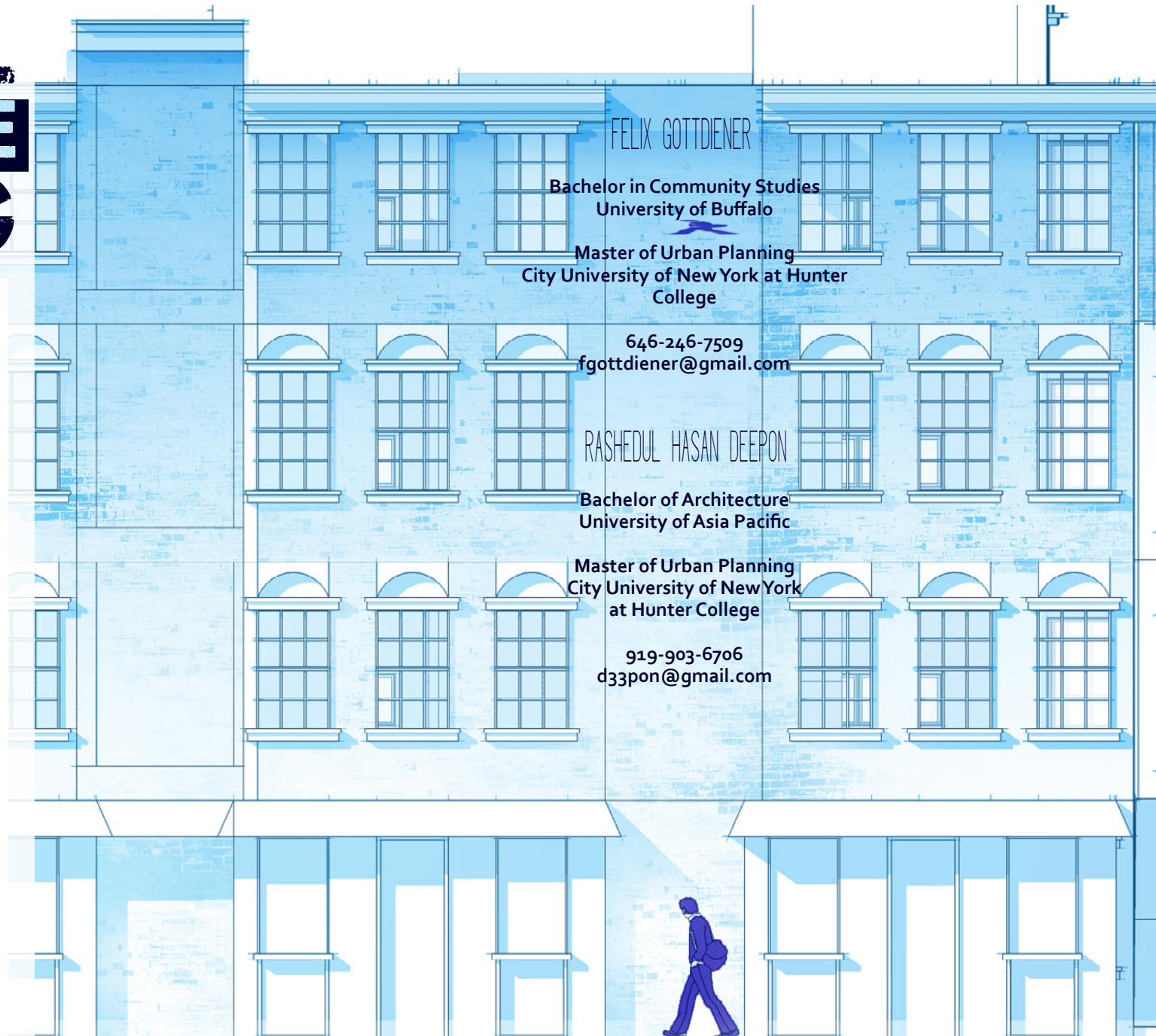


RADICAL AFFORDABLE HOUSING

Our proposal for the hOUR City competition involves a re-imagining of housing density distribution within New York City. The MTA has 25 subway lines within New York, with 22 of those having unique terminuses without a transfer to another line. Development around these transit terminuses is pre-dominantly low-density, especially heading to the boundaries of the outer boroughs. Of the 22 unique terminuses have been chosen for analysis due to their bus connections. These bus connections extend the city's transit network to outlying areas beyond the city's borders, exponentially extending the populations (often low-income peoples) with access to the wealth of New York's job resources. Unfortunately this access often results in extensive commutes for bus to subway riders, often in excess of three hours round trip.

What we propose is a mutable design schema that can be applied to areas around subway terminuses in order to increase density and provide affordable housing. This can enable those who transfer from bus to subway in order to get to work to live within walking distance of a subway line. Such a re-organization of urban development has the power to shorten daily commutes for thousands of people, enabling them to have more free time and increasing quality of life. Affordable housing development also decreases the rent burden on New York's households. A third advantage is providing a more even distribution of housing density throughout the whole city, which decreases the gentrification pressure on New York's historic neighborhoods.

For our sample site we have chosen 4 lots (two sites) around the Beach 36th Street station on the A train, near the terminus of Far Rockaway/Mott Ave.



New York. The city of Dreams...

8.5 million to be exact.

Whether you are a New Yorker reminiscing with your friend about the good ol' days....



a man from a far away land....



a poet, trying to make it big



A girl from out of town here to see the 'Big Apple

Dreams, that are unique, intense and personal



People from various walks of life experience the city in a multitude of ways



or simply Jenny from the block....



The City means some thing to you...

As cliché as the descriptions may be, it only reiterates the indisputable truth; New York is a diverse City.

