# INSIDE AIRBNB:
# THE FACE OF AIRBNB, NEW YORK CITY

## Airbnb as a Racial Gentrification Tool

**1 MARCH, 2017**

**Across all 72 predominantly Black New York City neighborhoods, Airbnb hosts are 5 times more likely to be white.**

In those neighborhoods, the Airbnb host population is 74% white, while the white resident population is only 13.9%

## CASE STUDY: Stuyvesant Heights, Central Brooklyn

**Airbnb Host Demographic**

WHITE
74.9%

BLACK
20.1%

OTHER
5.0%

**1,012% disparity**

**Neighborhood Demographic**

WHITE
7.4%

BLACK
89.7%

OTHER
2.9%

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**Airbnb as a Racial Gentrification Tool**

## EXECUTIVE SUMMARY

Airbnb is a $30B technology platform[1] that promotes, enables and incentivizes the conversion of residential homes, apartments and rooms into tourist accommodation. This is usually done illegally,[2] circumventing laws designed to protect long-term housing and residential neighborhoods.

In New York City, the largest Airbnb market in the United States, there are more than 40,000 Airbnb listings,[3] incompatible with the needs of a city in the midst of a housing crisis.[4]

Airbnb claims that use of their service in Black neighborhoods has grown "*78 percent year-over- year*" and "*put more than $43 million into the pockets of hosts*" in 2015 alone.[5]

In many of these same neighborhoods, by removing housing, Airbnb amplifies gentrification, further threatening tenants' affordable housing options; and removes pathways to homeownership for long-term residents.

In this exclusive study, **Inside Airbnb** racially categorizes the host photos[6] in New York City's Black neighborhoods[7] to see who benefits economically from Airbnb, and who suffers its negative impacts  like displacement and neighborhood disruption.
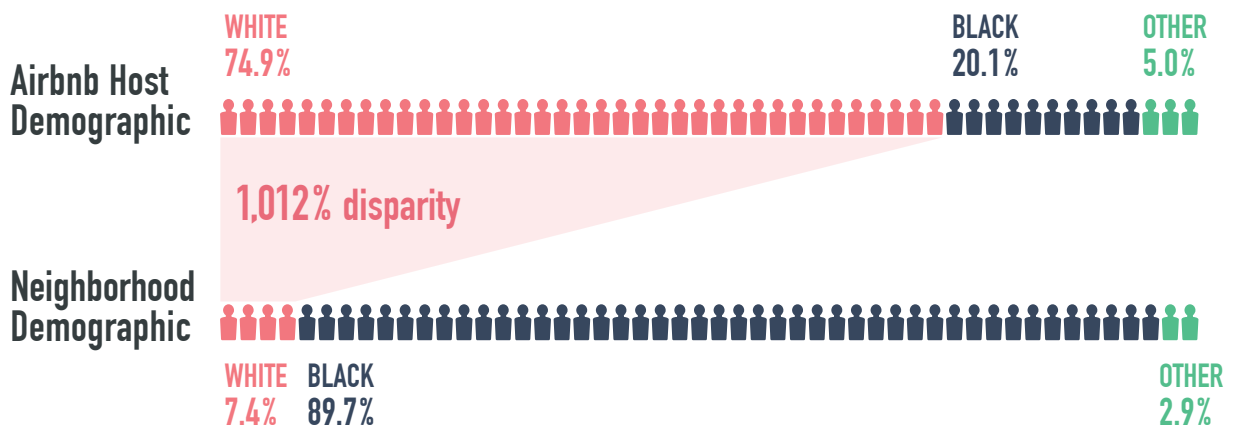
### Key Findings:

- Across all 72 predominantly Black New York City neighborhoods, Airbnb hosts are 5 times more likely to be white
    - in those neighborhoods, the Airbnb host population is 74% white, while the white resident population is only 13.9%

- White Airbnb hosts in Black neighborhoods earned in total $159.7 million, compared to only $48.3 million for Black hosts
    - 73.7% of income accumulating to a group representing only 13.9% of the population is a 530% economic disparity

- The loss of housing and neighborhood disruption due to Airbnb use is 6 times more likely to affect Black residents, based on their majority presence in Black neighborhoods
    - in all Black neighborhoods, residents are 14% white, 79.6% Black

- The neighborhood with the highest Airbnb racial disparity was Stuyvesant Heights, in the heart of Black Central Brooklyn, where there was:
    - a 1,012% disparity in the number of Airbnb listings by white hosts
    - an economic disparity of 857% for the total revenue accumulated by white hosts
    - housing and neighborhood disruption due to Airbnb 12 times more likely to affect Black residents than white residents

- Black neighborhoods with the most Airbnb use are racially gentrifying, and the (often illegal) economic benefits accrue disproportionately to new, white residents and white speculators; while the majority Black residents in those communities suffer the most from the loss of housing, tenant harassment and the disruption of their communities.

