



ROBERT F. WAGNER GRADUATE  
SCHOOL OF PUBLIC SERVICE

# Testimony for Georgia Senate Study Committee on Improving Access to Healthy Foods and Ending Food Deserts

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# Agenda today

- Discuss evaluation of New York City's policy to expand food access
  - 1) Explain NYC's policy
  - 2) Describe how we evaluated:
    - a. Change in eating/shopping behaviors
    - b. Change in childhood obesity



## New supermarket development policy

- NYC's Food Retail Expansion to Support Health (FRESH) Program
- Offers financial and zoning incentives to operators who build in high need areas



**Policy goal: Improve healthy food access in high need areas**

# Summary of the Literature

- Obesity rates correlate with the density of healthy food retail in a neighborhood.<sup>1</sup>
- Low-income neighborhoods have lower access to fresh, healthy foods.<sup>2</sup>
- Census tracts that have a supermarket have lower proportions of obese and overweight residents.<sup>3</sup>

Will improving healthy food access in high-need areas decrease overweight and obesity? If you build it, will they come?

1. Rundle, A., et al. (2009). *Environmental Health Perspectives*.  
2. Treuhart S, & Karpyn A. (2010). PolicyLink & The Food Trust.  
3. Morland, K. et al. (2006). *American Journal of Preventive Medicine*.  
4 NYU Grossman School of Medicine

# NYC FRESH program

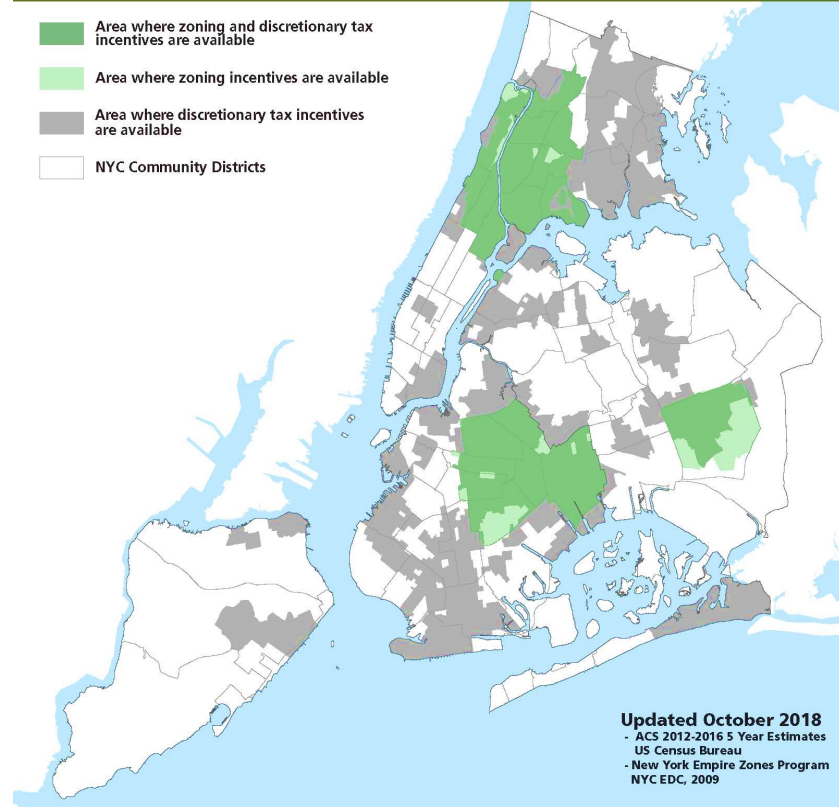
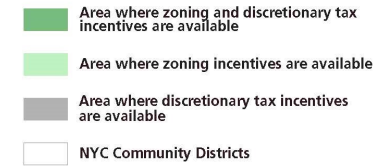
## Financial incentives

- Reductions in land and building taxes for 25 years
- No tax on building materials
- Mortgage-related tax incentives

## Zoning incentives

- Reduced requirement to provide parking
- Additional floor area in mixed use buildings
- Larger stores permitted in certain areas

