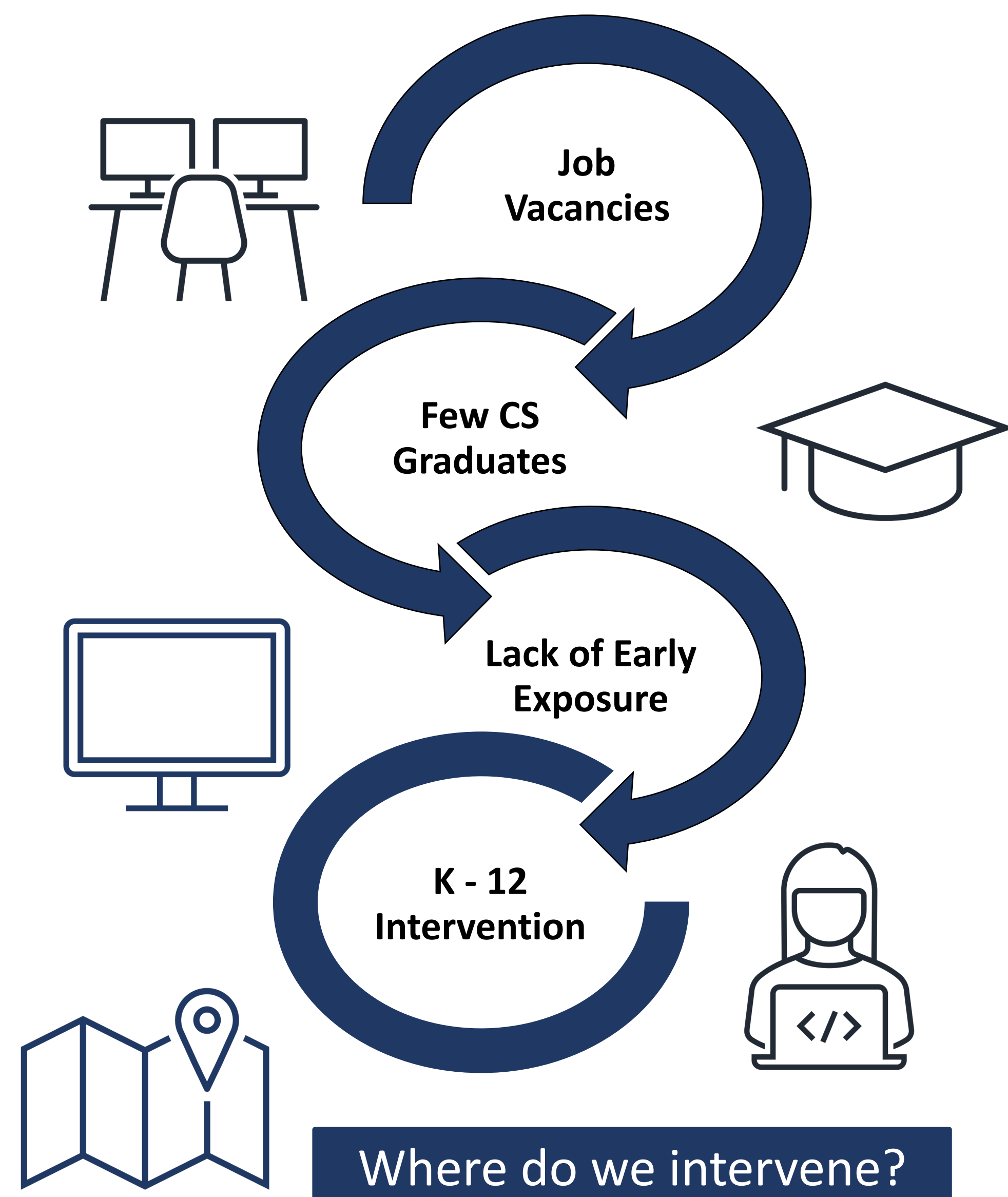


How to Allocate and Assess Equity of CS Education Resources

