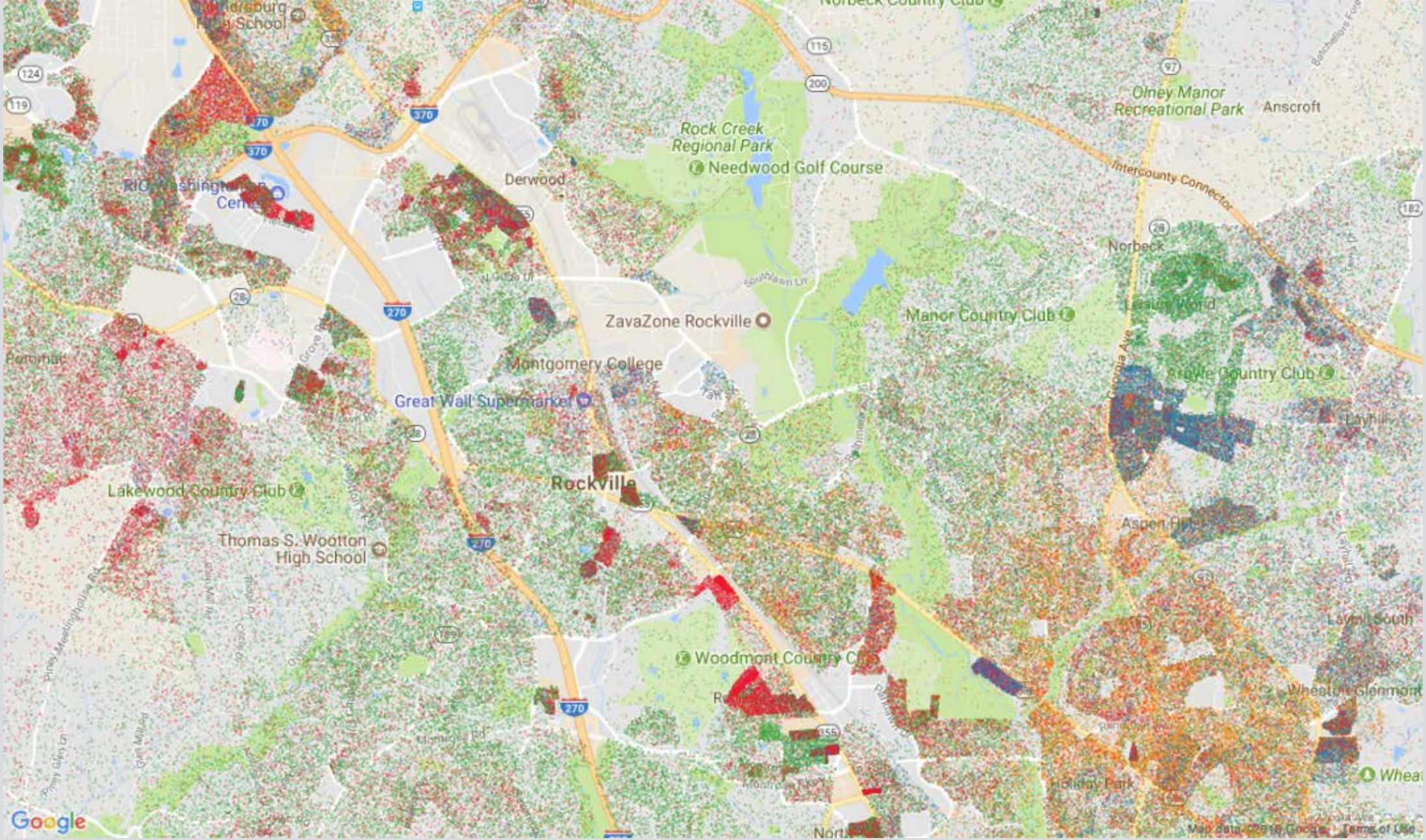
- 2010 Data
- Limited to Tract Level

UVA Dot Map

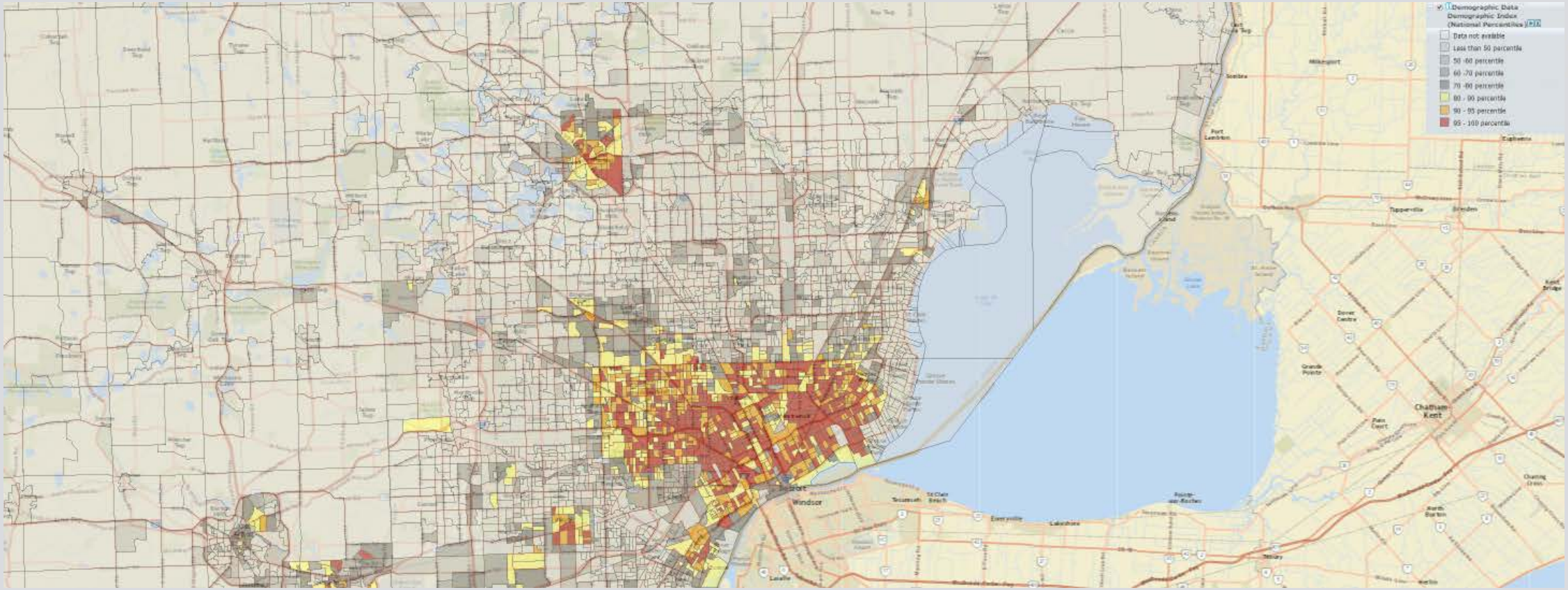


- 2010 Data
- 1 dot for each person
- Source code available on GitHub


Legend
Census Blocks
White
Black
Hispanic
Hawaiian or PI
American Indian
Google Streets


Olney Manor Recreational Park
Anscroft
Rock Creek Regional Park
Needwood Golf Course
Derwood
Intercounty Connector
Norbeck
Manor Country Club
ZavaZone Rockville
Montgomery College
Great Wall Supermarket
Rockville
Lakewood Country Club
Thomas S. Wootton High School
Woodmont Country Club
Google

EJ Screen



- ejscreen.epa.gov/mapper/

Sampling

- Define parameters
- Determine sample size
  - Raosoft.com/samplesize.html
- Use Agency Criteria for CAP
  - 90% Confidence Level
  - 10% Margin of Error
  - 50% Response Distribution
- Randomly Select Projects

A2 | =RAND()

	A	B	C
1	Random	Project #	
2	0.362584352	2016-0012	
3	0.247201358	2016-0014	
4	0.99687073	2016-0019	
5	0.993605724	2016-0011	
6	0.579380551	2016-0020	
7	0.888911434	2016-0009	
8	0.277454055	2016-0025	
9	0.455651792	2016-0002	

