

# **Boosting Upward Mobility from Poverty Data Documentation**

Aaron R. Williams

2023-03-01

# Table of contents

<b>Introduction</b>	<b>5</b>
<b>I Available Data Sets</b>	<b>6</b>
<b>II 00_mobility-metrics_longitudinal.csv</b>	<b>8</b>
<b>III 01_mobility-metrics.csv</b>	<b>10</b>
<b>IV 02_mobility-metrics_race-ethnicity.csv</b>	<b>12</b>
<b>V 03_mobility-metrics_race.csv</b>	<b>14</b>
<b>VI 04_mobility-metrics_race-share.csv</b>	<b>16</b>
<b>1 Year</b>	<b>18</b>
<b>2 State</b>	<b>19</b>
<b>3 County</b>	<b>20</b>
<b>4 Population</b>	<b>21</b>
<b>5 Predictor: Housing Affordability</b>	<b>22</b>
5.1 Metric: Ratio of affordable and available housing units to households with low-, very low-, and extremely low income levels . . . . .	22
<b>6 Predictor: Housing Stability</b>	<b>26</b>
6.1 Metric: Number and share of public school children who are ever homeless during the school year . . . . .	26

<b>7</b>	<b>Predictor: Economic Inclusion</b>	<b>29</b>
7.1	Metric: Share of residents experiencing poverty living in high-poverty neighborhoods . . . . .	29
<b>8</b>	<b>Predictor: Racial Diversity</b>	<b>31</b>
8.1	Metric: Neighborhood exposure index, or the share of a person's neighbors who are people of other races and ethnicities . . . . .	31
<b>9</b>	<b>Predictor: Social Capital</b>	<b>35</b>
9.1	Metric: Number of membership associations per 10,000 people . . . . .	35
<b>10</b>	<b>Predictor: Transportation Access</b>	<b>36</b>
10.1	Metric: Transit trips index . . . . .	36
<b>11</b>	<b>Predictor: Access to Preschool</b>	<b>39</b>
11.1	Metric: Share of 3- to 4-year-olds enrolled in nursery school or preschool . . . .	39
<b>12</b>	<b>Predictor: Effective Public Education</b>	<b>41</b>
12.1	Metric: Average per grade change in English Language Arts achievement between third and eighth grades . . . . .	41
<b>13</b>	<b>Predictor: School Economic Diversity</b>	<b>43</b>
13.1	Metric: Share of students attending high-poverty schools, by student race or ethnicity . . . . .	43
<b>14</b>	<b>Predictor: Preparation for College</b>	<b>44</b>
14.1	Metric: Share of 19- and 20-year-olds with a high school degree . . . . .	44
<b>15</b>	<b>Predictor: Digital Access</b>	<b>46</b>
15.1	Metric: Share of households with broadband access in the home . . . . .	46
<b>16</b>	<b>Predictor: Employment Opportunities</b>	<b>47</b>
16.1	Metric: Employment-to-population ratio for adults ages 25 to 54 . . . . .	47
<b>17</b>	<b>Predictor: Jobs Paying Living Wages</b>	<b>49</b>
17.1	Metric: Ratio of pay on the average job to the cost of living . . . . .	49
<b>18</b>	<b>Predictor: Opportunities for Income</b>	<b>51</b>
18.1	Metric: Household income at the 20th, 50th, and 80th percentiles . . . . .	51
<b>19</b>	<b>Predictor: Financial Security</b>	<b>54</b>
19.1	Metric: Share with debt in collections . . . . .	54

<b>20 Predictor: Wealth Building Opportunities</b>	<b>56</b>
20.1 Metric: Ratio of the share of a community's housing wealth held by a racial or ethnic group to the share of households of the same group . . . . .	56
<b>21 Predictor: Access to Health Services</b>	<b>57</b>
21.1 Metric: Ratio of population per primary care physician . . . . .	57
<b>22 Predictor: Neonatal Health</b>	<b>58</b>
22.1 Metric: Share of low-weight births . . . . .	58
<b>23 Predictor: Environmental Quality</b>	<b>60</b>
23.1 Metric: Air quality index . . . . .	60
<b>24 Predictor: Safety from Trauma</b>	<b>62</b>
24.1 Metric: Number of deaths caused by injury per 100,000 people . . . . .	62
<b>25 Predictor: Political Participation</b>	<b>63</b>
25.1 Metric: Share of the voting-eligible population who turn out to vote . . . . .	63
<b>26 Predictor: Descriptive Representation</b>	<b>65</b>
26.1 Metric: Ratio of the share of local elected officials of a racial or ethnic group to the share of residents of the same racial or ethnic group . . . . .	65
<b>27 Predictor: Safety from Crime</b>	<b>69</b>
27.1 Metric: Rates of reported violent crime and property crime . . . . .	69
<b>28 Predictor: Just Policing</b>	<b>70</b>
28.1 Metric: Rate of juvenile justice arrests . . . . .	70

