Creating Moves to Opportunity:
Experimental Evidence on Barriers to Neighborhood Choice

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Seattle Housing Authority, King County Housing Authority,
MDRC, and J-PAL North America

March 2020
Motivation: Four Facts on Neighborhoods and Economic Opportunity

1. Children’s prospects for upward income mobility vary substantially across neighborhoods
The Geography of Upward Mobility in Seattle and King County
Average Income at Age 35 for Children with Parents Earning $27,000 (25th percentile)

North Queen Anne
$41k

Central District
$24k

Normandy Park
$47k

Des Moines
$31k

Source: Chetty, Friedman, Hendren, Jones, Porter (2018)
Motivation: Four Facts on Neighborhoods and Economic Opportunity

1. Children’s prospects for upward income mobility vary substantially across neighborhoods

2. Moving to better neighborhoods earlier in childhood improves children’s outcomes in adulthood significantly
Estimates of Childhood Exposure Effects

United States

Australia

Montreal, Canada

Denmark

MTO: Baltimore, Boston, Chicago, LA, NYC

Chicago Public Housing Demolitions

Source: Chetty, Friedman, Hendren, Jones, Porter (2018)

Source: Deutscher (2018)

Source: Laliberté (2018)

Source: Faurschou (2018)

Source: Chetty, Hendren, Katz (AER 2016)

Source: Chyn (AER 2018)
Motivation: Four Facts on Neighborhoods and Economic Opportunity

1. Children’s prospects for upward income mobility vary substantially across neighborhoods

2. Moving to better neighborhoods earlier in childhood improves children’s outcomes in adulthood significantly

3. Low-income families who receive housing vouchers predominantly live in low-opportunity neighborhoods
Most Common Locations of Families with Housing Vouchers 2015-2017

25 most common tracts where voucher holders with children leased before the CMTO experiment

Mean Household Income Rank in Adulthood

- > 57 ($51k)
- 48 ($40k)
- < 36 ($27k)
Motivation: Four Facts on Neighborhoods and Economic Opportunity

1. Children’s prospects for upward income mobility vary substantially across neighborhoods

2. Moving to better neighborhoods earlier in childhood improves children’s outcomes in adulthood significantly

3. Low-income families who receive housing vouchers currently live predominantly in low-opportunity neighborhoods

4. Differences in rent do not explain why low-income families live in low-opportunity areas
The Price of Opportunity in King County: Upward Mobility vs. Rents, by Census Tract

Mean Household Income Ranks of Children with Low-Income (25th Percentile) Parents vs. Median 2-Bedroom Rent in 2015
Question: Why Don’t Low-Income Families Move to Opportunity?

- Two classes of explanations:

  1. **Preferences**: families may prefer to stay in current neighborhoods because of other amenities (e.g., commute time, proximity to family)

  2. **Barriers**: families may be unable to find housing in high-opportunity areas because of lack of information, search frictions, or landlords’ tastes

- If barriers are what is driving segregation, can we reduce them through changes in affordable housing policy?
Creating Moves to Opportunity in Seattle and King County

Randomized trial to develop and test policy-scalable strategies to reduce barriers housing choice voucher recipients face in moving to high-opportunity areas in Seattle and King County
2.2m families in U.S use housing vouchers each year

Administered by local housing authorities

Typical features:

- Income cutoff for eligibility (~30% of area median income)
- Waitlists: typically 2+ years
- Limited time to use voucher: typically 4 months
- Voucher subsidizes tenant’s rent
  - Tenant typically pays 30% of income toward rent and utilities
  - Landlord receives rent up to a cap based on “fair market rent”
- Inspection process for landlords
Definition of Opportunity Areas

- Experimental intervention seeks to help voucher families move to opportunity areas

- First step: define a set of neighborhoods as “opportunity areas”

- Starting point: identify Census tracts with rates of upward income mobility roughly in top third of distribution within Seattle (SHA) and King County (KCHA)

- Adjust definitions in collaboration with housing authorities to account for two issues:
  - Neighborhood change (using test score data to assess stability)
  - Creating contiguous areas
Designation of High-Opportunity Neighborhoods

Seattle City Boundary

High-Opportunity Area
Opportunity Atlas vs. Other Measures of Economic Opportunity

Opportunity Atlas Upward Mobility

Kirwan Child Opportunity Index

Population-Weighted Correlation Across Tracts: 0.30
Treatment Interventions

CUSTOMIZED SEARCH ASSISTANCE

On average, non-profit staff spend 6 hours with each household.