Raosoft®

Sample size calculator

What margin of error can you accept? 5% is a common choice	10 %	The margin of error is the amount of error that you can tolerate. If 90% of respondents answer *yes*, while 10% answer *no*, you may be able to tolerate a larger amount of error than if the respondents are split 50-50 or 45-55. Lower margin of error requires a larger sample size.
What confidence level do you need? Typical choices are 90%, 95%, or 99%	90 %	The confidence level is the amount of uncertainty you can tolerate. Suppose that you have 20 yes-no questions in your survey. With a confidence level of 95%, you would expect that for one of the questions (1 in 20), the percentage of people who answer *yes* would be more than the margin of error away from the true answer. The true answer is the percentage you would get if you exhaustively interviewed everyone. Higher confidence level requires a larger sample size.
What is the population size? If you don't know, use 20000	1500	How many people are there to choose your random sample from? The sample size doesn't change much for populations larger than 20,000.
What is the response distribution? Leave this as 50%	50 %	For each question, what do you expect the results will be? If the sample is skewed highly one way or the other,the population probably is, too. If you don't know, use 50%, which gives the largest sample size. See below under **More information** if this is confusing.
Your recommended sample size is	65	This is the minimum recommended size of your survey. If you create a sample of this many people and get responses from everyone, you're more likely to get a correct answer than you would from a large sample where only a small percentage of the sample responds to your survey.

Data Analysis

Risk Ration and 4/5 Rule

Anytown, USA is looking to build a new highway connecting eastern Anytown to the rest of the city. In the planning and environmental stage, the Town has identified 2 alternatives that meet the purpose and need of their project. From the EIS the town has selected Alternative 1. A civic group has approached to say that the selection will harm minority residents particularly African Americans.

Which Alternative has a Disparate Impact

Total Population in Project Area:

Total	White	Hispanic	Black	Asian
6000	3000	1000	1500	500

Compared to all other subgroups

Population negatively impacted by Alternative 1:

Total	White	Hispanic	Black	Asian
1400	500	200	600	100
	500/3000 = 17%	200/1000 = 20%	600/1500 = 40%	100/500 = 20%
1400-600 = 800 | 6000-1500 = 4500 | 800/4500 = 17.7% of non-black pop negatively impacted				

40/18 = 2.2

Population negatively impacted by Alternative 2:

Total	White	Hispanic	Black	Asian
1220	600	230	280	110
	600/3000 = 20%	230/1000 = 23%	280/1500 = 19%	110/500 = 22%
1220-280 = 940 | 6000-1500 = 4500 | 990/5000 = 20.8% of non-black pop negatively impacted				

19/21 = 1.1

Describing Your Results

Risk Ratio

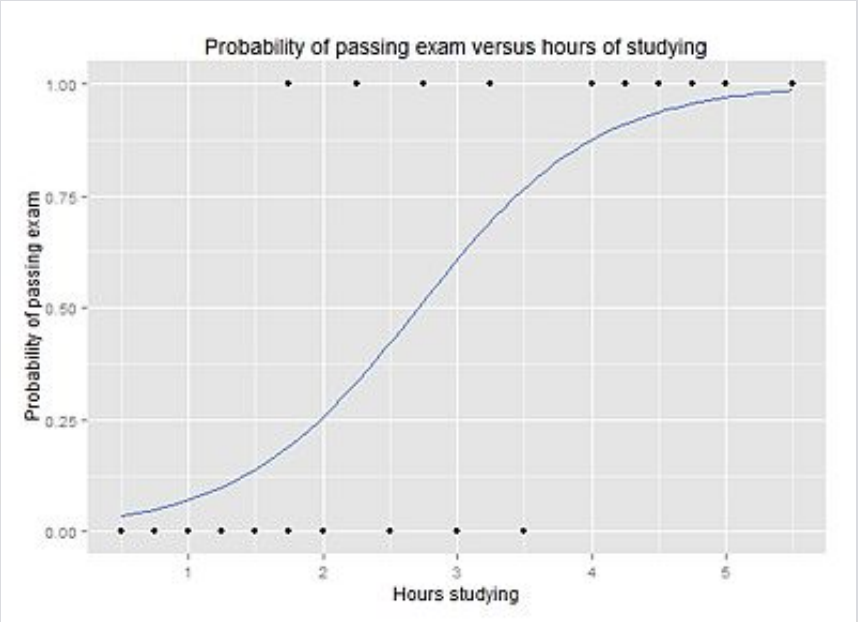
- 40/18 = 2.2
- African Americans were 2.2 times more likely to be negatively impacted by the first alternative than all other groups.