# Introduction

The Urban Institute is engaged in a multi-year effort to understand upward mobility from poverty and to work with local leaders to promote policies that boost upward mobility from poverty.

This book contains documentation of the data sets and variables that make up the mobility metrics.

The data are available on the Urban Institute Data Catalog.

To learn more please read

- [Boosting Upward Mobility: Metrics to Inform Local Action](#)
- [Boosting Upward Mobility: Metrics to Inform Local Action Summary](#)

**Part I**

**Available Data Sets**

The mobility metrics are contained in several distinct data sets. The data sets are organized according to the principles of [tidy data](#) and each data set has a unique unit of observation.

## **Part II**

**00\_mobility-metrics\_longitudinal.csv**



- **Unit of Observation:** One row per county per year.
- **Dimensions:** 15,710 rows and 116 columns
- **Years:** 2014, 2015, 2016, 2017, 2018

This data set contains all of the county-level mobility metrics for all available years. In some cases it will contain more years of data than are available in the mobility metrics data pages.

---

## **Part III**

### **01\_mobility-metrics.csv**

- **Unit of Observation:** One row per county.
- **Dimensions:** 3,142 rows and 115 columns
- **Years:**

This data set contains all of the county-level mobility metrics for the most recent year available for each metric. For example, if one metric is available in 2018 and another metric is available in 2021, both metrics will show up in the same row in this data set.

---

## **Part IV**

**02\_mobility-metrics\_race-ethnicity.csv**

- **Unit of Observation:** One row per county per race-ethnicity group.
  - **Dimensions:** 15,710 rows and 50 columns
-

## **Part V**

**03\_mobility-metrics\_race.csv**

- **Unit of Observation:** One row per county per race group.
  - **Dimensions:** 12,568 rows and 9 columns
-

## **Part VI**

**04\_mobility-metrics\_race-share.csv**



- **Unit of Observation:** One row per county per majority race group in a subgeography.
  - **Dimensions:** 12,576 rows and 17 columns
- 

The following sections provide detailed documentation for each data set.

# 1 Year

year

## 2 State

state state\_name

## 3 County

county county\_name

## 4 Population

population

## 5 Predictor: Housing Affordability

### 5.1 Metric: Ratio of affordable and available housing units to households with low-, very low-, and extremely low income levels

**Variables:** share\_affordable\_30\_ami, share\_affordable\_50\_ami, share\_affordable\_80\_ami, housing\_quality

**Years:** 2014, 2018

**Disaggregation:** ([link](#))

#### 5.1.0.1 Variable: share\_affordable\_30\_ami

##### Summary

Min.

Median

Mean

Max.

NA's

0.41

1.83

1.81

3.10

9429

##### Data Quality

housing\_quality

n

1  
1120  
2  
5161  
3  
1  
NA  
9428

#### 5.1.0.2 Variable: share\_affordable\_50\_ami

##### Summary

Min.  
Median  
Mean  
Max.  
NA's  
0.76  
1.82  
1.81  
3.01  
9429

##### Data Quality

housing\_quality  
n  
1  
1120  
2  
5161

3

1

NA

9428

### 5.1.0.3 Variable: share\_affordable\_80\_ami

#### Summary

Min.

Median

Mean

Max.

NA's

1.09

1.67

1.67

2.66

9429

#### Data Quality

housing\_\_quality

n

1

1120

2

5161

3

1

NA

9428



---

## 6 Predictor: Housing Stability

### 6.1 Metric: Number and share of public school children who are ever homeless during the school year

**Variables:** homeless\_count, homeless\_share, homeless\_count\_lb, homeless\_count\_ub, homeless\_quality

**Years:** 2014, 2018

**Disaggregation:** ([link](#))

#### 6.1.0.1 Variable: homeless\_count

##### Summary

Min.

Median

Mean

Max.