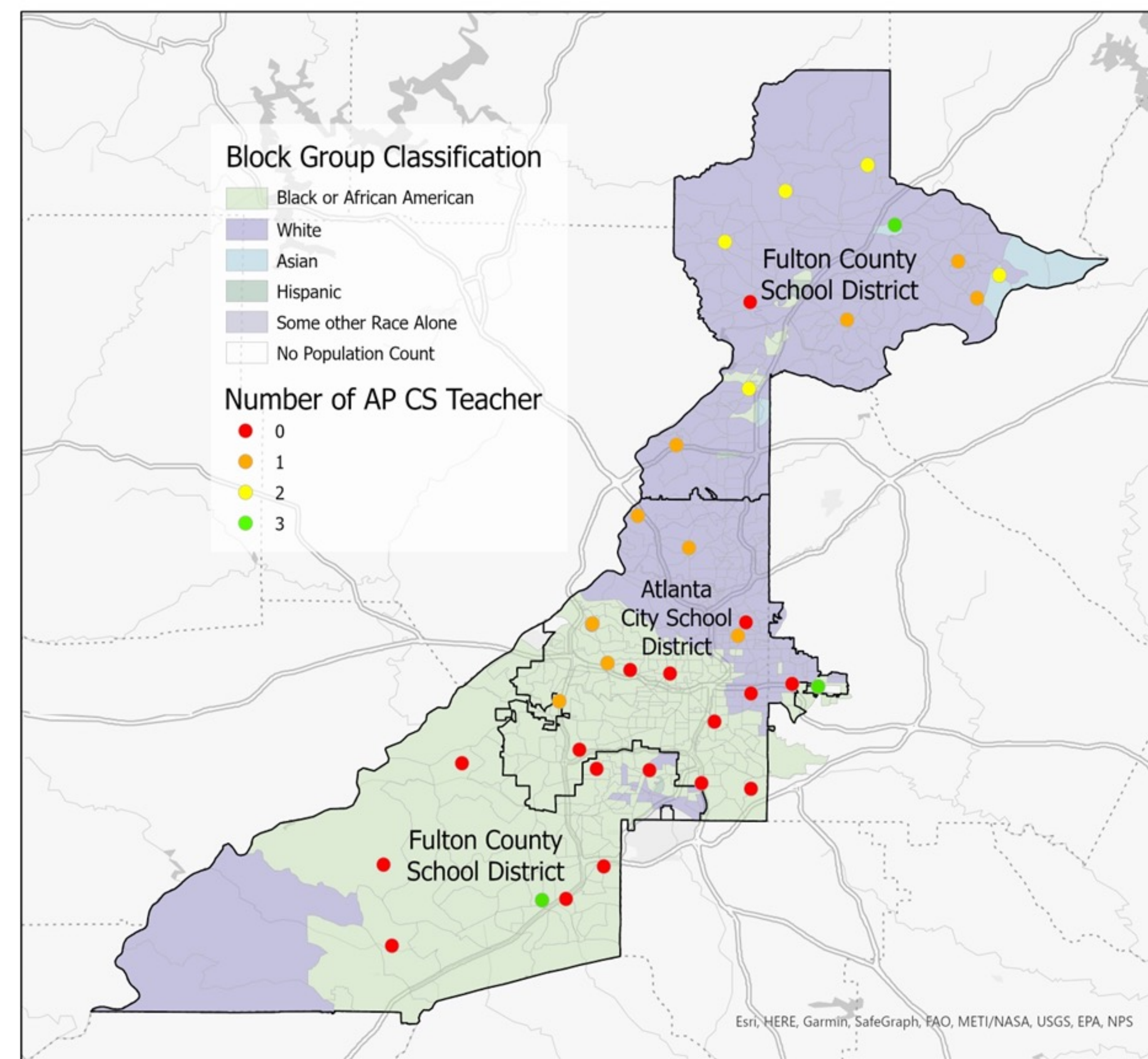
Aaja Christie, Emma McDaniel, Chetan Tiwari, Armin R. Mikler, Anu G. Bourgeois