RELIGION

Within the borders of New York City, there is a tremendous amount of religious variation between the five boroughs. Manhattan residents are the least religious of the five. Nearly four in ten (38 percent) residents of Manhattan are religiously unaffiliated, while only 13 percent of Staten Island's residents identify the same. Jewish Americans comprise 11 percent of residents in Brooklyn but only two percent of Bronx residents. 30 percent of Bronx residents are Hispanic Catholic. There are at least four times more white Catholics living in Staten Island than any other borough. Queens has the distinction of most closely resembling the religious identity of New York City overall; with religions as diverse as Buddhism, Hinduism and Islam to name a few

1 Dot = 5 Persons

- Spanish & Spanish Creole
- French
- French Creole
- Italian
- Portuguese & Portuguese Creole
- German
- Yiddish
- Other West Germanic
- Scandinavian languages
- Greek
- Russian
- Polish
- Serbo Croatian
- Other Slavic
- Armenian
- Persian
- Gujarati
- Hindi
- Urdu
- Other Indic languages
- Other Indo European languages
- Chinese
- Japanese
- Korean
- Mon Khmer Cambodian
- Hmong
- Thai
- Laotian
- Vietnamese
- Other Asian languages
- Tagalog
- Other Pacific Island languages
- Navajo
- Other Native North American languages
- Hungarian
- Arabic
- Hebrew
- African languages
- Other unspecified languages



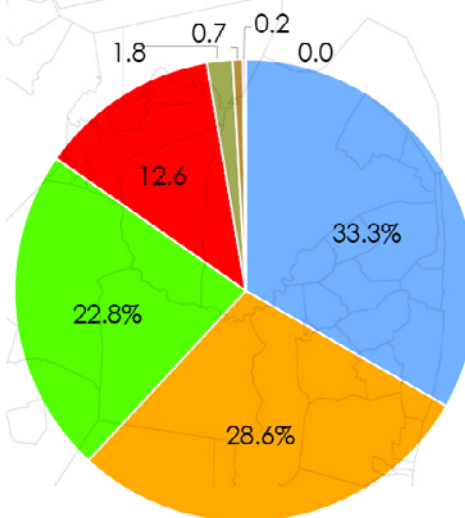
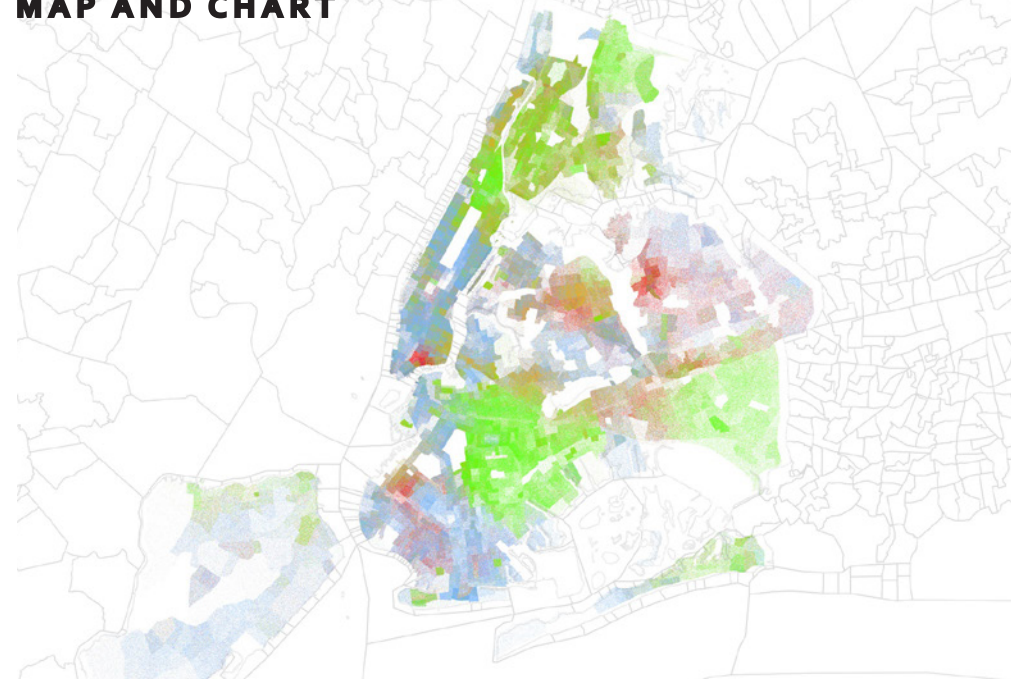
RACE

Each of New York City's boroughs has a unique racial/Hispanic distribution. For Example, in the Bronx alone, Hispanics accounted for over one-half (53.5 percent) of the borough's population in 2010, followed by black nonhispanics (30.1 percent) and white nonhispanics (10.9 percent). White nonhispanics experienced their largest decline in the Bronx, falling 21.9 percent, compared to their overall decline in the city of under three percent.

Boroughs such as Queens continue to be the most diverse borough in the city. With over 40 categorized languages spoken on a daily basis not mention the diverse sub groups of each race category.

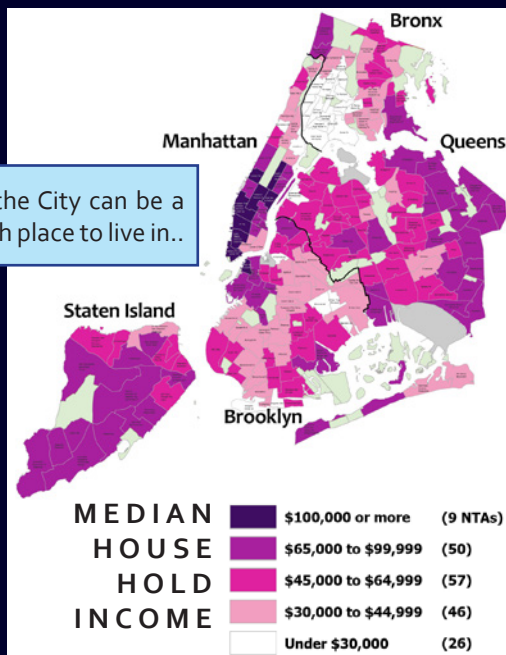
Simply put, in Queens, being 'Asian' does not mean only people from Chinese, or Japan, but also the south east such as, India, Pakistan, Bangladesh, Bhutan, Nepal Sri Lanka ... the list goes on

NEW YORK CITY: RACIAL DIVERSITY MAP AND CHART



- White (non Hispanic)
- Hispanic
- Black / African American
- Asian
- Other Race
- Two or More Race
- Native American or Alaskan
- Native Hawaiian or Pacific Islander

But the City can be a tough place to live in..

