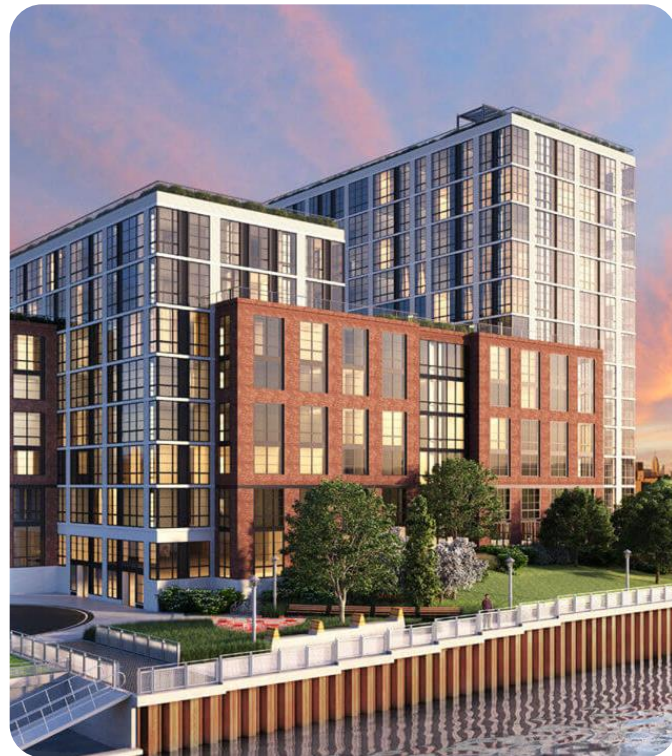


Affordable Housing

Aakash Goel / Jennie Gandhi

Qinyang Zhu / Chitiz Sahani

Apr 20th



Recap

01.

Background

- Definition
- History
- Basic Structure

Global Markets

- Supply & Demand Gap

Current Scenario in US

- Policy Structure
- Problems

02.

Case Studies

- San Jose
- San Francisco

NYC Scenario

- Hypothetical Example

Applications with P3

- Bronx point

Trends and Strategies



Agenda

01.

**Affordable Housing
Finance**

02.

Challenges

03.

**Latest Trends and
Statistics**

04.

Recommendations





01.

Affordable Housing Finance



Affordable housing financing is the process by which a public or private entity secures capital to pay for the building, maintenance, and/or renovation costs of affordable units.

- Nature: Affordable housing CANNOT be sustained without subsidy because tenant rents CANNOT cover acquisition, construction, and operational costs.

How Affordable Housing Financing Works



Direct funding

- Applied to the initial costs through government-funded subsidies



Indirect funding

- Lower the month-to-month cost of housing, i.e., energy efficiency programs, maintenance funds



