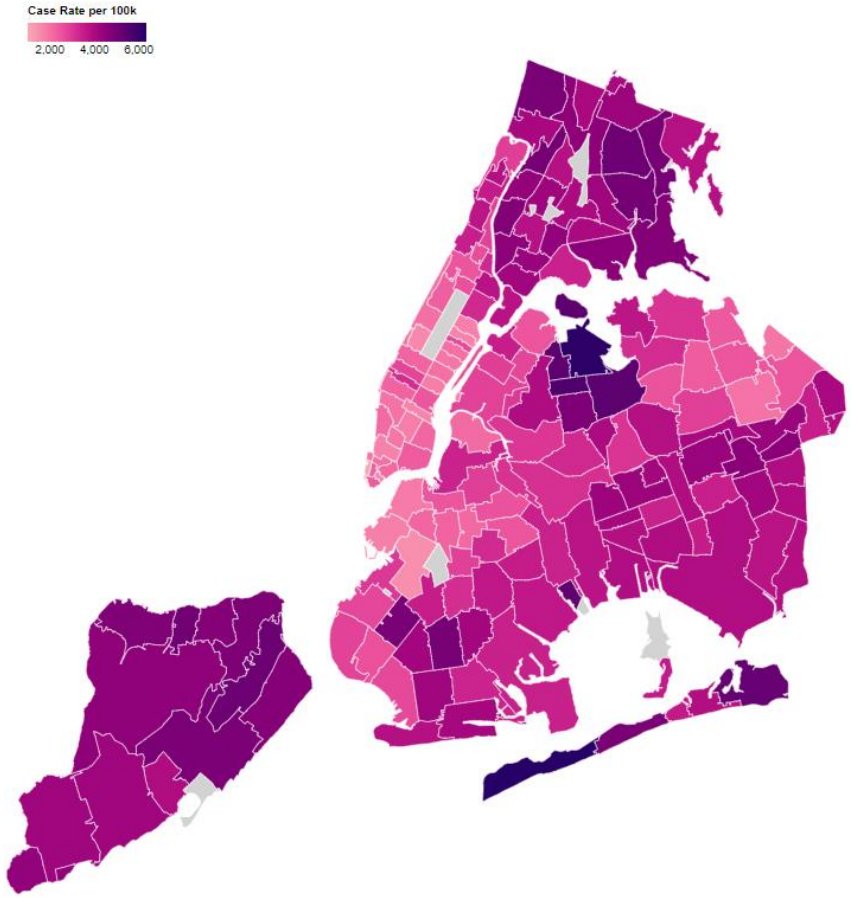
COVID-19 in New York City: Considerations for NYC Essential Workers

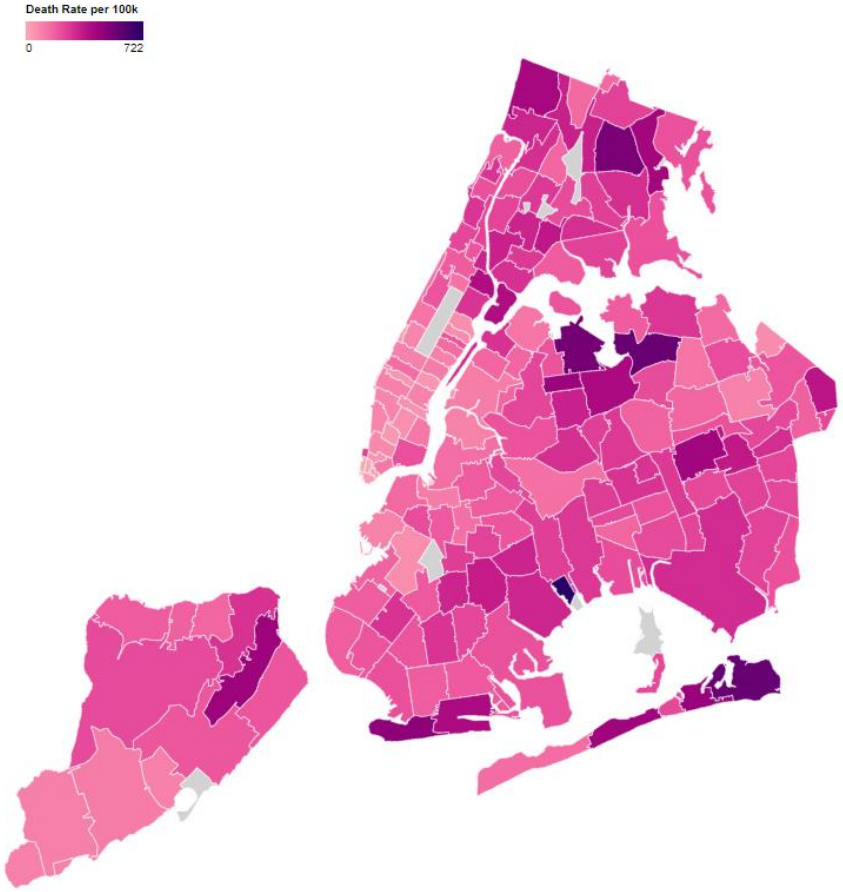
New York City Department of Health and Mental Hygiene | COVID-19 Response

COVID-19 cases and deaths are not evenly distributed in NYC

Rate per 100,000 residents of reported COVID-19 cases in NYC
Data through December 4, 2020



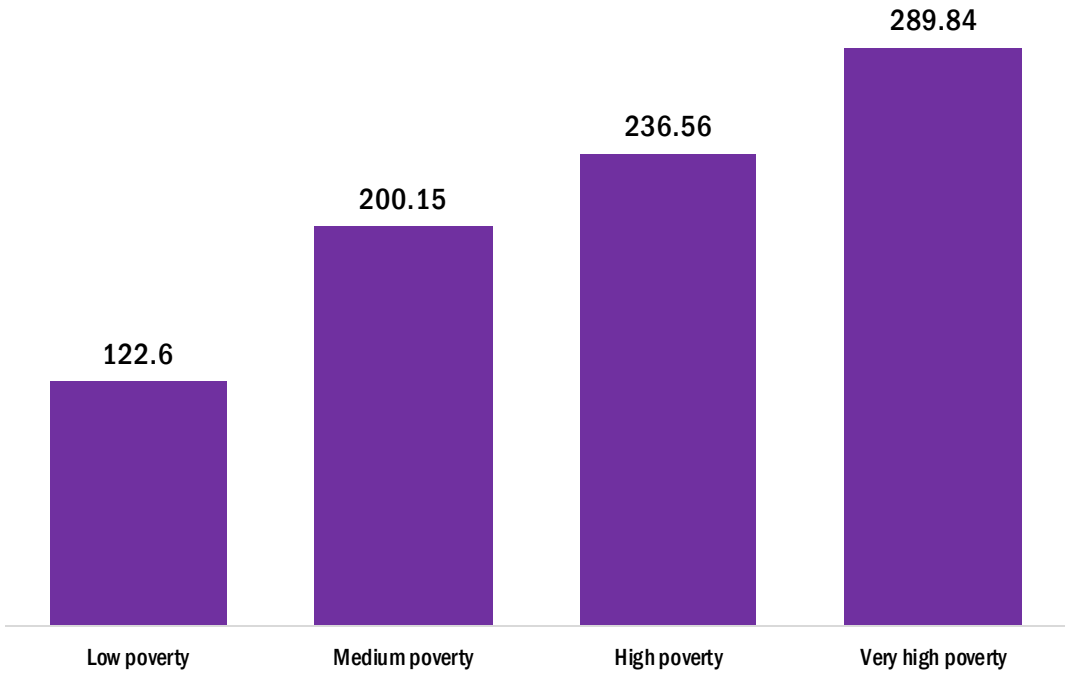
Rate per 100,000 residents of reported COVID-19 deaths in NYC
Data through December 4, 2020