DIRECT LANDLORD ENGAGEMENT

47% of rentals in high-opportunity areas made through links via non-profit staff.

SHORT-TERM FINANCIAL ASSISTANCE

Average financial assistance of $1,000 for security deposits, application fees, etc.

Program Cost: $2,660 per family issued a voucher (2.2% of average voucher payments over 7 years)

Note: Families not required to move to high-opportunity areas.
Key Elements in the CMTO Intervention

**Customized Search Assistance**
- **High-opportunity area education** to increase families’ knowledge about high-opportunity areas.
- **Rental application coaching** to increase families’ competitiveness for rental units by addressing credit history and preparing a narrative.
- **Housing locator services** to help families identify suitable units in high-opportunity areas.

**Increased Landlord Engagement**
- **Cultivate relationships** with landlords in designated high-opportunity areas to create housing opportunities for CMTO families.
- **Expedite lease-up processes** by completing PHA required documents and conducting housing inspections more quickly.
- **Insurance fund** to mitigate risks of property damage.

**Short-Term Financial Assistance**
- Grants to **defray move-in expenses**, such as application fees and security deposits (on average $1,000).
**Intervention Process Timeline**

- **Family Contacted**
  - Notified of selection from waitlist

- **Intake Appointment**
  - Consent
  - Randomization
  - Baseline survey

- **Nonprofit Staff Meet with Families and Landlords**
  - Rental application coaching
  - Opportunity area education
  - Visiting locations

- **Voucher Issued**

- **Unit Selected**
  - Family approved by landlord for unit

- **Lease Signed**

- **Lease Up**
  - Receive paperwork and financial assistance (e.g. assistance for deposit)

**Family Milestone**

**PHA**

**Nonprofit**

**Family Milestone**
## Creating Moves to Opportunity Program Costs

### A. Total Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Average Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of CMTO services per family issued</td>
<td>$2,661</td>
</tr>
<tr>
<td>Cost of CMTO services per family leased</td>
<td>$3,045</td>
</tr>
<tr>
<td>Cost of CMTO services per opportunity move</td>
<td>$5,006</td>
</tr>
<tr>
<td>Cost of CMTO services per family issued / 7-year</td>
<td></td>
</tr>
<tr>
<td>HAP costs per family</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

### B. Costs by Service Category

<table>
<thead>
<tr>
<th>Description</th>
<th>Average Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of CMTO financial assistance per issuance</td>
<td>$1,043</td>
</tr>
<tr>
<td>Cost of CMTO program services per issuance</td>
<td>$1,500</td>
</tr>
<tr>
<td>Cost of PHA CMTO administration per issuance</td>
<td>$392</td>
</tr>
<tr>
<td>Cost savings of PHA security deposits paid by CMTO</td>
<td>($274)</td>
</tr>
</tbody>
</table>

### C. Housing Assistance Payment (HAP) Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Average Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incremental HAP cost per lease per year</td>
<td>$2,626</td>
</tr>
<tr>
<td>Incremental HAP / average HAP costs per family</td>
<td>15.4%</td>
</tr>
</tbody>
</table>
Sample frame: families with at least one child below age 15 who were issued vouchers in either Seattle or King County between April 2018 to April 2019

430 eligible families in the experiment, split randomly into control (standard services) and treatment

- 222 treatment families and 208 control families

Randomly sampled 202 families for open-ended qualitative interviews

- 80% overall response rate, N = 161
### Summary Statistics for Experimental Sample