## CASE STUDY: AIRBNB AS A RACIAL GENTRIFICATION TOOL
### Stuyvesant Heights, Central Brooklyn

Airbnb Host Demographic

WHITE 74.9%   BLACK 20.1%   OTHER 5.0%

1,012% disparity

Neighborhood Demographic

WHITE 7.4%   BLACK 89.7%   OTHER 2.9%

**Disparate negative impacts:** The loss of housing, neighborhood disruption due to Airbnb is **12x more likely** to affect Black residents.

**Disparate positive benefits:** Economic benefits from Airbnb are **4x more likely** to flow to a white host, a disparity of **1,012%** based on their small presence in the neighborhood demographic.

# TABLE 1: AIRBNB RACIAL DISPARITY (LISTINGS)

## Airbnb Racial Demographics vs Neighborhood Racial Demographics in the top 20 Predominantly Black Neighborhoods (by number of Airbnb listings)

| Neighborhood | Airbnb Listings | Race | | | | White disparity (Index*) |
| --- | --- | --- | --- | --- | --- | --- |
| | | Neighborhood Demographic | | Airbnb listings (race of host) | | |
| | | White (%) | Black (%) | White (%) | Black (%) | |
| Bushwick South | 1,401 | 29.2 | 63.2 | 86.7 | 6.7 | 297 |
| Crown Heights North | 1,164 | 15 | 81.9 | 73.4 | 22.8 | 489 |
| Bedford | 1,070 | 38.9 | 57.7 | 77.3 | 16.8 | 199 |
| Stuyvesant Heights | 1,014 | 7.4 | 89.7 | 74.9 | 20.1 | 1,012 |
| Central Harlem North - Polo Grounds | 761 | 10.8 | 85.2 | 70 | 25.4 | 648 |
| Hamilton Heights | 726 | 29.5 | 66.1 | 76.2 | 20.5 | 258 |
| Central Harlem South | 662 | 24.1 | 70.5 | 76 | 17.4 | 315 |
| Prospect Lefferts Gardens - Wingate | 545 | 13.3 | 84.3 | 75.6 | 17.8 | 568 |
| East Harlem South | 512 | 35.7 | 45.5 | 84.3 | 8.2 | 236 |
| East Harlem North | 483 | 17.2 | 73.4 | 80.4 | 14.3 | 467 |
| Flatbush | 446 | 27.9 | 59.8 | 80.5 | 15.3 | 289 |
| Fort Greene | 425 | 37.7 | 50.5 | 92 | 3.9 | 244 |
| Manhattanville | 291 | 23.8 | 68.8 | 80 | 10.9 | 336 |
| Crown Heights South | 235 | 29.3 | 69.3 | 74.7 | 20.2 | 255 |
| Ocean Hill | 140 | 2.7 | 95.3 | 55.2 | 41.8 | 2,044 |
| Erasmus | 120 | 1.7 | 96.6 | 58 | 34.5 | 3,412 |
| Queensbridge - Ravenswood - Long Island City | 113 | 28.7 | 41 | 81.3 | 4.5 | 283 |
| Hammels - Arverne - Edgemere | 95 | 24.7 | 69.6 | 77.9 | 18.9 | 315 |
| Canarsie | 72 | 5.5 | 91.2 | 9.7 | 85.5 | 176 |
| East New York | 69 | 2.5 | 94.6 | 29 | 71 | 1,160 |
| **City Wide** in all 72 predominantly black neighborhoods | **11,425** | **13.9** | **79.6** | **74** | **20.5** | **532** |

*Source:* Inside Airbnb, September 2016; American Community Survey 2010-2014.

***White Disparity Index:*** An index of 100 means that white Airbnb hosts are representative in the Airbnb host community in the same proportion as their representation in the underlying neighborhood. An index of 200 means that their representation in the Airbnb community is twice that which would be predicted by their representation in the underlying neighborhood.