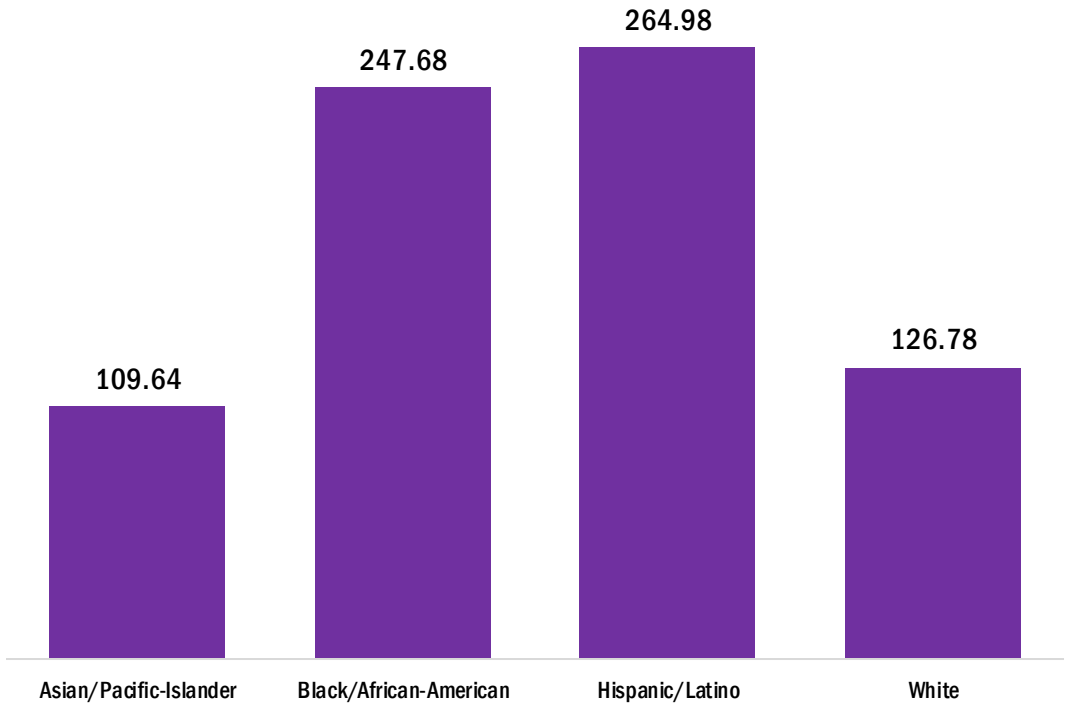
Source: www1.nyc.gov/site/doh/covid/covid-19-data.page. Last updated: November 17, 2020.

Black, Latino/a and high poverty communities experience higher rates of death from COVID-19

Age-adjusted rate (per 100,000 people) of COVID-19 deaths by poverty level



Age-adjusted rate (per 100,000 people) of COVID-19 deaths by race and ethnicity



[1]Neighborhood poverty is the percent of a ZIP code's population living below the Federal Poverty Level, per the 2014-2018 American Community Survey. Low poverty: under 10%; Medium poverty: 10% to 19.9%; High poverty: 20% to 29.9%; Very high poverty: 30% and over.

Source: NYC Department of Health and Mental Hygiene as of November 26, 2020

COVID-19 case, death, and hospitalization rates increase with age

NYC Health

New York City Daily COVID-19 Report | Data as of 11/26 6 PM

Cases	Deaths		Hospitalizations
Confirmed	Confirmed	Probable	Estimated
287,752	19,575	4,681	61,135

Age group	Cases: Rate per 100,000 people	Cases: Counts	Deaths: Rate per 100,000 people	Deaths: Counts	Hospitalizations: Rate per 100,000 people	Hospitalizations: Counts
75+	5,176	28,309	1,757	9,610	3,039	16,625
65-74	4,497	31,437	689	4,819	1,884	13,168
55-64	4,849	48,486	307	3,070	1,228	12,283
45-54	4,499	47,508	124	1,309	734	7,749
35-44	3,959	45,397	46	524	448	5,143
25-34	3,362	50,409	13	192	270	4,042
18-24	2,875	20,804	5	35	187	1,353
13-17	1,453	6,372	1*	15	60	265
5-12	752	5,662	--	--	23	176
0-4	533	2,853	--	--	61	329