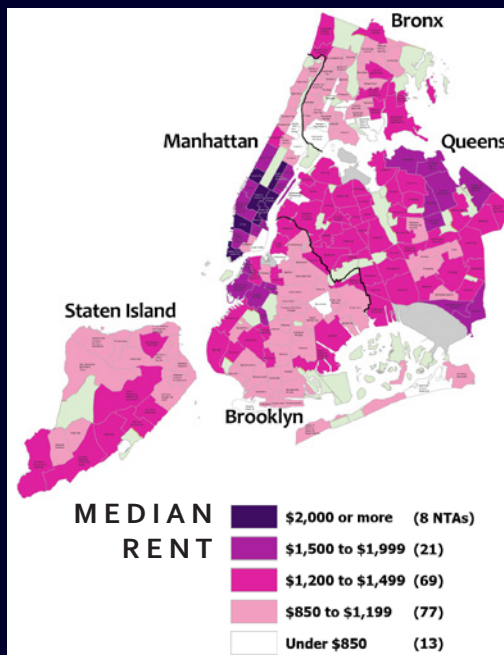


Populations of high income range are mostly in Manhattan, people of medium income range are in Staten Island, the outer edges of Queens, i.e. Long Island and some parts of Rockaway. Population with the lowest income are mainly located in Morningside, Harlem and the Bronx. They are also located in areas of Brooklyn such as Flatbush and Crown Heights. And some part of the Rockaway.

OBSERVATION: there is a distinct segregation of the population based on their income.

INTERPRETATION: High real estate value has made Manhattan an exclusive place of abode for the affluent class of society.

CONTEMPLATION: The ideal scenario would be a much more diverse mix of various income groups in all the neighborhoods.

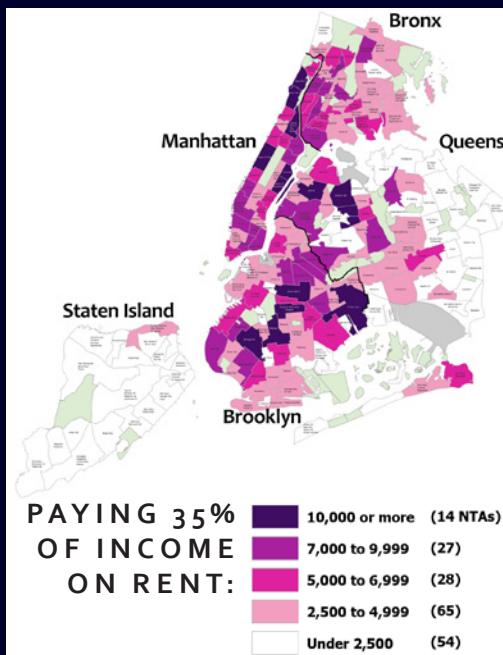


Manhattan has the highest rent (\$1,442), with Queens coming to a close second. Staten Island mostly has a medium median rent range. Harlem, the Bronx and Brooklyn as well as Rockaway has the lowest rent. However, medium rent is creeping in the areas such as Bay Ridge, in Brooklyn or areas such as Pelham Bay in the Bronx. Median rent in any borough is no less than \$1,149

OBSERVATION: Rent decreases significantly the further a neighborhood is away from the center of Manhattan.

INTERPRETATION: Manhattan is affordable mostly to the affluent class of society.

CONTEMPLATION: While major parts of Bronx and Brooklyn are still "affordable", it does not illustrate the living standard and housing condition of those places.

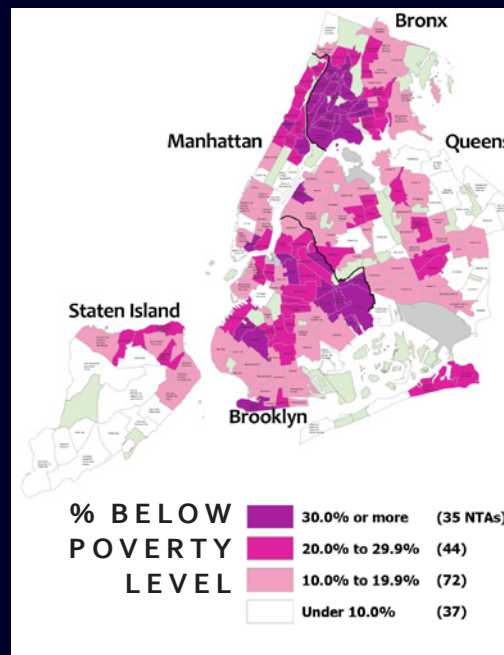


The only two Boroughs that do not seem to be paying 35% of their income to rent for the most part are Staten Island and parts of Queens closer to Long Island. Surprisingly, residents of both high income areas such as Chelsea or the West Village as well as areas with low median income, such as the Bronx, or the Rockaways are also paying 35% of their income to rent.

OBSERVATION: Most of New York City's residents are paying 35% or more of their income to rent.

INTERPRETATION: New York city is not an affordable city. Especially for the poor.