# TABLE 2: AIRBNB RACIAL DISPARITY (INCOME)

## Airbnb Racial Income in the top 20 Predominantly Black Neighborhoods (by Airbnb income)

| Neighbourhood | Demographic White (%) | Demographic Black (%) | Total Revenue $ (million) | White $ (million) | White % | Black $ (million) | Black % | White Economic Disparity (Index) |
|---|---|---|---|---|---|---|---|---|
| Stuyvesant Heights | 7.4 | 89.7 | 24.5 | 15.4 | 63.4 | 8.2 | 33.9 | 857 |
| Crown Heights North | 15 | 81.9 | 23.5 | 14.3 | 66.0 | 6.9 | 31.8 | 440 |
| Bedford | 38.9 | 57.7 | 22.6 | 14.6 | 70.0 | 5.6 | 26.9 | 180 |
| Bushwick South | 29.2 | 63.2 | 20.0 | 16.1 | 83.9 | 1.4 | 7.4 | 287 |
| Hamilton Heights | 29.5 | 66.1 | 17.5 | 13.9 | 82.5 | 2.8 | 16.9 | 280 |
| Central Harlem North - Polo Grounds | 10.8 | 85.2 | 17.4 | 11.7 | 68.0 | 5.2 | 30.2 | 630 |
| Central Harlem South | 24.1 | 70.5 | 16.2 | 12.5 | 79.2 | 2.4 | 15.4 | 329 |
| East Harlem South | 35.7 | 45.5 | 14.0 | 11.4 | 89.8 | 0.8 | 6.6 | 252 |
| Fort Greene | 37.7 | 50.5 | 13.0 | 11.7 | 96.0 | 0.2 | 1.8 | 255 |
| East Harlem North | 17.2 | 73.4 | 12.1 | 9.3 | 77.6 | 1.8 | 14.8 | 451 |
| Prospect Lefferts Gardens - Wingate | 13.3 | 84.3 | 7.5 | 5.2 | 76.6 | 1.2 | 18.3 | 576 |
| Flatbush | 27.9 | 59.8 | 5.9 | 4.7 | 82.5 | 0.9 | 15.3 | 296 |
| Manhattanville | 23.8 | 68.8 | 4.8 | 3.6 | 76.0 | 1.0 | 20.1 | 319 |
| Crown Heights South | 29.3 | 69.3 | 3.2 | 2.5 | 76.8 | 0.7 | 21.9 | 262 |
| Queensbridge - Ravenswood - Long Island City | 28.7 | 41.0 | 3.0 | 2.3 | 78.4 | 0.1 | 3.9 | 273 |
| Ocean Hill | 2.7 | 95.3 | 2.9 | 1.3 | 46.8 | 1.2 | 46.4 | 1,733 |
| Hammels - Arverne - Edgemere | 24.7 | 69.6 | 1.9 | 1.7 | 89.8 | 0.2 | 10.2 | 364 |
| Erasmus | 1.7 | 96.6 | 1.5 | 1.3 | 81.2 | 0.3 | 16.7 | 4,777 |
| Canarsie | 5.5 | 91.2 | 1.1 | 0.1 | 10.4 | 0.5 | 63.0 | 189 |
| East New York | 2.5 | 94.6 | 0.9 | 0.0 | 2.1 | 0.9 | 97.9 | 84 |
| **City Wide** in all 72 predominantly black neighborhoods | **13.9** | **79.6** | **226.9** | **159.7** | **73.7** | **48.3** | **22.3** | **530** |

*Source:* *Inside Airbnb, September 2016; American Community Survey 2010-2014.*

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[1]  Airbnb is a private company, backed by venture capitalists with $3B cash raised, valued at US$30 Billion

[2]  Short-term rentals (rentals for less than 30 days at a time), and commercial use of residential properties is contrary to residential zoning laws, leases including rent-regulated leases, coop and condo by-laws, building codes, and state multiple dwelling laws

[3]  Inside Airbnb, December 2016

[4]  According to the New York City Rent Guidelines Board's 2016 Housing Supply Report, New York City is in a housing crisis, with vacancy rates at  3.45% in 2014, well below the 5% crisis threshold

[5]  According to the Airbnb study: "Airbnb and Economic Opportunity in New York City's Predominantly Black Neighborhoods," April 18, 2106.

[6]  Host photographs were racially coded using Face++, a facial detection and recognition software toolkit that racially identifies faces in photographs. The racial coding was calibrated using data from an Airbnb racial descrimination study by researchers at the Harvard Business School, who used Face++ and parallel racial coding by humans

[7]  Black Neighborhoods were majority non-Hispanic "Black or African American" defined using race data from the Bureau of Census' 2014 American Community Survey 5-year estimates in NYC Department of Planning Neighborhood Tabulation Areas (NTA's)

# CONTENTS

# INTRODUCTION

According to Airbnb,[8] in New York City, the short-term rental platform is "growing significantly faster in predominantly Black neighborhoods than it is across the city".

But who benefits from this growth in Black neighborhoods, many of which are undergoing disruption due to gentrification, and in particular racial gentrification?

And what impact does the conversion of residential housing to tourist accommodation have on Black neighborhoods?

The data science team at Inside Airbnb, who provides data on Airbnb's impact on residential communities – has racially coded New York City Airbnb host photographs, and then, with a focus on Black neighborhoods, used data to answer some of these important questions.

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[8] According to the Airbnb study: "Airbnb and Economic Opportunity in New York City's Predominantly Black Neighborhoods," April 18, 2106.

# AIRBNB RACIAL DISPARITIES IN NYC'S BLACK NEIGHBORHOODS

Every New York City Airbnb host profile photograph was racially coded, using methods described in full detail in the **Methodology** section.

The resulting racial demographic of the Airbnb host community was then compared to the racial demographic of each Black neighborhood.

## Racial Disparities

Table 1 shows the results of the racial coding of hosts in each Black neighborhood compared to the racial demographics of that neighborhood.

In Black neighborhoods, 74% of the 11,425 listings are estimated to be owned by white hosts; however in those same neighborhoods, whites make up only 13.9% of the population. This represents a 532% disparity.