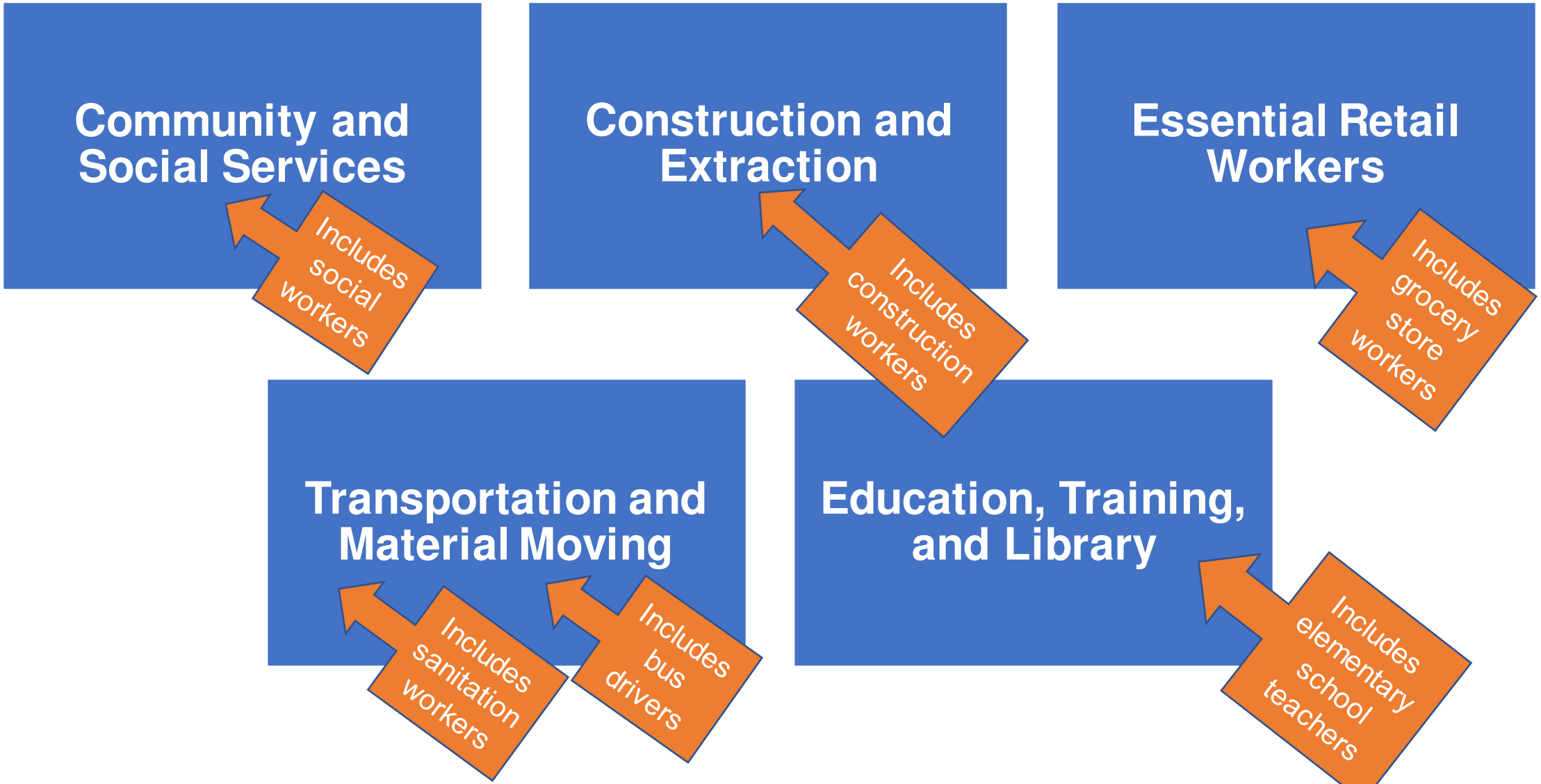
Data from confirmed deaths only

*Data aggregated to include 0-17 year olds

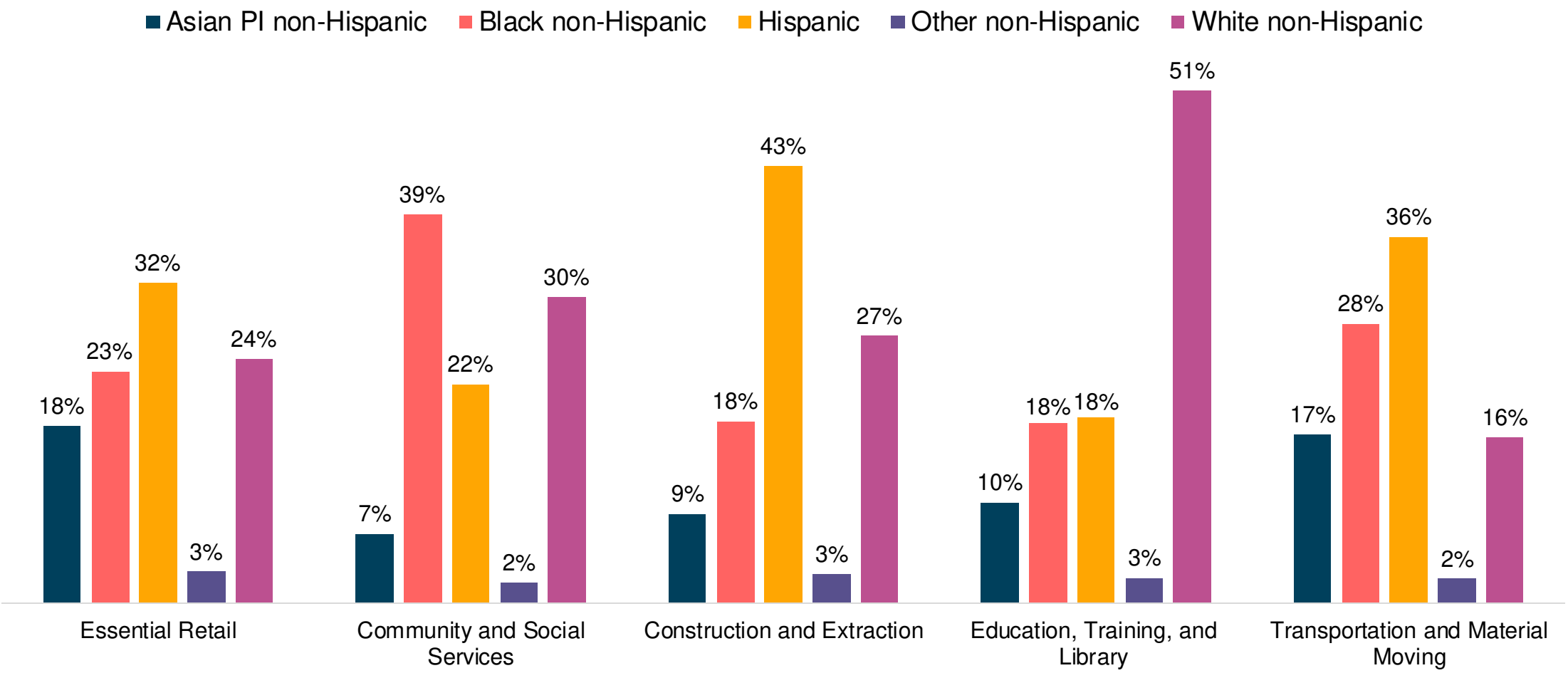
Source: NYC Department of Health and Mental Hygiene as of November 26, 2020