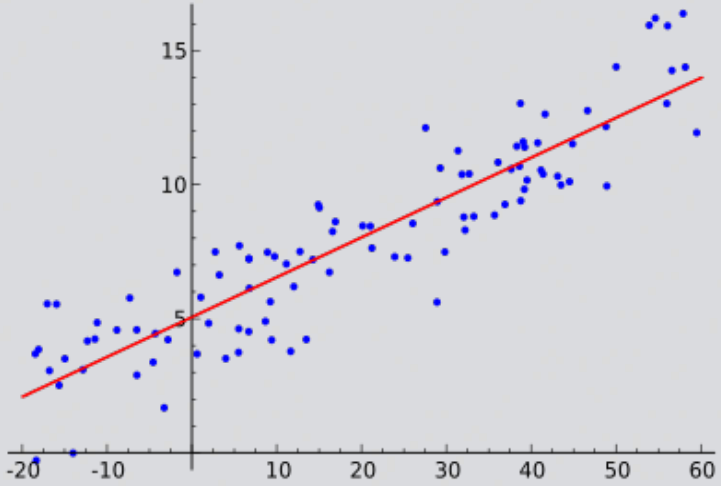
Four Fifths Rule

- 18/40 = 45%
- All other racial and ethnic groups were only 45% as likely to be negatively impacted by alternative 1 as the most impacted group, Blacks.

