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INSIGHTS

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Harnessing Big Data for Social and Economic Mobility
Abby Hiller & Matthew Staiger
Opportunity Insights

How Can We Restore the American Dream?

We use **big data** to study how to increase upward mobility

Analyze a broad range of interventions, from **childhood to adulthood**

Starting point: sharp **local** differences in rates of upward mobility

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Overview of today's talk

- Discuss (1) **Opportunity Atlas** and (2) **Social Capital Atlas**

- How did we create new measures of neighborhood characteristics?

- What can we learn from the data?

- How might you use the publicly available tools?

OPPORTUNITY ATLAS

Opportunity Atlas
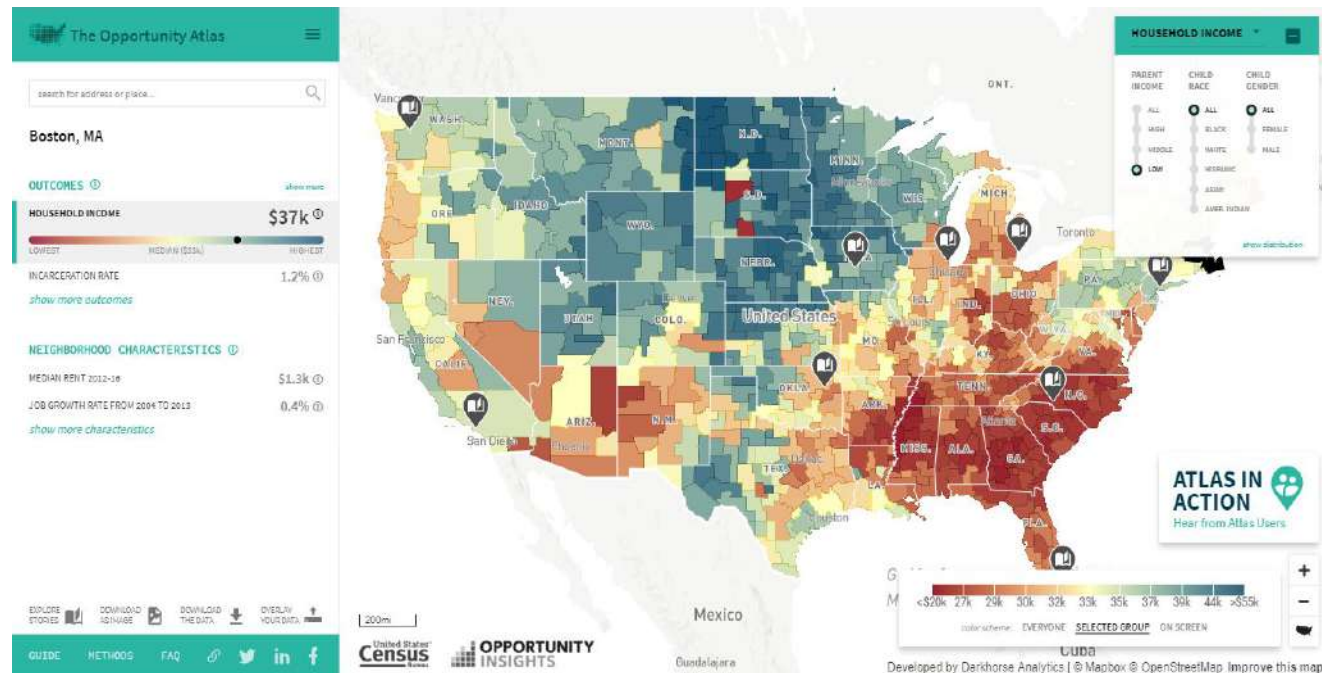
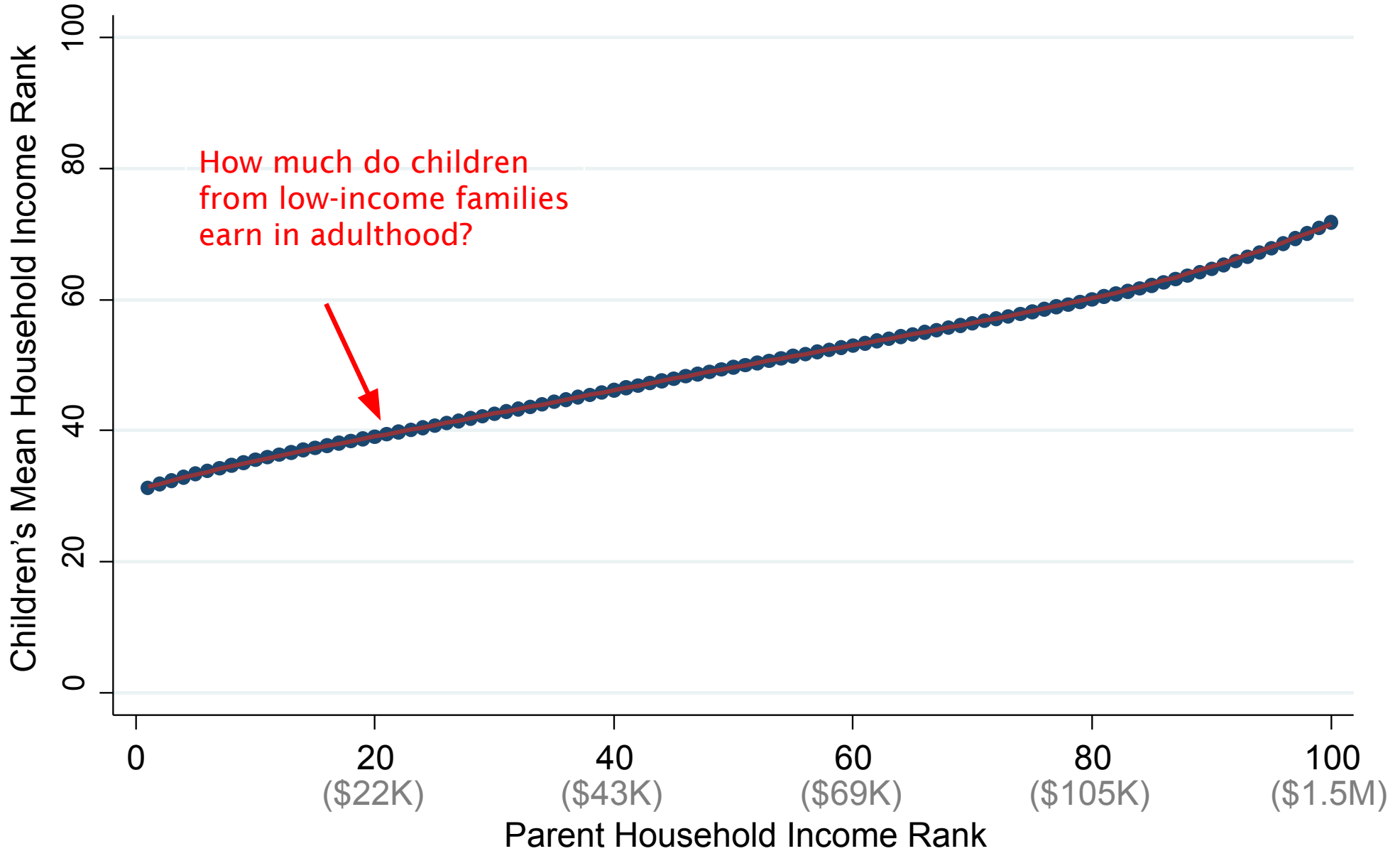- What is the Opportunity Atlas?

The Opportunity Atlas

Input: Anonymized census and tax records covering 20.5 million children born between 1978-83 and their parents

Output: Publicly-available estimates of parents' and children's incomes by neighborhood
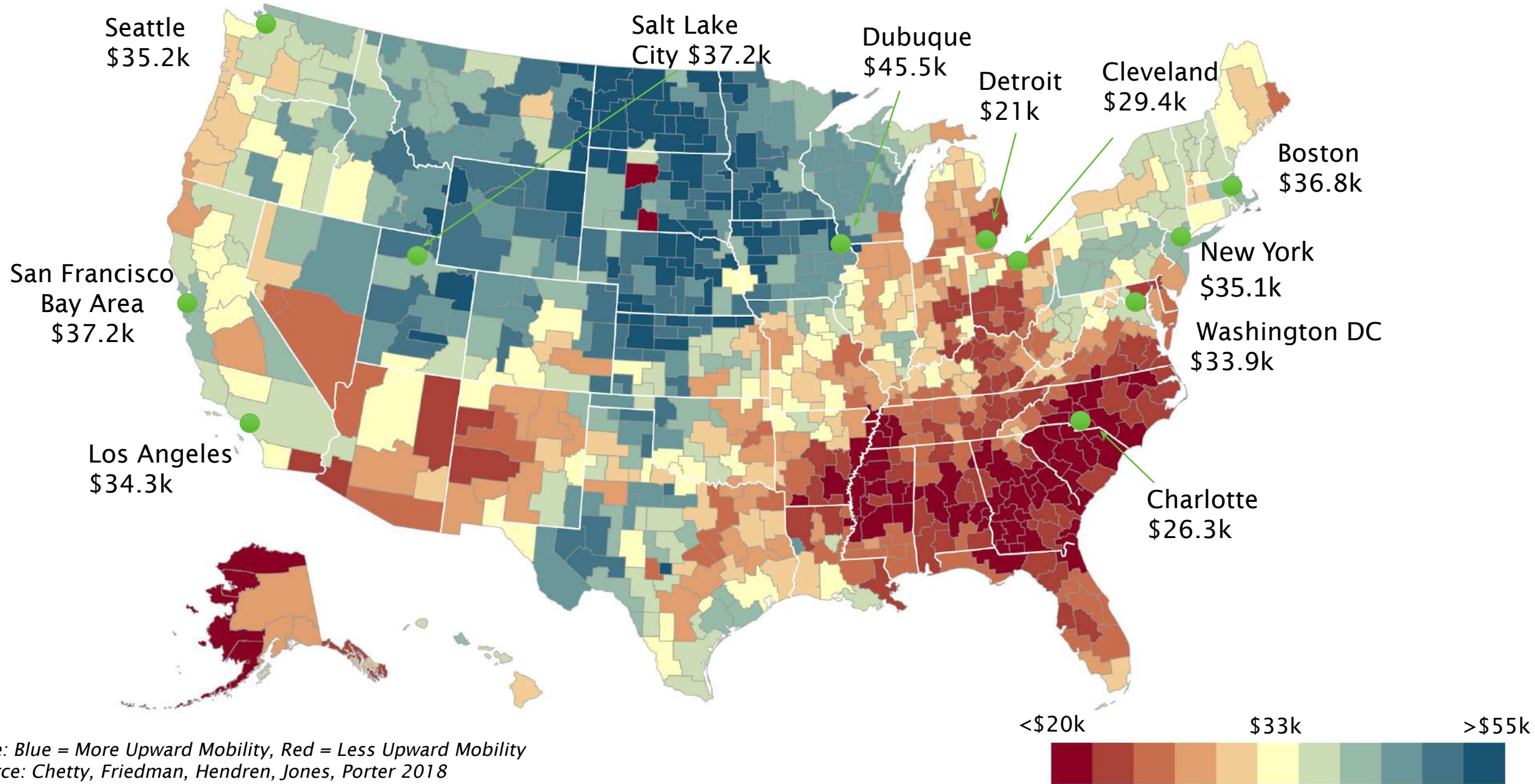
Defining the Measure of Upward Mobility

How much do children from low-income families earn in adulthood?