CONTEMPLATION: Under these circumstances, the best options seem to be moving to Staten Island or Long Island and commute to the City. Or move to another State

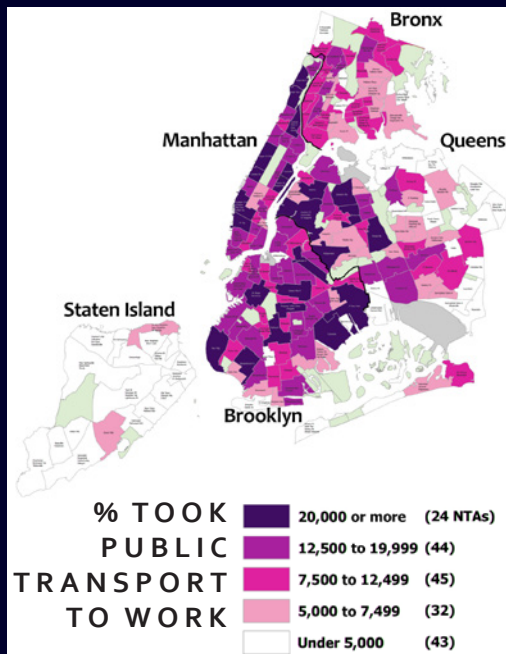


The poverty level for New York State, is 15.5%. However, in New York City the poverty level is much higher at 20%. Poverty level is even higher in Brooklyn (23.2%) and the Bronx (29.8%). Manhattan and Queens bears resemblance to the New York state poverty level at 17.7% and 15% respectively. Staten Island has the lowest poverty level at 11.9%.

OBSERVATION: The Bronx and Brooklyn are two of the five boroughs with the highest level of poverty.

INTERPRETATION: Rent in the Bronx and Brooklyn may be low, but not affordable.

CONTEMPLATION: To be on the list of 100 resilient cities, tackling Climate Change is not enough. The people, especially the struggling class need tools to be resilient. The City needs to provide these tools.

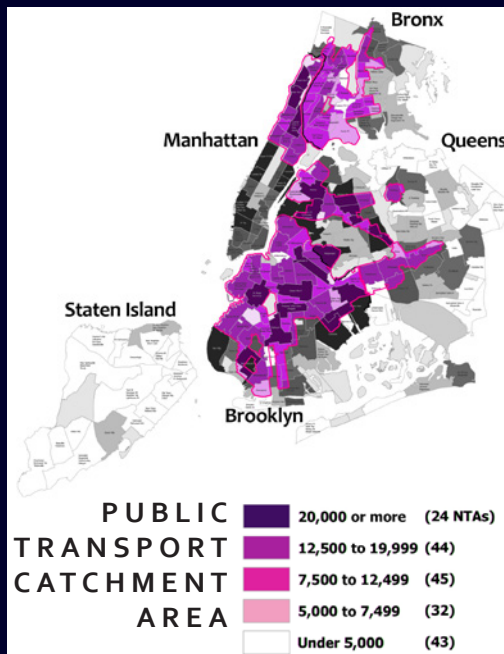


Manhattan borough has the highest number of workers who take public transportation to work. Brooklyn has a moderate to high use of public transportation, except the Rockaways. Queens also has similar use of the public transport system, except beyond Jamaica. The Bronx also has a moderate use of public transport system. Staten Island has the least use of the public transportation.

OBSERVATION: New York is a transit oriented City. However, it does have it's limitations.

INTERPRETATION: Closer a person lives to Manhattan, the better the infrastructure.

CONTEMPLATION: The public transit system is 100 years old and as the city sees a surge in population, that it is overwhelmed and often delayed. E.g. Lexington Avenue subway line in rush hour.

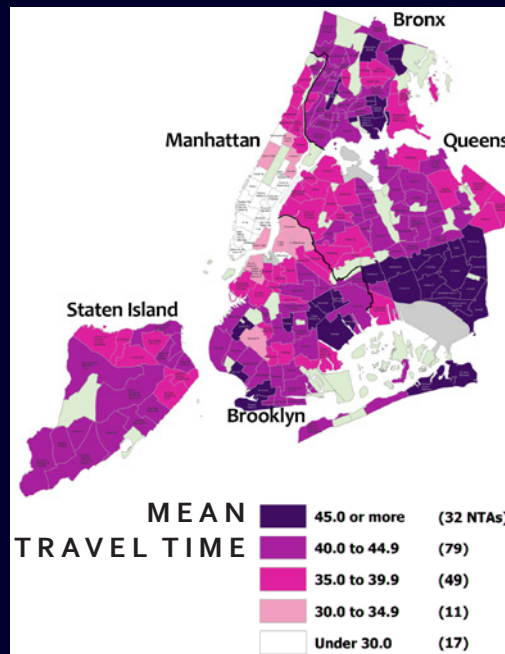


The catchment area of the New York City MTA subway system explains why the number of workers taking public transportation decreases as the distance between work place in Manhattan and home increases.

OBSERVATION: The New York City subway does not reach the full extent of every borough. Staten Island and areas beyond Jamaica, Queens have to heavily rely on buses before they can access a subway.

INTERPRETATION: Proximity to subway eases mobility and access to the rest of the city. Otherwise, it is a challenge.

CONTEMPLATION: Is it more convenient to live closer to work in Manhattan and pay exuberent money on rent? or farther away at the cost spending long tiring hours commuting?

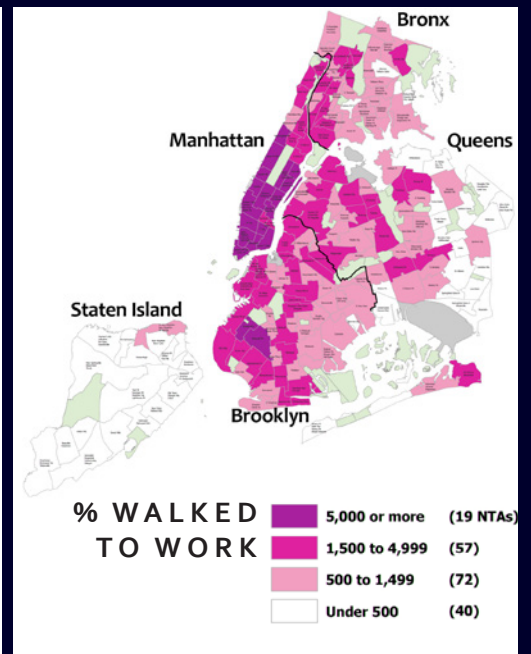


The longest time it takes to come to Manhattan is from the farthest neighborhoods of Queens, the Bronx and the Rockaway. Staten is relatively closer in that respect.

OBSERVATION: According to the map, most of New York City can be travelled under 45 minutes.