**Every one** of the Top 20 predominantly Black neighborhoods has a **disparately white** Airbnb host population, and **every one** of the Top 18 predominantly Black neighborhoods has a **majority white** host population.

The neighborhood with the largest racial disparity by number of white listings was Stuyvesant Heights – the Eastern part of Bedford-Stuyvesant, in the heart of Black brownstone Brooklyn, which has a 1,012% disparity in the number of Airbnb listings by white hosts (Airbnb listings belonging to white hosts made up 74.9% of the Airbnb community, while the white population was only 7.4%).

## TABLE 1: AIRBNB RACIAL DISPARITY (LISTINGS)

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| Neighborhood | Airbnb Listings | Race | | | | White disparity (Index*) |
| | | Neighborhood Demographic | | Airbnb listings (race of host) | | |
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| Flatbush | 446 | 27.9 | 59.8 | 80.5 | 15.3 | 289 |
| Fort Greene | 425 | 37.7 | 50.5 | 92 | 3.9 | 244 |
| Manhattanville | 291 | 23.8 | 68.8 | 80 | 10.9 | 336 |
| Crown Heights South | 235 | 29.3 | 69.3 | 74.7 | 20.2 | 255 |
| Ocean Hill | 140 | 2.7 | 95.3 | 55.2 | 41.8 | 2,044 |
| Erasmus | 120 | 1.7 | 96.6 | 58 | 34.5 | 3,412 |
| Queensbridge - Ravenswood - Long Island City | 113 | 28.7 | 41 | 81.3 | 4.5 | 283 |
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## Racial and Economic Disparities

When we look at economic disparities, we see that in Black neighborhoods, not only do whites make up the majority of Airbnb hosts, but we also see that white hosts benefit the most economically.

White Airbnb hosts in Black neighborhoods earned in total an estimated $159.7 million, compared to only $48.3 million for Black hosts. 73.7%[9] of income accumulating with a group representing only 13.9% of the population is a 530% economic disparity.

In Stuyvesant Heights in Bedford-Stuyvesant, the Black neighborhood which generates the highest estimated Airbnb revenue, white Airbnb hosts make almost 9 times the income than expected in that group based on the proportion of white residents in the neighborhood (7.4% of the neighborhood is white, but white hosts generate 63.4% of the revenue).

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[9] Percentages were calculated on the basis of listings that could be assigned to one racial group. Some host photographs had multiple faces that were each subsequently coded with different races (these were assigned to a "mixed race" group). These listings total <3% of the total number of listings.

# TABLE 2: AIRBNB RACIAL DISPARITY (INCOME)

## Airbnb Racial Income in the top 20 Predominantly Black Neighborhoods (by Airbnb income)

| Neighborhood | Demographic | | Total Revenue | Revenue by Race | | | | White Economic Disparity |
| | White (%) | Black (%) | $ (million) | White | | Black | | |
| | | | | $ (million) | % | $ (million) | % | (Index) |
|---|---|---|---|---|---|---|---|---|
| Stuyvesant Heights | 7.4 | 89.7 | 24.5 | 15.4 | 63.4 | 8.2 | 33.9 | 857 |
| Crown Heights North | 15 | 81.9 | 23.5 | 14.3 | 66.0 | 6.9 | 31.8 | 440 |
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*Source:* Inside Airbnb, September 2016; American Community Survey 2010-2014.

# BACKGROUND

## Airbnb: Housing Disruptor

Airbnb is widely portrayed, mainly through self-identification, as part of the "sharing economy," and all of their marketing and lobbying represent its business as facilitating "hosts" sharing their own apartments.

However, the reality is that most Airbnb listings are "Entire home/apartment" listings, with no host present. This is the case in New York City, and in almost every other city in which Airbnb operates.

In a recent report, "Short Changing New York City – The impact of Airbnb on New York City's housing market," by housing and tenant advocates MFY Legal Services and Housing Conservation Coordinators, it was found that:

- Commercial use of Airbnb is pervasive
- Permanently available listings exacerbate severely low vacancy rates
- Geographic concentration of Airbnb listings coincides with rapidly changing neighborhoods

Airbnb's business model, which relies on the conversion of residential apartments and rooms into tourist accommodation, is that of a **housing disruptor.**

## Airbnb: Anti-Tenant

New York City is a city of renters. In 2014, 68% of all residents were renters,[10] with Miami, Florida, the only American city with a lower homeownership rate.[11]

Renters are most likely to be displaced by the loss of housing caused by Airbnb, whether through direct means, like eviction and tenant harassment; or through indirect means, like apartments or a room not being available for rent in the first place, or displaced tenants from other neighborhoods taking up affordable housing in neighborhoods they could formerly afford.

[10]  American Community Survey 2010-2014.
[11] The Furman Center: Renting in America's Largest Metropolitan Areas, 2016  http://furmancenter.org/nationalrentallandscape

The anti-tenant nature of Airbnb is more important in neighborhoods of color, including Black neighborhoods, where homeownership rates are even lower (Black homeownership rates are 26% across the city, compared to 32% for all residents, and even lower in Manhattan and Brooklyn, the two most popular boroughs for Airbnb).