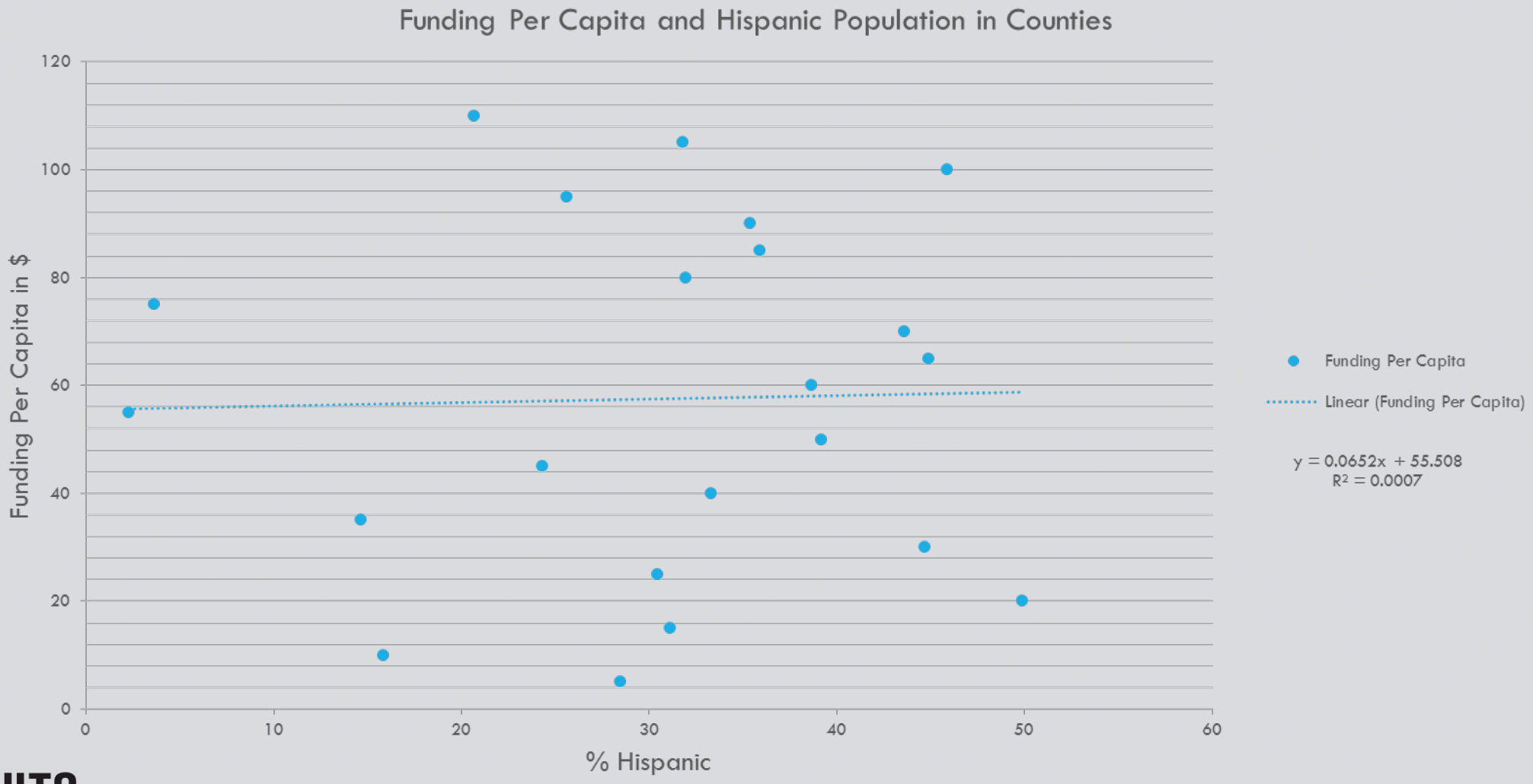
Regression Analysis

- Tests for Statistical Significance
- Will typically use logistic or linear regression
- Statistical Significance ≠ Practical Significance