Background

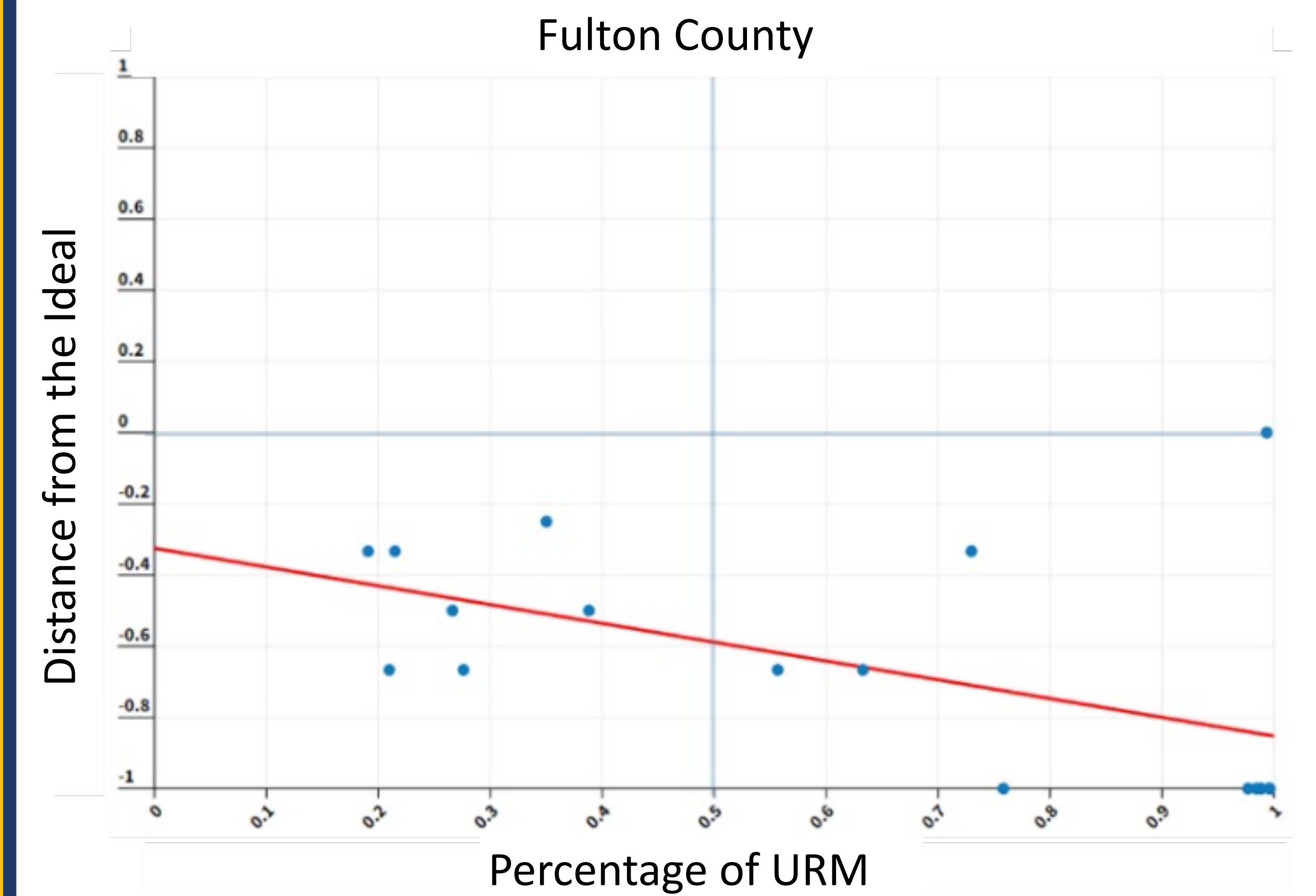


Fulton County Map



2019 Data from Georgia Department of Education