### FRESH Program Eligibility Areas

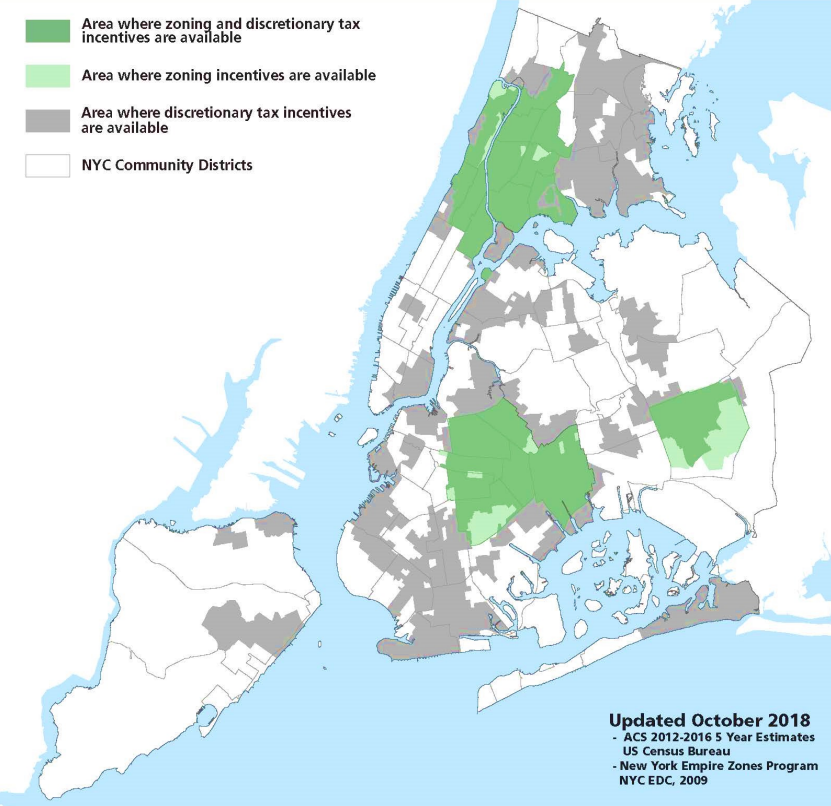


# NYC FRESH program

## Store criteria

1. **Minimum of 6,000 SF** of retail space
2. At least **50%** of the store for food products
3. At least **30%** of retail space for perishables
4. At least **500 SF** for fresh produce

## FRESH Program Eligibility Areas



# New York City



# Research site



Associated Supermarket in the Morrisania section of the Bronx

- 17,000 sq. feet
- Received both financial and zoning incentives
- Ground floor of a new low-income housing complex