Airbnb, which takes rentable housing in residential properties, including rooms, and offers them to tourists and travellers, is an **anti-tenant** economic tool.

## TABLE 3 AND FIGURE 1: HOMEOWNERSHIP RATES BY RACE AND BOROUGH IN NEW YORK CITY

New York City is a city of renters with only 32% homeowners. Black residents have even lower homeownership rates. The negative impacts of Airbnb mainly affect tenants, while the benefits are more likely to accrue to homeowners and investors.

| City/Borough | Home Ownership Rate | | |
| --- | --- | --- | --- |
| | All | White | Black |
| **New York City** | **32%** | **38%** | **26%** |
| The Bronx | 19% | 32% | 20% |
| Brooklyn | 30% | 34% | 25% |
| Manhattan | 23% | 29% | 10% |
| Queens | 44% | 44% | 47% |
| Staten Island | 69% | 74% | 38% |

**Homeownership in New York City**
2010 – 2014, by Borough and Race

Race: All White Black
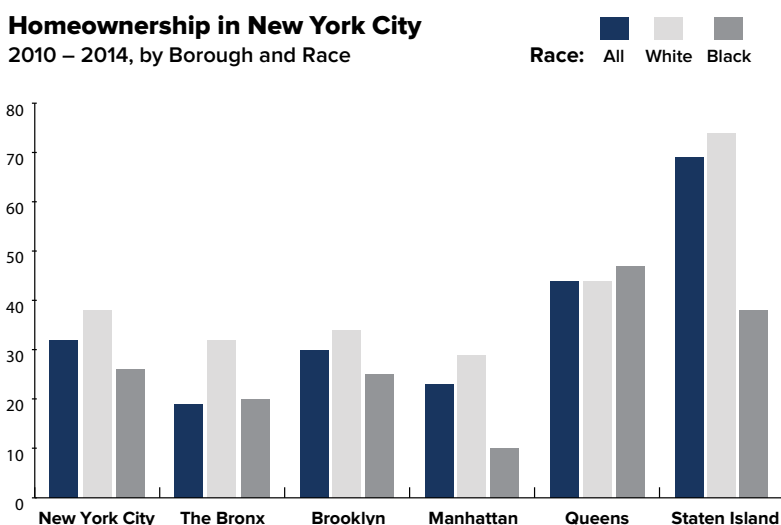


*Source: American Community Survey 2010-2014*

## Airbnb in Black Neighborhoods

This report focuses on Airbnb use in New York City's 72 predominantly Black neighborhoods,[12] as depicted in Figure 2.

## FIGURE 2: NYC'S PREDOMINANTLY BLACK NEIGHBORHOODS

**Black Neighborhoods**

▉ Predominantly black neighborhood
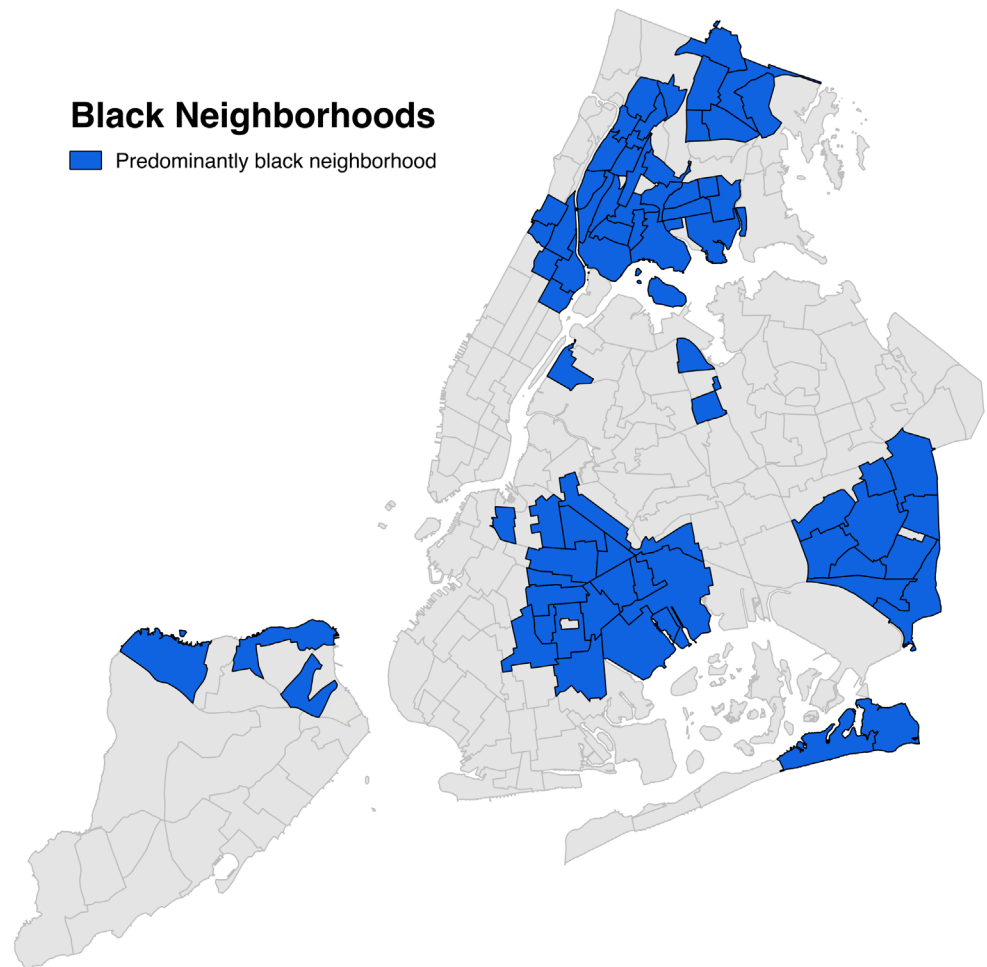
**Source:** *American Community Survey 2010-2014; NYC Department of Planning*

