

PSC 202

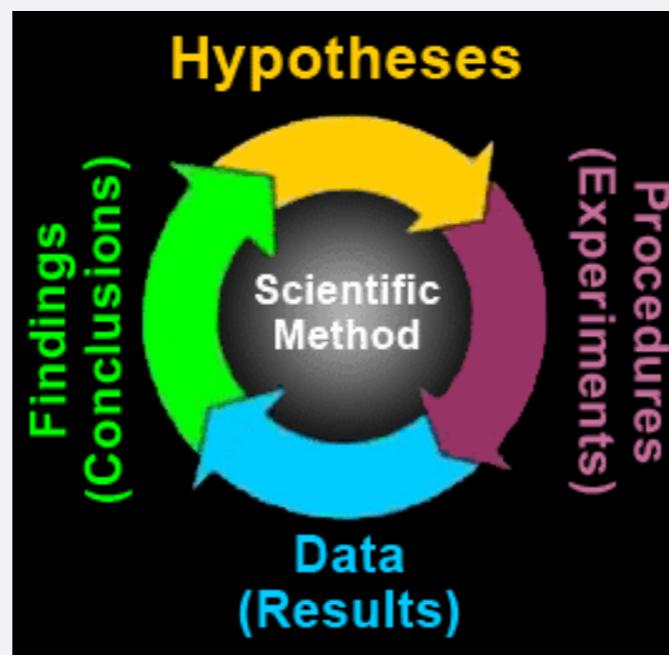
SYRACUSE UNIVERSITY

# INTRODUCTION TO POLITICAL ANALYSIS

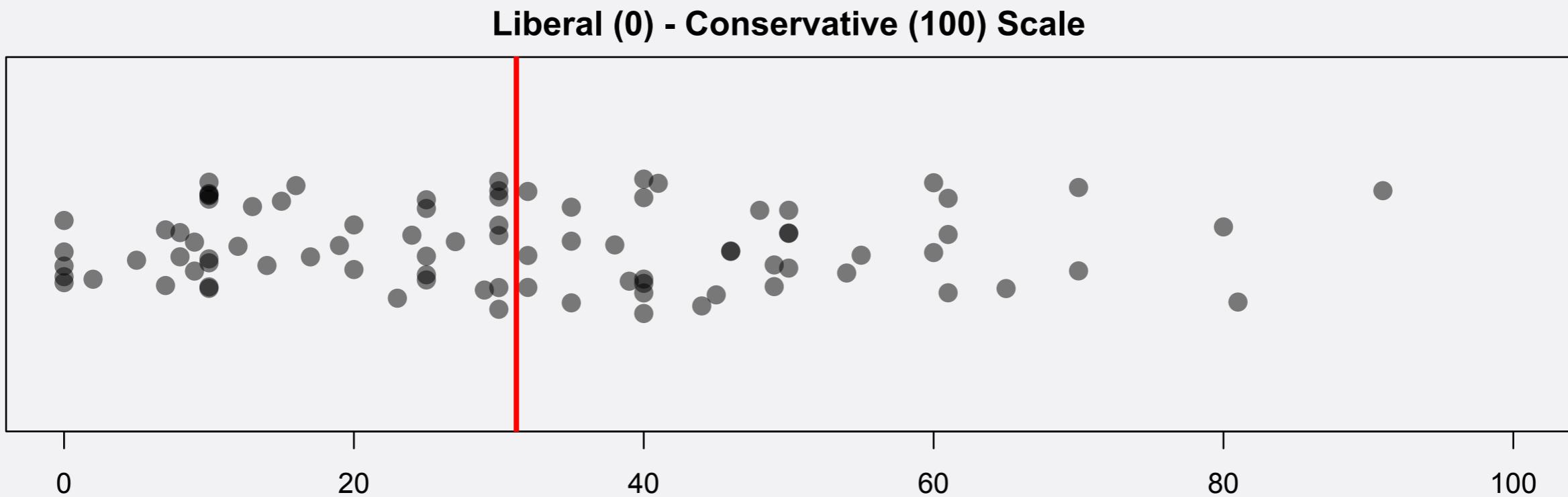
MORE ON CAUSALITY  
OBSERVATIONAL RESEARCH:  
QUANTITATIVE AND QUALITATIVE  
ANALYSES

# WHERE WE ARE

- Formulate research question
- Propose explanation/theory, hypotheses
- Data collection process
- Use data to evaluate hypotheses
- Reassess explanation



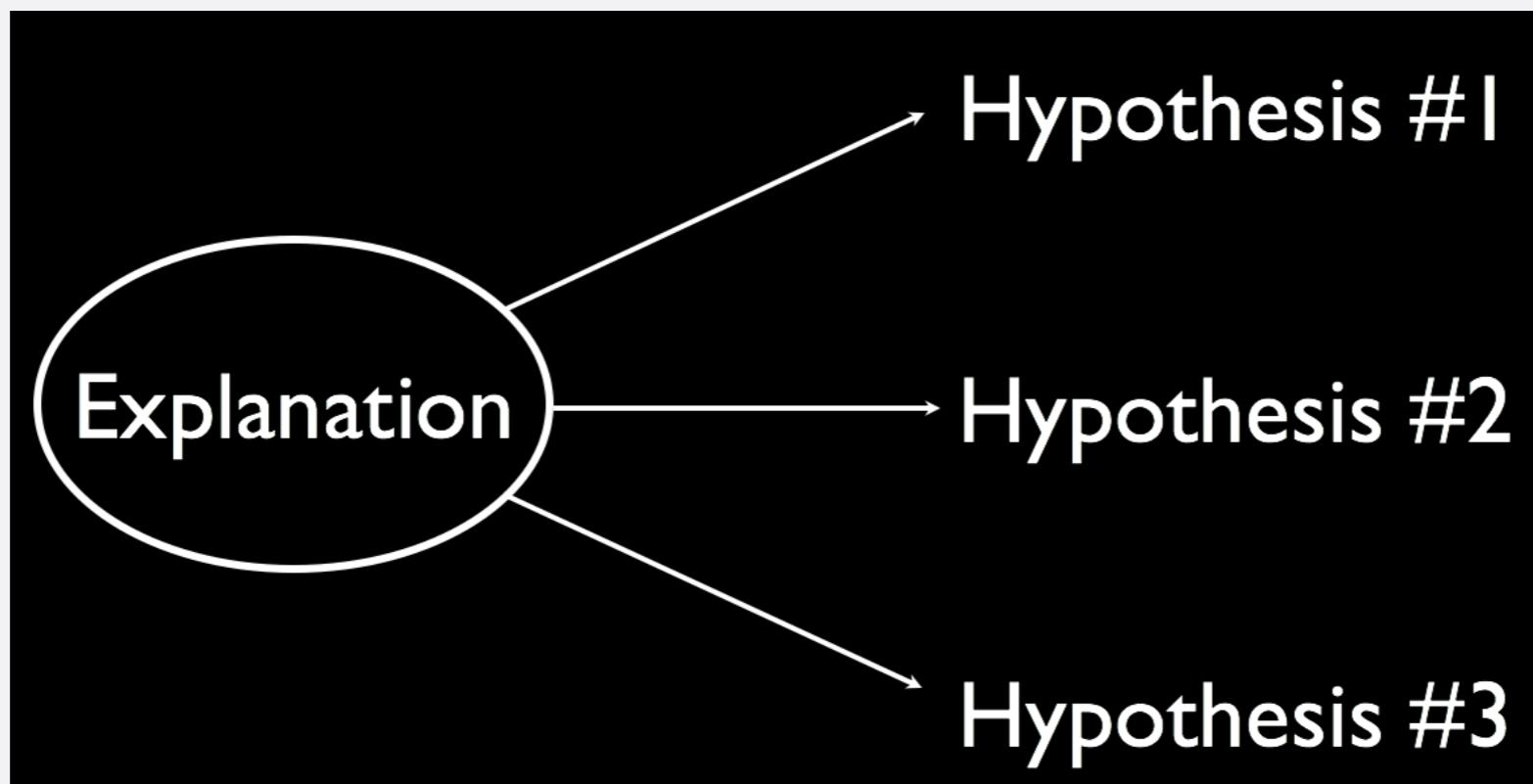
# RESEARCH QUESTION



- Q: What determines which ideology students have?
- Theory: People's ideology is explained by their upbringing