<table>
<thead>
<tr>
<th>Head of Household Characteristics</th>
<th>Pooled Mean</th>
<th>Control Mean</th>
<th>Treatment Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Income</td>
<td>$19,667</td>
<td>$19,517</td>
<td>$19,806</td>
</tr>
<tr>
<td>% Black</td>
<td>49.29</td>
<td>49.76</td>
<td>48.86</td>
</tr>
<tr>
<td>% High School Grad</td>
<td>78.40</td>
<td>72.20</td>
<td>84.16</td>
</tr>
<tr>
<td>Head of Household's Age</td>
<td>34.21</td>
<td>34.24</td>
<td>34.18</td>
</tr>
<tr>
<td>Children’s Mean Age</td>
<td>6.62</td>
<td>6.59</td>
<td>6.65</td>
</tr>
<tr>
<td>% Homeless</td>
<td>13.29</td>
<td>14.49</td>
<td>12.16</td>
</tr>
<tr>
<td>% Currently Working</td>
<td>56.41</td>
<td>59.90</td>
<td>53.15</td>
</tr>
<tr>
<td>% Satisfied with Current Neighborhood</td>
<td>50.87</td>
<td>47.94</td>
<td>53.62</td>
</tr>
<tr>
<td>% Unsatisfied with Any Child's Current School</td>
<td>15.11</td>
<td>16.46</td>
<td>13.87</td>
</tr>
<tr>
<td>Number of Observations</td>
<td>430</td>
<td>208</td>
<td>222</td>
</tr>
</tbody>
</table>

**F-Test for Treat-Control Balance:**

<table>
<thead>
<tr>
<th>F-Statistic</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.183</td>
<td>0.214</td>
</tr>
</tbody>
</table>
Outline

1. Program Description and Experimental Design
2. Treatment Effect Estimates
3. Mechanisms
4. Conclusion
Fraction of Families Who Leased Units in High Opportunity Areas

Difference: 37.9 pp
SE: (4.2)
Fraction of Families Who Leased Units in High Opportunity Areas

Share of Households Who Moved to High Opportunity Areas

Control: 15.1%

Treatment: 53.0%

Historical mean rate: 11.6%

Difference: 37.9 pp
SE: (4.2)
Fraction Who Leased Any Unit

Share of Households Who Moved

Control: 85.9%
Treatment: 87.4%

Difference: 1.5 pp
SE: (3.3)
Fraction Who Leased Units in High Opportunity Areas, Conditional on Leasing Up Using Voucher

Share of Households Who Moved to High Opportunity Areas, Given They Moved

Control: 17.6%

Treatment: 60.7%

Difference: 43.1 pp
SE: (4.6)
Destination Locations for Families that Leased Units Using Housing Vouchers

- Capitol Hill
- Ballard
- Magnolia
- Northeast Seattle
- Rainier Valley
- Inglewood
- Lake City
- Auburn
- East Hill
- Burien
- Kent
- Des Moines
- Tukwila
- Issaquah
- Cougar Mountain
- Newport
- Seattle
- High-Oppportunity Area
- Control
- CMTO Treatment
- Lea Hill, Auburn
Predicted Impacts on Upward Mobility

- How much do these moves improve children’s rates of upward income mobility?

- Cannot directly answer this question yet, but can make a prediction based on historical data on upward mobility by tract from the Opportunity Atlas
Upward Mobility in Destination Neighborhoods

Mean Household Income Rank (p=25) in Neighborhood

Control: 44.5
Treatment: 46.1

Difference: 1.6 ranks
SE: (0.4)
Predicted Impact on Upward Mobility

- Treatment effect on observed rate of upward mobility in destination tracts = 1.6 percentiles

- Translate this into predicted causal impact on earnings for a given child whose family is induced to move to a high-opportunity area by CMTO by making two adjustments

1. Chetty, Friedman, Hendren, Jones, and Porter (2018) estimate that 62% of the observational variation in upward mobility across tracts is due to causal effects