Children's Mean Household Income Rank

Parent Household Income Rank

($22K) ($43K) ($69K) ($105K) ($1.5M)

The Geography of Upward Mobility in the United States

Average Income at Age 35 for Children whose Parents Earned $27,000 (25th percentile)

Seattle $35.2k

Salt Lake City $37.2k

Dubuque $45.5k

Detroit $21k

Cleveland $29.4k

Boston $36.8k

San Francisco Bay Area $37.2k

New York $35.1k

Washington DC $33.9k

Los Angeles $34.3k

Charlotte $26.3k

<$20k $33k   >$55k

Note: Blue = More Upward Mobility, Red = Less Upward Mobility
Source: Chetty, Friedman, Hendren, Jones, Porter 2018

The Geography of Upward Mobility in New York
Average Income at Age 35 for Children whose Parents Earned $27,000 (25th percentile)

>$60k

$34k

<$10k
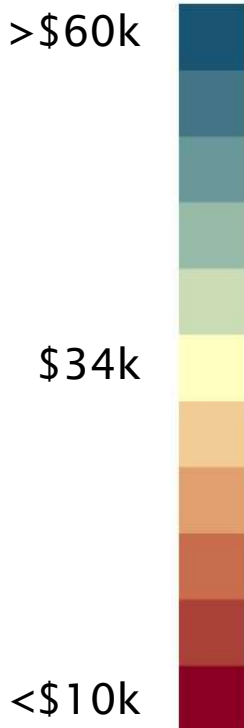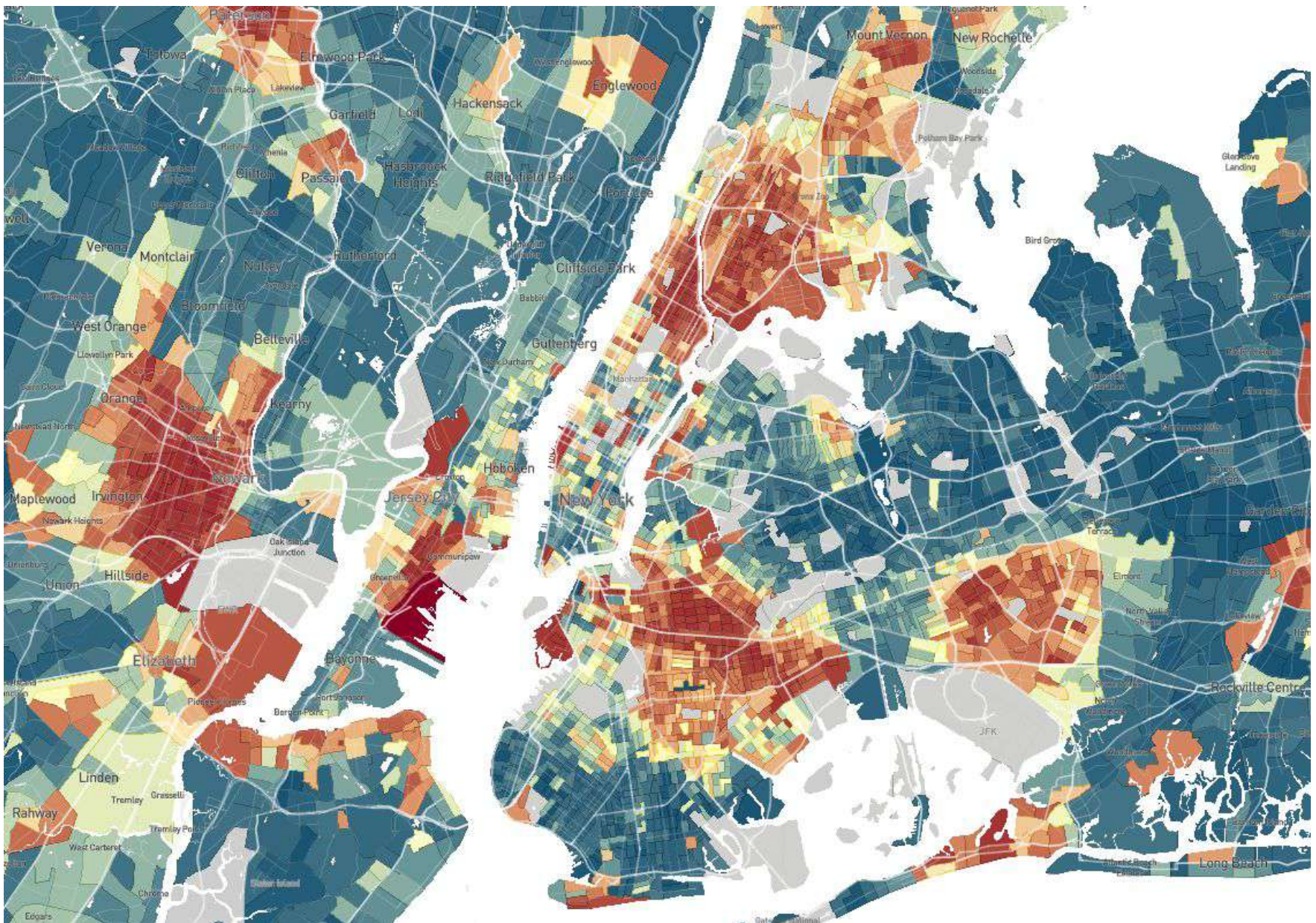
Tutorial 1

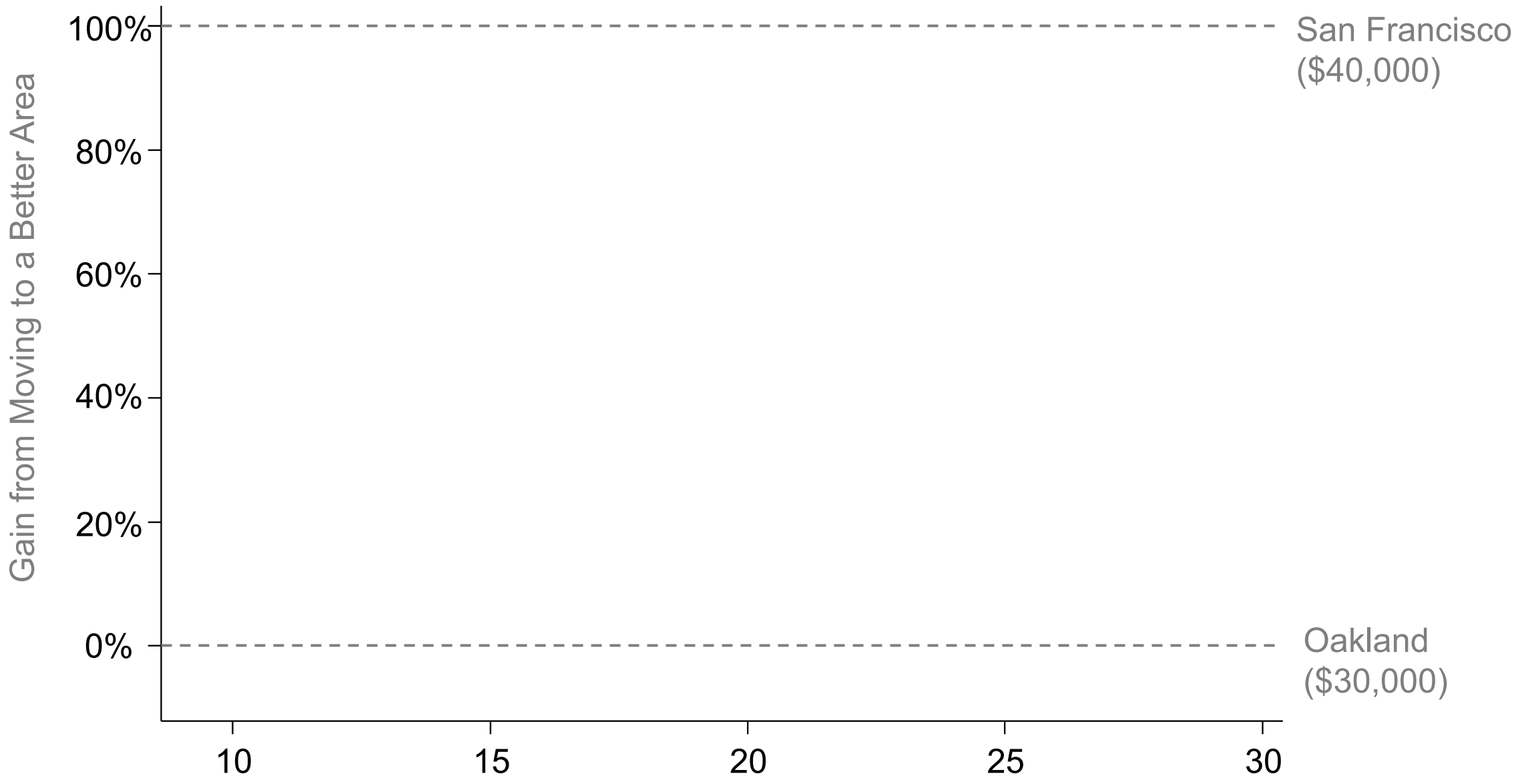Open the Opportunity Atlas and select a neighborhood
1. What place did you choose and why?
2. How do children from low-income families tend to fare in adulthood?
3. What about for different outcomes like incarceration and teen pregnancy?
4. What about for subgroups defined by race/ethnic, gender, and parental income?

Opportunity Atlas

- What is the Opportunity Atlas?

- What can we learn from the Opportunity Atlas?

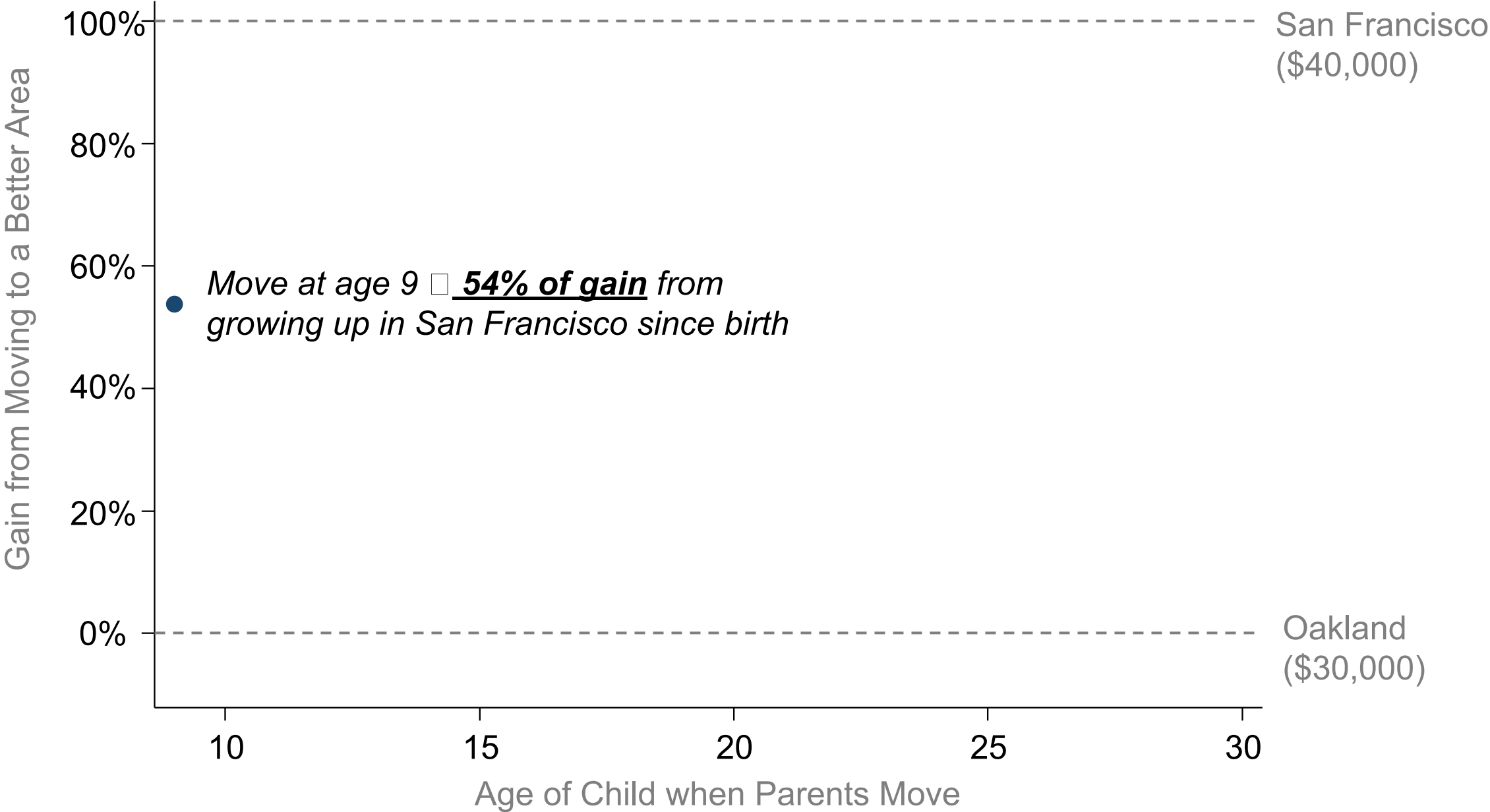# Income Gain from Moving to a Better Neighborhood

By Child's Age at Move

San Francisco ($40,000)

Oakland ($30,000)

100%

80%

60%

40%

20%

0%

Gain from Moving to a Better Area

10   15   20   25   30

Age of Child when Parents Move

Chetty Hendren (QJE 2018)

Income Gain from Moving to a Better Neighborhood

By Child's Age at Move

San Francisco
($40,000)