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[12] Predominantly Black neighborhoods are NYC Department of Planning Neighborhood Tabulation Area (NTA) neighborhoods where non-Hispanic "Black or African American" residents were the highest racial segment.
The predominantly Black NTA Neighborhood "Riker's Island" has been excluded for this study

**Distribution of Airbnb Use**

Figure 10 shows the Airbnb density in all New York City neighborhoods as at September 2016.

Airbnb activity is concentrated primarily in neighborhoods in relative proximity to Manhattan and Northern Brooklyn. These neighborhoods are desirable for tourists, but also to New York City residents, because of their proximity to public transport and jobs in Manhattan. Airbnb use intersects with gentrification, with the most popular Airbnb neighborhoods gentrifying or already gentrified.

## FIGURE 3: AIRBNB DENSITY. AIRBNB LISTINGS BY NEIGHBORHOOD, SEPTEMBER 2016

**Airbnb density is concentrated in neighborhoods that are also desirable for residents to live in.**



**Airbnb Density**

**Number of Listings**

| | |
|---|---|
| | 1 - 200 |
| | 200 - 400 |
| | 400 - 600 |
| | 600 - 800 |
| | 800 - 1,000 |
| | 1,000 - 1,200 |
| | 1,200 - 1,400 |
| | 1,400 - 1,600 |
| | 1,600 - 1,800 |
| | 1,800 - 2,000 |
| | 2,000+ |
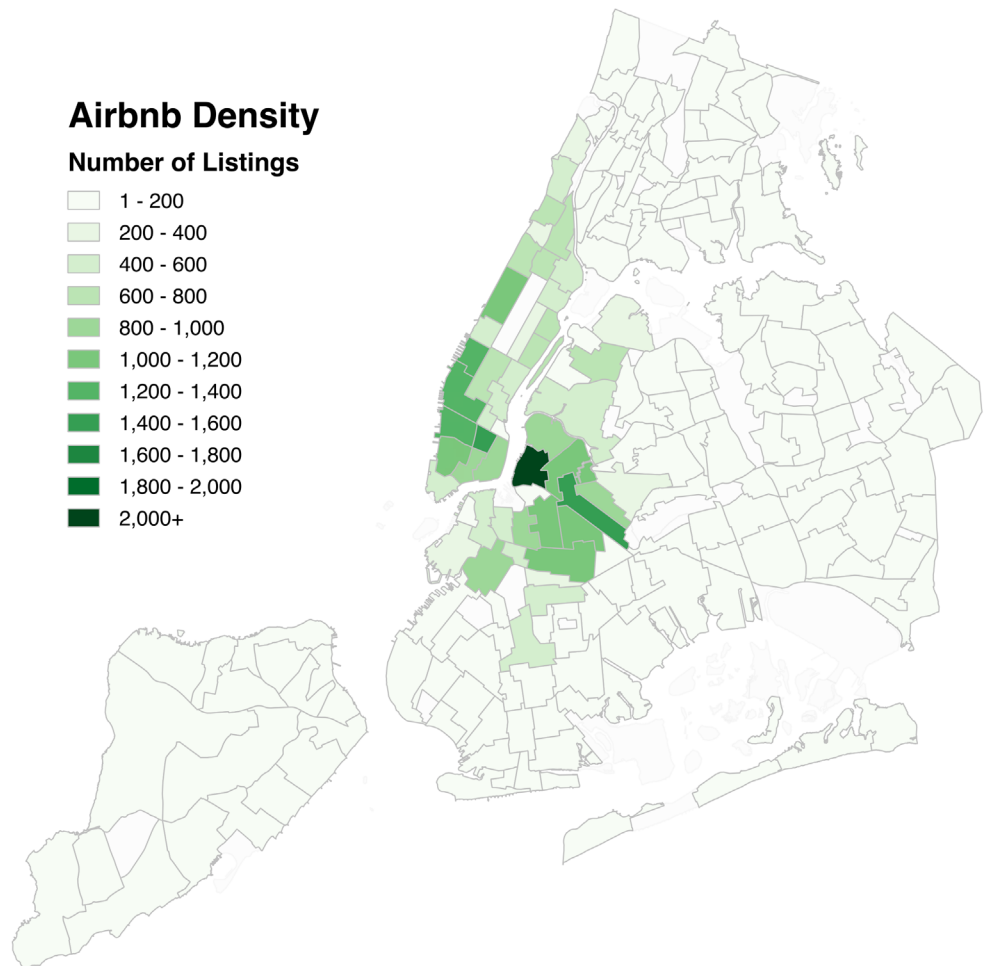
*Source:* American Community Survey 2010-2014; NYC Department of Planning