We matched the neighborhood with comparison area also in the Bronx: Highbridge

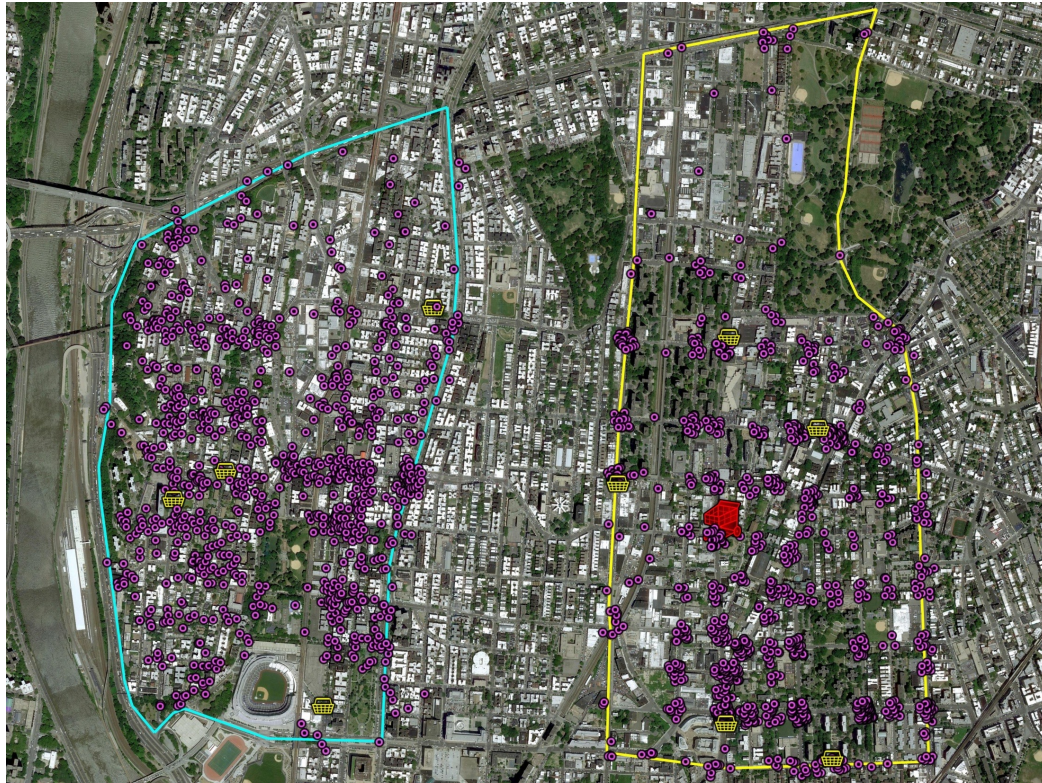


# Procedure

Collected 6,220 street-intercept surveys and 1,984 follow-up dietary recalls by phone

- Data from all adults and a subset of parents
- English and Spanish

Data collection			
Pre-period		Post-period 1	Post-period 2
March - Aug., 2011	Store opens Aug. 12, 2011	Sept. - Dec., 2011	Sept. - Nov., 2012



## Location of participants' residences and local supermarkets

## Overall no change in

- Servings of fruit and vegetables consumed
- Servings of “unhealthy” snack food consumed
- Food availability at home
- Shopping patterns

*...and about 1/3 of the sample noticed a new store*

### **But! among residents living within 0.5 miles of the store**

- Significant increase in those reporting always having fresh produce in the home (compared with those living >0.5 mi away)