# HYPOTHESES AND THEORY

- **Explanation/Theory:** (Simplified) description of how social reality works
- **Hypotheses:** Statements what, if the theory is true, we should observe in our data



# PROPOSE EXPLANATION/ THEORY, HYPOTHESES

- **Hypothesis 1: Students whose parents are conservative are on average more conservative than students with liberal parents**

# PROPOSE EXPLANATION/ THEORY, HYPOTHESES

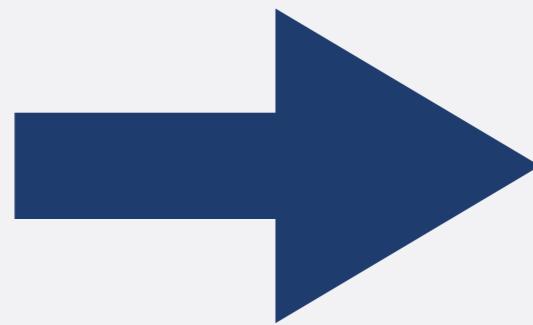
- **Hypothesis 2: Students who grew up in a conservative area are on average more conservative than students who grew up in a liberal area**

# PROPOSE EXPLANATION/ THEORY, HYPOTHESES

- **Hypothesis 3: Students who attended a STEM-focused high school are on average more conservative than those who attended a Liberal Arts-focused high school**

# EVALUATING HYPOTHESIS 1

Parents' liberal-conservative orientation



Liberal-Conservative

- How to establish a causal relationship with data?
- 4 hurdles to causality

# HURDLE 1

- Is there a credible causal mechanism that connects X to Y?
  - Need a convincing process/mechanism that logically suggests why X might be a cause of Y
  - Here: Parents transmit their values to their children (e.g. dinner table conversations, emphasis what is important and right or wrong, parents' political activism)

## HURDLE 2

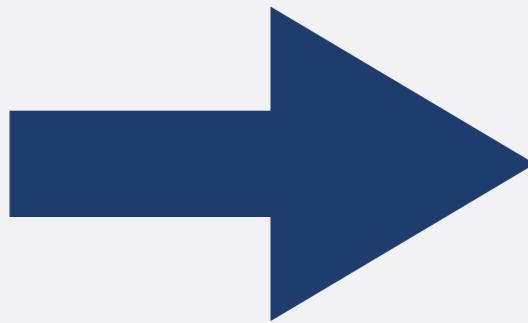
- Can we rule out the possibility that Y could cause X?
  - Is it possible that your ideology has an effect on your parent's liberal-conservative orientation?
  - Potentially a problem here

# HURDLE 3

- Is there covariation between X and Y?
  - i.e. is more of X associated with more/less of Y?

# HURDLE 3

Parents' liberal-conservative orientation



Liberal-Conservative

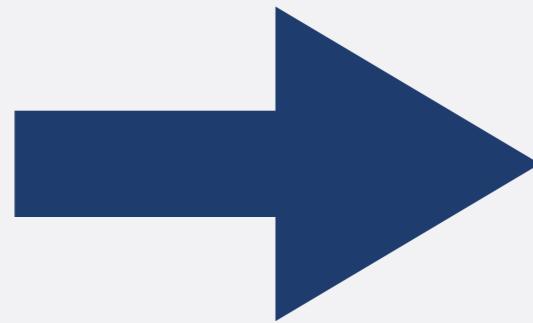
- Looking at two variables, we should see that:
  - People whose parents are conservative are more conservative than people whose parents are liberal (“bivariate relationship”)
  - If we find that lib-cons score is same for students with conservative and liberal parents, our theory may have a problem...

## HURDLE 4

- Have we controlled for all confounding variables (Z) that might make the association between X and Y spurious?
  - World is complicated and Y usually has more than one cause
  - We need to make sure to take that into account

# CAUSALITY

Parents' liberal-conservative orientation



Liberal-Conservative

- Causal effect of parent's ideology:
- Student's ideology if parents are liberal *minus* student's ideology if parents are conservative
  - Problem?

# CAUSALITY

- **Student's ideology if parents are liberal - student's ideology if parents are conservative**
  - Can either observe student's ideology if parents are liberal

# CAUSALITY

- Student's ideology if parents are liberal -  
**student's ideology if parents are conservative**
  - Or student's ideology if parents are conservative

# CAUSALITY

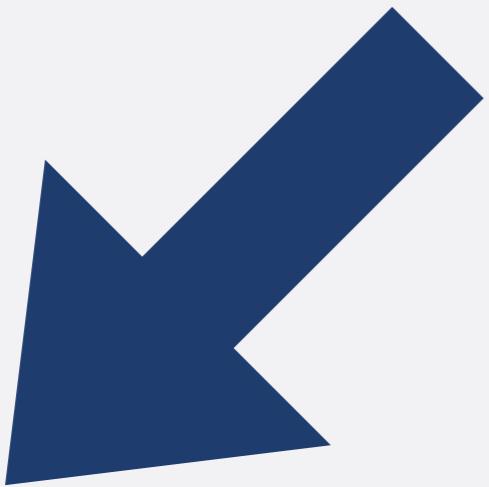
- Student's ideology if parents are liberal - student's ideology if parents are conservative
  - But not both!
  - “Fundamental problem of causal inference”: We can't observe alternate reality in which your parents have a different ideology than the one they have

# CAUSALITY

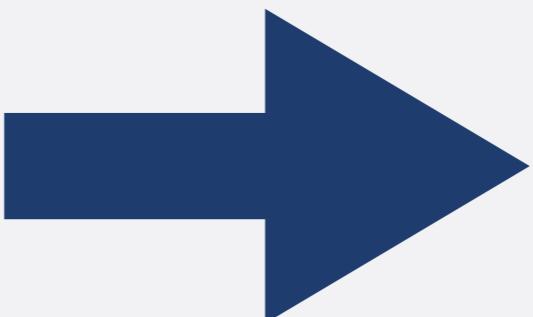
- Ideology of students with liberal parents -  
Ideology of students with conservative parents
  - This we can compute
  - But: Students who have liberal parents are likely different from students who have conservative parents in *many ways*
  - These differences affect our ability to compute the causal effect of having liberal (or conservative) parents

## HURDLE 4

Ideology of place  
one lives in



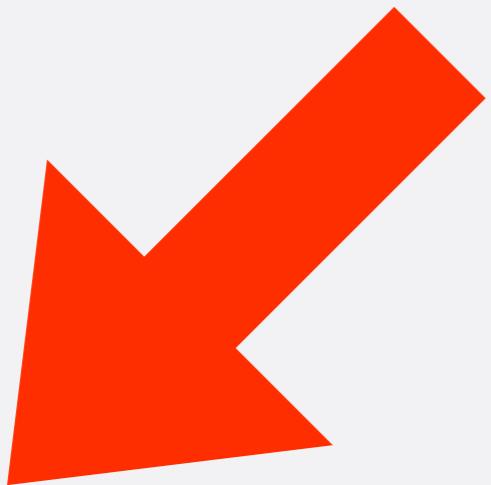
Parents' liberal-  
conservative  
orientation



Liberal-Conservative

## HURDLE 4

Ideology of place  
one lives in



Parents' liberal-  
conservative  
orientation

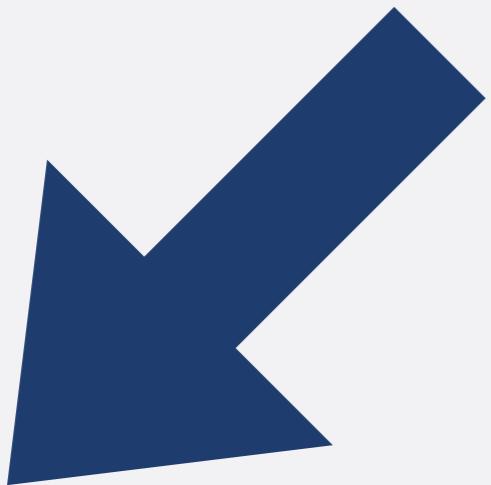
- Living in a conservative area makes parents more conservative