Frontline Workers

Occupation sectors of focus

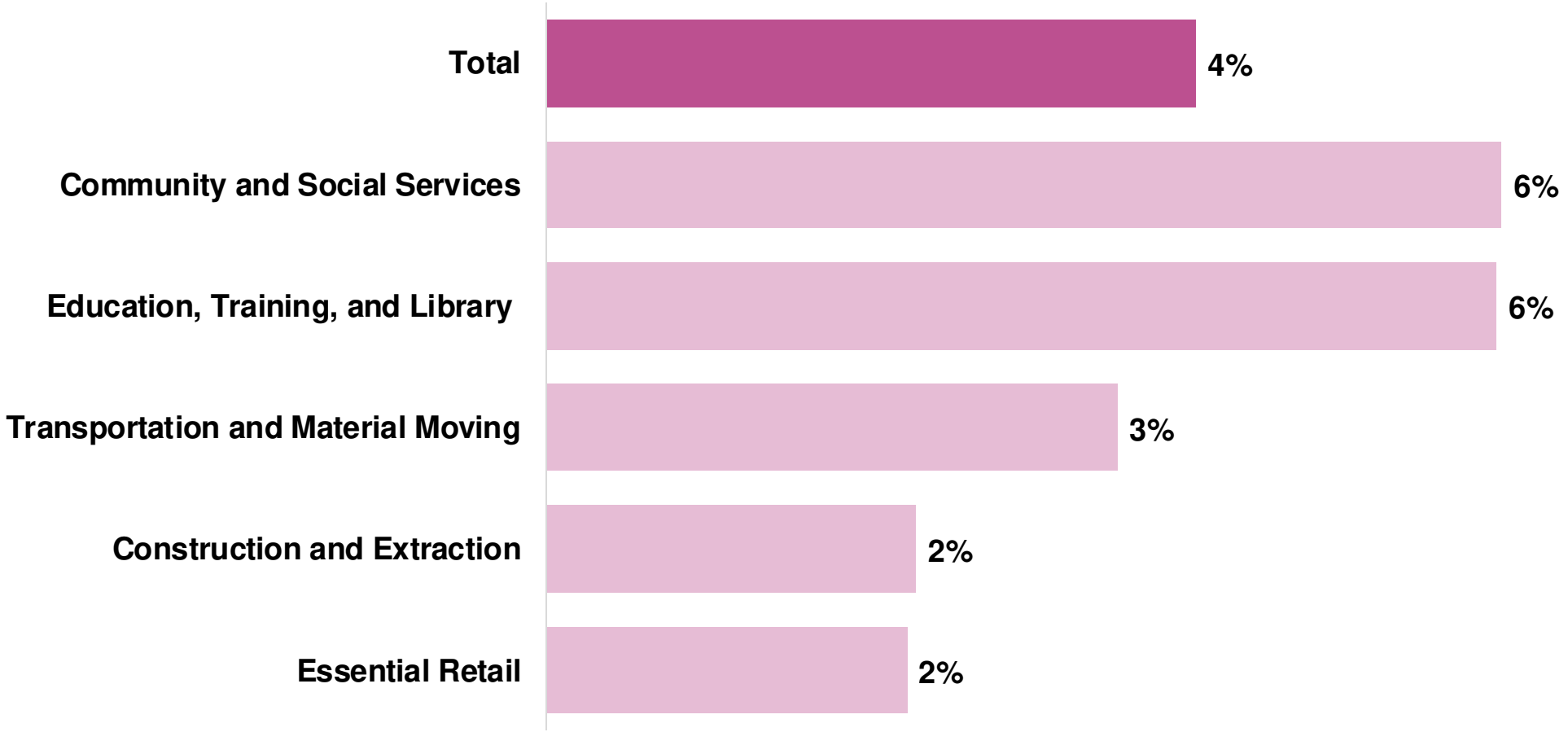


Proportion of labor force ages 16 and over by occupation sector and race and ethnicity, NYC, 2014–2018



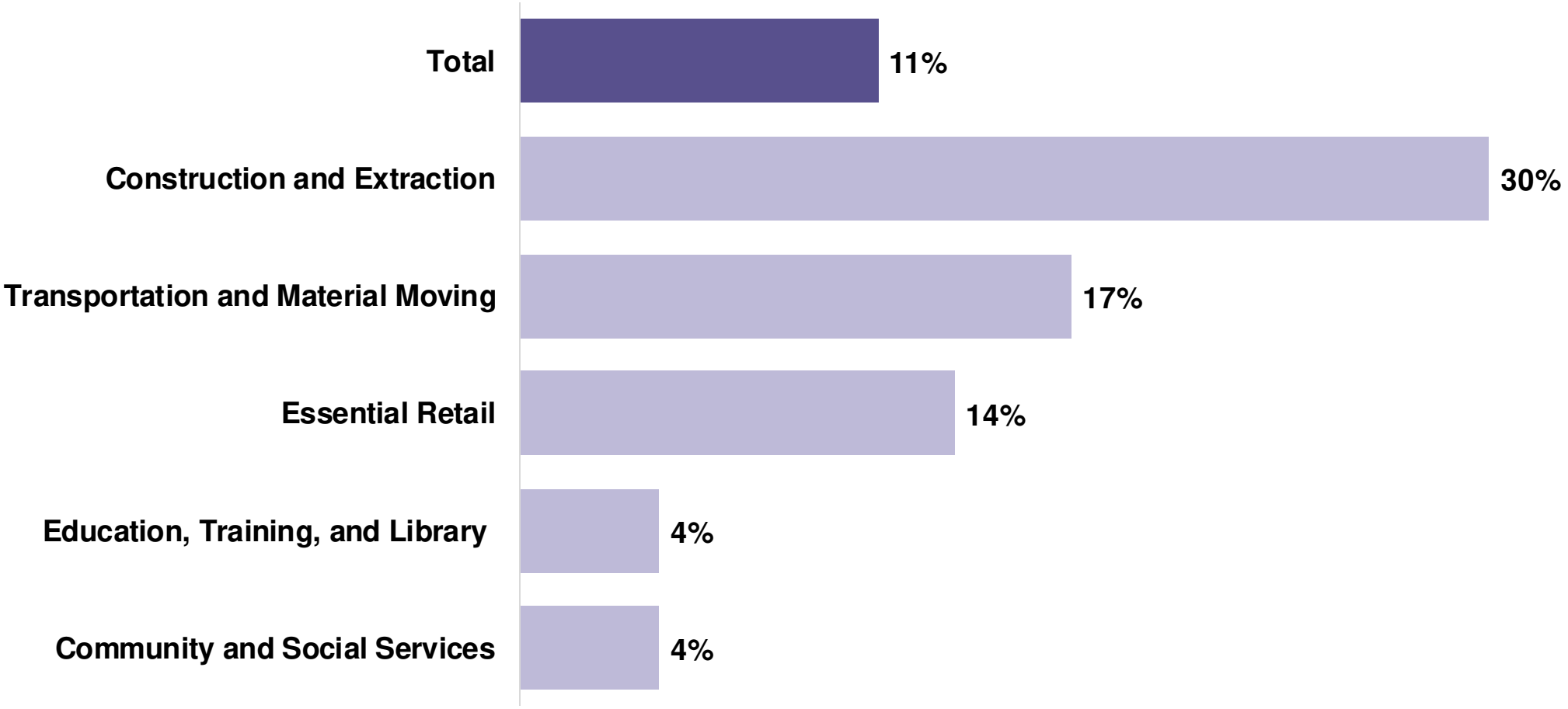
Source: U.S. Census Bureau, American Community Survey, 2014-2018 5-year estimates.

Proportion of the labor force who are 65 and older by work sector, NYC, 2014–2018



Source: U.S. Census Bureau, American Community Survey, 2014-2018 5-year estimates.

Proportion of the labor force ages 16+ without health insurance by sector, NYC, 2014–2018



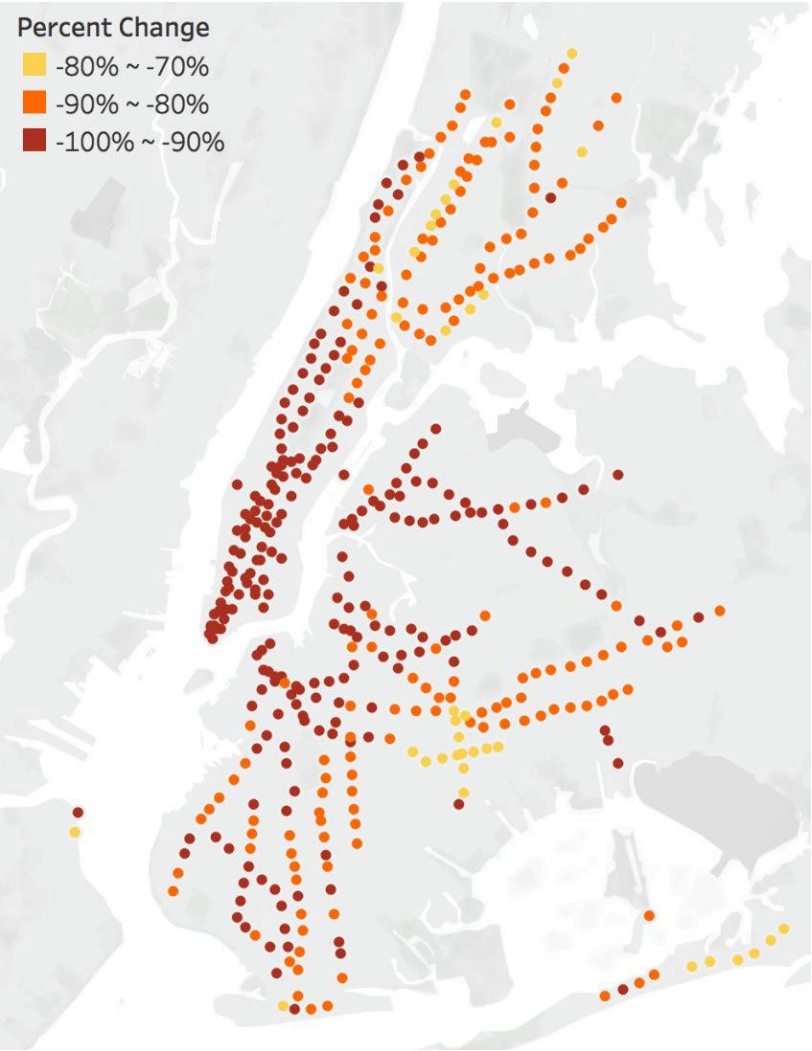
Source: U.S. Census Bureau, American Community Survey, 2014-2018 5-year estimates.