Gain from Moving to a Better Area

*Move at age 9 ⬚ **54% of gain** from growing up in San Francisco since birth*

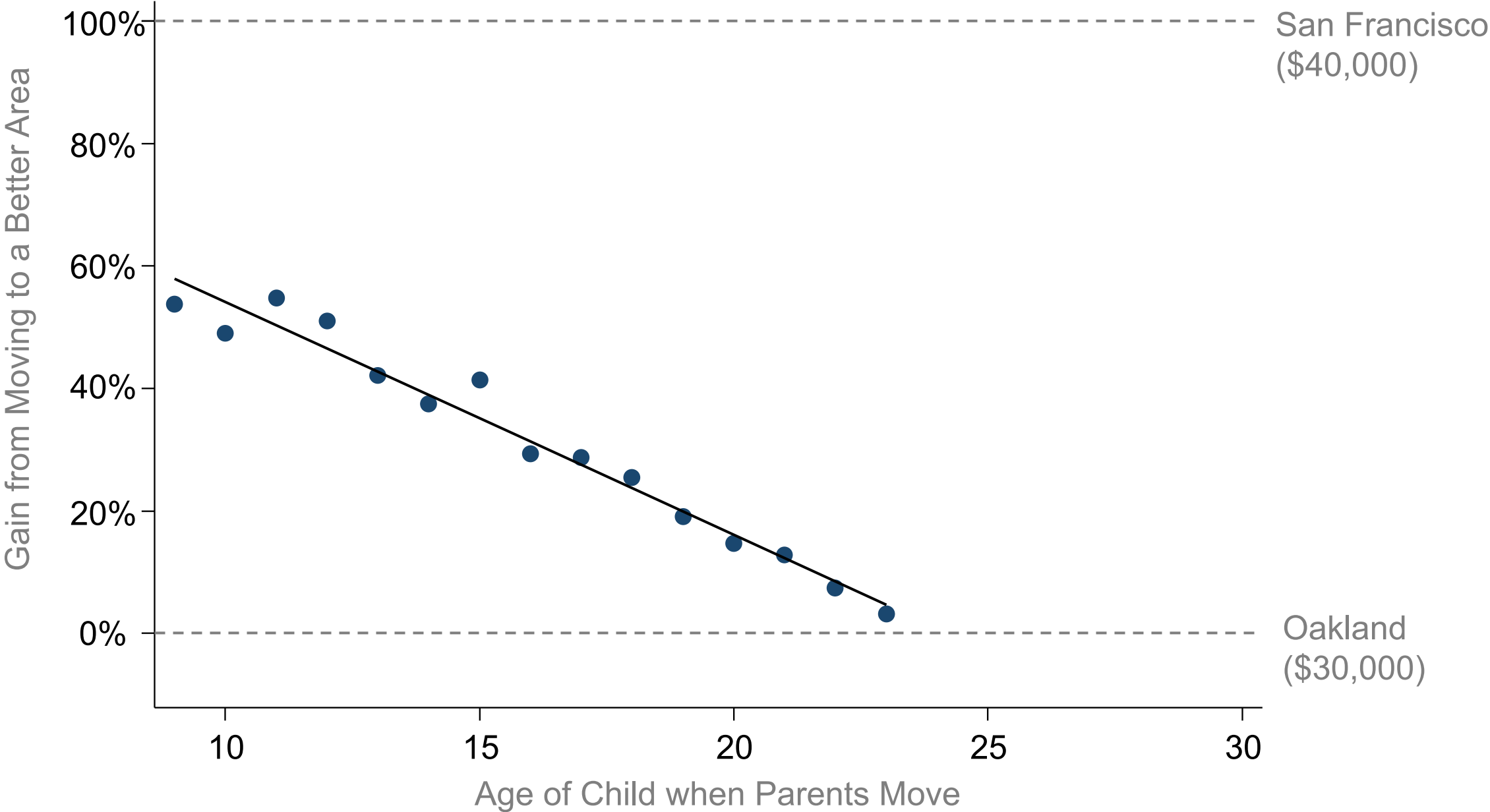Oakland
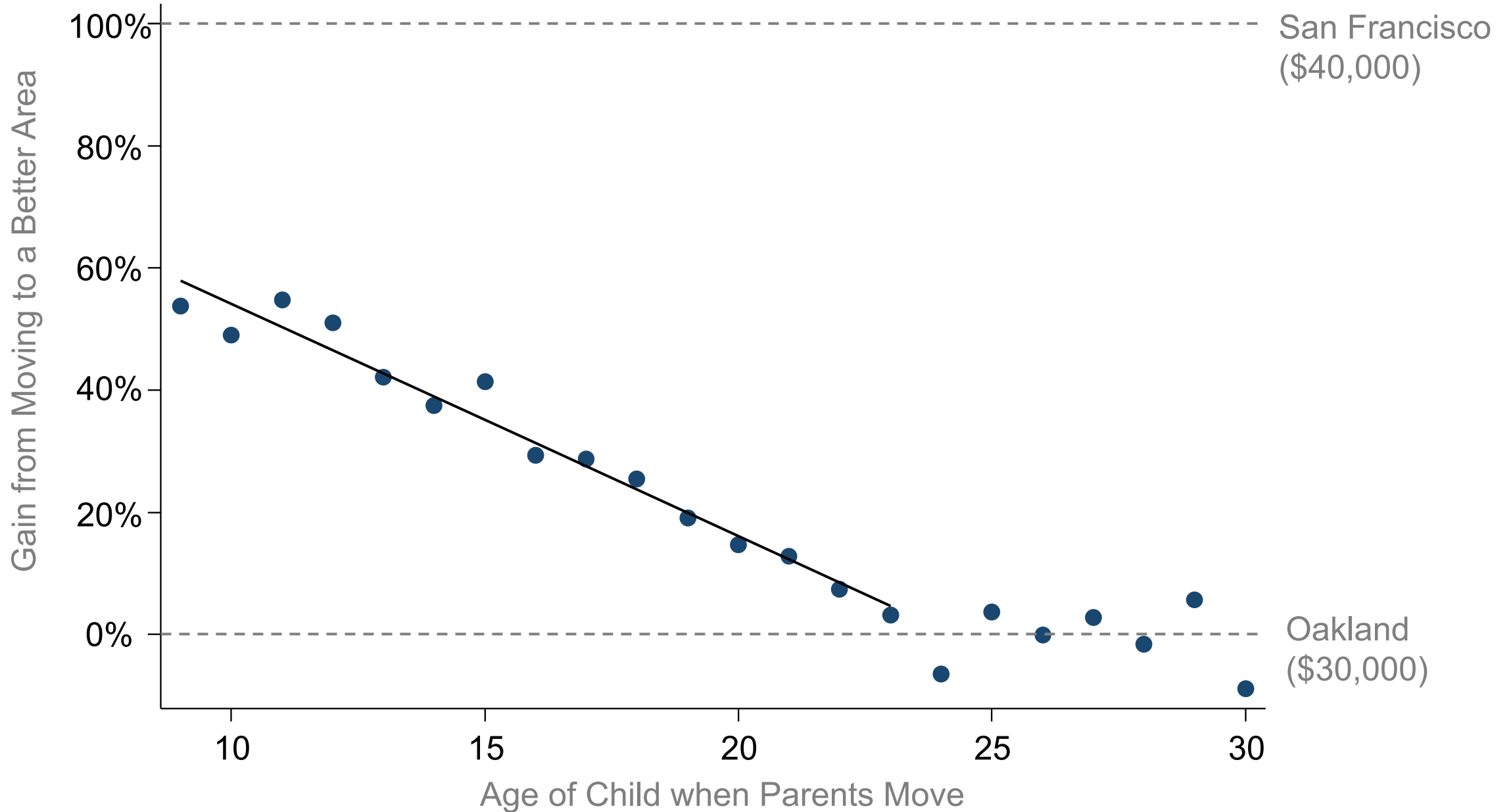($30,000)

Age of Child when Parents Move

Income Gain from Moving to a Better Neighborhood

By Child's Age at Move

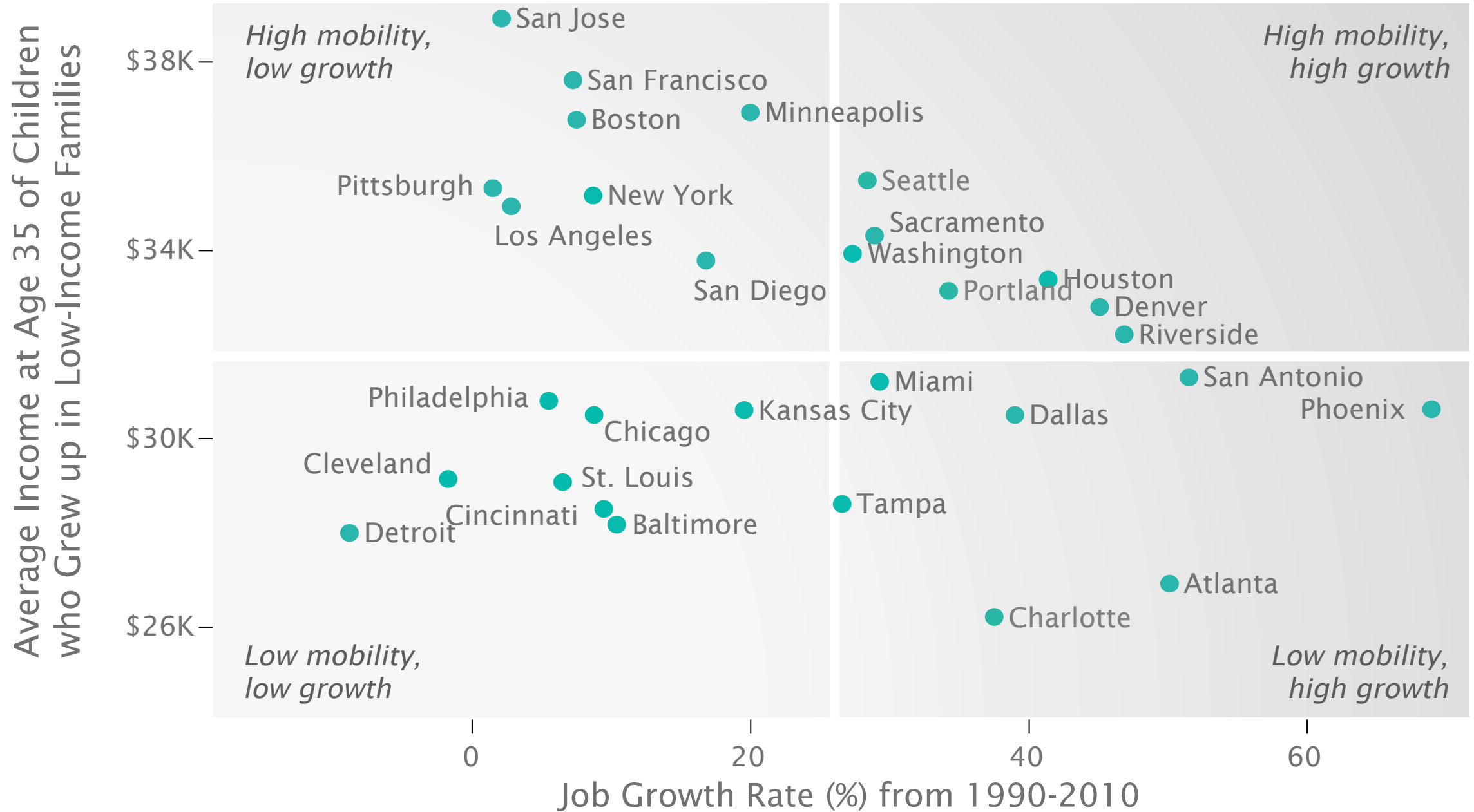# Income Gain from Moving to a Better Neighborhood
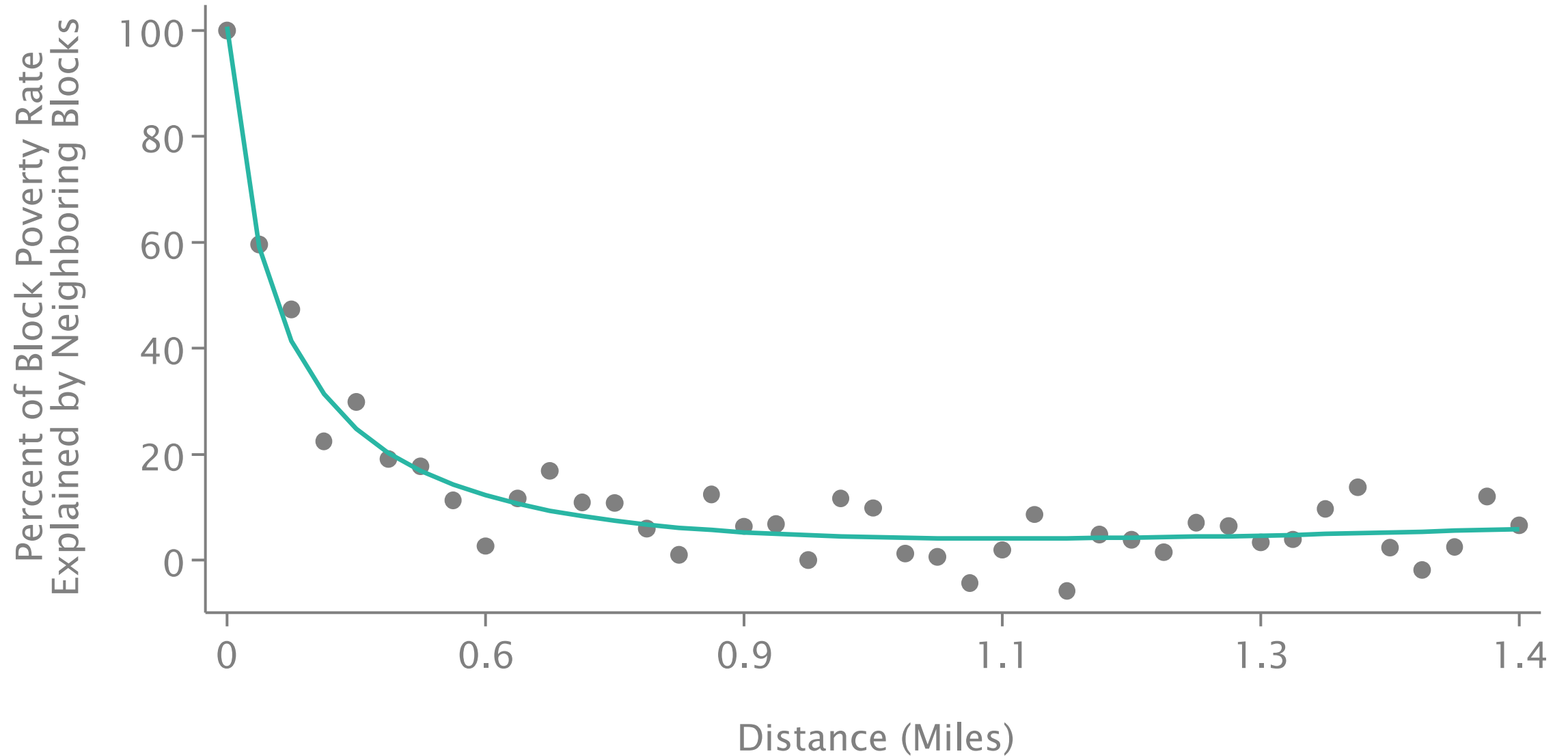
By Child's Age at Move