2. 37.9% of families induced to move to high-opportunity neighborhoods by treatment

- Adjusting for these two factors → causal effect of $1.6 \times \frac{0.62}{0.379} \approx 2.6$ percentiles

  - About $3,000 (8.4\%)$ in annual household income or $214,000$ (undiscounted) over a child’s lifetime

- Alternative scaling: moving to a high-opportunity area reduces the intergenerational persistence of income (p25-75 gap in outcomes) by about 20\%
Treatment Effects By Race and Ethnicity

- Black Non-Hispanic: Control 10.9%, Treatment 47.6%
  Diff. = 36.7 (5.8)

- White Non-Hispanic: Control 19.6%, Treatment 62.3%
  Diff. = 42.7 (9.0)

- Other Race/Ethnicity: Control 19.6%, Treatment 56.0%
  Diff. = 36.4 (8.6)
Tradeoffs in Unit Characteristics

- Are families making sacrifices on other dimensions to move to high-opportunity areas?
Tradeoffs in Neighborhood and Unit Quality
Treatment Effects on Distance Moved and Unit Size

Distance Moved

Mean Distance in Miles Between Origin and Destination Tract Centers

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Treatment</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10.5</td>
<td>11.4</td>
<td>0.9 miles</td>
</tr>
</tbody>
</table>

Difference: 0.9 miles
SE: (1.2)

Unit Size

Square Footage of Unit

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Treatment</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1257.2</td>
<td>1299.0</td>
<td>41.8 sq. feet</td>
</tr>
</tbody>
</table>

Difference: 41.8 sq. feet
SE: (80.8)
Persistence in High-Opportunity Neighborhoods

- Do families induced to move to high-opportunity areas by CMTO choose to stay there when their leases come up for renewal?
Share of Households Living in High-Opportunity Areas
Among Households Issued a Voucher Before September 1, 2018 and who Leased-Up Before January 7, 2019

<table>
<thead>
<tr>
<th></th>
<th>Initial Move</th>
<th>Feb 6, 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>19.1%</td>
<td>19.1%</td>
</tr>
<tr>
<td>Treatment</td>
<td>64.1%</td>
<td>60.0%</td>
</tr>
</tbody>
</table>

Change in Treatment Effect from Initial Move to Feb 6, 2020: \(-4.1 \text{ pp}\)
SE: (13.3)
Short-Run Persistence - Share of Households who Have Stayed in Unit as of Feb 6, 2020

Among Households Issued a Voucher pre September 1, 2018 and Leased-Up pre January 7, 2019

- Control: 87.2%
- Treatment: 86.8%

Difference: -0.4 pp
SE: (7.1)
Persistence in High-Opportunity Neighborhoods

- Do families induced to move to high-opportunity areas by CMTO choose to stay there when their leases come up for renewal?

- To predict longer-run persistence, we use surveys administered to a randomly selected set of families post-move

1. Are families satisfied with their new neighborhoods?

2. How likely do they think they are to move?

- Such subjective assessments of satisfaction and persistence are highly predictive of subsequent move rates (Clark and Ledwith 2006; Basolo and Yerena 2017)
Satisfaction with New Neighborhoods
Based on Surveys Six Months Post-Move

Satisfaction with New Neighborhood

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>45.5%</td>
<td>64.2%</td>
<td></td>
</tr>
</tbody>
</table>

Difference: **18.7 pp**
SE: (10.1)

Certainty about Wanting to Stay in New Neighborhood

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.3%</td>
<td>47.7%</td>
<td></td>
</tr>
</tbody>
</table>

Difference: **17.4 pp**
SE: (9.8)
Satisfaction in New Neighborhood by Type of Area Leased In

- Moved to Non-Opp. Area:
  - Control: 29.2% (n=24)
  - Treatment: 88.9% (n=9)
  - Difference: 59.7% (17.0)

- Moved to Opp. Area:
  - Control: 42.9% (n=28)
  - Treatment: 73.1% (n=67)
  - Difference: 30.3% (10.4)