Tax credits and incentives

- Programs like Tax Increment Financing (TIF), Mixed-Finance Public Housing



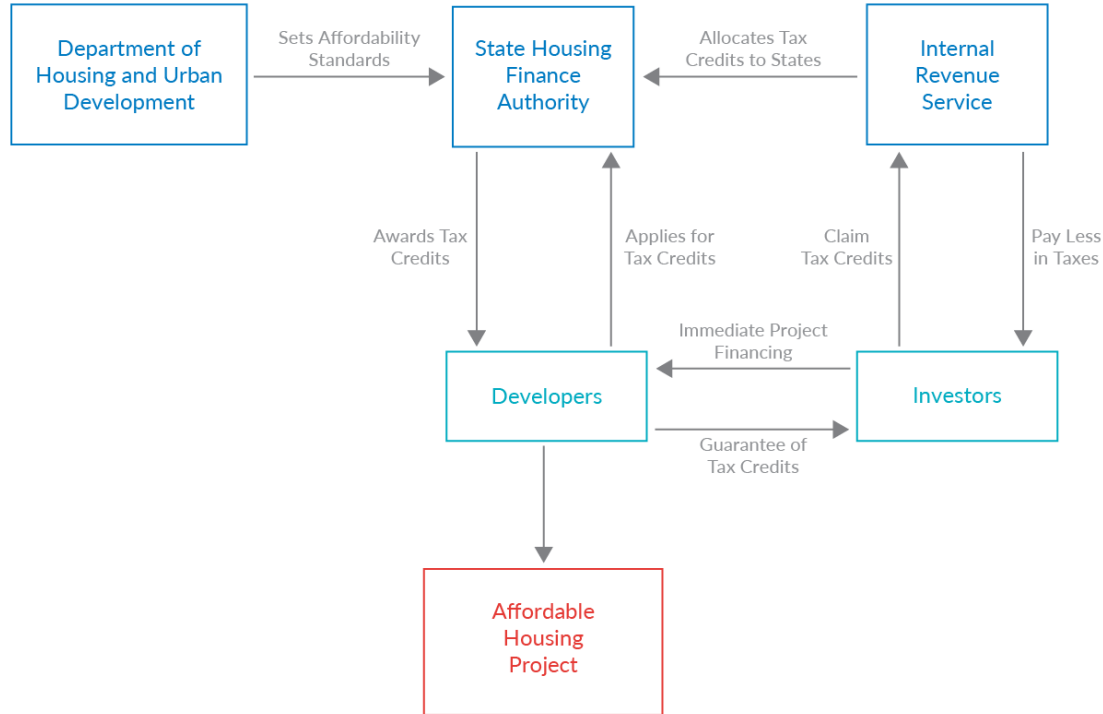
Land value capture

- Land use and development policy like transit-oriented development and inclusionary zoning



Low-Income Housing Tax Credit Involves Multiple Public and Private Actors

Structure of Low-Income Housing Tax Credit



Considerations

As public housing has faced systematic disinvestment over time, the nonprofit industry and private sector stepped in.

**Access and
Technical
Assistance**

**Limited
Funding
Pool**

**Profitability
-Dependent**

**Affordability
Expiration
Dates**



Policy Suggestions



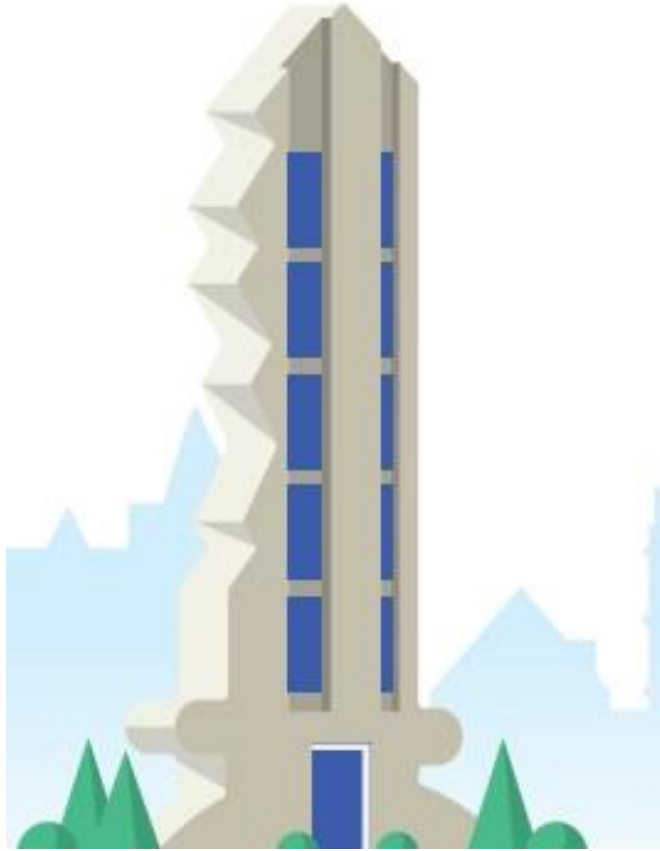
**Increase
Funding for
the LIHTC
Program**



**Allocate Portion
of EB-5 Capital
to Affordable
Housing Projects**



**Provide
More Land
Acquisition
Subsidies**



02.

Challenges: Supply Side



SUPPLY SIDE CHALLENGES



Supply side value chain

The process of creating units for occupation



Demand side value chain

People's ability to afford a housing unit



20 - minute neighborhood

The ability to meet most of our everyday needs locally within a 20-minute journey from home by walking, cycling, riding, or local public transport



SUPPLY SIDE CHALLENGES (CONTD.)