Liberal-Conservative

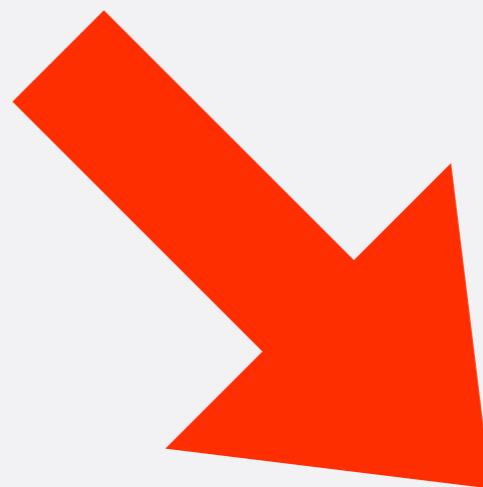
## HURDLE 4

Ideology of place  
one lives in



Parents' liberal-  
conservative  
orientation

- Living in a conservative area makes students more conservative



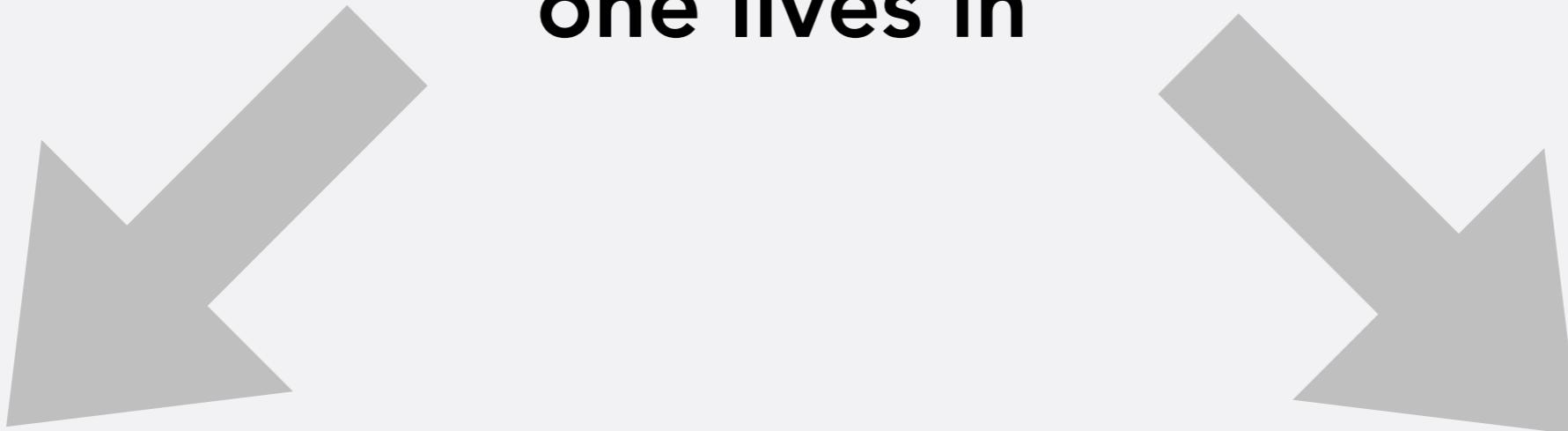
Liberal-Conservative

## HURDLE 4

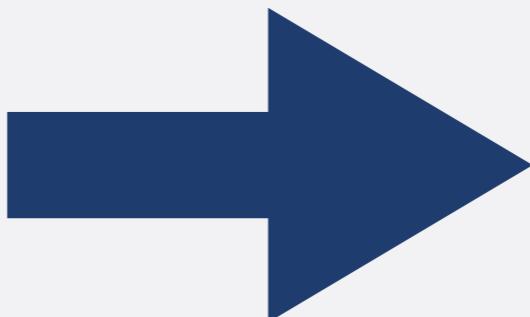
- So if we observe that students with conservative parents are more likely to be conservative this can be due to:
  - Causal effect of parent's ideology or
  - Ideology of area one lives in or
  - Both

## HURDLE 4

Ideology of place  
one lives in



Parents' liberal-  
conservative  
orientation

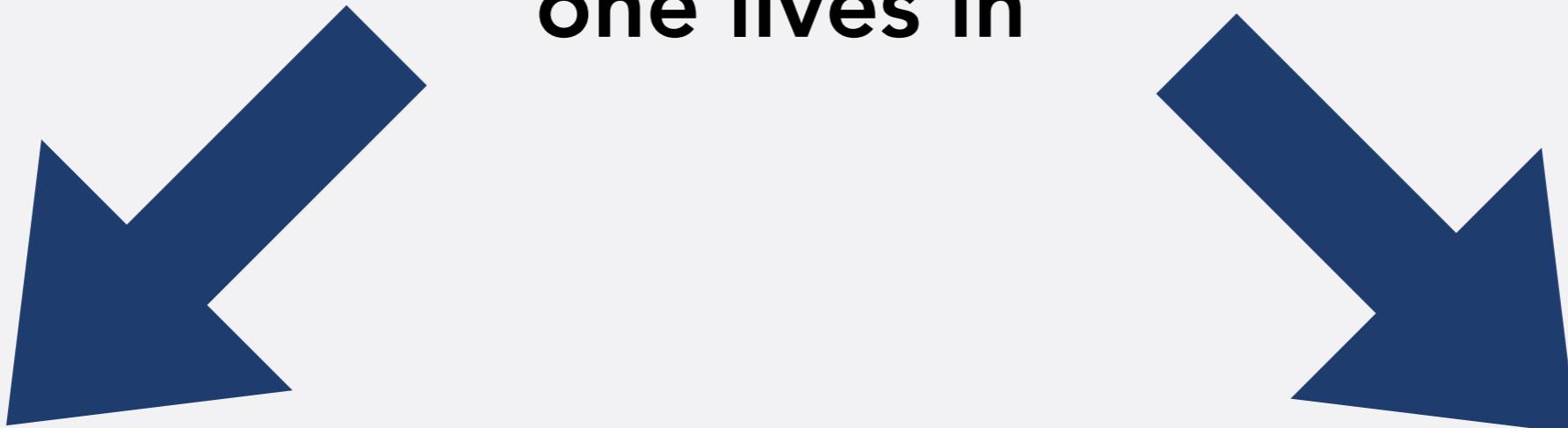


Liberal-Conservative

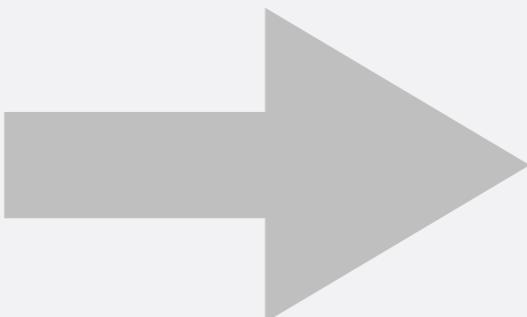
- Option 1: Conservative parents cause their children to be more conservative