San Francisco ($40,000)

Oakland ($30,000)

Gain from Moving to a Better Area

Age of Child when Parents Move

Upward Mobility vs. Job Growth in the 30 Largest Metro Areas

Average Income at Age 35 of Children who Grew up in Low-Income Families

Job Growth Rate (%) from 1990-2010

High mobility, low growth

High mobility, high growth

Low mobility, low growth

Low mobility, high growth

San Jose

San Francisco

Boston

Minneapolis

Seattle

Pittsburgh

New York

Los Angeles

Sacramento

Washington

Portland

Houston

Denver

San Diego

Riverside

Miami

San Antonio

Philadelphia

Kansas City

Phoenix

Chicago

Dallas

Cleveland

St. Louis

Cincinnati

Tampa

Detroit

Baltimore

Atlanta

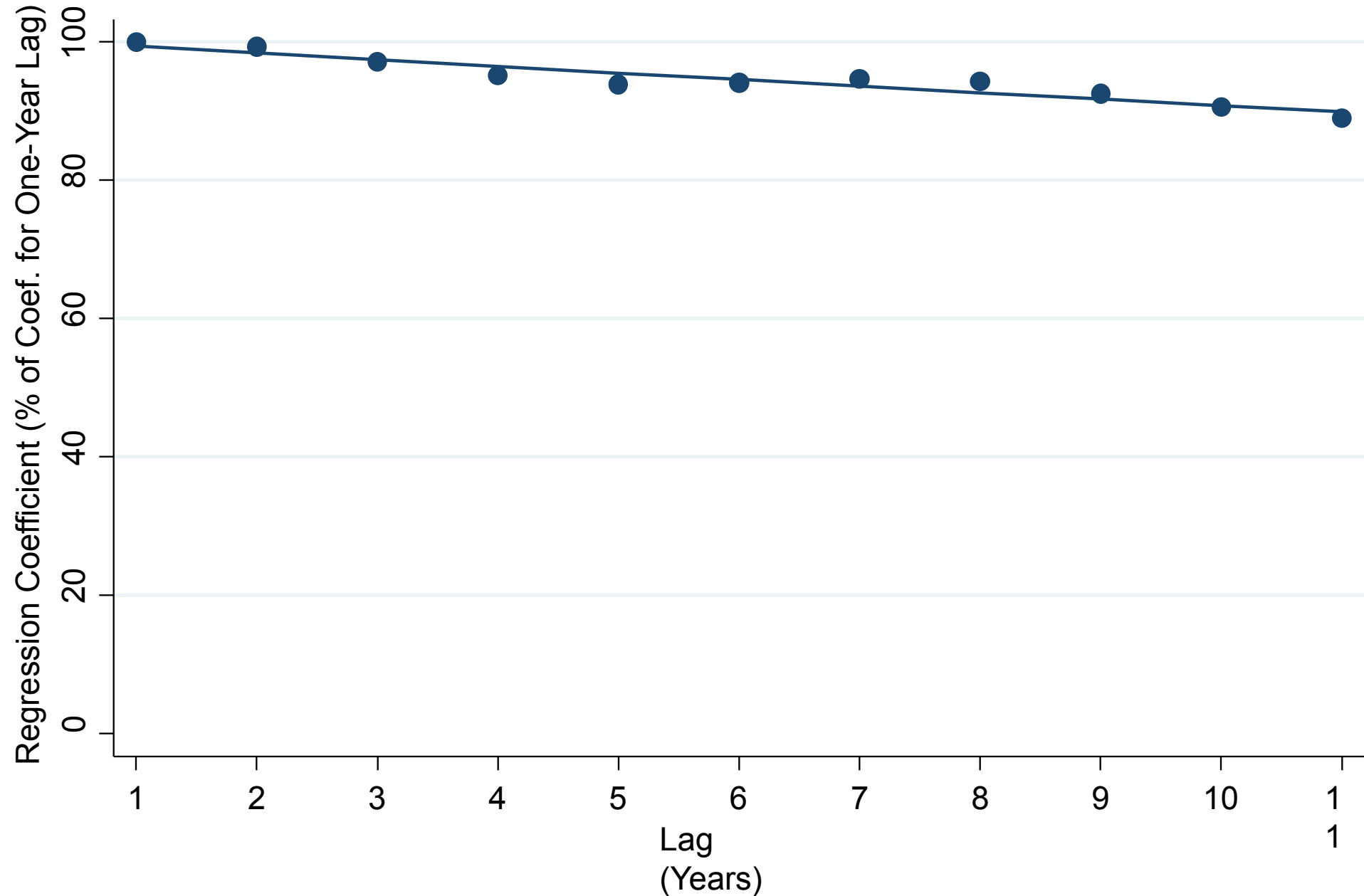Charlotte

$38K

$34K

$30K

$26K

0

20

40

60

What is a "Neighborhood"

Measuring the Scale at Which Neighborhood Conditions Matter

Are Historical Estimates Still Relevant Today? Autocovariance of Tract-Level Estimates
Mean Household Income at Age 26 for Children with Parents at 25th Percentile

Characteristics of High-Mobility Neighborhoods

Lower Poverty Rates

More stable family structure

Better school quality

Greater social capital

Tutorial 2

Return to your selected neighborhood in the Opportunity Atlas
1. How do outcomes vary across nearby neighborhoods?
2. Are these patterns consistent when looking at other outcomes like incarceration and teen pregnancy?
3. When looking across nearby neighborhoods, what are the characteristics of high-mobility neighborhoods? Lower poverty rates? More stable family structures?
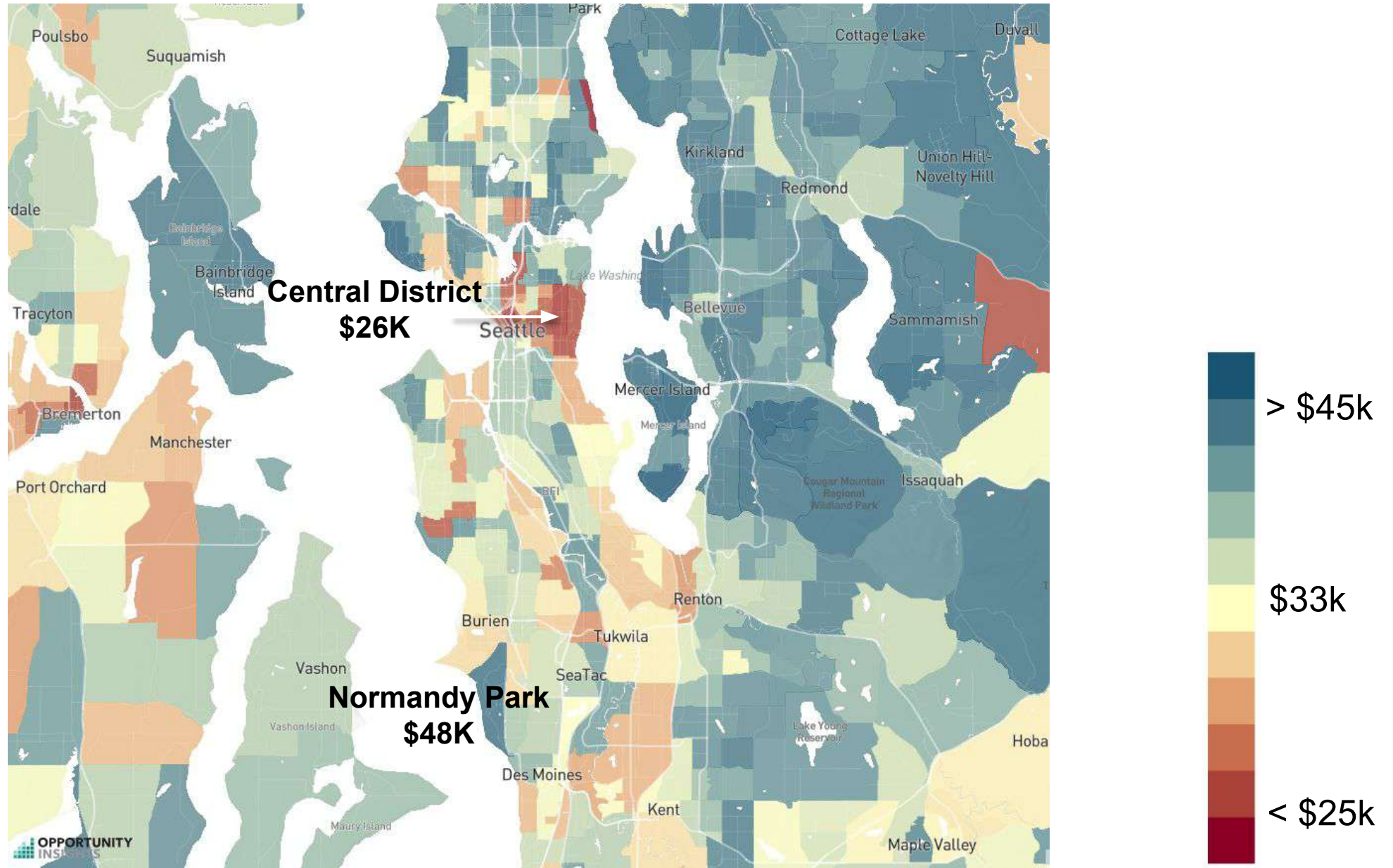
Opportunity Atlas

- What is the Opportunity Atlas?

- What can we learn from the Opportunity Atlas?