- Higher consumption of fruit, vegetables, and water, and lower consumption of soft drinks and pastries

## New supermarket development policy

Our second study used administrative data to examine change in childhood obesity among children living close to new stores



**Goal: Improve healthy food access in high need areas**

# Data used

NYC Dept of Education administrative data on all ~1 million NYC public school students

- Data available for school years 2006 – 2018
- Demographics include address, race and ethnicity, eligibility for free and reduced-price lunch (income proxy)

## **FITNESSGRAM (BMI measurement)**

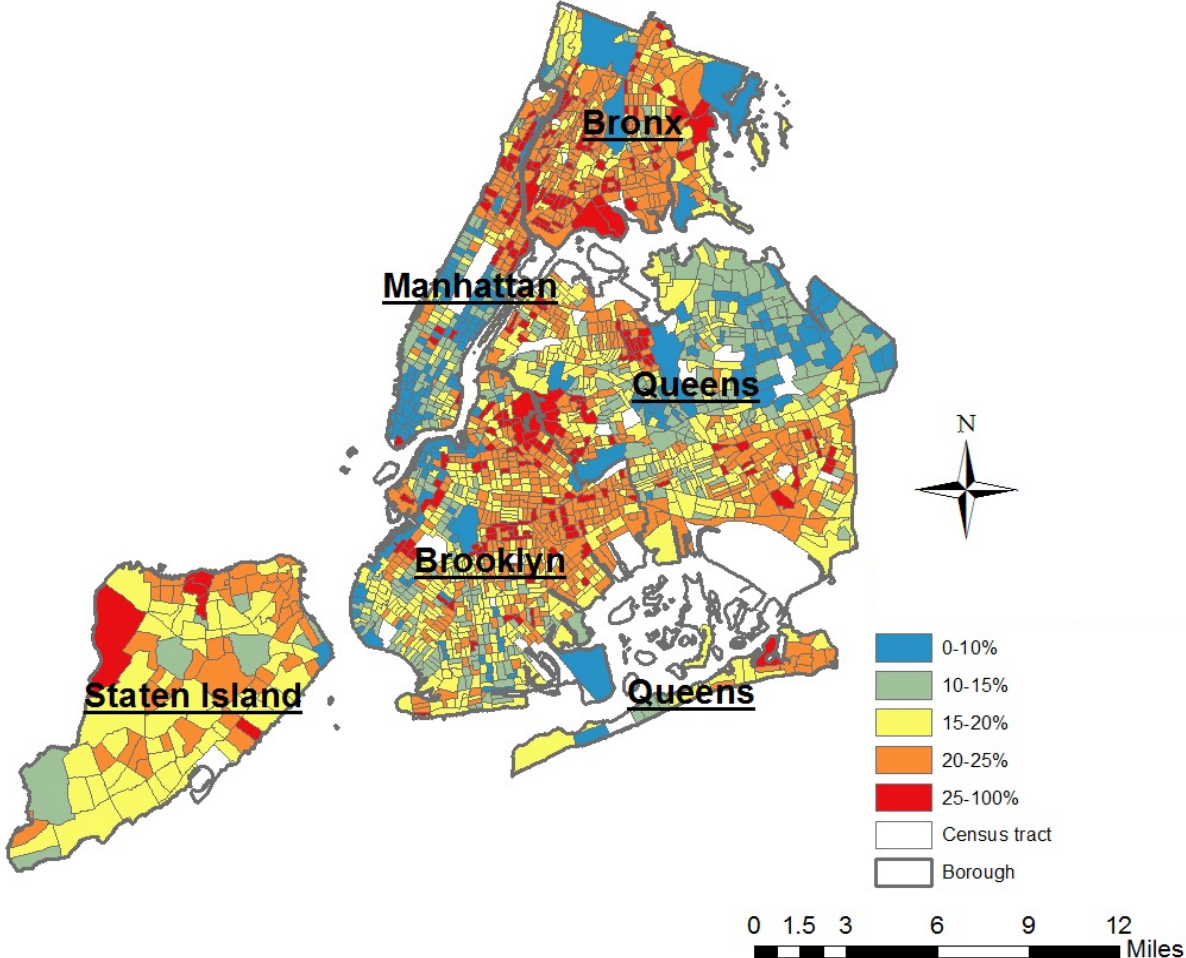
- National physical fitness assessment licensed in 2005 by the NYC Department of Education for use in all public schools
- Weight and height of students in all grades (K-12) measured every year