INTERPRETATION: In reality, it can take from 1hr - 1.5 hrs (if not more). Due to delays or other unforeseen circumstances.

CONTEMPLATION: How can we make journey from home to work within the 1hour time limit and if possible even shorter. If travel time from home to work is 1.5 hrs, that means daily spends roughly 3 hours on commuting to work. 3 extra hours away from friends and family.



The most number of people who walked to work is in Manhattan. The second is areas close to the edge of Manhattan from the East River side, such as DUMBO, or Red Hook in Brooklyn and, Astoria or Steinway in Queens. Also, a moderate number of people walk to work in areas such as Harlem, or west Bronx

OBSERVATION: The least number of people who walk to work are in majority of Staten Island, the far Rockaways and neighborhoods beyond Jamaica in Queens.

INTERPRETATION: Manhattan is the de facto heart of New York City. It receives the best of everything;

CONTEMPLATION: What if Manhattan was **not** the 'Heart of the City' ? What if decentralize it and generate multiple hearts?



For our project we focused on Beach 36th Street station on the A train, near the terminus of Far Rockaway/Mott Av to as the 'new center' and the eventual site for physical design intervention

FINAL ANALYSIS: If all the data are combined, it can be interpreted that Manhattan is the center where people from other boroughs commute to the most. Workers living in Manhattan do tend to walk to their workplace more than any other borough. Other areas that mimic this tendency are neighborhoods in Brooklyn such as, Red hook, Bushwick, and in Queens such as Jackson Heights, Elmhurst or Astoria. But people living beyond the neighborhood boundaries of Jamaica, Queens or most of Staten Island rely on cars or Public transit to go to work. Which means their work place is not within walking distance or within their neighborhood. On top of long commutes, they do not have much access to what the city has to offer in terms of housing, jobs and basic amenities . Therefore a plausible, conclusion is to:

RETHINK THE BOUNDARY !!!

What: Provide better livelihood for the disenfranchised population of New York City by decentralising the need to go to the 'Heart of the City' for work and other opportunities.

Where: Any Borough other than Manhattan. In and around fringes of The Bronx, Queens and within cloxe proximity to their home so that their is less reliance on the Public transit system.

How: By providing a dignified standard of living and housing conditions that is within their means of income. Recommending and providing jobs, tailored to their knowledge, experience and capabilities.

The table below shows a list of the last stops of each subway line and the bus connection available afterwards. We suggest these 'last stops' be envisioned as the New Centers or Hubs for economic, housing and development. For our project, we propose housing solutions that is truly affordable. Economic growth and development of the area will be a natural outcome of gradual the influx of people.

Subway Station Name	Borough	Subway Line	Bus Connection
Inwood-207 Street	Manhattan	A	M100, Bx7, Bx12, Bx12 SBS, Bx20
Van Cortlandt Park - 242 St	Bronx	1	Bx9, BxM3, Bee-Line 1C, Bee-Line 1T, Bee-Line 1W, Bee-Line 2, Bee-Line 4
Woodlawn	Bronx	4	Bx16, Bx34, BxM4, Bee-Line 4, Bee-Line 20/21
Norwood-205 St	Bronx	D	Bx10, Bx16, Bx28, Bx30, Bx34, Bx38
Wakefield-241 St	Bronx	2	Bx39, BxM11, Bee-Line 40/41, Bee-Line 42, Bee-Line 43
Pelham Bay Park	Bronx	6	Bx5, Bx12, Bx12 SBS, Bx23, Bx24, Bx29, Q50, BxM8, Bee-Line 45
96 Street	Manhattan	Q	M15, M96
Flushing-Main St	Queens	7	Q12, Q13, Q15, Q15A, Q16, Q17, Q19, Q20 A/B, Q25, Q27, Q28, Q3, SBS, Q48, Q50, Q58, Q65, Q66, NICE N20, NICE N21
Jamaica - 179 St	Queens	F	Q1, Q2, Q3, Q17, Q30, Q31, Q36, Q43, Q76, Q77, Q110, NICE N1, NICE N6, NICE N22, NICE N22A, NICE N24, NICE N26
Canarsie	Brooklyn	L	B6, B17, B42, B60, B82
Far Rockaway - Mott Av	Queens	A	Q22, Q113, Q114, QM17

THE PROJECT : We selected two sites in the 'Hammels-Arverne-Edgemere' Neighborhood Tabulation Areas (NTA). They are situated in the Rockaway Peninsula in Queens.

35-01 Beach Channel Dr
Far Rockaway, NY
11691

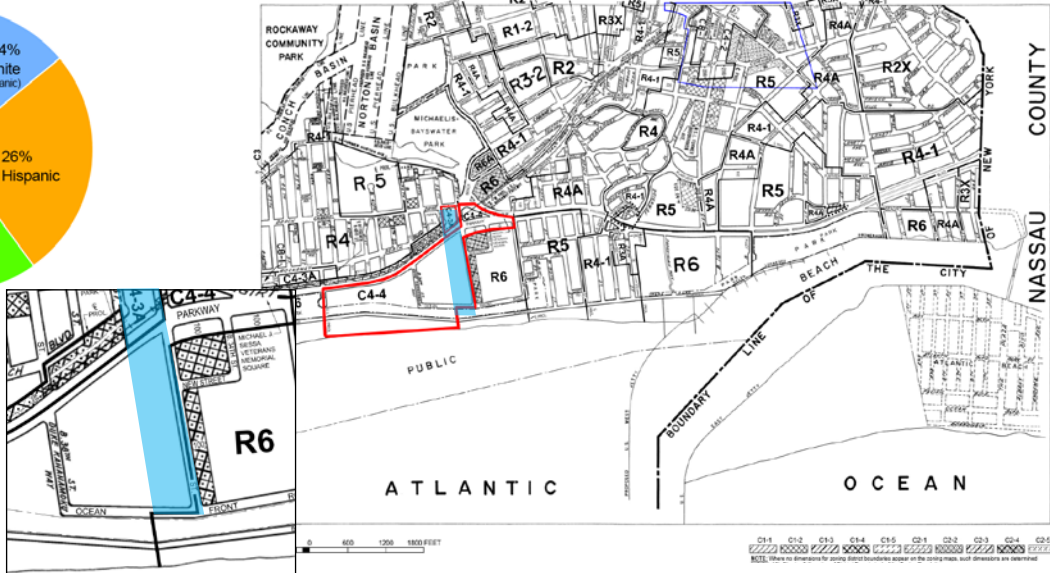
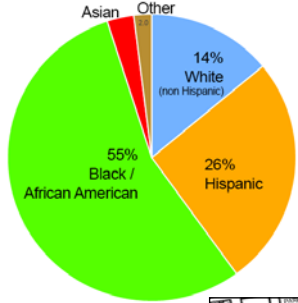
Far Rockaway-Mott Av
Station