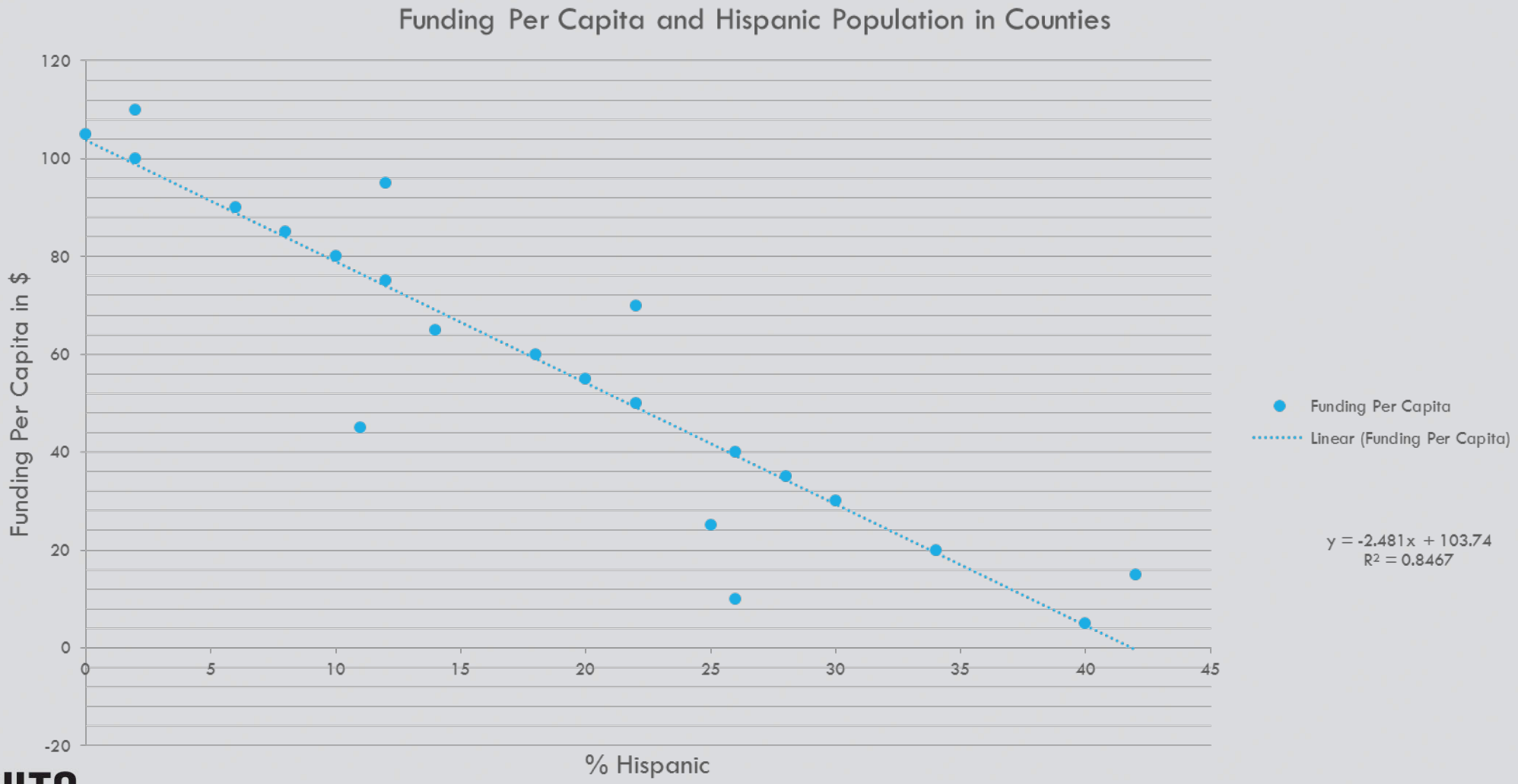


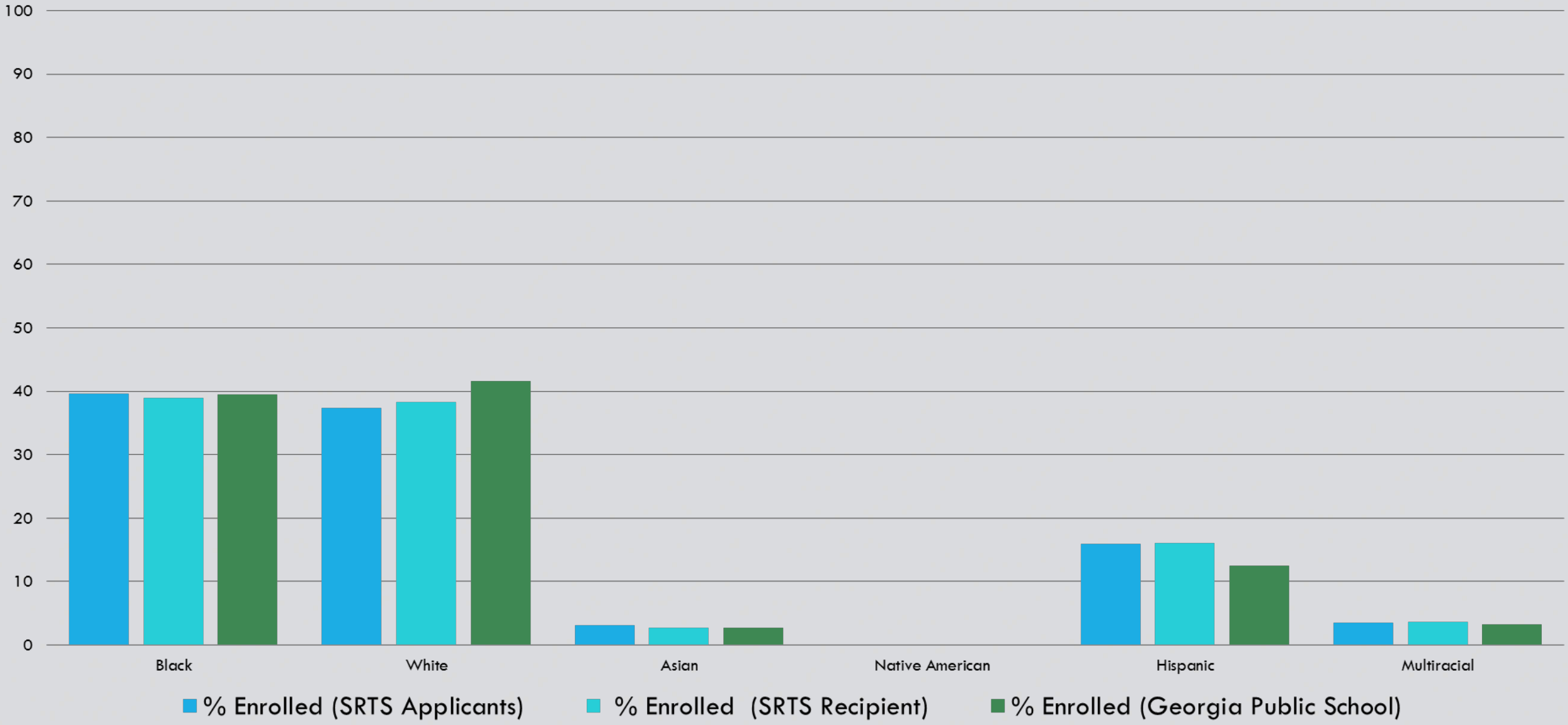


Scatter Plots – Disparate Impact Unlikely



Scatter Plots – Disparate Impact



Georgia Safe Routes to School – Powell v. GDOT

Demographic Comparison of SRTS Recipients