Percentage Very Sure They Will Stay in New Neighborhood

- Moved to Non-Opp. Area:
  - Control: 16.7% (n=24)
  - Treatment: 66.7% (n=9)
  - Difference: 50.0% (16.2)

- Moved to Opp. Area:
  - Control: 32.1% (n=28)
  - Treatment: 53.7% (n=67)
  - Difference: 21.6% (11.1)
Implications for Models of Neighborhood Choice

- Experimental results suggest that barriers play a central role in neighborhood choice

- Frictionless model would require that 43% of people happen to have (net) willingness to pay for low-opportunity areas between $0 and $2,660 (cost of treatment)
60.7% have WTP < $2,660 for low-opportunity neighborhood.

17.6% have WTP < $0 for low-opportunity neighborhood.

$2,660 (cost of CMTO program)
Implications for Models of Neighborhood Choice

- Experimental results suggest that barriers play a central role in neighborhood choice
  - Frictionless model would require that 43% of people happen to have (net) willingness to pay for low-opportunity areas between $0 and $2,660 (cost of treatment)
  - These barriers could potentially be captured in a standard model of housing search with sufficiently large search costs [e.g., Wheaton 1990; Kennan and Walker 2011]
  - Important to unpack what these costs are to understand how to reduce them
Outline

1. Program Description and Experimental Design
2. Treatment Effect Estimates
3. Mechanisms
4. Conclusion
Qualitative Evidence on Mechanisms

- What are the barriers families face in moving to higher-opportunity areas?

- Qualitative study of 161 families interviewed for two hours each during search process and post-move

- Key lessons from these interviews (based on systematic coding of 8,000 pages of transcripts):

  1. [Scarcity] Most families have extremely limited time and resources to search [Mullainathan and Shafir 2013]

  2. [Customization] Case workers’ ability to respond to each family’s specific needs is crucial above and beyond standardized resources
Five Key Mechanisms Underlying the Treatment Effects

1. Emotional Support (61% prevalence rate)
2. Increased Motivation to Move to Opportunity (78%)
3. Streamlining the Search Process (73%)
4. Landlord Brokering (61%)
5. Short-Term Financial Assistance (81%)
Qualitative Evidence on Mechanisms

Emotional/Psychological Support

“It was this whole flood of relief. It was this whole flood of, “I don’t know how I’m going to do this” and “I don’t know what I’m going to do” and “This isn’t working,” and yeah…I think it was just the supportive nature of having lots of conversations with Megan.” – Jackie

Brokering with Landlords

“When you find a place, I will come with you and we will help you to fill out the application. I will talk with the landlord, I will help you to do a lot of stuff, that maybe sometimes will be complicated.” – Leah

Short-Term Financial Assistance

“I’m not going to be able to pay here and then there [in the new apartment] … They were able to get me more money, so that they would pay more of my first portion of my rent. Because they understood the situation that I was in.” – Jennifer
## Intervention Dosage: Treated Households' Usage of CMTO Services

<table>
<thead>
<tr>
<th></th>
<th>Pooled</th>
<th>Moved to Low Opportunity Tract</th>
<th>Moved to High Opportunity Tract</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (1)</td>
<td>SD (2)</td>
<td>Mean (3)</td>
</tr>
<tr>
<td>Total hours in contact with non-profit or PHA staff</td>
<td>5.98</td>
<td>4.51</td>
<td>4.46</td>
</tr>
<tr>
<td>Percent linked to a unit of a landlord contacted by non-profit staff (%)</td>
<td>27.5</td>
<td>44.7</td>
<td>5.3</td>
</tr>
<tr>
<td>Percent that received any financial assistance (%)</td>
<td>63.5</td>
<td>48.2</td>
<td>27.6</td>
</tr>
<tr>
<td>Total amount of assistance among families that received financial assistance ($)</td>
<td>1,642</td>
<td>1,220</td>
<td>252</td>
</tr>
</tbody>
</table>
Correlations Between Usage of CMTO Services Among Families who Moved to High-Opportunity Areas