## HURDLE 4

Ideology of place  
one lives in



Parents' liberal-  
conservative  
orientation

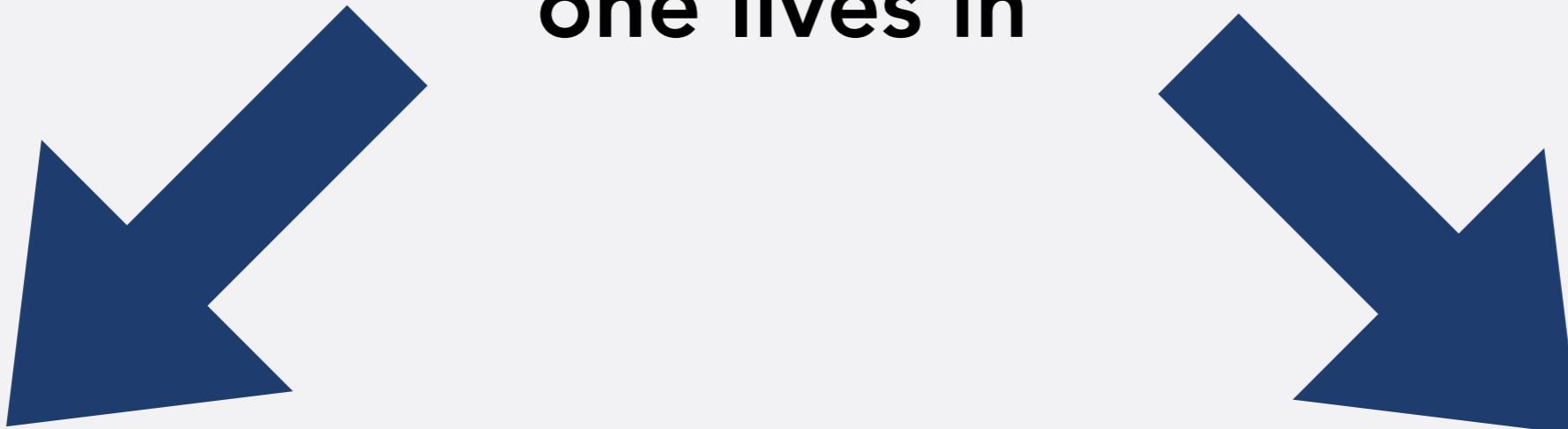


Liberal-Conservative

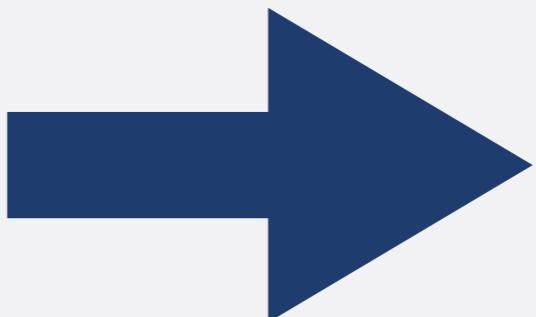
- Option 2: Living in conservative areas cause both parents and their children to be more conservative

## HURDLE 4

Ideology of place  
one lives in



Parents' liberal-  
conservative  
orientation



Liberal-Conservative

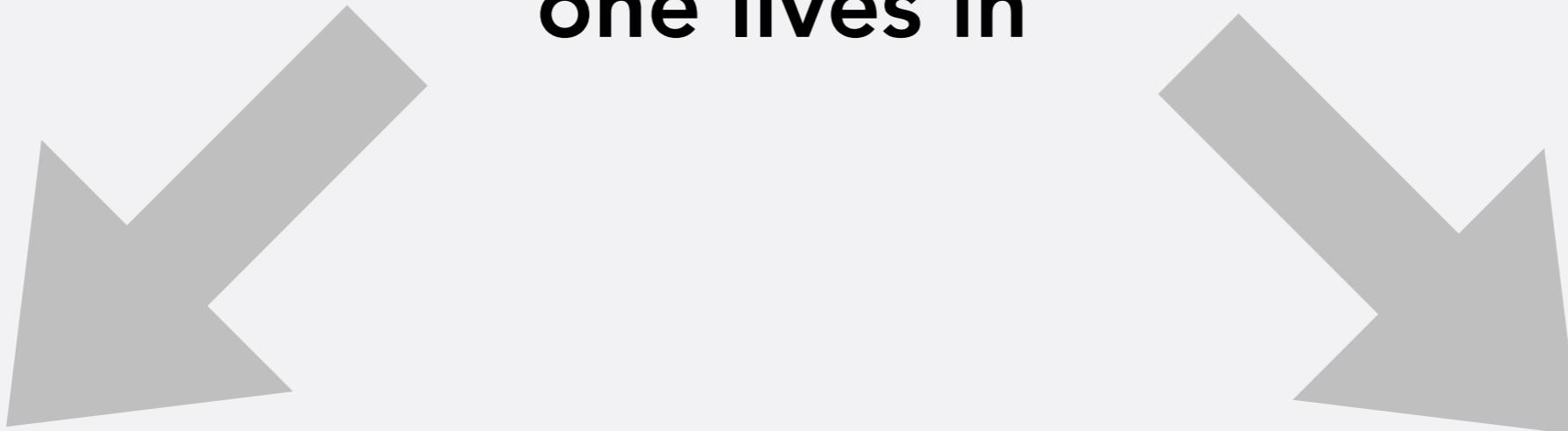
- Option 3: Conservative parents cause their children to be more conservative *and* living in conservative areas cause both parents and their children to be more conservative

## HURDLE 4

- We want to isolate the causal effect of parent's ideology
- We need to "control for" ideology of place one lives in
  - Want to compare students with conservative vs. liberal parents who live in places that have similar ideology

## HURDLE 4

Ideology of place  
one lives in



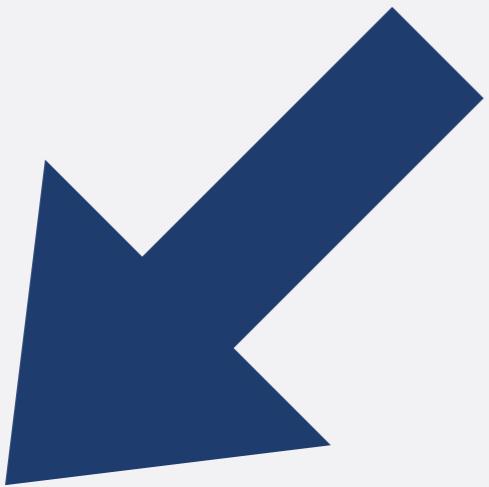
Parents' liberal-  
conservative  
orientation

Liberal-Conservative

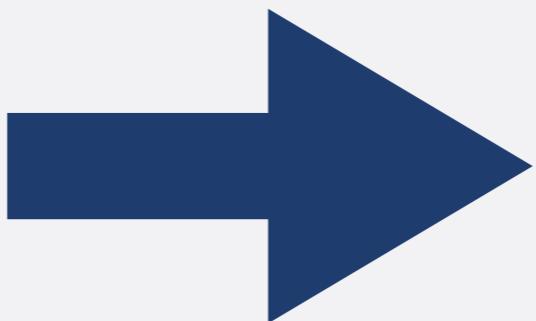
- Compare students with conservative vs. liberal parents who live in places that have similar ideology (we “control for” place of living)

# HURDLE 4

?



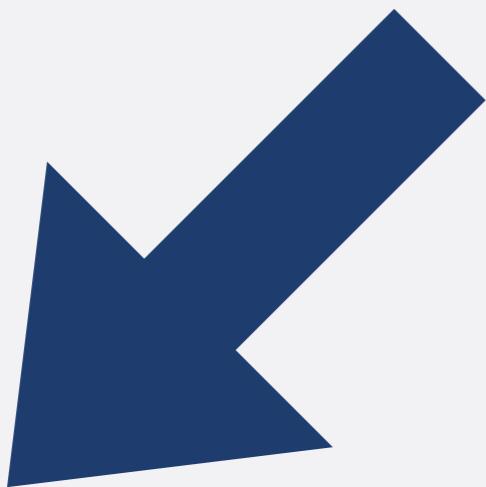
**STEM vs. Liberal  
Arts education**



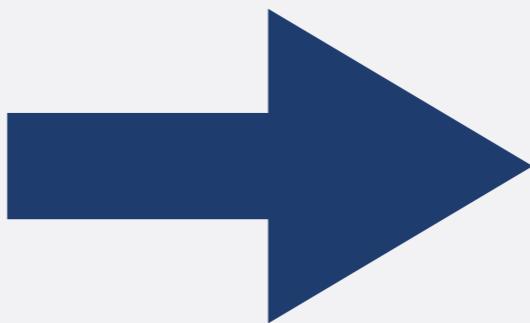
**Liberal-Conservative**

## HURDLE 4

Personality Traits (e.g.  
openness to new experience)