HOUSING DEFICIT



Qualitative Deficit

- Use of substandard building materials
- Lack of proper urban infrastructure and services
- When informal housing intended for only temporary occupancy becomes occupied permanently
- when aging buildings become incompatible with modern building codes



Quantitative deficit

- Result from demand for housing exceeding supply
- Scarcity of land for development
- Growing urban populations
- Attractiveness of housing as an investment relative to other asset classes
- Rising disposable incomes
- Low-interest rates
- Lack of financial literacy which frequently led to housing bubbles



SUPPLY SIDE CHALLENGES (CONTD.)

Supply-Side Challenge 1: Land acquisition and titling



Land-pooling

When an undeveloped piece of land is exchanged for a smaller, developed piece of land and tradeable land quotas



Focusing on ensuring property rights

For example, the right not to be forcibly evicted – rather than formalizing property titles



Partnerships between community land trusts

They own land on behalf of a community. Municipal land banks, which acquire vacant land and prepare it for development



SUPPLY SIDE CHALLENGES (CONTD.)

Supply-Side Challenge 2: Land Use



Algorithmic zoning

Incentivizes the developers based on an assessment of what is needed to maximize the vibrancy of a community



Taxation solutions

Taxing the underlying value of land rather than the value of the property on it, and imposing a tax on vacant land or properties



Mixed-use development

Ensures neighborhoods have a mix of income levels and proximity to jobs and services.



Transit-oriented development

Expansion of cities is planned around new urban transport infrastructure



SUPPLY SIDE CHALLENGES (CONTD.)

Supply-side challenge 3: design and construction



Minimizing bureaucracy

Because the fees and costs of complying with complicated building codes can add significantly to project cost



Alternative construction materials

Fly ash, cement-coated expanded polystyrene panels, glass-fiber-reinforced gypsum, cross-laminated timber, and compressed earth blocks



Emerging construction technologies

3D printing, robot bricklayers, self-driving bulldozers, and solutions related to IoT and AI which could bring down the O&M cost



Public-private partnerships

For training to address skills shortages in the construction sector



SUPPLY SIDE CHALLENGES (CONTD.)

Supply-side challenge 4: Securing finance



Government provision

Tax incentives, grants, or exemptions for private developers to develop certain types of property or development in designated areas



Government-guaranteed bonds

Provide cheap, long-term finance to community-based organizations to develop and manage affordable housing



Investment models

Microfinance, real estate investment trusts (REITs), impact investing





02.

Challenges: Demand Side



Demand-side challenges



Different forms of tenure

Can offer more options to city residents struggling to afford a house



Rent controls

Offer the potential to protect tenants



Demand-side interventions

Need to guard against the risk of helping in the short term but not the long term



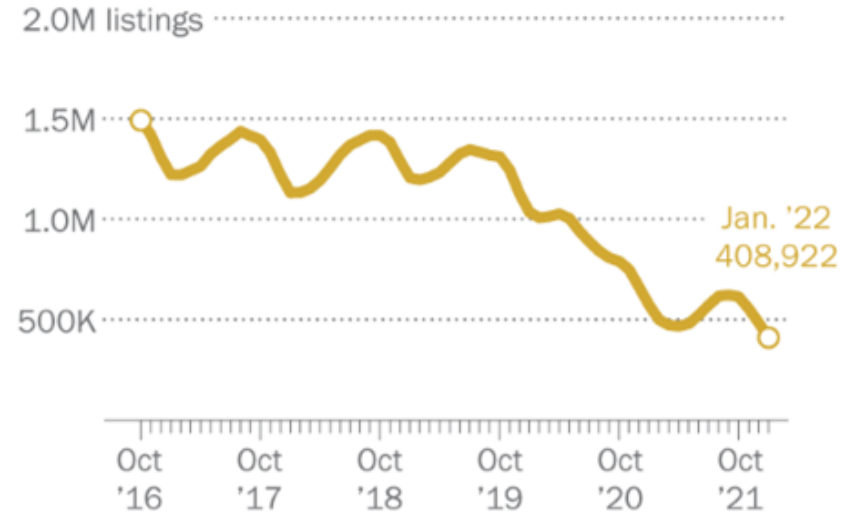
03.