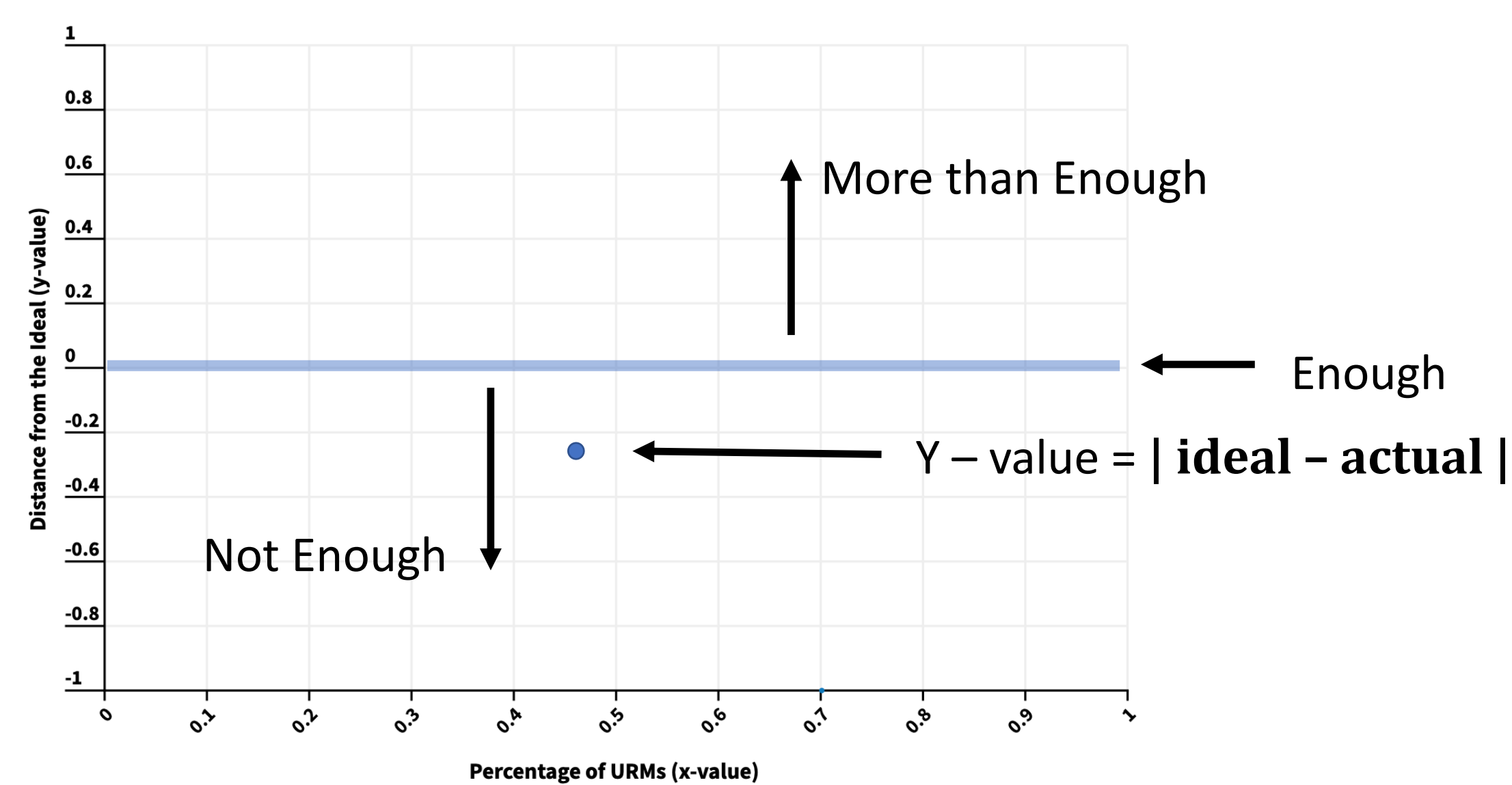
Fulton County Quadrant Chart



Big Picture

The overarching goal is to increase and diversify the computing workforce.