35-01 Beach Channel Dr
Far Rockaway, NY 11691

It is under the jurisdiction of New York City
Department of Housing Preservation and
Development (HPD)

THE LOCAL CONTEXT:

- The A train connects Rockaway Peninsula to the rest of New York City. It is the longest line in the MTA system
- Buses available are the Q22 which is routed east to west along Beach Channel Drive and The QM17 carries riders to midtown Manhattan via the Cross Bay Bridge.
- The area is a predominantly a Black or African community. Many of whom are of West Indian, Sub-Saharan African descent.
- 40 percent of Study Area residents are under the age of 25. This is almost ten percent more than the rest of Queens (30 percent)
- The population has a low education attainment rate. Roughly, one third of the residents, have completed a high school degree
- Almost 30 percent of residents in the Hammels-Arverne-Edgemere area are living in poverty.
- The median household income of residents of the Hammels-Arverne-Edgemere NTA is \$39,373. This is significantly less than the median household income of the Rockaway Peninsula (\$48,171) and the rest of Queens.
- Half of the residents of the Hammels-Arverne-Edgemere NTA do not have access to a personal vehicle.
- Of the residents that do have access to a vehicle, thirty-six percent have access to one vehicle.



ZONING MAP
THE NEW YORK CITY PLANNING COMMISSION

Major Zoning Classifications:
The numerical (and/or letter) that follows an R, C or M District designation indicates the use, bulk and other controls set forth in the text of the Zoning Resolution.

R – RESIDENTIAL DISTRICT
C – COMMERCIAL DISTRICT
M – MANUFACTURING DISTRICT

SPECIAL PURPOSE DISTRICT
The letter(s) within the shaded area designate the special purpose of the zoning resolution.

Effective Date(s) of Rezoning:
*10-15-2016 C 160351 ZW2
10-15-2016 C 160333 ZW2

Special Requirements:
For a list of lots subject to CDR environmental requirements, see APPENDIX C.
For a list of lots subject to "D" structural requirements, see APPENDIX D.
For Incidental Housing designated areas and Mandatory Incidental Housing areas on this map, see APPENDIX E.

MAP KEY

24d	25b
30c	31a
30d	

ZONING MAP 31a

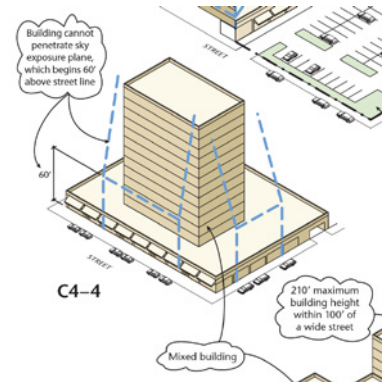
NOTE: Zoning information as shown on this map is subject to change. For the most up-to-date zoning information for this map, use the Zoning section of the Department of City Planning website. For more information or to request a zoning map, contact the Zoning Information Office at 312-151-6541.

HOUSING: A wide range of housing types including detached, semi-detached and attached residences as well as large apartment buildings as well as some NYCHA buildings (public housing) can be found here.

ZONING: The current rezoning established in the neighborhood area are lower-density and contextual zoning districts (R3A, R3X, R4, R4A, R4B, R4-1, R5, R5A, and R5B) to protect and reinforce the existing scale of neighborhoods.

Select locations close to public transit (such as the project site) is introduced to modest increases in density (R5D, R6A, R7A and C4-3A) in to spur investment and redevelopment, and updated commercial overlays to allow for more retail and commercial opportunities along primary streets.

GEOGRAPHY: The neighborhood area is prone to flooding.



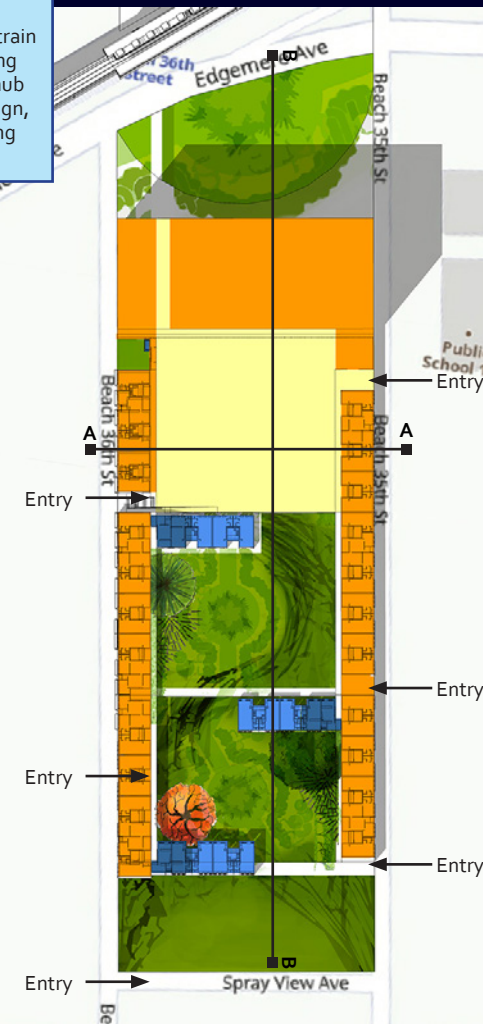
CURRENT ZONING c4-4:
c4 districts are mapped in regional commercial centers, such as Flushing in Queens and the Hub in the Bronx, that are located outside of the central business districts. Use Groups 5, 6, 8, 9, 10 and 12, which include most retail establishments, are permitted in C4 districts. (Details: [NYC c4-4 zoning](#))