**Airbnb Use in Black Neighborhoods**

Table 4 shows relative Airbnb use in New York City's predominantly Black neighborhoods.

The amount of Airbnb use varies considerably by neighborhood, with the top 6 Black neighborhoods by number of listings accounting for 54% of all listings in Black neighborhoods (6,136 of 11,425); and the Top 20 Black neighborhoods accounting for 91% of all listings in Black neighborhoods (10,344 of 11,425).

## TABLE 4: TOP 20 PREDOMINANTLY BLACK NEIGHBORHOODS BY NUMBER OF AIRBNB LISTINGS

| City Rank (Airbnb use) | Neighborhood | Number of Airbnb Listings | Threats to Affordable Housing[12] | White % Increase 2010-2014 |
|---|---|---|---|---|
| 3 | Bushwick South | 1,401 | 16 | 60% |
| 7 | Crown Heights North | 1,164 | 12 | 54% |
| 9 | Bedford | 1,070 | 21 | 39% |
| 12 | Stuyvesant Heights | 1,014 | 21 | 93% |
| 19 | Central Harlem North - Polo Grounds | 761 | 11 | 23% |
| 20 | Hamilton Heights | 726 | 9 | 11% |
| 23 | Central Harlem South | 662 | 11 | 17% |
| 28 | Prospect Lefferts Gardens - Wingate | 545 | 13 | 34% |
| 30 | East Harlem South | 512 | 9 | 10% |
| 31 | East Harlem North | 483 | 9 | 14% |
| 36 | Flatbush | 446 | 8 | 0% |
| 39 | Fort Greene | 425 | 2 | 8% |
| 44 | Manhattanville | 291 | 9 | 20% |
| 47 | Crown Heights South | 235 | 12 | 8% |
| 52 | Ocean Hill | 140 | 24 | 109% |
| 58 | Erasmus | 120 | 20 | 0% |
| 59 | Queensbridge - Ravenswood - Long Island City | 113 | 4 | 3% |
| 61 | Hammels - Arverne - Edgemere | 95 | 12 | 21% |
| 65 | Canarsie | 72 | 5 | -26% |
| 66 | East New York | 69 | 23 | 8% |

**Source:** *Inside Airbnb, NYC Department of Planning; American Community Survey: 2006-2010 and 2010-2014; Association for Neighborhood and Housing Development*

Overlaying data from ANHD, who measured threats to affordable housing across all New York City neighborhoods[13], we find that there is a high correlation between Airbnb use in Black neighborhoods and threats to affordable housing.

This association should further raise concerns about the conversion of residential apartments and rooms to so called "bed and breakfasts", and question the need for tourist accommodation in neighborhoods that require more housing, not less.

Table 4 also includes white percentage increase from 2010-2014. We also see, by examining even recent racial changes in the most populous Airbnb Black neighborhoods, that they are undergoing substantial racial gentrification, with an influx of new, white residents, an important point as we examine which members of these communities are benefiting most from Airbnb.

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[13] "How is Affordable Housing Threatened in Your Neighborhood?" 2015. Association for Neighborhood and Housing Development, Inc.

# #AirbnbWhileBlack

Racial discrimination on the Airbnb platform has been shown to exist for both hosts and guests using the service.

### Racial discrimination of hosts

A Harvard Business School study[14] released in 2015 found that people with "black-sounding" names were 16% less likely to be accepted as guests on Airbnb compared to guests with identical online profiles but with "white-sounding" names.

### Racial discrimination of guests

The same team at Harvard Business School also found that non-Black hosts charge approximately 12% more than Black hosts for the equivalent rental. This implies that guests require a discount when staying with hosts they identify as Black.

### Airbnb's response to racial discrimination

Airbnb repeatedly ignored the issue of racial discrimination, claiming that "trust" was important for their business model. Airbnb claimed that a key component of trust was the host and guest's profile pictures and other details, even if they could, and were being used by hosts to discriminate against potential guests.

After a social media campaign by affected Black guests centered around the hashtag **#AirbnbWhileBlack** sparked widespread outrage, Airbnb capitulated by hiring former Attorney General Eric Holder, to study the issue.