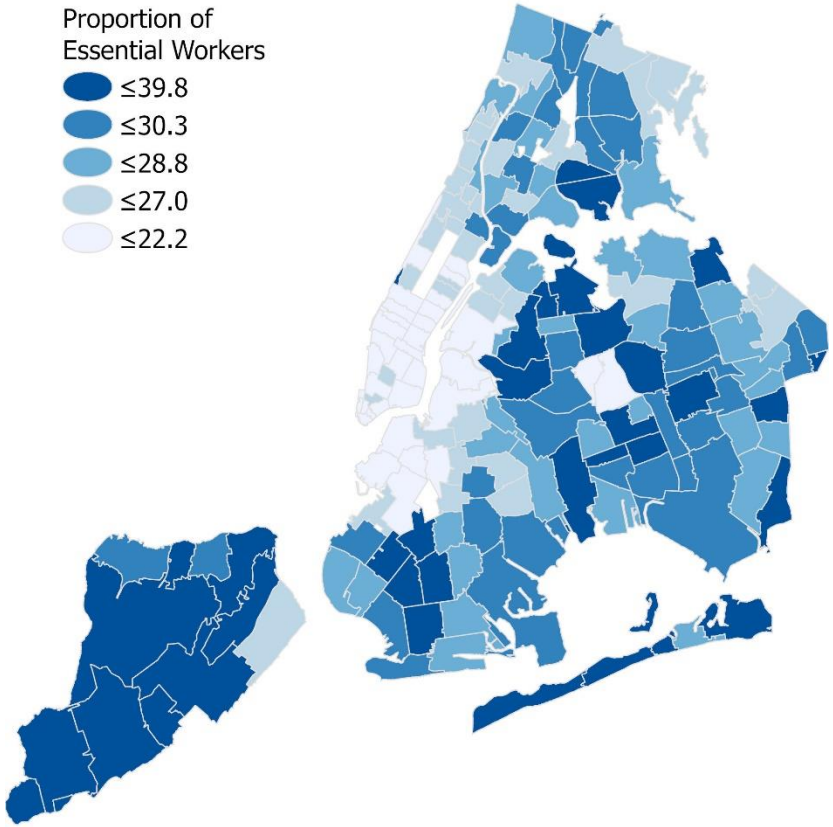
Percent Change of MetroCard Swipes

April 11 to 17, 2020 versus January 4 to February 28, 2020

- The week of April 11, every subway station saw MetroCard swipe declines of at least 70% compared with week of January 4th

- The Bronx, eastern Brooklyn and the Rockaways still showed a relatively high number of riders compared with the week of January 4th
- A high proportion of frontline workers live in the Bronx, eastern Brooklyn and the Rockaways

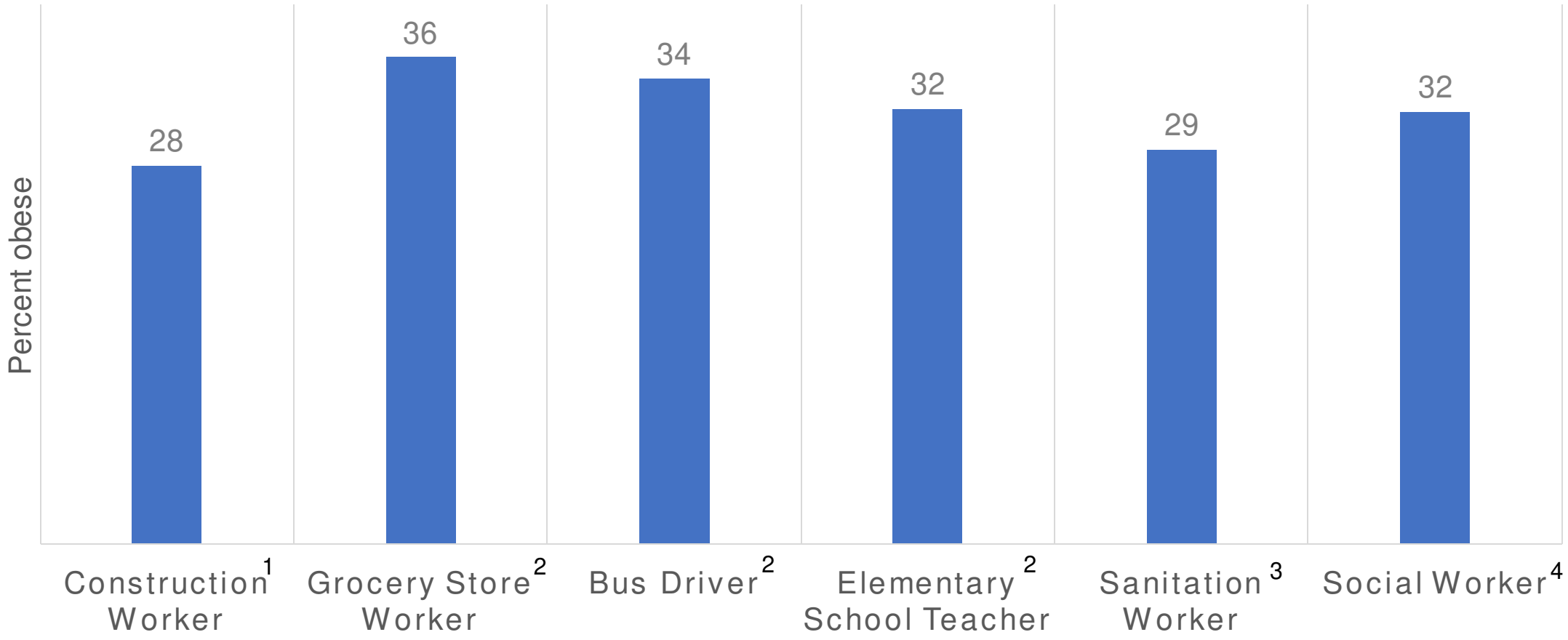




Data sources: MTA Fare Data http://web.mta.info/developers/fare.html, American Community Survey 2014-2018

Produced using analysis by NYC Department of City Planning

Obesity in Essential Workers



Data is from external sources. See citations at the end of this presentation.

Experiences with COVID-19 Among Essential Workers

Construction Workers[5]

23 separate clusters or outbreaks across the country, each involving 6 to 116 people

Grocery Store Workers[6]

Among 104 workers tested, 21 (20%) had positive viral assays. Seventy-six per cent positive cases were asymptomatic

Bus Drivers[7]

A survey of New York City's bus and subway workers found that 24% reported having contracted COVID-19

Elementary School Teachers[8]

Among more than 200,000 students and 63,000 staff who had returned to school, there were infection rates of 0.13% (students) and 0.24% (staff)

Sanitation Workers[9]

9.1% were exposed more than once a month

Social Workers[9]

32.4% were exposed more than once a month

Data is from external sources. See citations at the end of this presentation.