STEM vs. Liberal  
Arts education



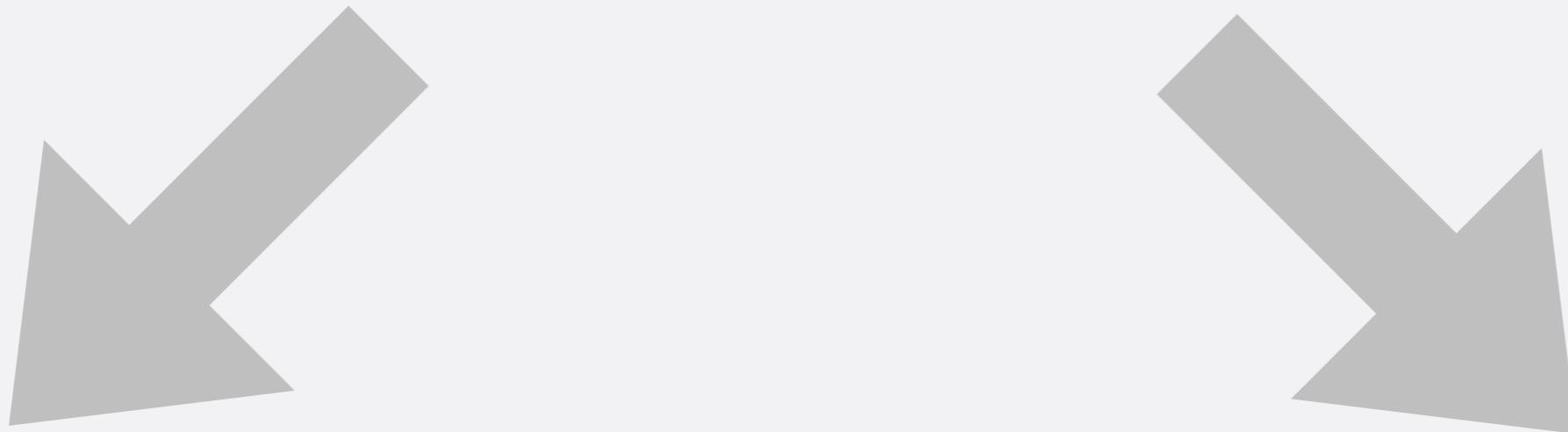
Liberal-Conservative

## HURDLE 4

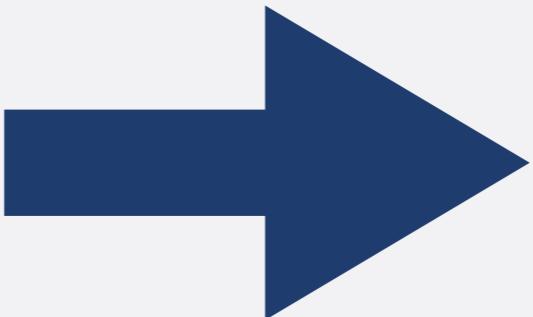
- Maybe personality traits cause both whether people attend STEM/Liberal Arts and liberal-conservative
  - People more open to new experiences might be more likely to prefer Liberal Arts education
  - People more open to new experiences might be more likely to have a liberal ideology

## HURDLE 4

Personality Traits (e.g.  
openness to new experience)



STEM vs. Liberal  
Arts education



Liberal-Conservative

- Compare students with similar personality traits who went to STEM/Liberal Arts High School

# HURDLES TO CAUSALITY

- Is there a credible causal mechanism that connects X to Y?
- Can we rule out the possibility that Y could cause X?
- Is there covariation between X and Y?
- Have we controlled for all confounding variables (Z) that might make the association between X and Y spurious?

# REST OF THIS SEMESTER

- How can we make sure that Y does not cause X?
- How can we test whether X and Y covary?
- How can we test whether Z is a confounder and the relation between X and Y is not spurious?

# OK, HOW DO WE DO THAT?

- Typically, we need to address these 3 hurdles using *observational* data
  - Observational: researcher observes the effect of independent variable on dependent variable as *it occurs naturally, without making any attempt to intervene*
  - Experimental: researcher *manipulates* independent variable in controlled fashion to observe its effect on the dependent variable

# TODAY AND WEDNESDAY

- Two major ways to address these 3 hurdles using *observational* research:
  - small-n (qualitative)
  - large-n (quantitative)
  - What are these?

# OUR EXAMPLE

- The American Dream

# OUR EXAMPLE

The **American Dream** is a national [ethos](#) of the United States, the set of ideals (democracy, rights, liberty, opportunity and equality) in which freedom includes the opportunity for prosperity and success, as well as an upward [social mobility](#) for the family and children, achieved through hard work in a society with few barriers. In the definition of the American Dream by [James Truslow Adams](#) in 1931, "life should be better and richer and fuller for everyone, with opportunity for each according to ability or achievement" regardless of [social class](#) or circumstances of birth.<sup>[1]</sup>

# OUR EXAMPLE

- **To what extent is the ethos of the “American Dream” an accurate description of reality today?**
  - Specifically: “upward social mobility” and chance of achieving it

# OUR EXAMPLE

- **Chance of rising in income distribution**
  - “Intergenerational mobility”
- **How much intergenerational mobility is there?**
- **What factors prevent people born into the bottom of the income distribution to rise up?**

# LARGE-N (QUANTITATIVE)



Popular

Latest

*The Atlantic*

A portrait photograph of Raj Chetty, an Indian-American economist. He is shown from the chest up, wearing a light blue button-down shirt. He has dark hair and a mustache, and is looking slightly downwards and to his left with a thoughtful expression. The background is a plain, light color. The image is framed by a white border, which is itself set against a dark gray background.

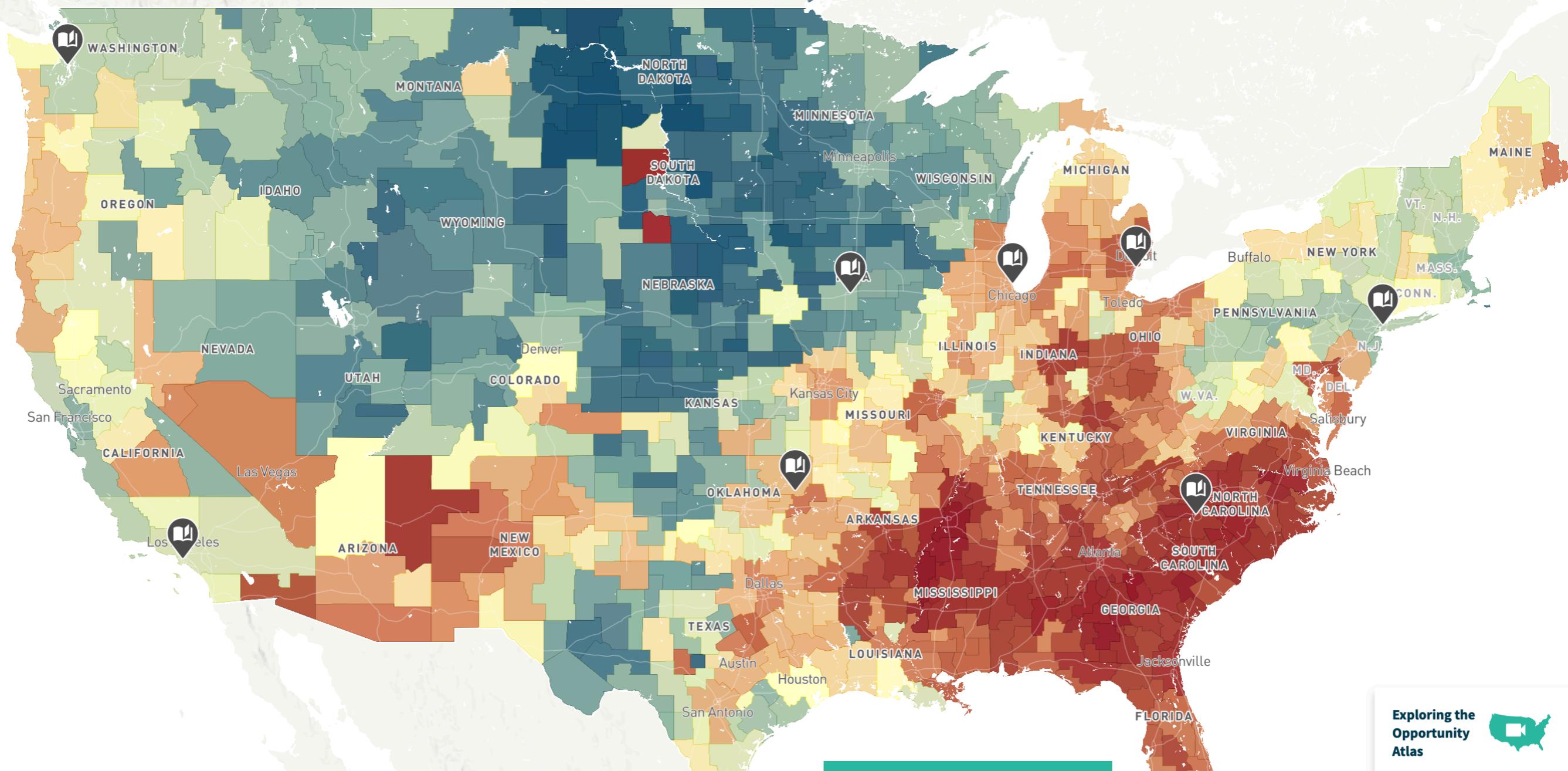
The Economist Who Would Fix the American Dream

No one has done more to dispel the myth of social mobility than Raj Chetty. But he has a plan to make equality of opportunity a reality.