This zoning allows for specialty and department stores, theaters and other commercial and office uses serve a larger region and generate more traffic than neighborhood shopping areas

Based on these circumstances we provide a Design solution for radical affordable housing



Commercial center, and public plaza, encapsulating the train station. Establishing the area as a new hub through urban design, architectural massing and land use



GROUND FLOOR PLAN:

- Commercial
- Single Unit Housing
- Double Unit Housing
- Open Green space
- Public Plaza
- Parking



TYPICAL FLOOR PLAN:

- Commercial
- Single Unit Housing
- Double Unit Housing
- Open Green space
- Public Plaza

PHILOSOPHY:

The intention is to provide housing solutions that are truly affordable and allow it's resident to live with dignity and a respect. Through technological innovations as well as active community engagement and interaction, nuanced details of the project will emerge.

The key word here is affordability. Anyone who has annual income of \$48,000 or lower deserves the right to live in New York city. They should not be burdened by the high cost living in one of the most diverse cities in the world.

Whether, they are single mothers trying to make ends meet on low wages, or freshmen students living their own for the first time, or even an illegal immigrant that escaped from hardship- they all have the right to call New York their home.

INSPIRATION:

The progressive works of Architect and Planner [Charles Correa](#) and his 'Belapur Incremental housing' in Navi Mumbai, India, has been a major force of inspiration. ([Visit: Belapur Housing](#))

More recent projects by contemporary Urban Architect [Alejandro Aravena](#) and his solution to build housing for 100 families in Chile, have been also instrumental in formulating the ideas for our project.

([See Article: Can Half a Good House Become a Home?](#))

Both were inspired to find solutions for affordable housing in their respective countries by responding to the local context. Countries whose status until recently were that of 'developing nations'.

MODULAR UNIT:

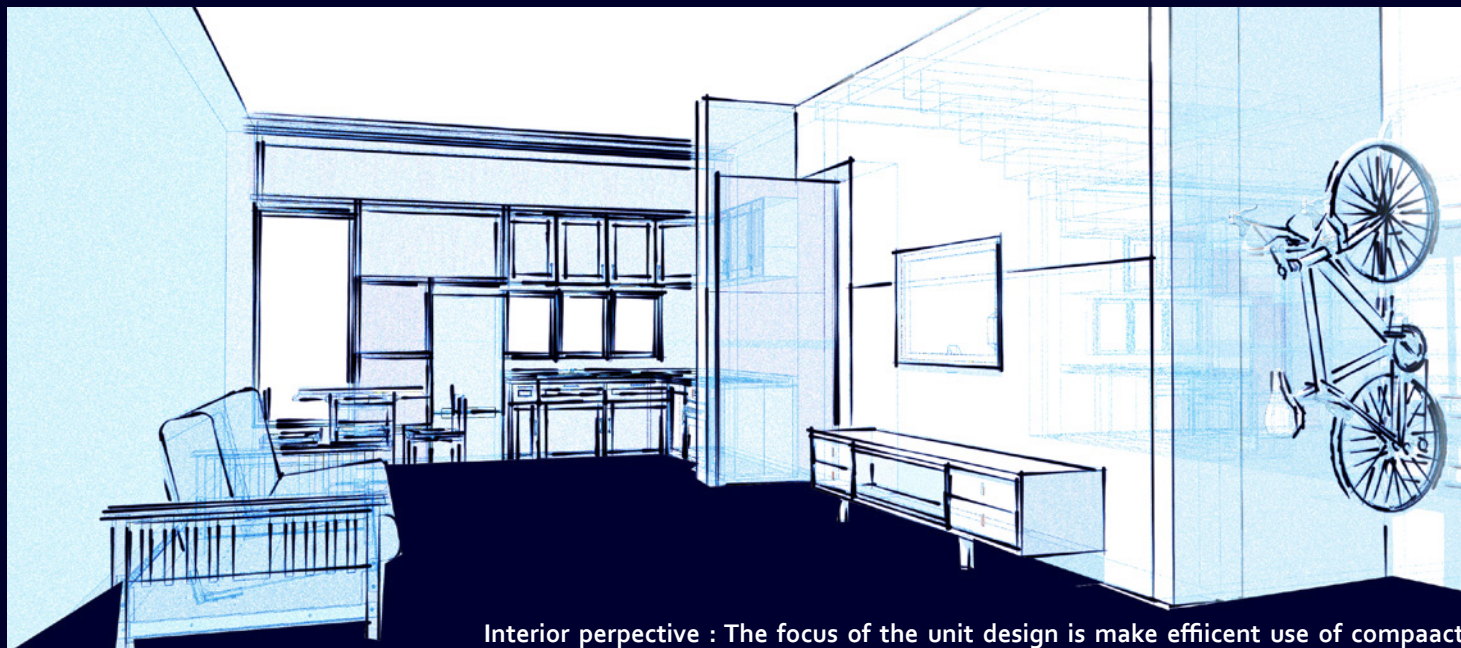
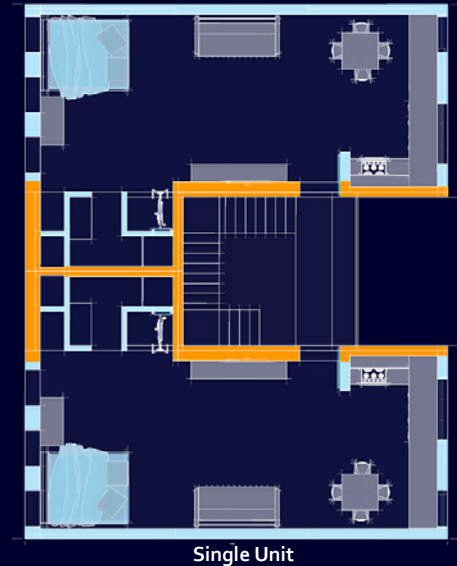
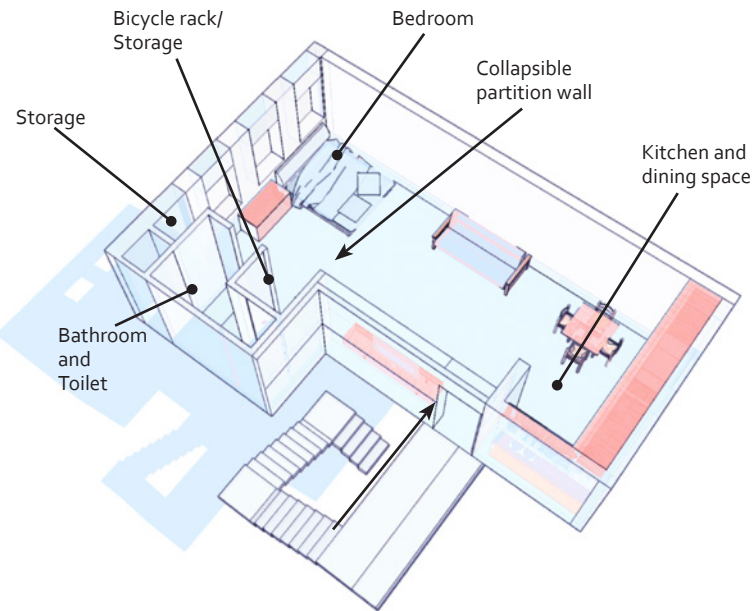
AREA: 640 sft (approx.)