Occupational Risk Score

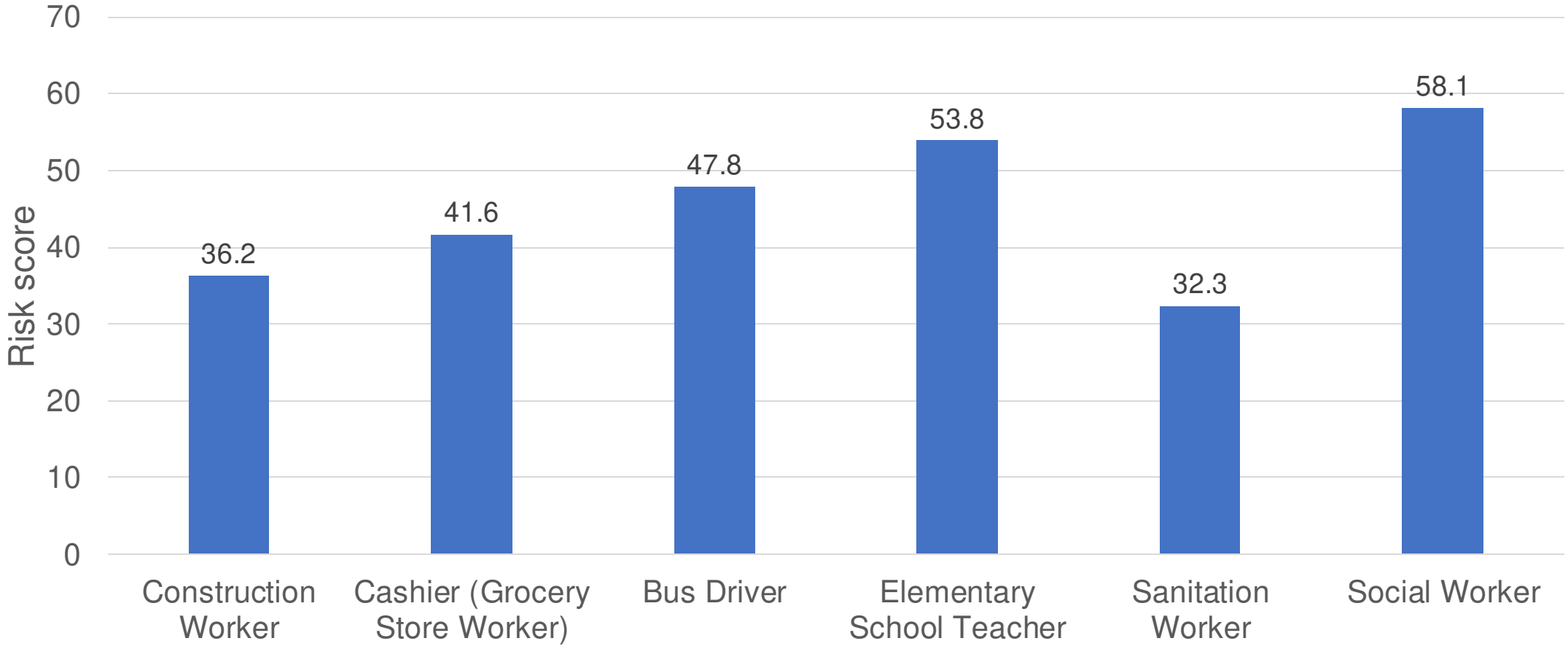
Risk scores are determined by:

- **Contact With Others**:
  How much does this job require the worker to be in contact with others in order to perform it?
- **Physical Proximity**:
  To what extent does this job require the worker to perform tasks in close physical proximity to others?
- **Exposure to Disease and Infection**:
  How often does this job require exposure to hazardous conditions?

100 represents the highest possible risk

Lu, Marcus. (2020) The Front Line: Visualizing the Occupations with the Highest COVID-19 Risk. The Visual Capitalist.
https://www.visualcapitalist.com/the-front-line-visualizing-the-occupations-with-the-highest-covid-19-risk/

Risk Score for Essential Workers



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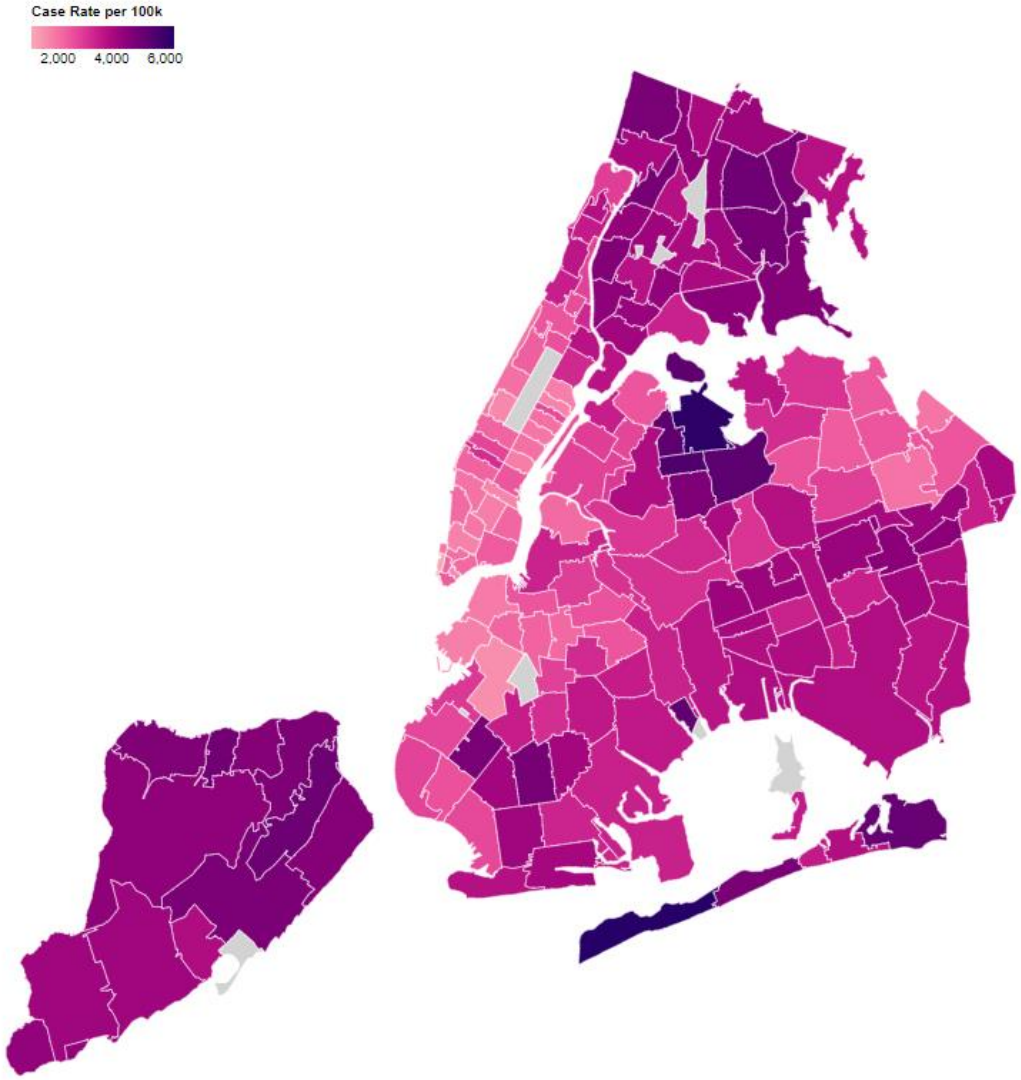
https://www.visualcapitalist.com/the-front-line-visualizing-the-occupations-with-the-highest-covid-19-risk/