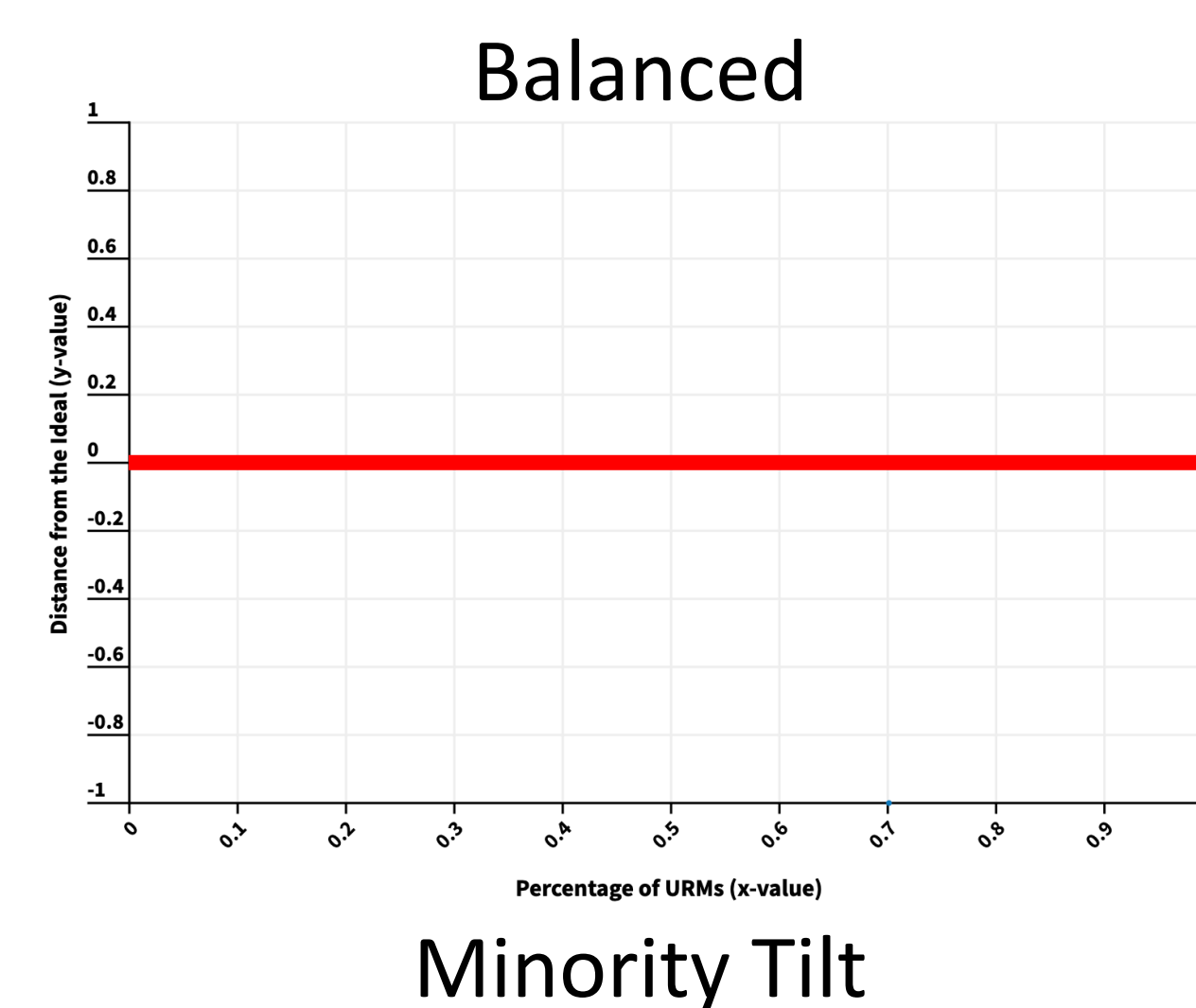
Deficit



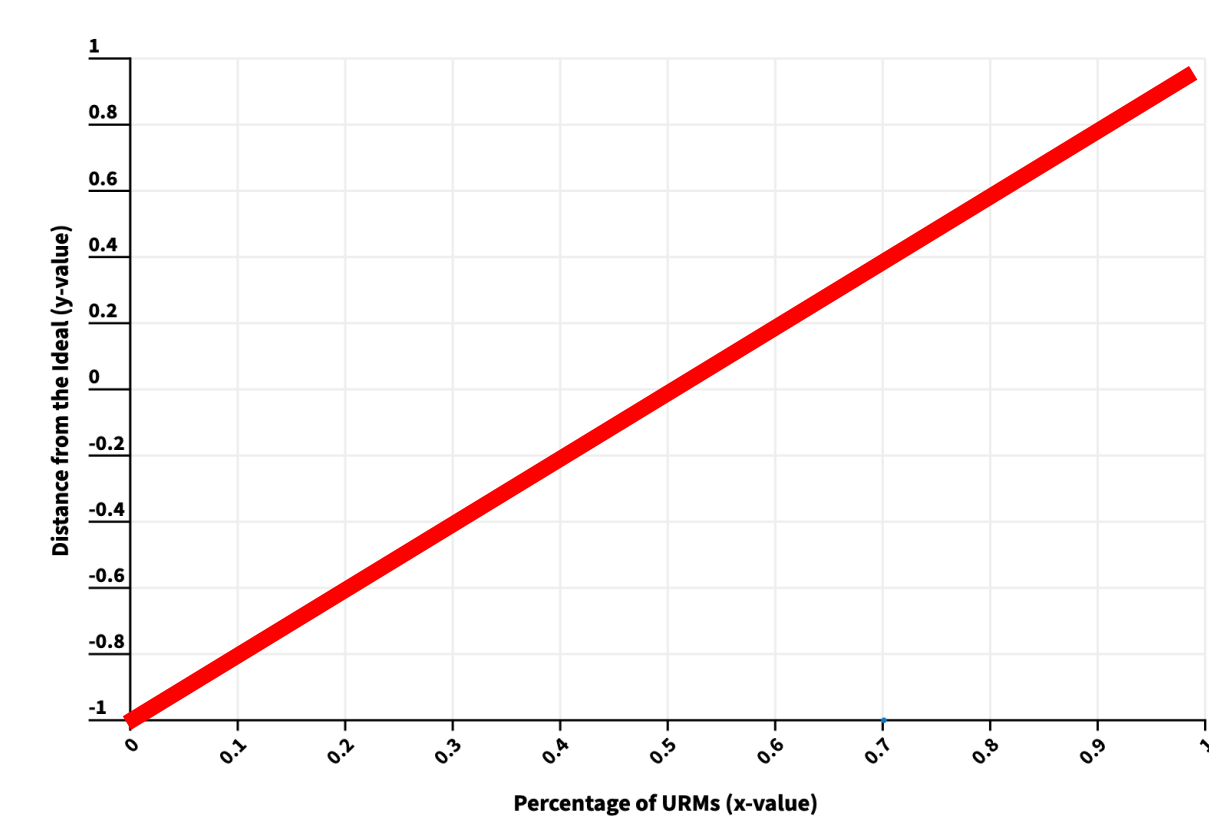
Deficit Score = -0.66