Affordable Housing Statics and Trend

Home Inventory Vs. Home Prices

- As home sales have boomed, active housing listings have dropped and the median home sale price has surged, according to data from the Federal Reserve.
- The number of active housing listings in the U.S. was at its lowest in at least five years in January 2022, with 408,922 active listings on the market.
- That's a 60% drop from about 1 million listings in February 2020, just before the coronavirus recession hit the U.S.

Number of U.S. active housing listings, by month

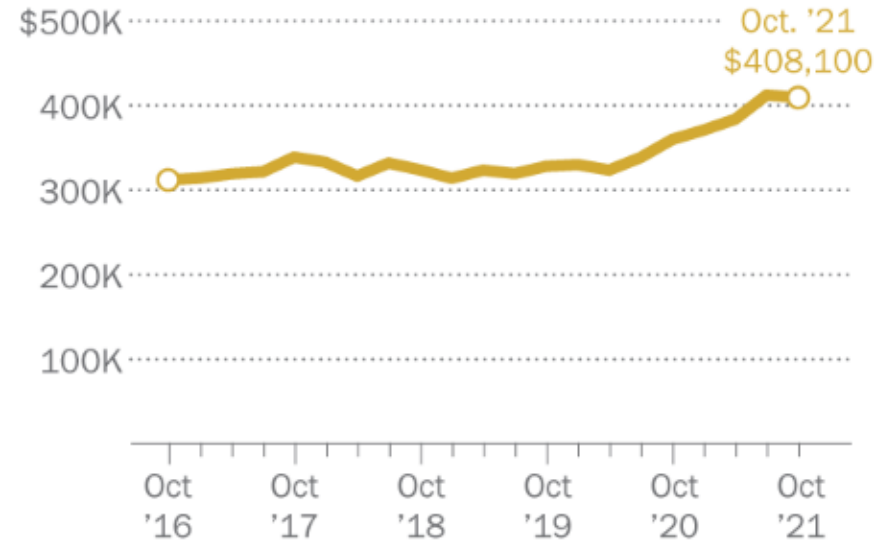


https://www.pewresearch.org/fact-tank/2022/03/23/key-facts-about-housing-affordability-in-the-u-s/ft_22-03-23_housingaffordability_1a/



Median U.S. Home Sale Price by Fiscal Period

- The national median sale price for a single-family home jumped 25% from \$327,100 in the fourth quarter of 2019 (the last full quarter unaffected by the COVID-19 recession) to \$408,100 in the fourth quarter of 2021, the most recent data available.
- Housing vacancy rates, meanwhile, have dropped over the last decade. The vacancy rate for rental units fell from about 10% in 2010 to 5.6% at the end of 2021.
- The rate for homeowner units is down from about 2.6% in 2010 to 0.9% in 2021 (the most recent year with available data).