Airbnb unveiled a series of measures[15] to address the issue of racial discrimination, which were promptly criticized by discrimination researchers.[16] Criticism included their refusal to remove profile pictures, which continue to allow discrimination.

One of the measures Airbnb proposed, was promoting the use of the "Instant Bookable" feature amongst hosts. This feature encourages hosts to offer a more commercial type of listing,

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[14] "Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment," Benjamin Edelman, Michael Luca, and Dan Svirsky
[15] "Airbnb's Work to Fight Discrimination and Build Inclusion," Laura W. Murphy, September 8, 2016
[16] "Response to Airbnb's Report on Discrimination," Benjamin Edelman, September 19, 2016

that is "always available." A more permanently available listing is most likely to displace residential housing, and not coincidentally, makes more money for both hosts and Airbnb.

It's also important to note that the racial discrimination uncovered by researchers and exposed by the social movement **#AirbnbWhileBlack** only recognizes the consumer/supplier prejudices and the discriminatory power of the platform in the context of their "service."

This report goes further than previous research by exposing the racial bias on Airbnb's impact on the neighborhood, and questions whether services like Airbnb should even exist in our communities.

# CONCLUSION

Data shows us conclusively that in the Black neighborhoods of New York City, the majority of Airbnb listings belong to, and the economic benefits accumulate to, white hosts.

Meanwhile, Airbnb's economic benefits come at a cost – the loss of rentable homes, apartments and rooms to tourist accommodation. In Black neighborhoods, this cost is more likely to be born by the majority Black residents.

Airbnb IS a racial gentrification tool. Airbnb supports the displacement and disruption of Black residents, while benefitting new white residents.

Technology advocates often claim that their platforms, web-sites and apps are "neutral" and problems like discrimination or disparate use are the responsibility of the users of the technology, or for society to solve.

However, then with the same breath, those same technology advocates, chief executives, policy advisers, investors and lobbyists misrepresent their impact, misrepresent their hosts AND appropriate the communities most affected; and continue to advertise, advocate and lobby for continued, unlimited and de-regulated use, THEY become responsible. They become exploitative.

We must stop supporting Airbnb in all of our communities, and most especially in our Black Communities and Communities of Color.

# Methodology

The data for this report was compiled from **Inside Airbnb's** September dataset[17] of active New York City listings.

Hosts were racially coded using Face++,[18] a facial detection and recognition software toolkit that uses machine learning to racially identify faces in photographs.

The results of the Face++ racial detection[19] was calibrated using a similar study, kindly provided by researchers at Harvard Business School,[20] which employed Face++ racial coding of Airbnb host photographs alongside humans racially coding the same photographs.

The racial demographic of the Airbnb host community was compared to the racial demographic[21] of the neighborhood[22] to measure participation and economic[23] disparities by race.

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[17] http://insideairbnb.com/get-the-data.html

[18] http://www.faceplusplus.com

[19] Detailed methodology for this report are available for peer review

[20] Harvard Business School Researchers conducted parallel racial coding of Airbnb host photographs using both humans and Face++. Their results concluded that at a 90% confidence level, Face++ racial coding was as accurate as racial coding by a human, however 1-in-10 Black faces were mistakenly classified as white by Face++. Therefore, for this study, a 90% confidence level has been used to accept the racial coding from Face++, and the number of Black hosts have been "grossed up" by 10% to take into account the small bias in the machine learning.

[21] Race data is from the U.S. Census Burea's American Community Survey 2010-2014 5 Year Estimates, as provided by the NYC Department of City Planning http://www1.nyc.gov/site/planning/data-maps/nyc-population/american-community-survey.page The Census non-Hispanic racial identities were used, which is a common method in racial demographic analysis. This was justified after analysing Airbnb hosts names against NYC Hispanic voter lists, where it was found that less than 10% of white Airbnb hosts had high frequency hispanic first names. In addition to the racial disparities uncovered in this study, there is also likely ethnic disparities in Hispanic neighborhoods.
The major racial classifications of "white", "black" and "asian" were used as the representative racial demographics of each neighborhood to allow for direct comparison with the racial coding afforded by Face++, which codes to white, black and asian.

[22] Neighborhoods are Neighborhood Tabulation Areas (NTAs). NTAs are created by the NYC Department of City Planning as statistical representations of NYC neighborhoods.

[23] An occupancy model was built to estimate the income for each listing, using the publicly available data. Income is "all time" over the life of the listing. More information on the occupancy model used is at: http://insideairbnb.com/about.html#the-occupancy-model.

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## About Inside Airbnb

*Inside Airbnb* is an independent, mission-driven data activist project, which provides data and tools to help understand Airbnb's impact on residential communities.

*Inside Airbnb* is a member of the **Coalition against Illegal Hotels** in New York City, a group of more than 40 housing advocacy and tenant's rights organizations, whose members have been fighting against the impact on housing and residential communities from illegal hotels and platforms like Airbnb since 2004.

## Acknowledgements