# Student Characteristics, 2021

		Total N=1,006,847
<b>Race/ethnicity</b>	Asian/Pac. Islander	17%
	Black, non-Hispanic	25%
	Hispanic/Latinx	41%
	White, non-Hispanic	14%
	Low income	74%
	Foreign born*	16%
	Special education	19%
	English at home*	56%
<b>Weight status</b>	Obesity*	19%
	Obesity cat. III*	1.5%

\*data from earlier years

Map of childhood obesity prevalence by census tract, 2009

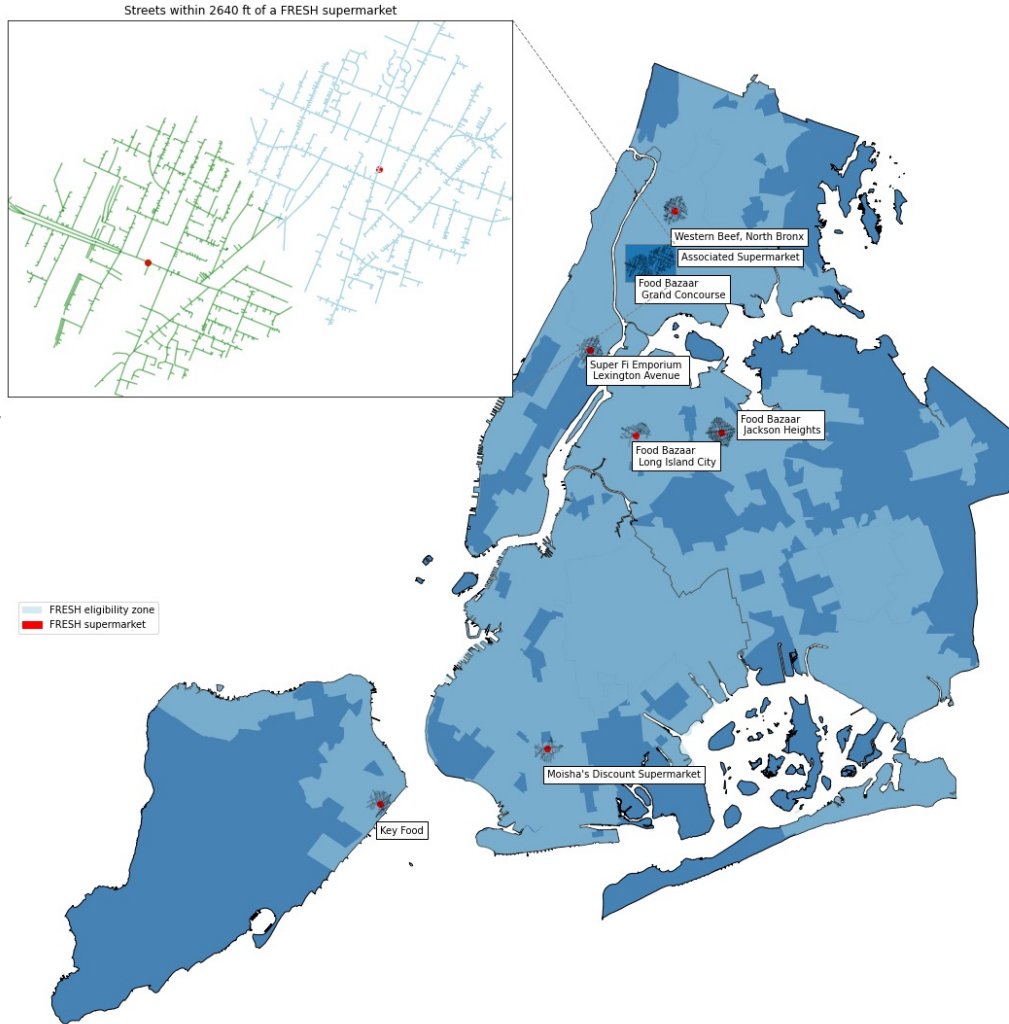


# Stores in analysis

Supermarket name	Address	Project type	Incentive type	Month and year of opening
Western Beef	2050 Webster Avenue, Bronx	New	Financial	July, 2011
Associated Supermarket	3470 Third Avenue, Bronx	New	Financial and zoning	August, 2011
Food Bazaar #1	238 E 161st Street, Bronx	Expansion	Financial	May, 2012
Super Fi Emporium	1635 Lexington Ave, Manhattan	New	Financial	June, 2013
Food Bazaar #2	42-02 Northern Boulevard, Queens	New	Financial	December, 2013
Key Food Supermarket	300 Sand Lane, Staten Island	New	Financial	January, 2014
Moisha's Discount Supermarket	305-325 Avenue M, Brooklyn	Expansion	Financial	March, 2014
Food Bazaar #3	34-20 Junction Boulevard, Queens	Expansion	Financial	May, 2014



# FRESH stores and surrounding 0.5 mile eligibility zones



# Analytic Approach

- Compared those who resided within 2640 ft. (0.5 mi) of 8 FRESH stores to matched controls
- Students in grades K-12, school years 2009-2016
  - *If residentially stable and had BMI measured within 12 months before FRESH store opened, as well as 3-12 months after*
- Outcomes: zBMI score and obesity
  - Covariates: Student, census tract, & food environment characteristics

## Approach

- 2-stage matching-weighting approach to obtain a control group
- Difference-in-differences with student-level fixed effects

**Measured change in weight of 11,356 children who lived within 0.5 miles of a new FRESH store compared to matched comparison students**

# Results:

## 3-12 months, overall and by project type

	BMI z-score ( $\beta$ (SE))	Obesity ( $\beta$ (SE))	Treatment group (N)	Control group (N)
All FRESH supermarkets	-0.04 (0.01)***	-0.01 (0.00)*	11356	39991
All <i>new</i> FRESH supermarkets	-0.07 (0.02)***	-0.02 (0.01)*	5118	19572
All <i>expansion</i> FRESH supermarkets	-0.03 (0.01)**	-0.01 (0.01)	6238	22376

# Overall Conclusions

- In a dense urban area like NYC, new supermarkets might influence eating/shopping behavior and childhood obesity rates for those that live VERY close to the store
- These results may be quite different in other area, particularly other non-urban areas
- New supermarkets may be one potential solution for some areas, though will need to think much broader than just supermarkets
- To truly influence obesity and nutrition need a broad array of policy solutions
- In particular, need to think "upstream" about what is driving obesity rates more broadly

# Acknowledgements

## Collaborators

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# Thank you

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