NA's

0

87

478

67,947

10035

##### Data Quality

homeless\_quality

n

1

4812  
2  
194  
3  
669  
NA  
10035

#### 6.1.0.2 Variable: homeless\_share

##### Summary

Min.  
Median  
Mean  
Max.  
NA's  
0.00  
0.02  
0.03  
0.44  
10043

##### Data Quality

homeless\_quality  
n  
1  
4812  
2  
194  
3

669

NA

10035

---

## 7 Predictor: Economic Inclusion

### 7.1 Metric: Share of residents experiencing poverty living in high-poverty neighborhoods

**Variables:** poverty\_exposure, poverty\_exposure\_quality

**Years:** 2018

**Disaggregation:** ([link](#))

#### 7.1.0.1 Variable: poverty\_exposure

##### Summary

Min.

Median

Mean

Max.

NA's

0.00

0.00

0.05

1.00

12575

##### Data Quality

poverty\_\_exposure\_\_quality

n

1

2204

2

810

3

121

NA

12575

---

## 8 Predictor: Racial Diversity

### 8.1 Metric: Neighborhood exposure index, or the share of a person's neighbors who are people of other races and ethnicities

**Variables:** black\_nh\_exposure, black\_nh\_exposure\_quality, hispanic\_exposure, hispanic\_exposure\_quality, other\_nh\_exposure, other\_nh\_exposure\_quality, white\_nh\_exposure, white\_nh\_exposure\_quality

**Years:** 2018

**Disaggregation:** ([link](#))

#### 8.1.0.1 Variable: black\_nh\_exposure

##### Summary

Min.

Median

Mean

Max.

NA's

0.12

0.93

0.84

1.00

13019

##### Data Quality

black\_nh\_exposure\_quality

n

1  
1276  
2  
647  
3  
768  
NA  
13019

#### 8.1.0.2 Variable: hispanic\_exposure

##### Summary

Min.  
Median  
Mean  
Max.  
NA's  
0.01  
0.94  
0.87  
1.00  
12660

##### Data Quality

hispanic\_exposure\_quality  
n  
1  
1370  
2  
1099



3  
581  
NA  
12660

### 8.1.0.3 Variable: other\_nh\_exposure

#### Summary

Min.  
Median  
Mean  
Max.  
NA's  
0.05  
0.96  
0.92  
1.00  
12676

#### Data Quality

other\_nh\_exposure\_quality  
n  
1  
1100  
2  
1118  
3  
816  
NA  
12676

#### 8.1.0.4 Variable: white\_nh\_exposure

##### Summary

Min.

Median

Mean

Max.

NA's

0.00

0.15

0.21

0.99

12569

##### Data Quality

white\_nh\_exposure\_quality

n

1

3110

2

25

3

6

NA

12569

---

## 9 Predictor: Social Capital

### 9.1 Metric: Number of membership associations per 10,000 people

Variables: TBD

Years:

Disaggregation: ([link](#))

---

# 10 Predictor: Transportation Access

## 10.1 Metric: Transit trips index

**Variables:** transit\_cost, transit\_cost\_quality, transit\_trips, transit\_trips\_quality

**Years:** 2016

**Disaggregation:** ([link](#))

### 10.1.0.1 Variable: transit\_trips

#### Summary

Min.

Median

Mean

Max.

NA's

0.00

18.70

23.13

98.72

12568

#### Data Quality

transit\_trips\_quality

n

1

3133

2  
5  
3  
4  
NA  
12568

#### 10.1.0.2 Variable: transit\_cost

##### Summary

Min.  
Median  
Mean  
Max.  
NA's  
0.00  
18.23  
24.05  
98.24  
12568

##### Data Quality

transit\_cost\_quality  
n  
1  
3132  
2  
6  
3  
4

NA

12568

---

# 11 Predictor: Access to Preschool

## 11.1 Metric: Share of 3- to 4-year-olds enrolled in nursery school or preschool

**Variables:** share\_in\_preschool, share\_in\_preschool\_lb, share\_in\_preschool\_ub, preschool\_quality

**Years:**

**Disaggregation:** (link)

### 11.1.0.1 Variable: share\_in\_preschool

#### Summary

Min.

Median

Mean

Max.