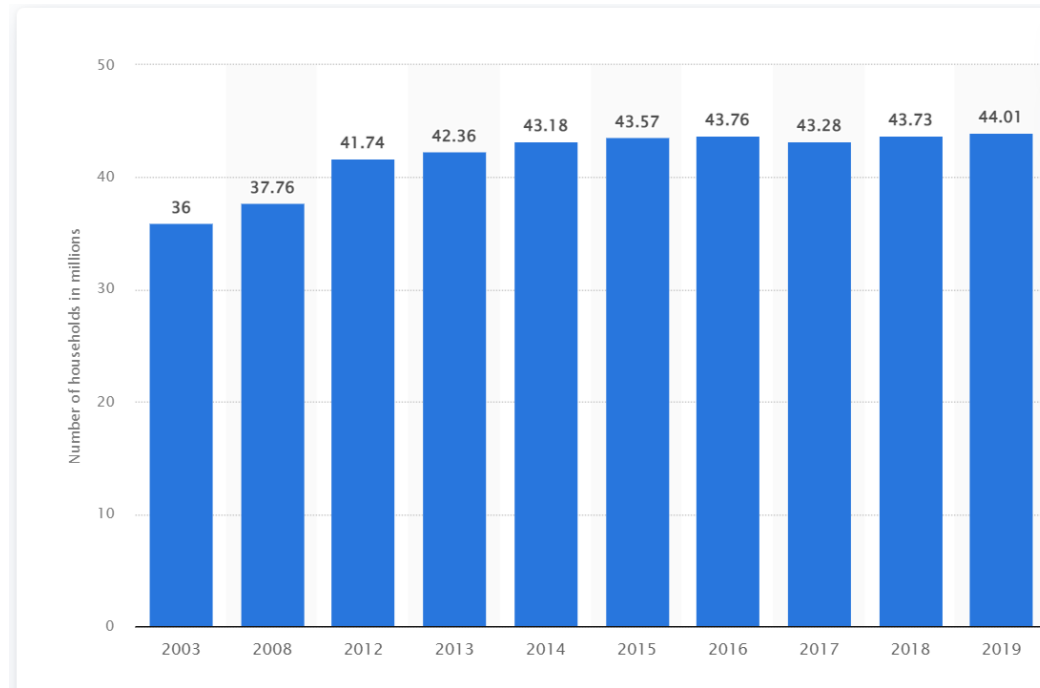
https://www.pewresearch.org/fact-tank/2022/03/23/key-facts-about-housing-affordability-in-the-u-s/ft_22-03-23_housingaffordability_1a/

U.S. Statics and Facts

- A charming house with a lawn and a white picket fence is one of the most evocative images of the American Dream. The United States was once seen as a country where anyone who was willing to work hard would be able to afford a secure housing situation.
- However, nowadays many Americans find this dream to be more and more elusive. As of 2016, nearly 44 million Americans were burdened by the cost of housing, a figure which has been on the rise since 2003.
- A 2018 survey found that more than a third of those renting a home did not own a home because they couldn't afford one.
- American Millennials spend nearly half of their income on rent on average. They only spent about 36 percent of their income on rent. One of the ways to fix this crisis is to provide more affordable housing.



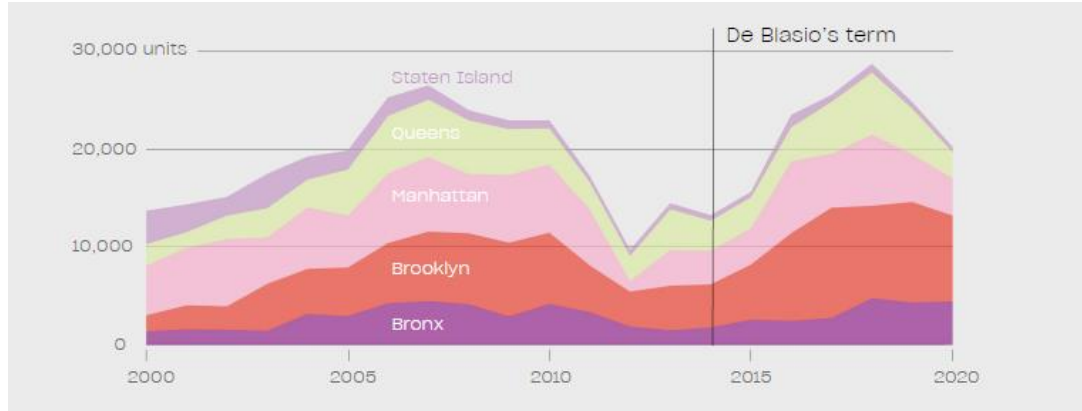
Number of housing cost burdened households in the United States among renters from 2003 to 2019



<https://www.statista.com/statistics/879074/rent-burden-young-adults-by-generation-usa/>

Statics of Affordable Housing Department

Chart shows the number of new housing units approved for occupancy annually in NYC since 2000



Source: NYC Department of City Planning's Housing Database,
NYC Rent Guidelines Board