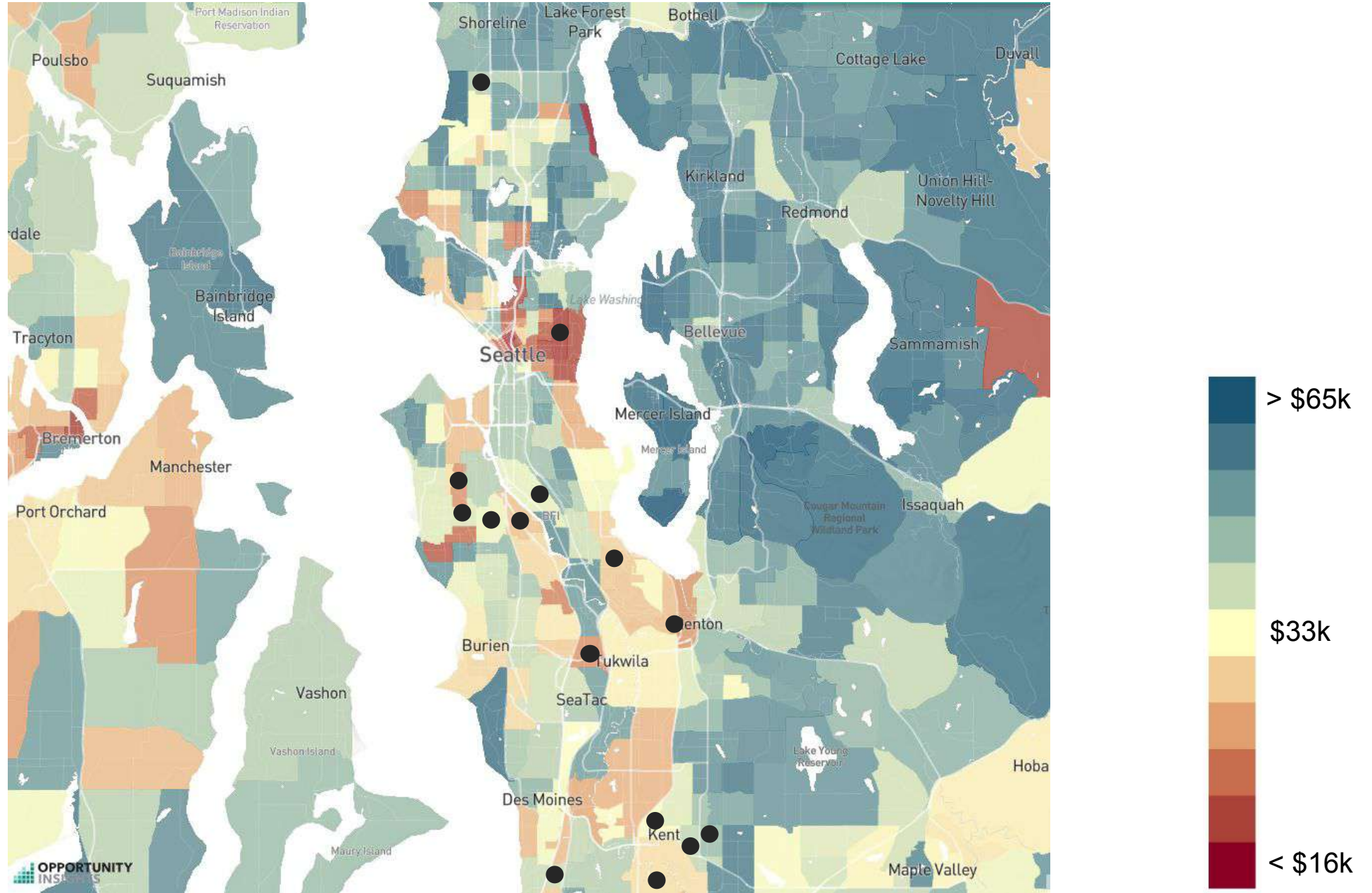- How might you use the Opportunity Atlas?

The Geography of Upward Mobility in Seattle
Average Income at Age 35 for Children with Parents Earning $25,000 (25th percentile)

Central District
$26K

Normandy Park
$48K

> $45k

$33k

< $25k

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Is Affordable Housing in Seattle Maximizing Opportunities for Upward Mobi

Most Common Current Locations of Families Receiving Housing Vouchers

> $65k

$33k

< $16k
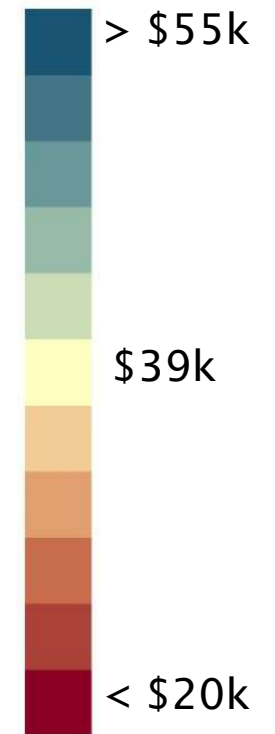
OPPORTUNITY INSIGHTS

Is Affordable Housing in Seattle Maximizing Opportunities for Upward Mobility?

Most Common Current Locations of Families Receiving Housing Vouchers in Seattle
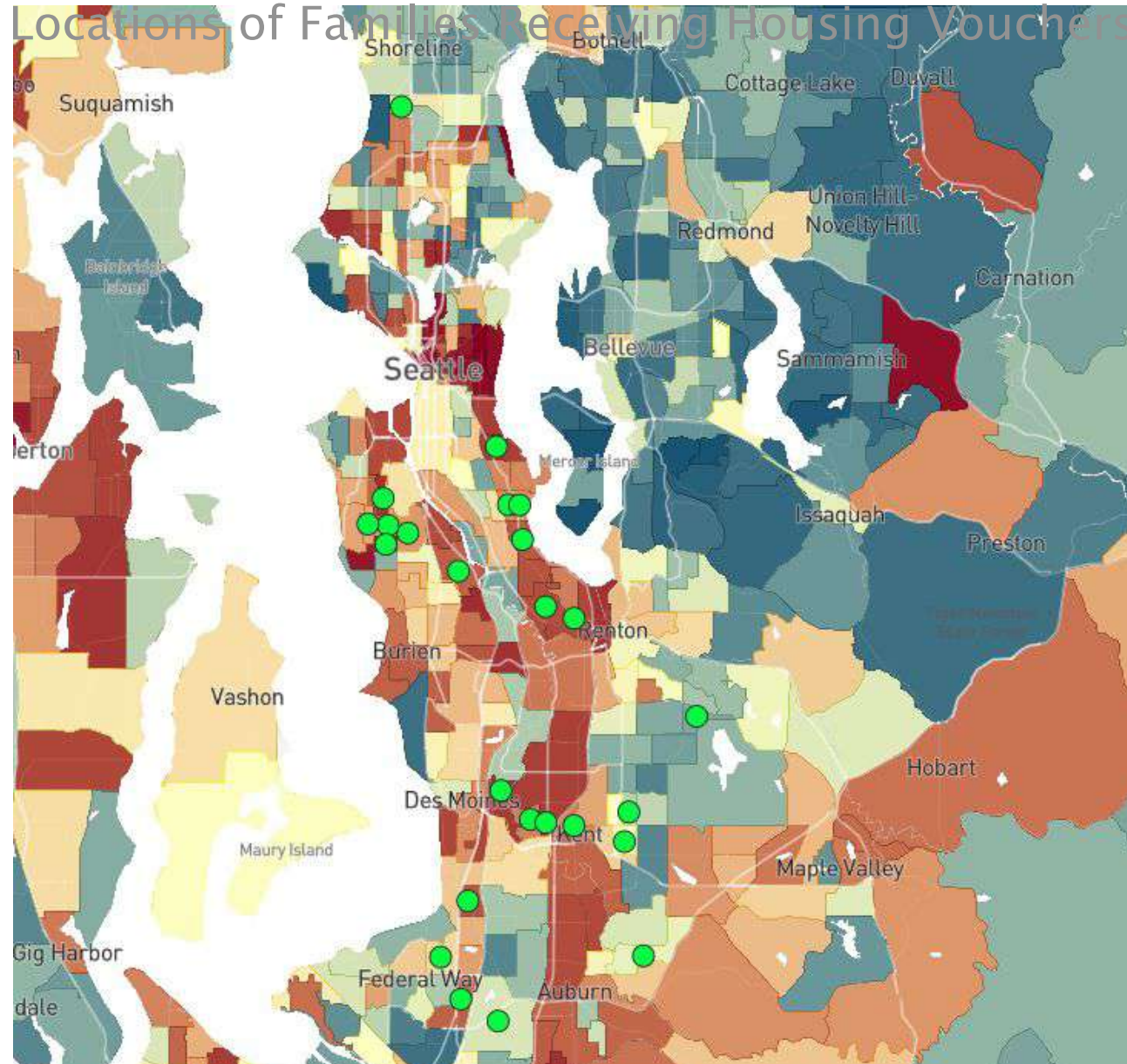
○ 25 most common tracts where voucher holders lived in 2015-17

Percentile Rank in Adulthood

> $55k

$39k

< $20k

Creating Moves to Opportunity

Randomized trial to help families with housing vouchers move to high-opportunity areas in Seattle by:

- Providing information to tenants

- Recruiting landlords

- Offering housing search assistance

Fraction of Families Who Leased Units in High Opportunity Areas

Y-axis: Percent of Households Who Have Moved to High Opportunity Areas

Control: 16.8%

CMTO Treatment: 62.1%
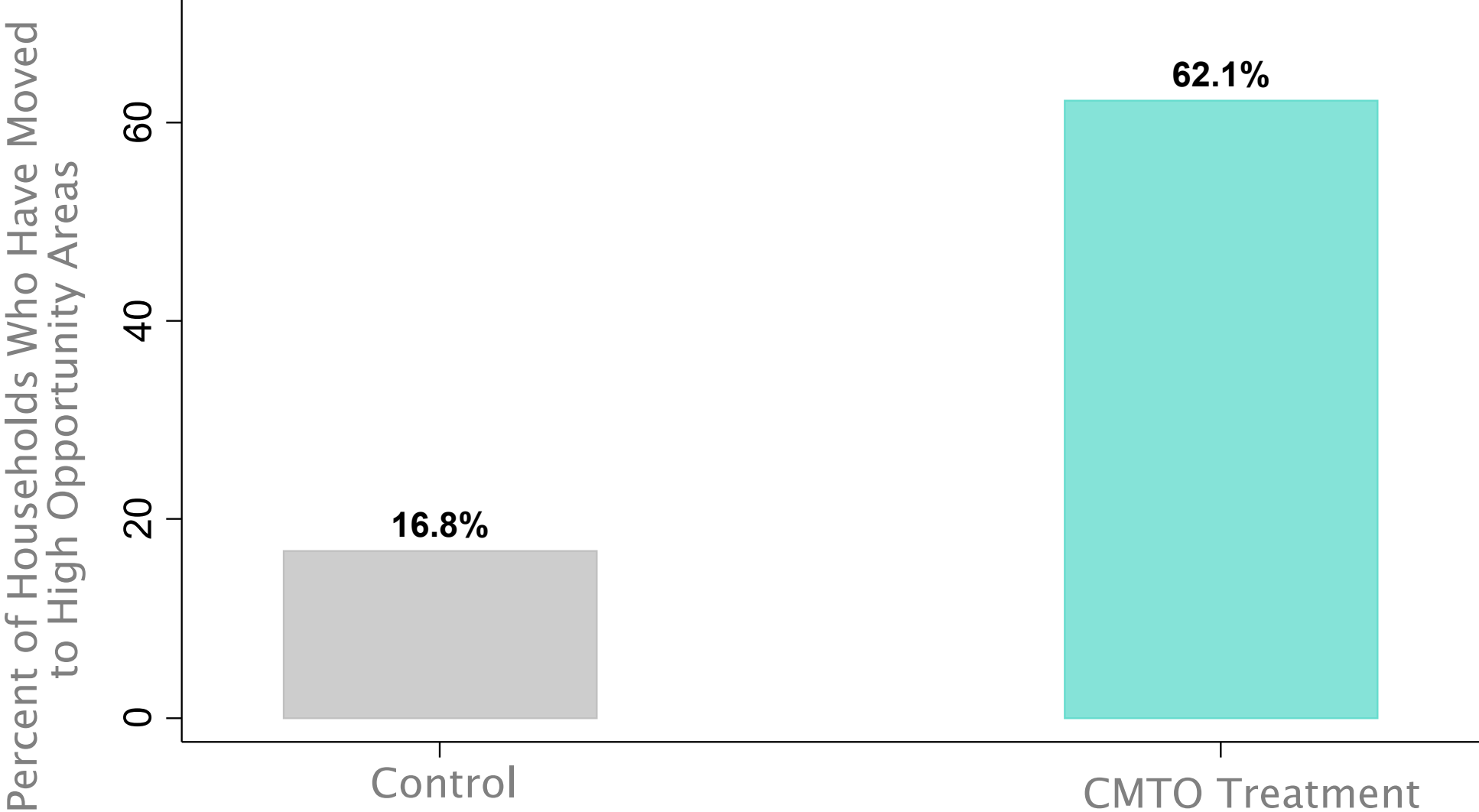
Difference: **45.3 pp**
SE: (4.9)

Bergman Chetty DeLuca Hendren Katz Palmer 2019

Housing Choice Voucher Mobility Demonstration Act

115TH CONGRESS
2D SESSION

H. R. 5793

IN THE SENATE OF THE UNITED STATES

JULY 11, 2018

Received; read twice and referred to the Committee on Banking, Housing, and Urban Affairs

AN ACT

To authorize the Secretary of Housing and Urban Development to carry out a housing choice voucher mobility demonstration to encourage families receiving such voucher assistance to move to lower-poverty areas and expand access to opportunity areas.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Housing Choice Voucher Mobility Demonstration Act of 2018".

SEC. 2. HOUSING CHOICE VOUCHER MOBILITY DEMONSTRATION.