NA's

0.03

0.42

0.43

0.82

12569

#### Data Quality

preschool\_quality

n

1

435

2

1785

3

922

NA

12568

---



## 12 Predictor: Effective Public Education

### 12.1 Metric: Average per grade change in English Language Arts achievement between third and eighth grades

**Variables:** learning\_rate, learning\_rate\_lb, learning\_rate\_ub, learning\_rate\_quality

**Years:** 2015

**Disaggregation:** ([link](#))

#### 12.1.0.1 Variable: learning\_rate

##### Summary

Min.

Median

Mean

Max.

NA's

−0.22

0.98

0.98

3.02

12648

##### Data Quality

learning\_rate\_quality

n

1

2377

2

347

3

338

NA

12648

---

## 13 Predictor: School Economic Diversity

### 13.1 Metric: Share of students attending high-poverty schools, by student race or ethnicity

Variables: TBD

Years:

Disaggregation: (link)

---

# 14 Predictor: Preparation for College

## 14.1 Metric: Share of 19- and 20-year-olds with a high school degree

**Variables:** share\_hs\_degree, share\_hs\_degree\_lb, share\_hs\_degree\_ub, hs\_degree\_quality

**Years:** 2018

**Disaggregation:** ([link](#))

### 14.1.0.1 Variable: share\_hs\_degree

#### Summary

Min.

Median

Mean

Max.

NA's

0.48

0.89

0.88

1.00

12569

#### Data Quality

hs\_degree\_quality

n

1

388

2

1113

3

1640

NA

12569

---

# 15 Predictor: Digital Access

## 15.1 Metric: Share of households with broadband access in the home

Variables: TBD

Years:

Disaggregation: (link)

---

# 16 Predictor: Employment Opportunities

## 16.1 Metric: Employment-to-population ratio for adults ages 25 to 54

**Variables:** share\_employed, share\_employed\_lb, share\_employed\_ub, employed\_quality

**Years:** 2018

**Disaggregation:** ([link](#))

### 16.1.0.1 Variable: share\_employed

#### Summary

Min.

Median

Mean

Max.

NA's

0.52

0.79

0.78

0.92

12569

#### Data Quality

employed\_quality

n

1

560

2

2581

NA

12569

---



# 17 Predictor: Jobs Paying Living Wages

## 17.1 Metric: Ratio of pay on the average job to the cost of living

**Variables:** average\_to\_living\_wage\_ratio, wage\_ratio\_quality

**Years:** 2014, 2018

**Disaggregation:** ([link](#))

### 17.1.0.1 Variable: average\_to\_living\_wage\_ratio

#### Summary

Min.

Median

Mean

Max.

NA's

0.39

0.66

0.69

1.61

9429

#### Data Quality

wage\_ratio\_quality

n

1

6260

3

21

NA

9429

---

# 18 Predictor: Opportunities for Income

## 18.1 Metric: Household income at the 20th, 50th, and 80th percentiles

**Variables:** pctl\_20, pctl\_50, pctl\_80, pctl\_quality

**Years:** 2018

**Disaggregation:** ([link](#))

### 18.1.0.1 Variable: pctl\_20

#### Summary

Min.

Median

Mean

Max.

NA's

9,117.87

22,288.13

22,950.66

73,956.08

12569

#### Data Quality

pctl\_quality

n

1

560

2  
2581  
NA  
12569

#### **18.1.0.2 Variable: pctl\_50**

##### **Summary**

Min.  
Median  
Mean  
Max.  
NA's  
28,164.10  
51,667.95  
53,221.17  
163,716.50  
12569

##### **Data Quality**

pctl\_quality  
n  
1  
560  
2  
2581  
NA  
12569

### 18.1.0.3 Variable: pctl\_80

#### Summary

Min.

Median

Mean

Max.

NA's

66,053.92

98,270.41

102,697.32

324,302.50

12569

#### Data Quality

pctl\_quality

n

1

560

2

2581

NA

12569

# 19 Predictor: Financial Security

## 19.1 Metric: Share with debt in collections

**Variables:** share\_debt\_coll, share\_debt\_coll\_lb, share\_debt\_coll\_ub, share\_debt\_coll\_quality

**Years:** 2018

**Disaggregation:** ([link](#))

### 19.1.0.1 Variable: share\_debt\_coll

#### Summary

Min.

Median

Mean

Max.