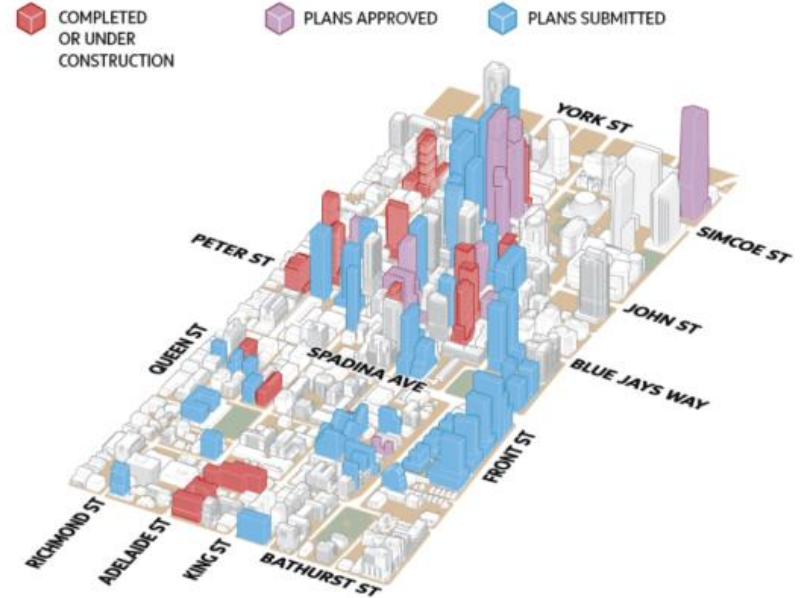
- All 5 boroughs are being tracked as shown in the graph.
- A widening gap between housing costs and wages has exacerbated an affordability crisis in New York City, pushing people into homelessness and to crowd into smaller apartments.

- More than a quarter of households in New York City were severely rent-burdened in 2019, spending 50% or more of their income on rent, according to Census Bureau data. And nearly half of households spent more than 30% of their income on rent.
- Mayor Bill de Blasio sought to bring incomes and rents into closer alignment with his Housing New York plan in 2014 — promising to create 80,000 new affordable units over ten years.
- The initiative has so far spurred the creation of 62,557 new affordable units — with two-thirds of these in Brooklyn and The Bronx.
- About 22% of these newly completed units are set aside for “extremely low income” New Yorkers, defined as a family of three that makes less than \$32,220, and 13% for families of three that make between \$32,220 and \$53,700.

3D Printing Trend



King-Spadina development



MURAT YUKSELIR / THE GLOBE AND MAIL, SOURCE:
CITY OF TORONTO OPEN DATA AND APPLICATION INFORMATION CENTRE



COLUMBIA | CBIPS

Center for Buildings, Infrastructure and Public Space

3D Printed Affordable Houses

“We are profoundly aware of the need for adequate supply of safe and affordable housing. We believe that every person deserves a safe place to call home, and the well-being of our communities at large is dependent on bridging the housing gap.”

— Peter Dupuis, Co-Founder World Housing

Complementary sets of actions are needed to end homelessness.

1. Reducing the inflow into the homeless service system, and by providing affordable housing to the most vulnerable to fall into homelessness.
2. Accelerate the outflow in the form of permanent housing move-ins from the homeless system

World Housing embraces the following strategies:

1. Pursue opportunities to acquire and redeploy existing properties as permanent supportive housing.
2. Augment with expanded funding to construct permanent supportive housing and to fund necessary support services
3. Expand construction of housing for Urban Indigenous Peoples delivered by Indigenous Peoples.





04.

Recommendations for City Governments, Private-sector Players & NPOs



Recommendations



CITY GOVERNMENTS

- Need to address political considerations
- Ensure that housing developments have adequate infrastructure
- Explore ways to improve the situations of those living in informal housing
- Create a strong regulatory enabling environment for the private and non-profit sectors



PRIVATE-SECTOR PLAYERS

- Need to keep updated with the emerging solutions in construction techniques and materials
- Work with governments to ensure an adequate flow of skilled labor
- Consider new solutions in financing and innovative tenure models



NON-PROFIT ORGANISATIONS

- Critical role in bridging the gap between governments and the private sector



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Thanks!

Any questions?