<table>
<thead>
<tr>
<th></th>
<th>Time Meeting with CMTO Staff</th>
<th>Financial Assistance</th>
<th>Unit Found Through Housing Locator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Meeting with CMTO Staff</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Assistance</td>
<td>0.19</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Unit Found Through Housing Locator</td>
<td>0.11</td>
<td>-0.10</td>
<td>1</td>
</tr>
</tbody>
</table>
Mechanisms: Evidence from Alternative Policies

- More standardized policies with similar goals of helping families move to higher-opportunity areas have much smaller impacts than CMTO:

  1. Information provision

     - Schwartz et al. (2017) and Bergman et al. (2019): RCTs providing information and lighter-touch counseling → order-of-magnitude smaller impacts

     - CMTO treatment effect of 48 pp on fraction living in high-opportunity areas even among families who were living in high-opportunity areas at baseline
More standardized policies with similar goals of helping families move to higher-opportunity areas have much smaller impacts than CMTO:

1. Information provision

2. Financial incentives: Small Area Fair Market Rents
   - Offer larger voucher payments in higher rent areas [Collinson and Ganong 2018]
   - Offer larger voucher payments in higher opportunity neighborhoods
Impacts of Financial Incentives: Evidence From Changes in Rent Payment Standards

- Study two changes in payment standards that preceded CMTO experiment using a difference-in-differences design

  1. March 2016: King County switched from a two-tier to five-tier payment standard, effectively increasing payment standards in more expensive areas of the county

  2. February 2018: Seattle effectively increased payment standards in areas designated as “high opportunity” by making a supplemental payment to families with children
CMTO Has Much Larger Impact on Moves to Opportunity than Small Area Payment Standards

Effect of 5-Tier Reform: -3.59 ranks

(5.75)
Effect of SHA Increase in Payment Standards for High-Opportunity Areas in Seattle

Difference-in-Difference Estimate

Note: data shown from May 2018 onward are based on control group in CMTO experiment

Effect of Family Access Supplement: 13.79 pp (5.11)
Impacts of Financial Incentives: Conclusions

- Results suggest that simply providing adequate rental payments to move to higher-opportunity areas is insufficient to induce moves to opportunity.

- Need to provide additional customized support in search process to overcome barriers.
Conclusions

- Economic segregation in the United States appears to be driven not by deep-rooted preferences but rather by small barriers in housing search process.

- Services to reduce barriers to moving can increase moves to opportunity and thereby increased intergenerational upward mobility substantially.

  - Program cost is about $2,660 per family issued a voucher, or $5,000 per opportunity move.

  - CMTO is predicted to increase the lifetime household income of each child who moves by $214,000 (8.4%).

  - Also predicted to increase college attendance rates, reduce teen birth rates, and reduce incarceration rates significantly.
To authorize a new type of housing choice voucher to help achieve the goals of ending homelessness among families with children, increasing housing opportunities, and improving life outcomes of poor children.
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 bill’s 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.
Next Steps: National Scaling

- Going forward, we plan to partner with other cities to expand CMTO nationally.

- Of course, not all families can move to opportunity → also studying which place-based investments have the biggest impacts on upward mobility in low-opportunity areas.
From Jasmine, 7 years old, whose family moved to a high-opportunity area in Seattle

Seattle and King County Housing Authorities
Andria Lazaga, Sarah Oppenheimer, Jenny Le, Jodi Speer

MDRC
James Riccio, Nandita Verma, Jonathan Bigelow, Gilda Azurdia

J-PAL North America
Jacob Binder, Graham Simpson, Kristen Watkins

Opportunity Insights
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Johns Hopkins Fieldwork Team
Paige Ackman, Christina Ambrosino, Divya Baron, Joseph Boselovic, Erin Carll, Devin Collins, Hannah Curtis, Christine Jang, Akanksha Jayathi, Nicole Kovski, Melanie Nadon, Kiara Nerenberg, Daphne Moraga, Bronte Nevins, Simon Robbenolt, Brianna So, Maria Vignau-Loria, Allison Young, MEF Associates