$$\frac{\sum_{i=1}^n y_i}{n}$$

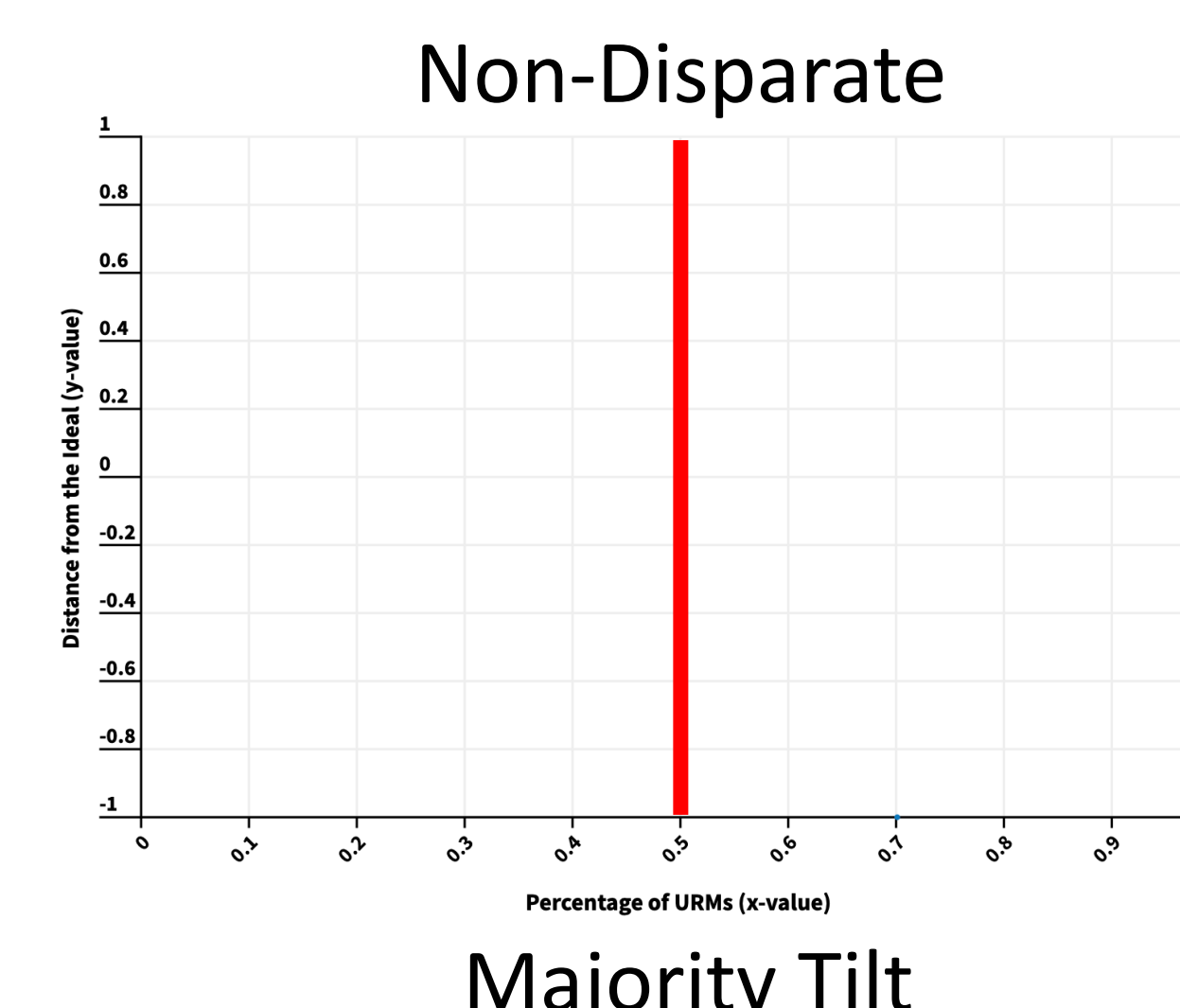
Disparity



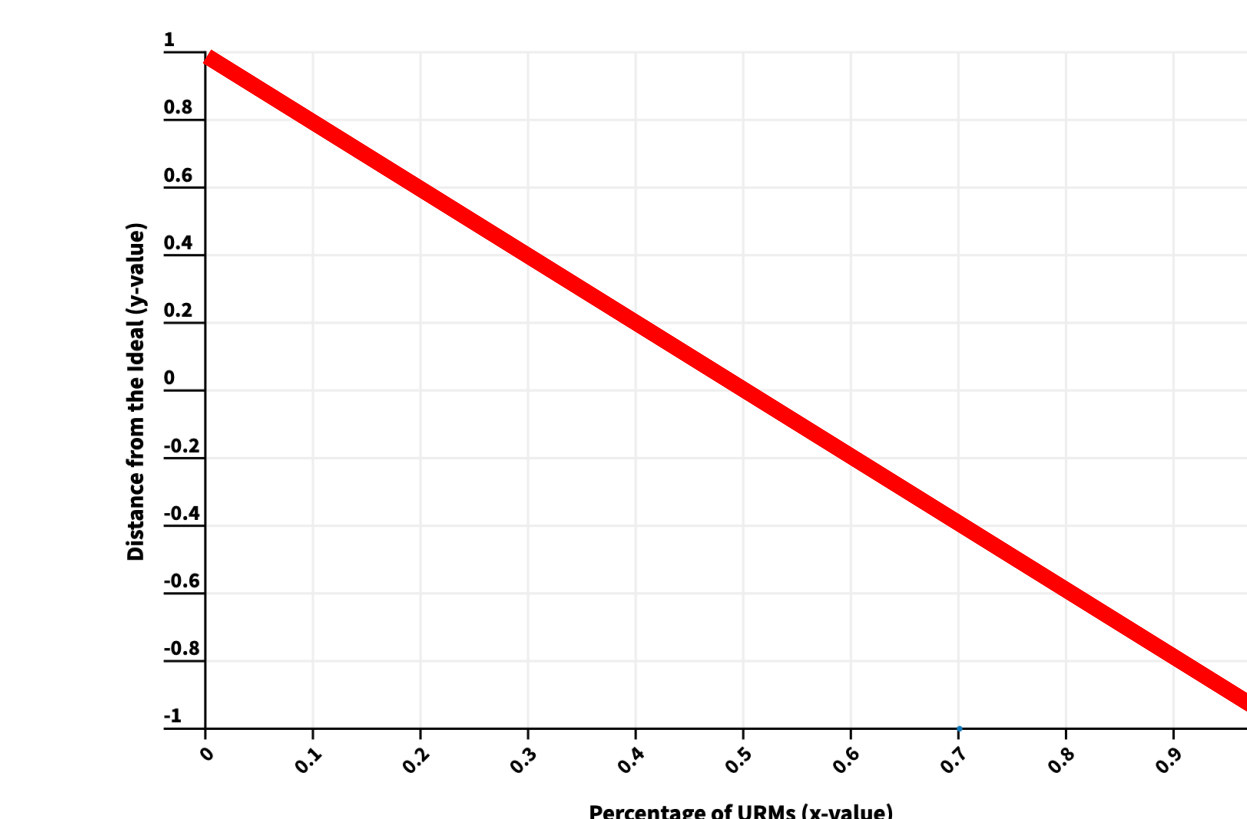
Minority Tilt



$$\frac{\sum_{i=1}^n (x_i - \underline{X})(y_i - \underline{Y})}{\sum_{i=1}^n (x_i - \underline{X})^2}$$