(a) AUTHORITY.—The Secretary of Housing and Urban Development (in this section referred to as the "Secretary") may carry out a mobility demonstration program to enable public housing agencies to administer housing choice voucher assistance under section 8(o) of the United States Housing Act of 1937 (42 U.S.C. 1437f(o)) in a manner designed to encourage families receiving such voucher assistance to move to lower-poverty areas and expand access to opportunity areas.

(b) SELECTION OF PHAS.—

(1) REQUIREMENTS.—The Secretary shall establish requirements for public housing agencies to participate in the demonstration program under this section, which ' provide that the following public housing agencies may participate:

Family Stability and Opportunity Vouchers Act

The *Family Stability and Opportunity Vouchers Act* puts a significant down payment on evidence-based housing mobility vouchers for the nation's most vulnerable families with young children. The bill couples mobility vouchers with customized support services to help families escape the cycle of poverty and move to high opportunity areas.

Specifically the bill:

- Creates an **additional 500,000 housing vouchers** over five years for low-income, high-need families with young children. Pregnant women and families with a **child under age 6** would qualify for these new vouchers if they have a history of homelessness or housing instability, live in an area of concentrated poverty, or are at risk of being pushed out of an opportunity area.

- Provides voucher recipients with **access to counseling and case management services** that have a proven track record of helping families move out of poverty.

- The bills resources would enable housing agencies to **engage new landlords in the voucher program** and connect families with information about housing in high-opportunity neighborhoods, and community-based supports for families as they move.

Tutorial 3

Return to your selected neighborhood in the Opportunity Atlas
1. Add a point for a specific address
2. Download an image of of the map
3. How might your organization use this tool?
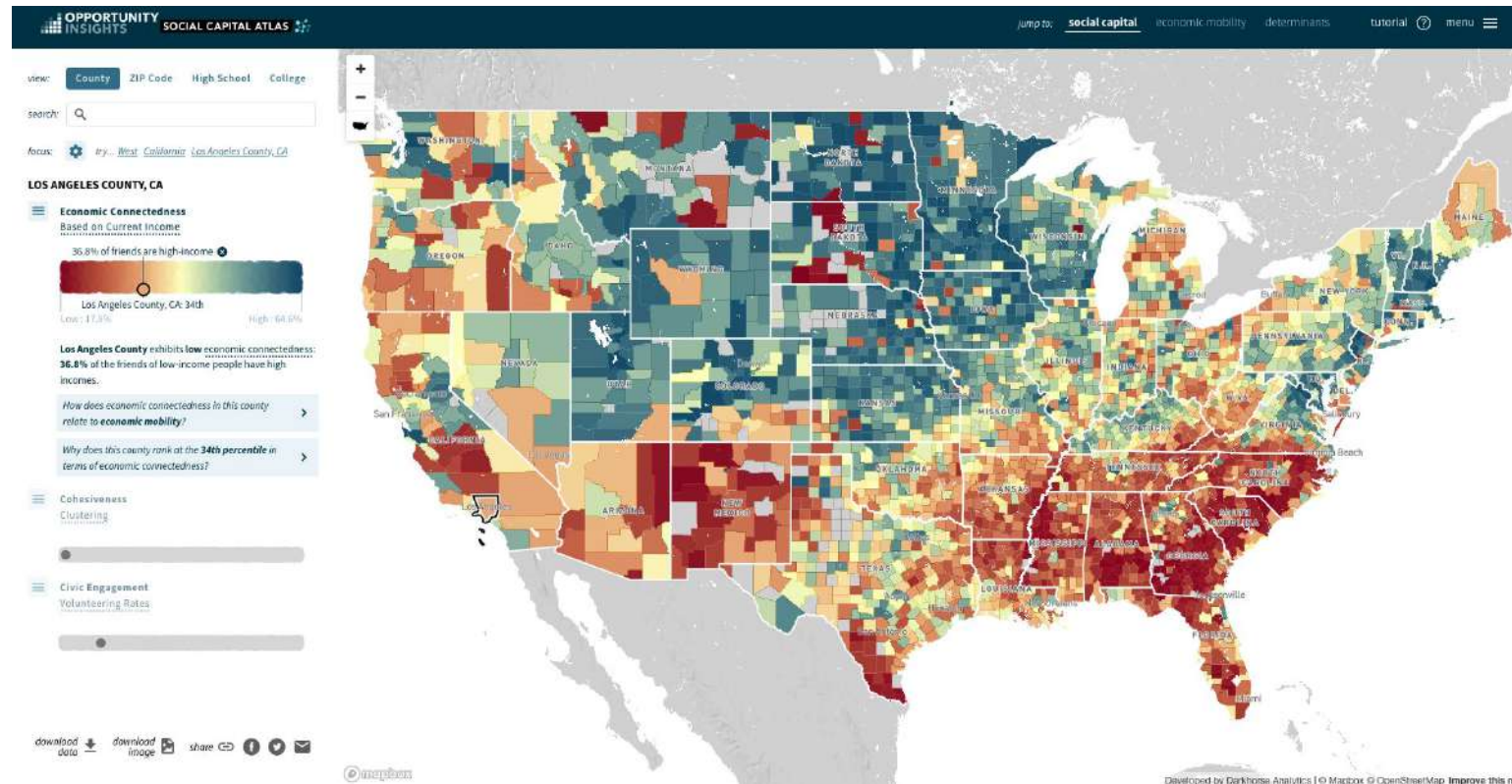
SOCIAL CAPITAL ATLAS

The Social Capital Atlas

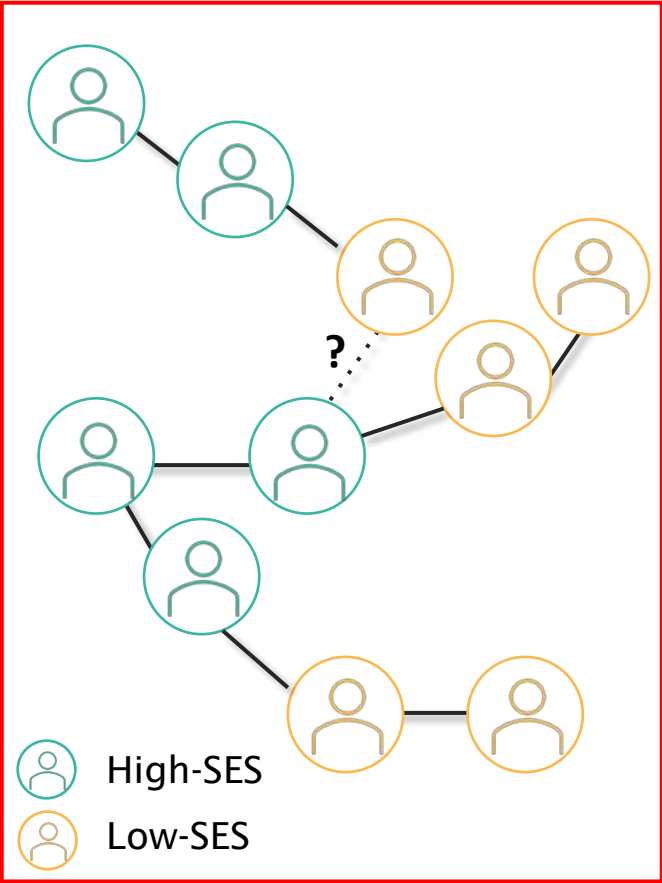**Input**: Privacy-protected data on 21 billion friendships from Facebook

Output: Publicly-available estimates of three types of social capital
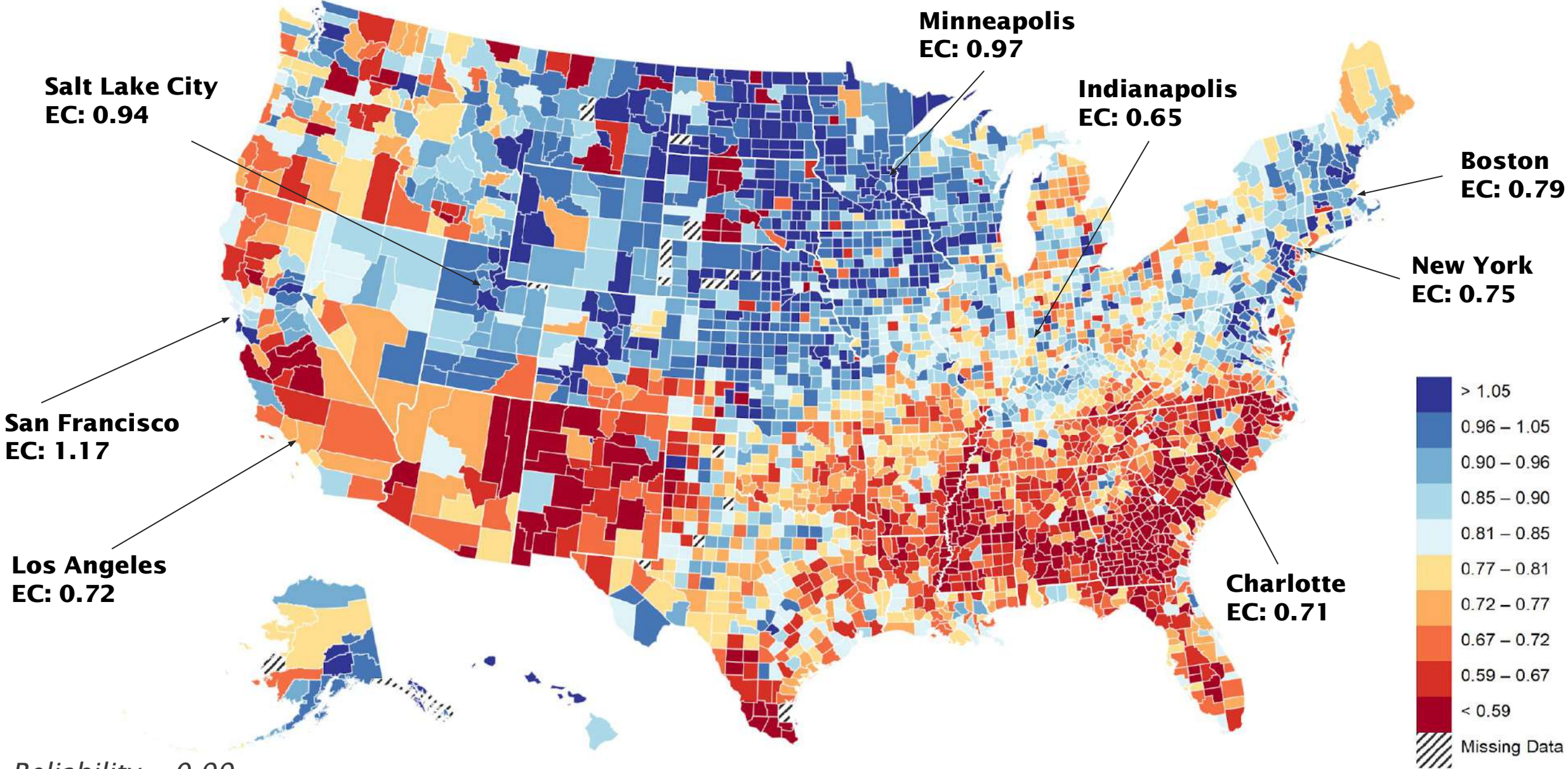
Measures of social capital

Connectedness

Economic Connectedness of Low-SES Individuals by County
## Normalized Share of Above-Median Friends Among Below-Median People

Minneapolis
EC: 0.97

Indianapolis
EC: 0.65

Salt Lake City
EC: 0.94

Boston
EC: 0.79

New York
EC: 0.75

San Francisco
EC: 1.17

Los Angeles
EC: 0.72

Charlotte
EC: 0.71

Legend:
- > 1.05
- 0.96 – 1.05
- 0.90 – 0.96
- 0.85 – 0.90
- 0.81 – 0.85
- 0.77 – 0.81
- 0.72 – 0.77
- 0.67 – 0.72
- 0.59 – 0.67
- < 0.59
- Missing Data