- Source: <https://www.youtube.com/watch?v=u2U9-Wq2ub0>

# SOCIAL MOBILITY, QUANTITATIVE



HOUSEHOLD INCOME AT AGE 35 ▾

PARENT INCOME CHILD RACE CHILD GENDER

ALL HIGH MIDDLE LOW ALL BLACK HISPANIC ASIAN AMER. INDIAN

FEMALE MALE

Exploring the  
Opportunity  
Atlas

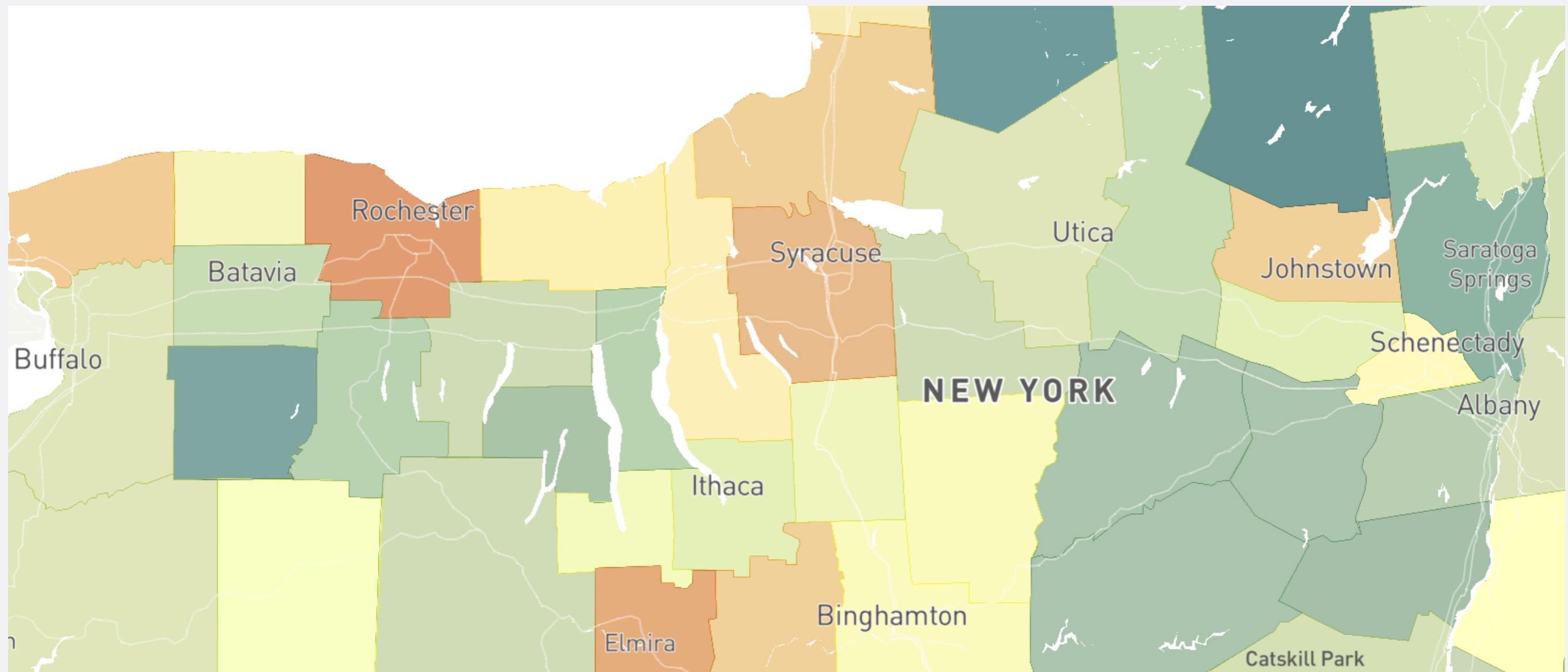


ATLAS IN  
ACTION

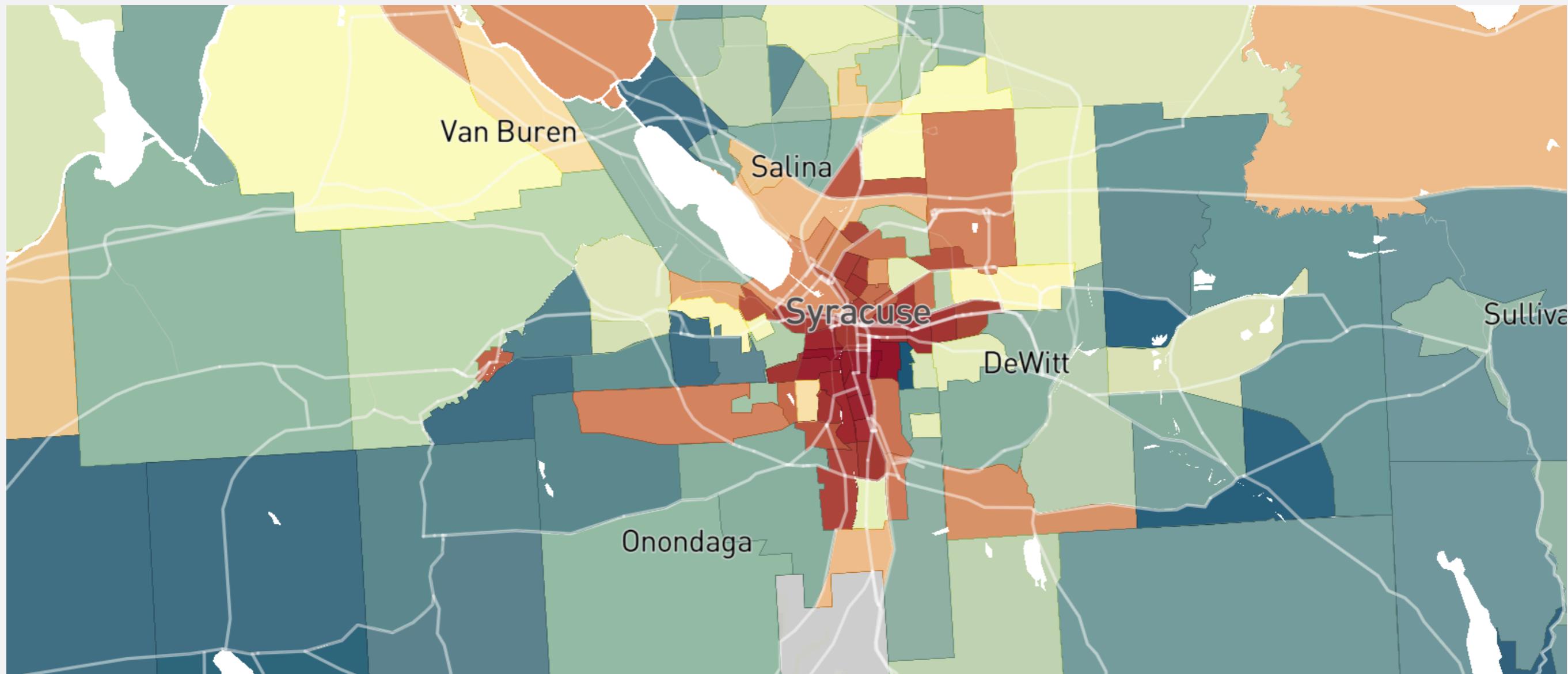
Hear from Atlas Users

The Bahamas

# SOCIAL MOBILITY, QUANTITATIVE

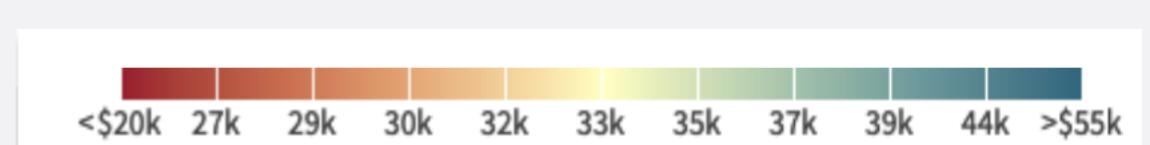
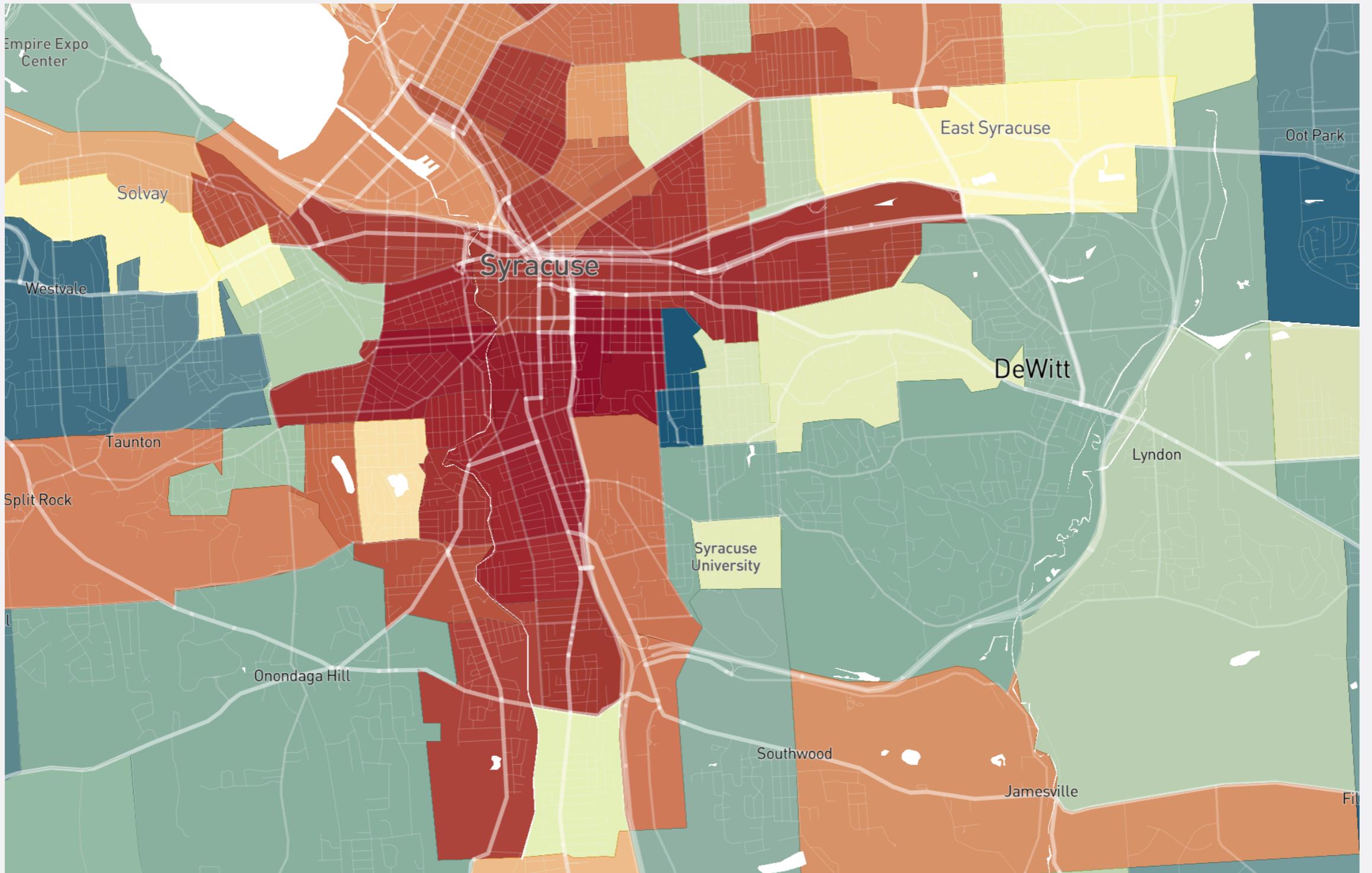