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Appendix Figures
Preliminary vs Final Version of Opportunity Atlas Upward Mobility Measure

Final Version of Opportunity Atlas

Preliminary Forecasts Used to Define High-Opportunity Areas

Population-Weighted Correlation Across Tracts: 0.74
Map of Origin Tracts for Voucher Recipients

High-Opportunity Area

Control

CMTO Treatment
Distribution of Upward Mobility in Destination Tracts

- Control
- Treatment

Child Household Income Rank (p25) in Destination Tract

Density

0 0.02 0.04 0.06 0.08 0.10

30 40 45 50 55 60
Predicted Treatment Effects on Other Long-Term Outcomes

Teenage Birth Rates
of Children in Adulthood

Incarceration Rates of
Children in Adulthood

Control | Treatment
--- | ---
21.1% | 16.5%

Difference: -4.6 pp
SE: (0.8)

Control | Treatment
--- | ---
2.0% | 1.6%

Difference: -0.4 pp
SE: (0.1)
Short-Run Persistence - Share of Households in High-Opportunity Areas
Among Households Issued a Voucher pre September 1, 2018

Percentage of Households who Live in a High Opportunity Area

Control | Treatment
---|---
16.9% | 16.9%
56.9% | 55.8%

Change in Treatment Effect from Feb 6, 2019 to 2020: -1.1 pp
SE: (11.9)
Satisfaction in Neighborhood at Baseline by Type of Area

- Moved to Non-Opp. Area: Control 26.1% (n = 134), Treatment 21.9% (n = 73)
  - Difference: -4.2 (8.7)
- Moved to Opp. Area: Control 25.0% (n = 32), Treatment 22.4% (n = 107)
  - Difference: -0.9 (6.3)

- Moved to Non-Opp. Area: Control 20.1% (n = 134), Treatment 15.6% (n = 73)
  - Difference: -4.5 (7.8)
- Moved to Opp. Area: Control 19.6% (n = 107), Treatment 21.9% (n = 107)
  - Difference: 2.3 (6.2)
Post-Move Treatment Effects on Neighborhood Satisfaction

Satisfaction with New Neighborhood

<table>
<thead>
<tr>
<th>Satisfaction Level</th>
<th>Control</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Dissatisfied</td>
<td>3.0%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Somewhat Dissatisfied</td>
<td>3.0%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Neither Satisfied nor</td>
<td>21.2%</td>
<td>13.7%</td>
</tr>
<tr>
<td>Unsatisfied</td>
<td></td>
<td>n = 12</td>
</tr>
<tr>
<td>Somewhat Satisfied</td>
<td>27.3%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>64.2%</td>
<td>45.5%</td>
</tr>
</tbody>
</table>

n = 1, 7, 9, 15

Difference in % Very Satisfied: **18.7pp**
SE: (10.1)

Certainty about Wanting to Stay in New Neighborhood

<table>
<thead>
<tr>
<th>Certainty Level</th>
<th>Control</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Sure Wants to Move</td>
<td>24.2%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Somewhat Sure Wants to</td>
<td>12.1%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Move</td>
<td></td>
<td>n = 16</td>
</tr>
<tr>
<td>In the Middle</td>
<td>12.1%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Somewhat Sure Wants to</td>
<td>21.2%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Stay</td>
<td></td>
<td>n = 16</td>
</tr>
<tr>
<td>Very Sure Wants to Stay</td>
<td>30.3%</td>
<td></td>
</tr>
</tbody>
</table>

n = 8, 4, 4, 7, 10, 6, 12, 16, 16, 10, 45

Difference in % Very Sure Want to Stay: **17.4pp**
SE: (9.8)
Changes to King County Housing Authority Payment Standards in March 2016

Increase in Max Rent for 2BR Apt.

- > $400
- $250
- $150
- < $150