NA's

0.05

0.32

0.33

0.68

12765

#### Data Quality

share\_debt\_coll\_quality

n

1

2945

NA

12765

---

## 20 Predictor: Wealth Building Opportunities

**20.1 Metric: Ratio of the share of a community's housing wealth held by a racial or ethnic group to the share of households of the same group**

Variables: TBD

Years:

Disaggregation: (link)

---



## 21 Predictor: Access to Health Services

### 21.1 Metric: Ratio of population per primary care physician

Variables: TBD

Years:

Disaggregation: (link)

---

## 22 Predictor: Neonatal Health

### 22.1 Metric: Share of low-weight births

**Variables:** lbw, lbw\_quality

**Years:** 2018

**Disaggregation:** ([link](#))

#### 22.1.0.1 Variable: lbw

##### Summary

Min.

Median

Mean

Max.

NA's

0.04

0.08

0.08

0.15

12568

##### Data Quality

lbw\_quality

n

1

578

3

2564

NA

12568

---

## 23 Predictor: Environmental Quality

### 23.1 Metric: Air quality index

**Variables:** environmental, environmental\_quality

**Years:** 2014

**Disaggregation:** ([link](#))

#### 23.1.0.1 Variable: environmental

##### Summary

Min.

Median

Mean

Max.

NA's

0.00

75.82

69.01

99.00

12570

##### Data Quality

environmental\_quality

n

1

3140

NA  
12570

---

## 24 Predictor: Safety from Trauma

### 24.1 Metric: Number of deaths caused by injury per 100,000 people

Variables: TBD

Years:

Disaggregation: [\(link\)](#)

---

## 25 Predictor: Political Participation

### 25.1 Metric: Share of the voting-eligible population who turn out to vote

**Variables:** election\_turnout, election\_turnout\_quality

**Years:** 2016

**Disaggregation:** (link)

#### 25.1.0.1 Variable: election\_turnout

##### Summary

Min.

Median

Mean

Max.

NA's

0.16

0.60

0.59

1.00

12598

##### Data Quality

election\_turnout\_quality

n

1

2977

2

120

3

15

NA

12598

---



## 26 Predictor: Descriptive Representation

### 26.1 Metric: Ratio of the share of local elected officials of a racial or ethnic group to the share of residents of the same racial or ethnic group

**Variables:** asian\_other, asian\_other\_quality, black\_nonhispanic, black\_nonhispanic\_quality, hispanic, hispanic\_quality, white\_nonhispanic, white\_nonhispanic\_quality

**Years:** 2018

**Disaggregation:** ([link](#))

#### 26.1.0.1 Variable: asian\_other

##### Summary

Min.

Median

Mean

Max.

NA's

0.00

0.00

0.59

230.97

14189

##### Data Quality

asian\_other\_quality

n

1  
44  
2  
215  
3  
1262  
NA  
14189

### 26.1.0.2 Variable: black\_nonhispanic

#### Summary

Min.  
Median  
Mean  
Max.  
NA's  
0.00  
0.00  
0.57  
32.50  
14189

#### Data Quality

black\_nonhispanic\_quality  
n  
1  
44  
2  
215

3  
1262  
NA  
14189

### 26.1.0.3 Variable: hispanic

#### Summary

Min.  
Median  
Mean  
Max.  
NA's  
0.00  
0.00  
0.15  
13.71  
14189

#### Data Quality

hispanic\_\_quality  
n  
1  
44  
2  
215  
3  
1262  
NA  
14189

#### 26.1.0.4 Variable: white\_nonhispanic

##### Summary

Min.

Median

Mean

Max.

NA's

0.00

1.14

1.25

7.10

14189

##### Data Quality

white\_nonhispanic\_quality

n

1

44

2

215

3

1262

NA

14189

---

## 27 Predictor: Safety from Crime

### 27.1 Metric: Rates of reported violent crime and property crime

Variables: TBD

Years:

Disaggregation: (link)

Was `violent_crime_rate`, will be something new Was `property_crime_rate`, will be something new `crime_rate_quality`

---

## 28 Predictor: Just Policing

### 28.1 Metric: Rate of juvenile justice arrests

**Variables:** juvenile\_arrest\_rate, juvenile\_arrest\_rate\_quality

**Years:** 2016

**Disaggregation:** ([link](#))

#### 28.1.0.1 Variable: juvenile\_arrest\_rate

##### Summary

Min.

Median

Mean

Max.

NA's

4.84

2,168.59

2,842.63

39,457.43

13057

##### Data Quality

juvenile\_arrest\_rate\_quality

n

1

901

2

1687

3

65

NA

13057