# SOCIAL MOBILITY, QUANTITATIVE

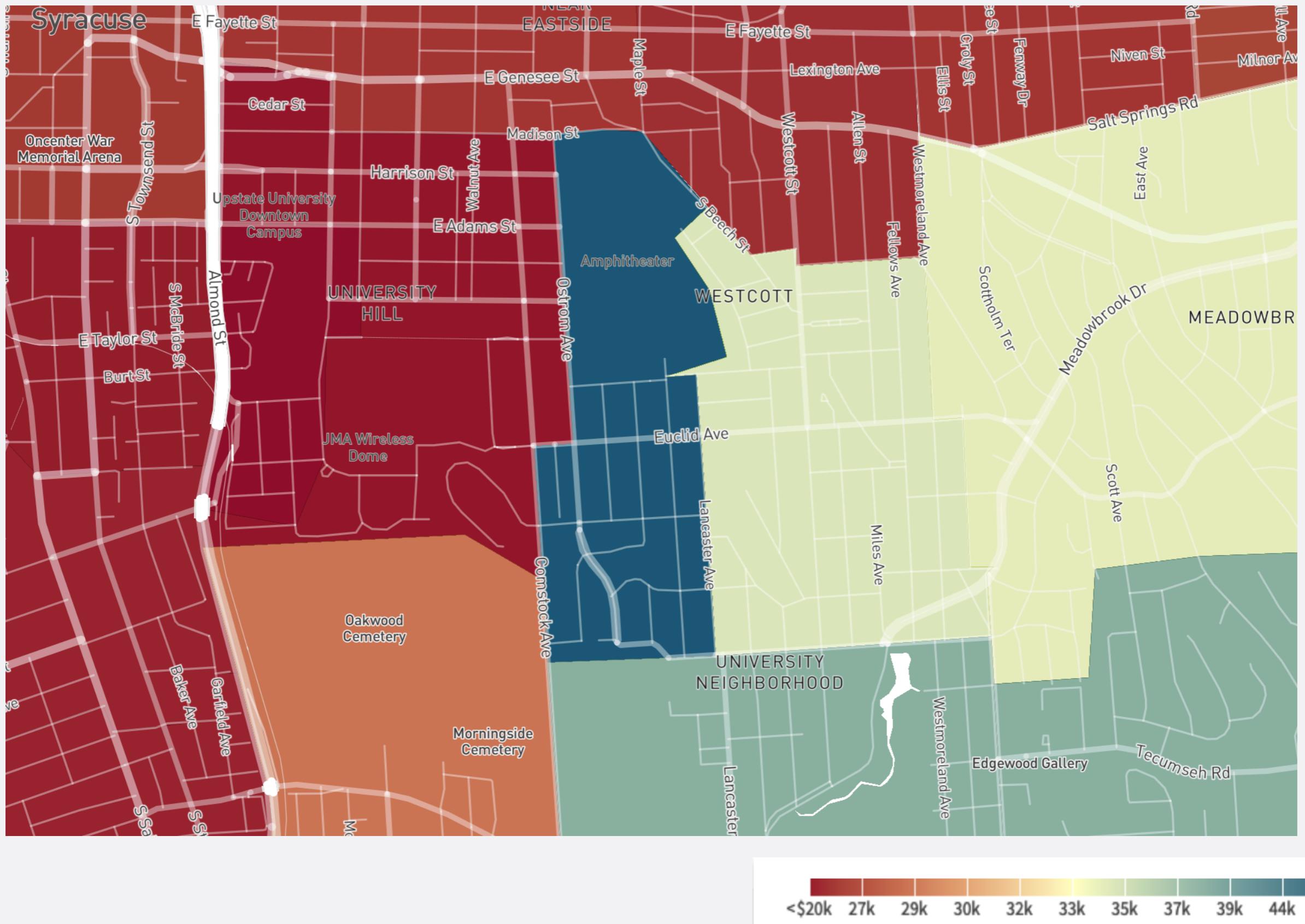


<\$20k 27k 29k 30k 32k 33k 35k 37k 39k 44k >\$55k

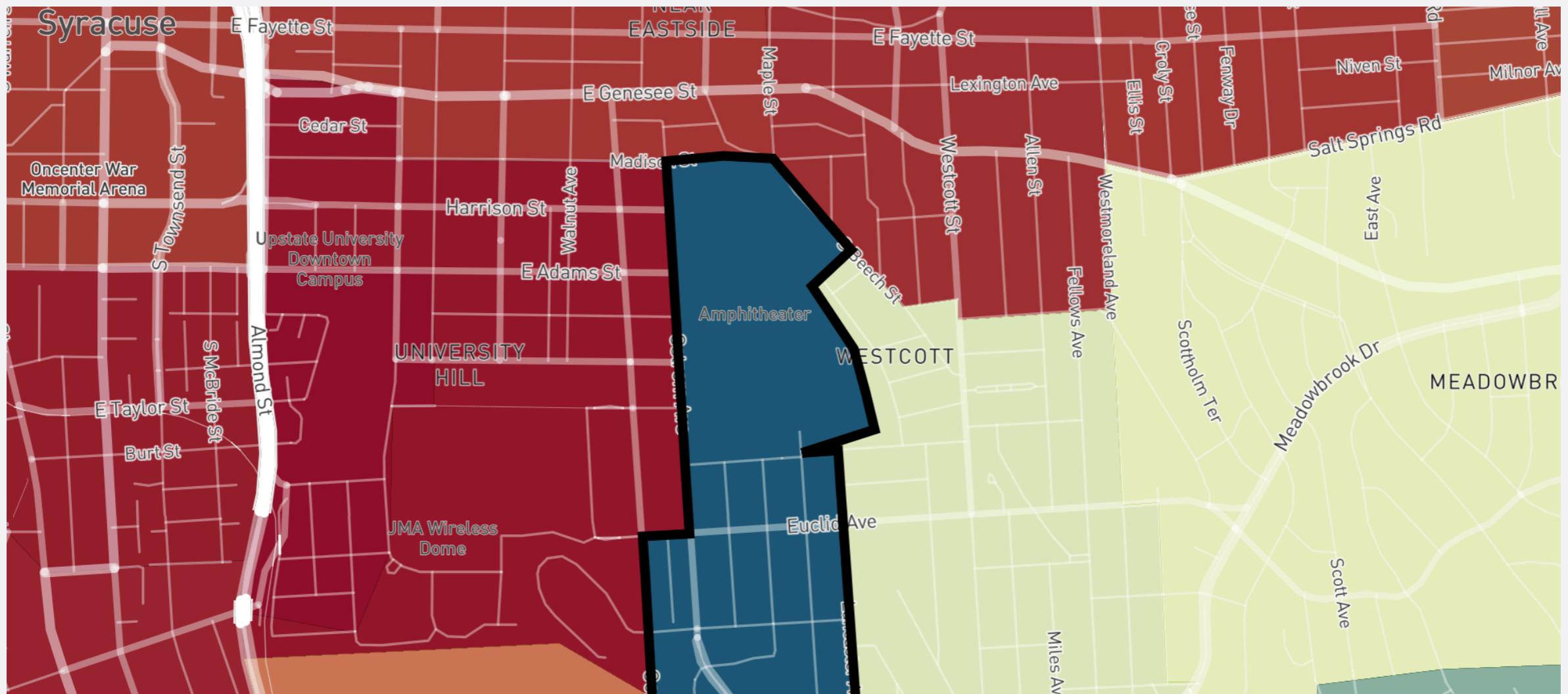
# SOCIAL MOBILITY, QUANTITATIVE



# SOCIAL MOBILITY, QUANTITATIVE



# SOCIAL MOBILITY, QUANTITATIVE



Tract 36067004400, Eastside, Syracuse, NY

## CHILDREN'S OUTCOMES IN ADULTHOOD ⓘ

show more

## HOUSEHOLD INCOME AT AGE 35

LOWEST

MEDIAN (\$34k)