Reliability = 0.99

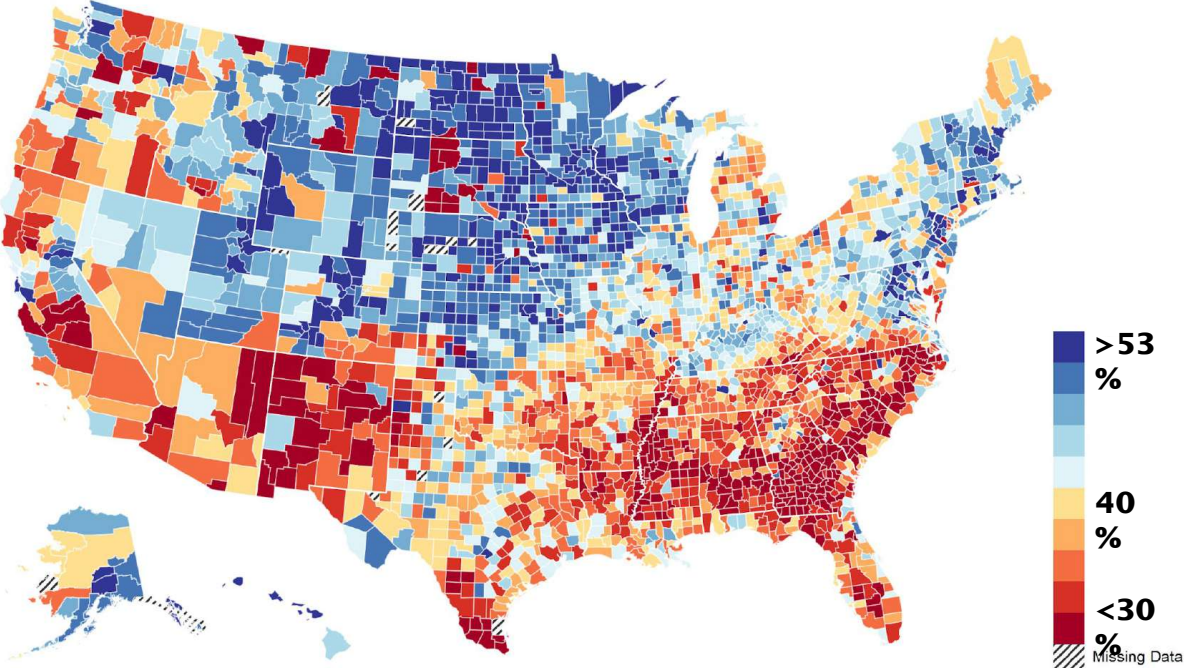*Source: Chetty, Kuchler, Jackson, Stroebel, Hendren, et al. 2022*

Upward Mobility vs. Economic Connectedness Across Counties

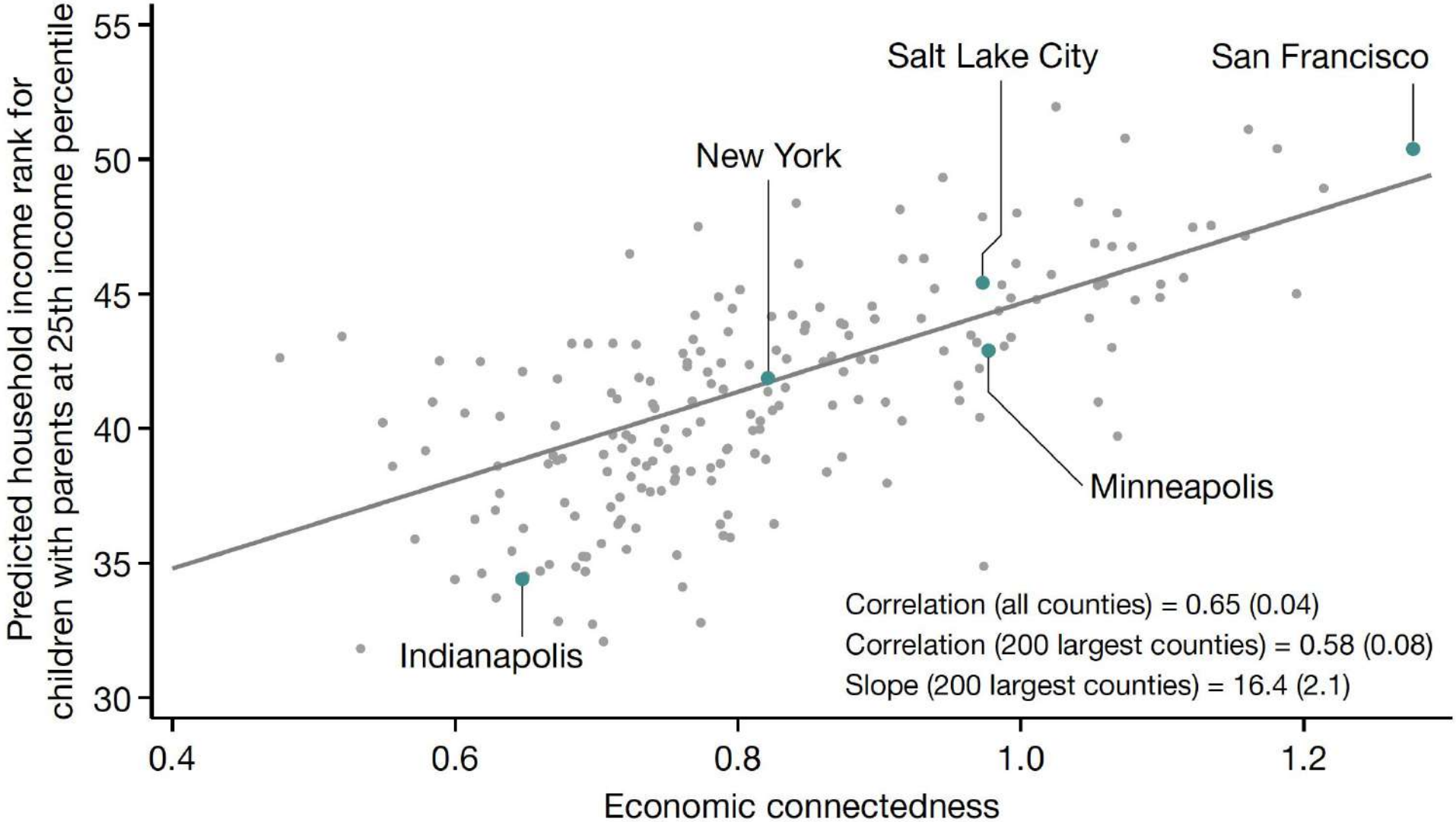**Upward Mobility**
Measured in Tax Data
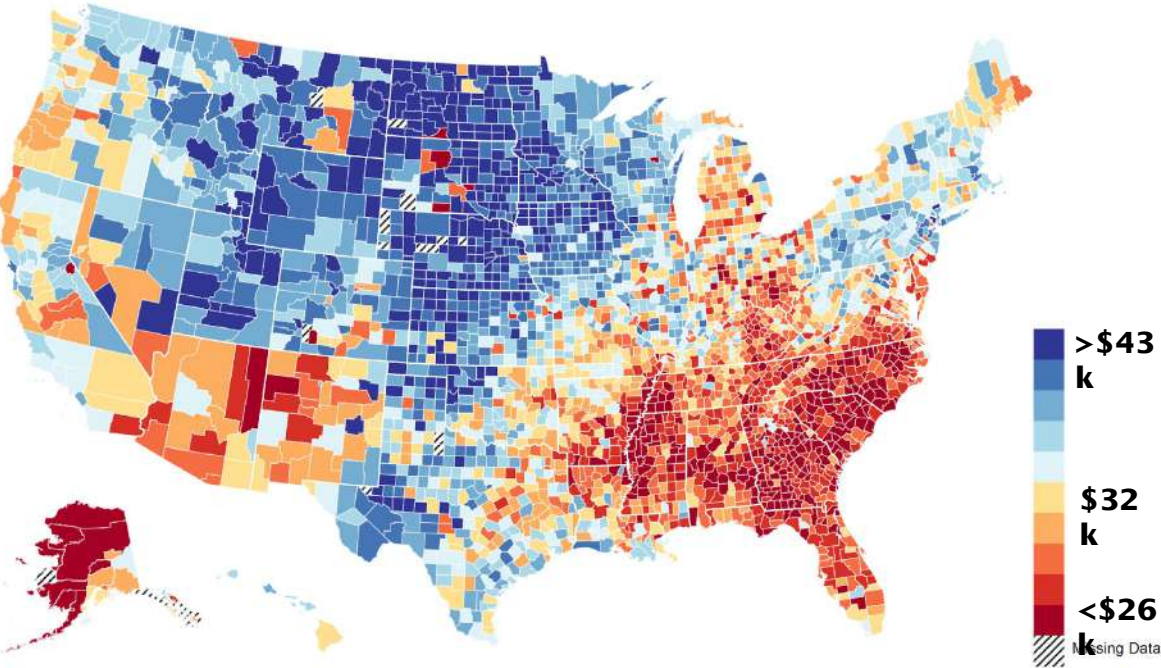
Economic Connectedness
Measured in Facebook Data

>$43 k

$32 k
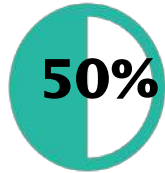
<$26 k
Missing Data

>53 %

40 %

<30 %
Missing Data

Correlation = 0.63

Upward Mobility vs. Economic Connectedness, by County
200 Largest Counties

Correlation (all counties) = 0.65 (0.04)
Correlation (200 largest counties) = 0.58 (0.08)
Slope (200 largest counties) = 16.4 (2.1)

Determinants of Economic Connectedness

Segregation by Income

Interaction Conditional on Exposure

50%

50%

"*Every time I walked across Eutaw Street, I witnessed the exchange of realities. As I grew older, I've come to learn that this was how Baltimore works. Millionaires could live on one side of a street, and the projects could be on the other side.* **Those two worlds would never cross, never make friends, never acknowledge each other.** *Everybody was OK with it, especially the rich.*"
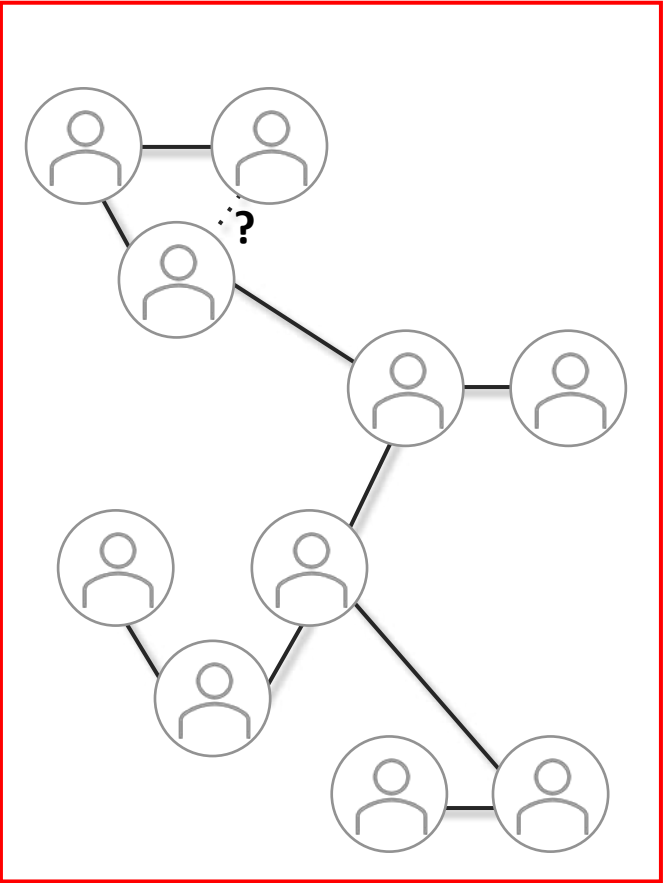
- Carmelo Anthony (2021), *Where Tomorrows Aren't Promised*
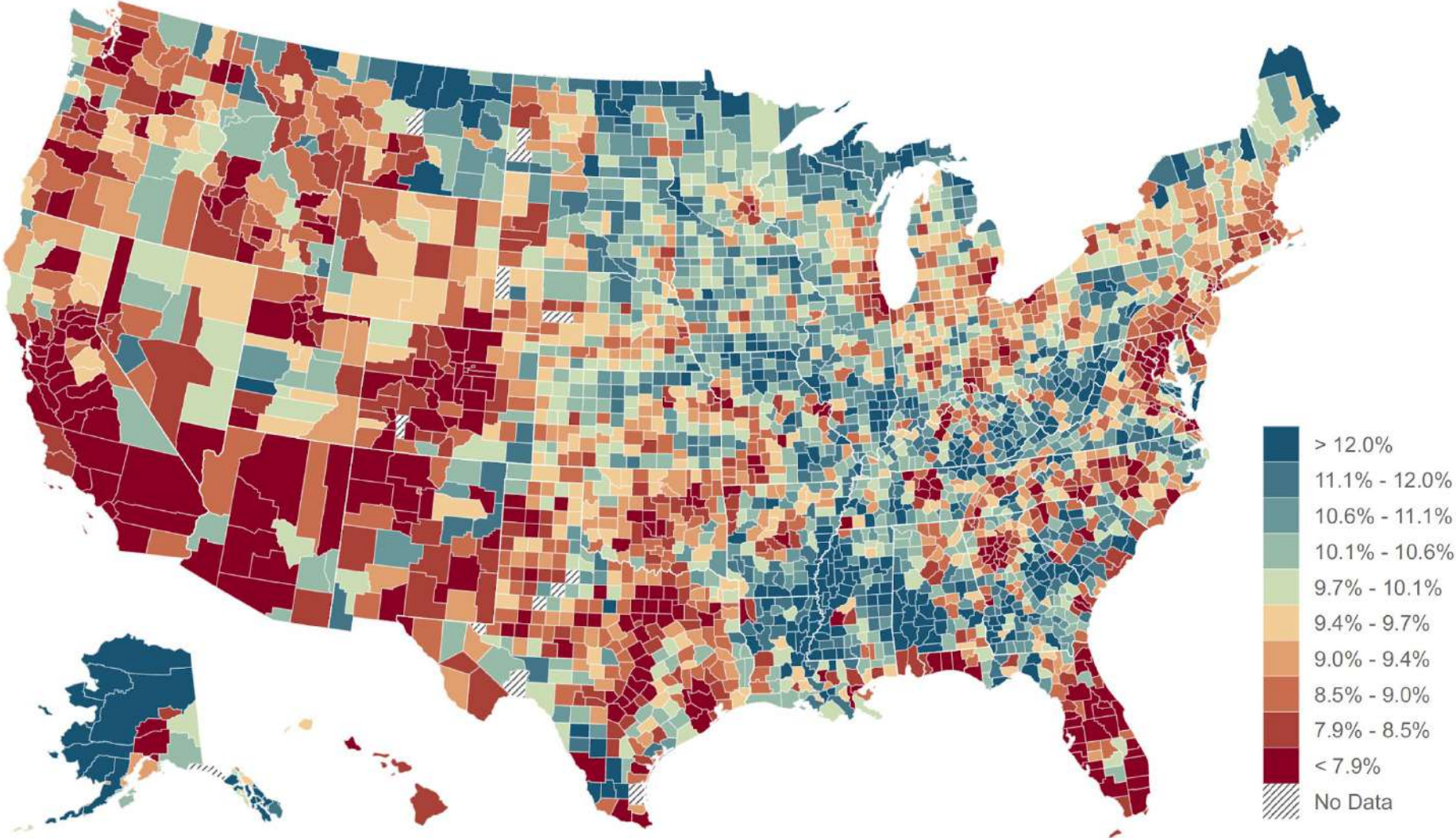
Measures of social capital
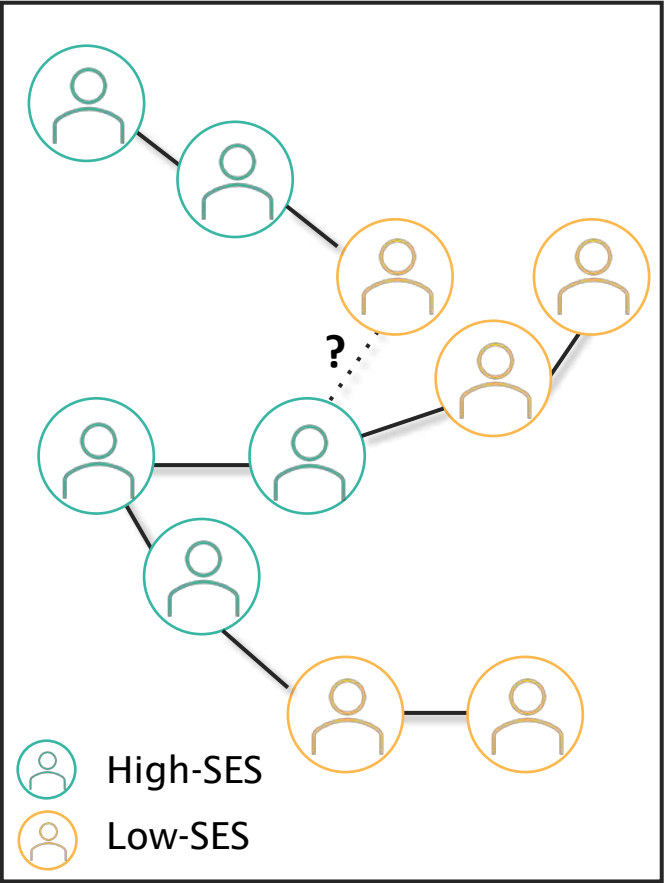
Connectedness