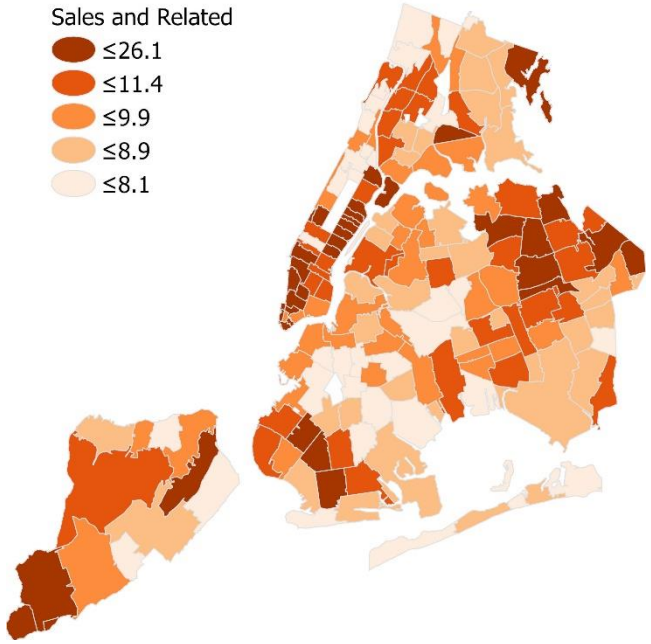
Citations

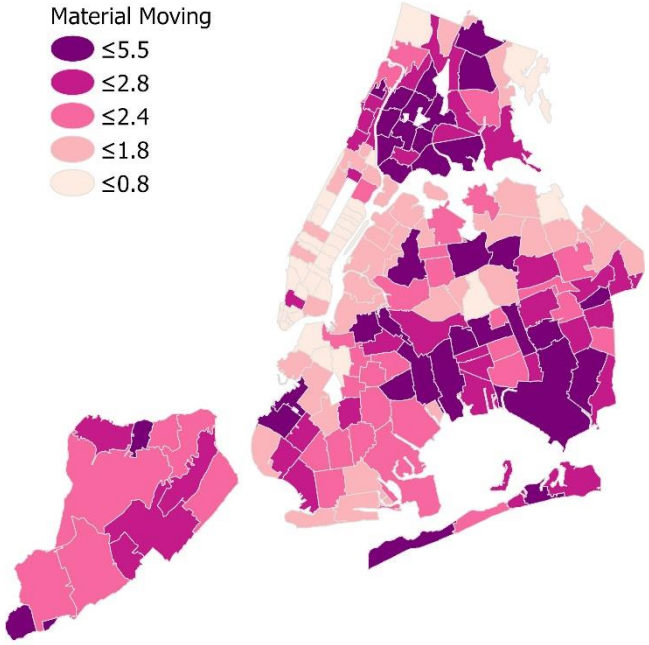
[1] Strickland et al. (2017) Prevalence and Perception of Risky Health Behaviors Among Construction Workers. Journal of Occupational and Environmental Medicine. https://journals.lww.com/joem/Abstract/2017/07000/Prevalence_and_Perception_of_Risky_Health.10.aspx.
[2] Silver et al. (2020) Prevalence of Underlying Medical Conditions Among Selected Essential Critical Infrastructure Workers. Centers for Disease Control and Prevention Morbidity and Morality Weekly Report. https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6936a3-H.pdf.
[3] Garrido et al. (2015) Health Status and Health-related Quality of Life of Municipal Waste Collection Workers – A Cross-sectional Survey. Journal of Occupational Medicine and Toxicology. https://occup-med.biomedcentral.com/articles/10.1186/s12995-015-0065-6.
[4] Luckhaupt et al. (2014) Prevalence of Obesity Among U.S. Workers and Associations with Occupational Factors. American Journal of Preventative Medicine. https://www.ajpmonline.org/article/S0749-3797(13)00617-X/fulltext.
[5] Goodman and Bosquin. (2020) A Roundup of Coronavirus Outbreaks on Construction Sites. Construction Dive. https://www.constructiondive.com/news/a-roundup-of-coronavirus-outbreaks-on-construction-sites/589233/.
[6] Lan et al. (2020) Association Between SARS-CoV-2 Infection, Exposure Risk and Mental Health Among a Cohort of Essential Retail Workers in the USA. Occupational and Environmental Medicine. https://oem.bmj.com/content/early/2020/10/11/oemed-2020-106774.
[7] Gershon, Robyn. (2020) Impact of COVID-19 Pandemic on NYC Transit Workers: Pilot Study Findings. NYU School of Public Health. https://www.nyu.edu/content/dam/nyu/publicAffairs/documents/PDF/GershonTransitWorkerPilotStudy.
[8] Boyle, Patrick. (2020) Kids, School, and COVID-19: What We Know — And What We Don't. Association of American Medical Colleges. https://www.aamc.org/news-insights/kids-school-and-covid-19-what-we-know-and-what-we-don-t.
[9] Baker et al. (2020) Estimating the Burden of United States Workers Exposed to Infection or Disease: A Key Factor in Containing Risk of COVID-19 Infection. PLOS One. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7188235/.

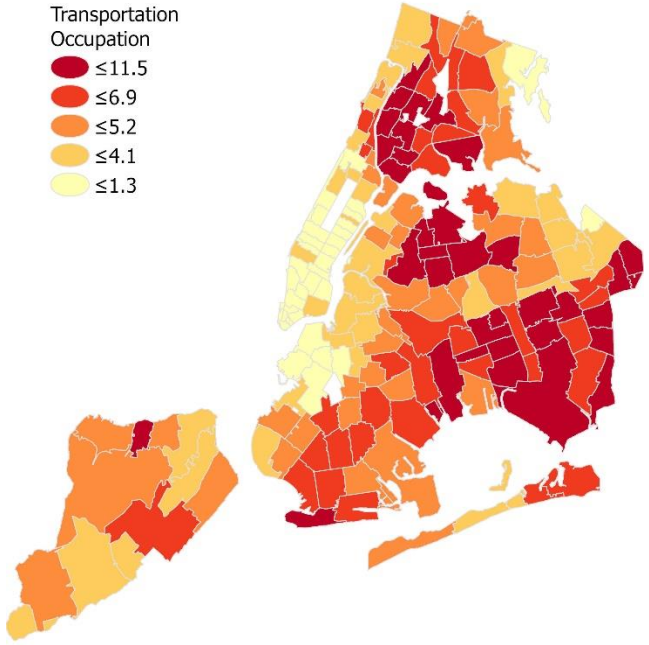
Appendix

COVID-19 case rate versus occupation sectors









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Source: American Community Survey 2014_2018*