DIMENSION: 10.66 m x 3.7m x 3.1m

CONSTRUCTION METHOD: Countour Crafting (a.k.a. 3D printing). Countour Crafting can significantly reduce the cost of commercial construction. Projections indicate costs will be around one fifth as much as conventional construction. Countour Crafting promises to eliminate waste of construction materials. Countour Crafting construction projects will be extremely accelerated; for example a 2000 square foot house can be constructed in less than 24 hours. This rapid construction time minimizes the financing costs of construction projects that typically take six months or longer to complete.

Read:

[Exclusive interview with Dr. Behrokh Khoshnevis \(countour crafting inventor\)](#) and Visit: <http://countourcrafting.com/>



Interior perspective : The focus of the unit design is make efficient use of compact space envision multiple functions for surfaces such as walls.

Intimate scaled courtyard: Social interaction space for adults and play for children



SECTION AA'

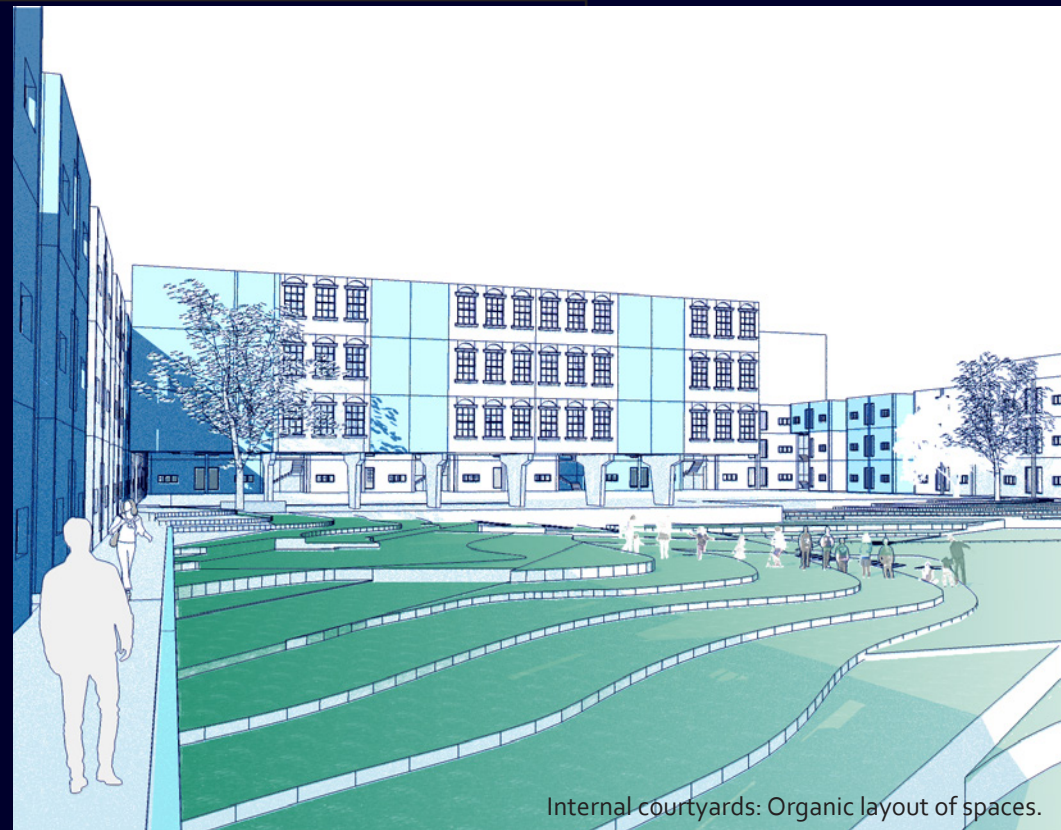
Elevation: The exterior shell is similar to row houses; an expression of traditional housing seen in NYC.

However, the interior spaces are a more fluid and organic.



Commercial use such as Grocery stores, bodegas, at ground level. Only accessible from the outside of the property.

Also, murals are encouraged.



Internal courtyards: Organic layout of spaces.

Commercial building as per c4-4 zoning regulations facing the train station.

Public plaza

Intimate scale of buildings. To give a sense of neighborhood

Elevated green space to protect the built structure from flooding.



SECTION BB'

Ground level parking space, for commercial building and (if needed) the resident.