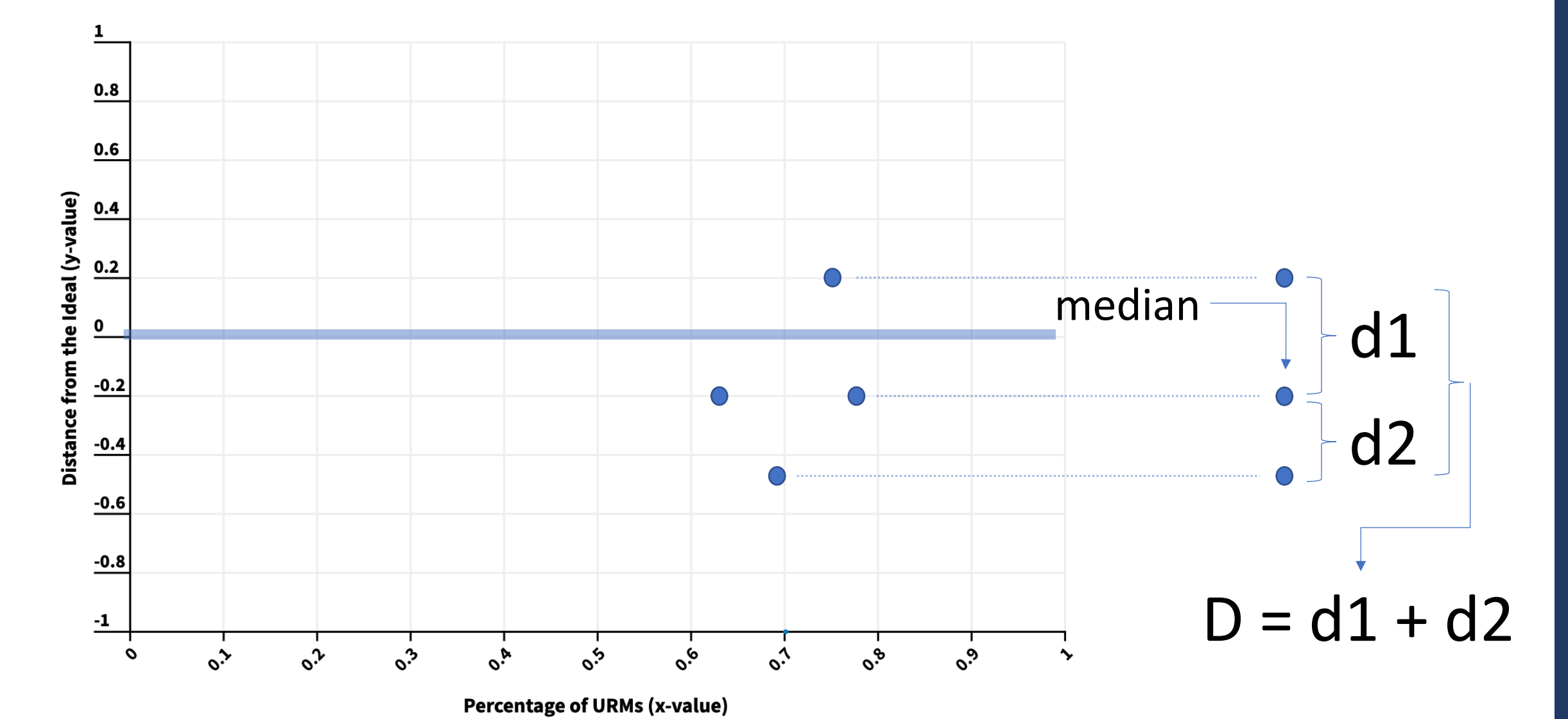
Majority Tilt



$$\underline{X} = \frac{1}{n} \sum_{i=1}^n x_i \text{ and } \underline{Y} = \frac{1}{n} \sum_{i=1}^n y_i$$

Disparity Score = -0.53

Allocation



$$\frac{\sum_{i=1}^n |\text{median of } y\text{'s} - y_i|}{n} = \frac{\text{Total distance between unique } y\text{-values}}{\text{Total number of schools being considered}} = \frac{D}{n}$$

Allocation Score = 0.26

Acknowledgement

Funding from "Strategic Interventions for Broadening Participation in Computing at Urban Institutions", Google