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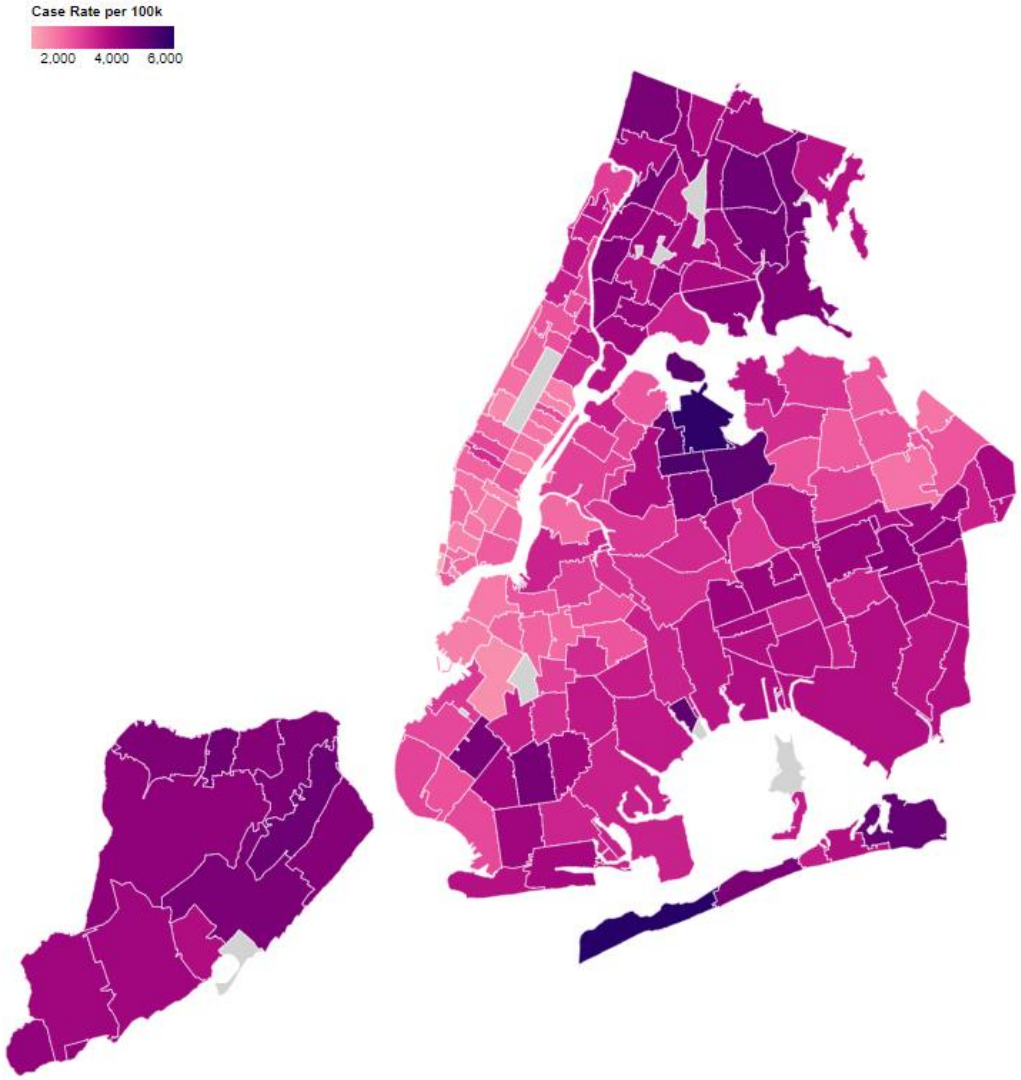

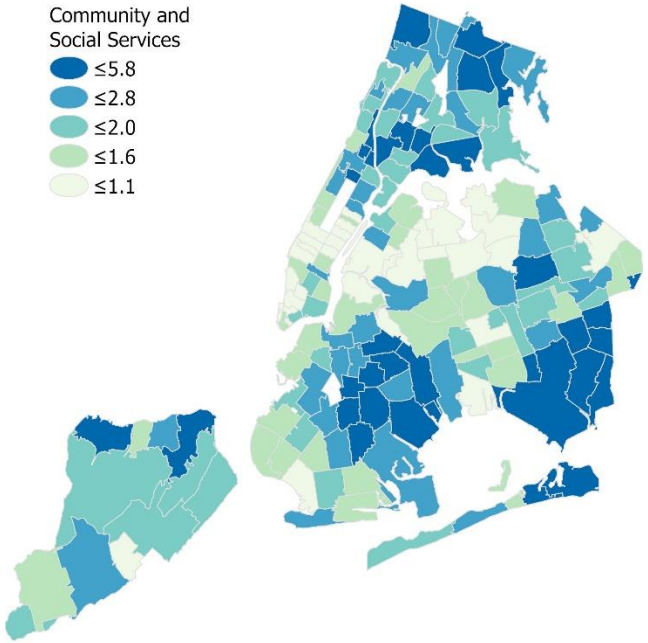

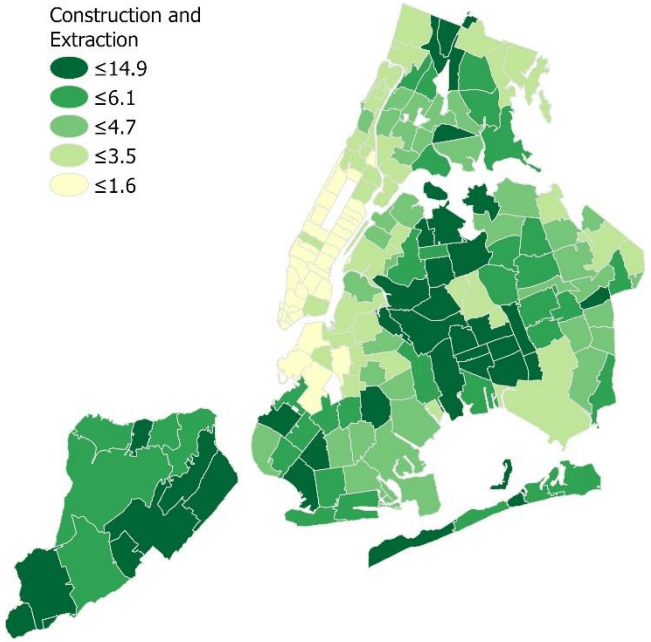

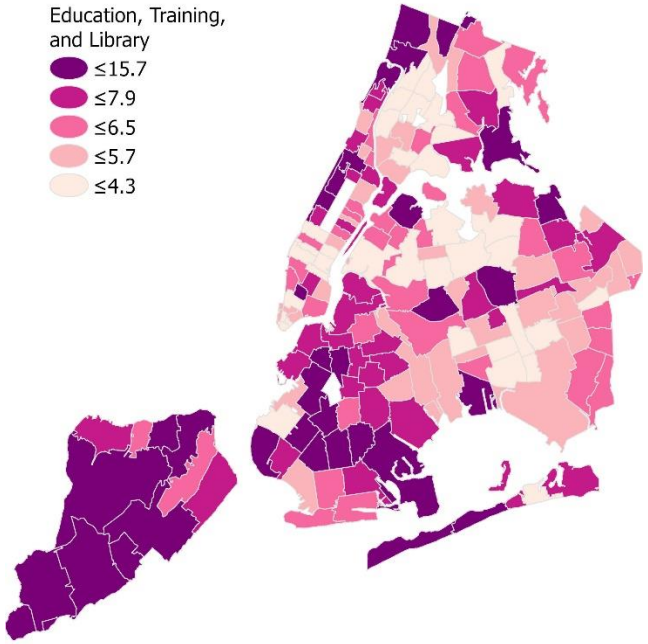

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