Cohesiveness
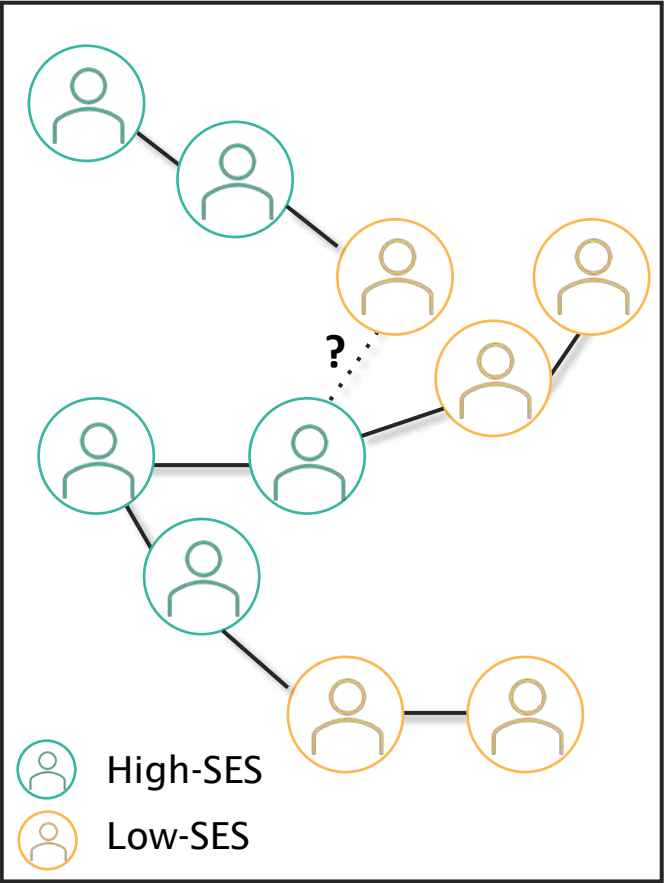
Cohesiveness: Clustering by County
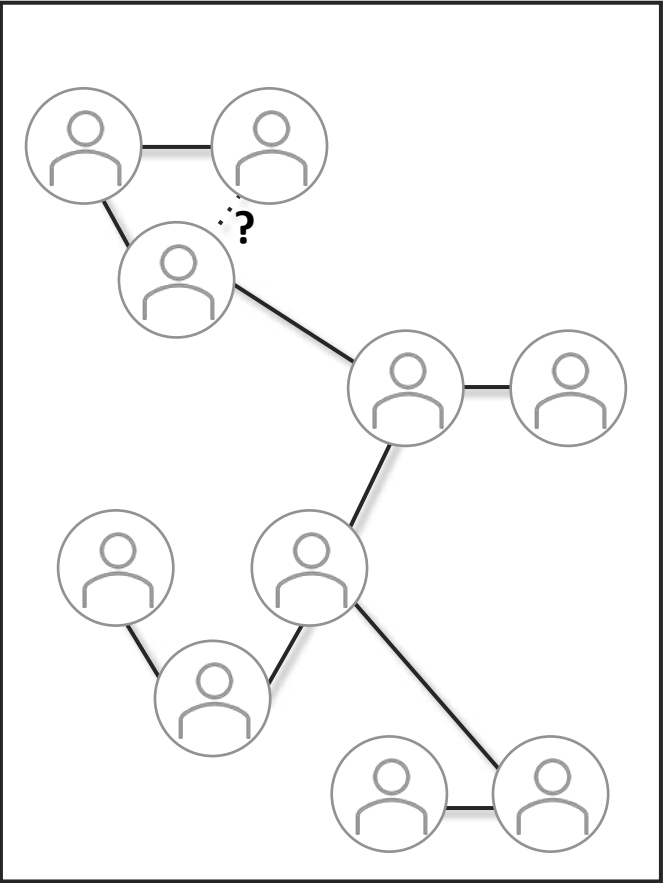National Correlation With EC: 0.14

	> 12.0%
	11.1% - 12.0%
	10.6% - 11.1%
	10.1% - 10.6%
	9.7% - 10.1%
	9.4% - 9.7%
	9.0% - 9.4%
	8.5% - 9.0%
	7.9% - 8.5%
	< 7.9%
	No Data

Measures of social capital

Connectedness

High-SES
Low-SES

Cohesiveness

Civic Engagement

Civic Engagement: Volunteering by County
National Correlation With EC: 0.26

Legend	
▮	> 12.1%
▮	10.0% - 12.1%
▮	8.8% - 10.0%
▮	8.0% - 8.8%
▮	7.3% - 8.0%
▮	6.6% - 7.3%
▮	5.9% - 6.6%
▮	5.1% - 5.9%
▮	4.0% - 5.1%
▮	< 4.0%
▨	No Data
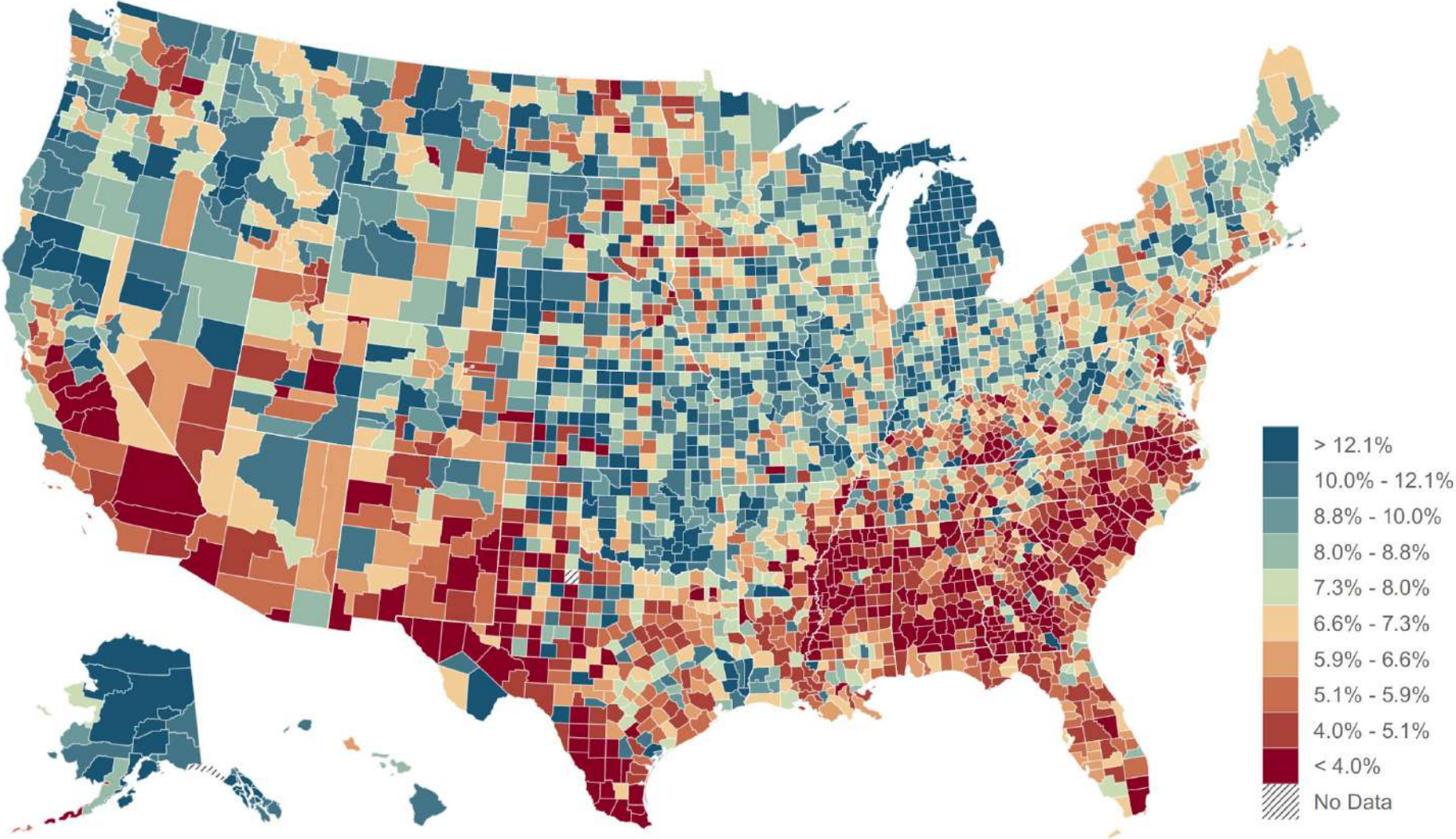
Tutorial 4

Open the Social Capital Atlas and select a neighborhood.
1. How does economic connectedness in your selected neighborhood compare to other nearby neighborhoods?
2. Are the patterns consistent with your experiences?
3. How does economic connectedness vary across high schools in the area?
4. What do patterns look like for cohesiveness and civic engagement?

From Jasmine, 7 years old, whose family moved to a high-opportunity area in Seattle in the Creating Moves to Opportunity study

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