HIGHEST

\$57k ⓘ

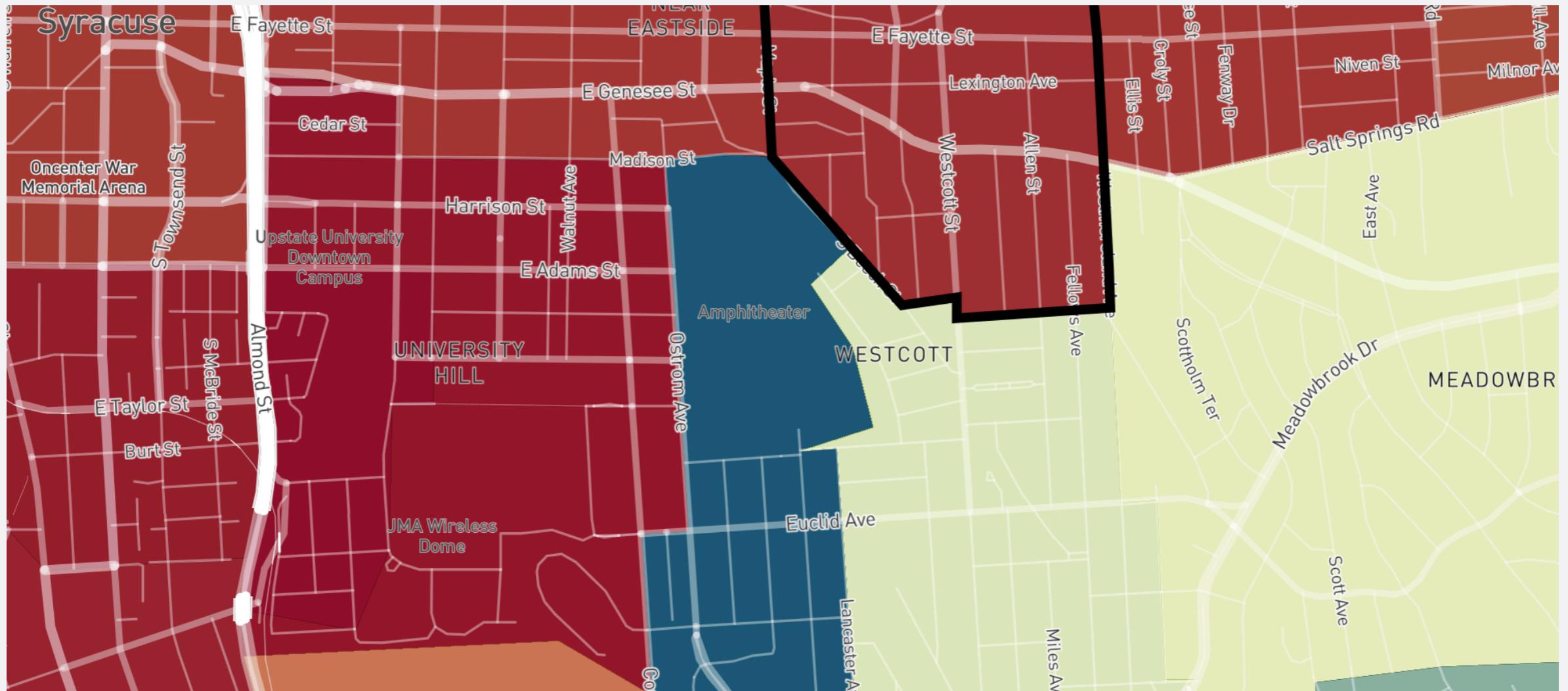
<1% ⓘ

## INCARCERATION RATE

show more outcomes

<\$20k 27k 29k 30k 32k 33k 35k 37k 39k 44k >\$55k

# SOCIAL MOBILITY, QUANTITATIVE



## CHILDREN'S OUTCOMES IN ADULTHOOD ⓘ

show more

## HOUSEHOLD INCOME AT AGE 35

\$21k ⓘ

LOWEST

MEDIAN (\$34k)

HIGHEST

## INCARCERATION RATE

9.3% ⓘ

show more outcomes

<\$20k 27k 29k 30k 32k 33k 35k 37k 39k 44k >\$55k