JUNE 2021

AN OPEN LETTER TO THE CITY OF NY:

THE CONGESTRIAN CRISIS AND THE CASE FOR AN INCLUSIVE RECOVERY OF A POST-PANDEMIC NYC

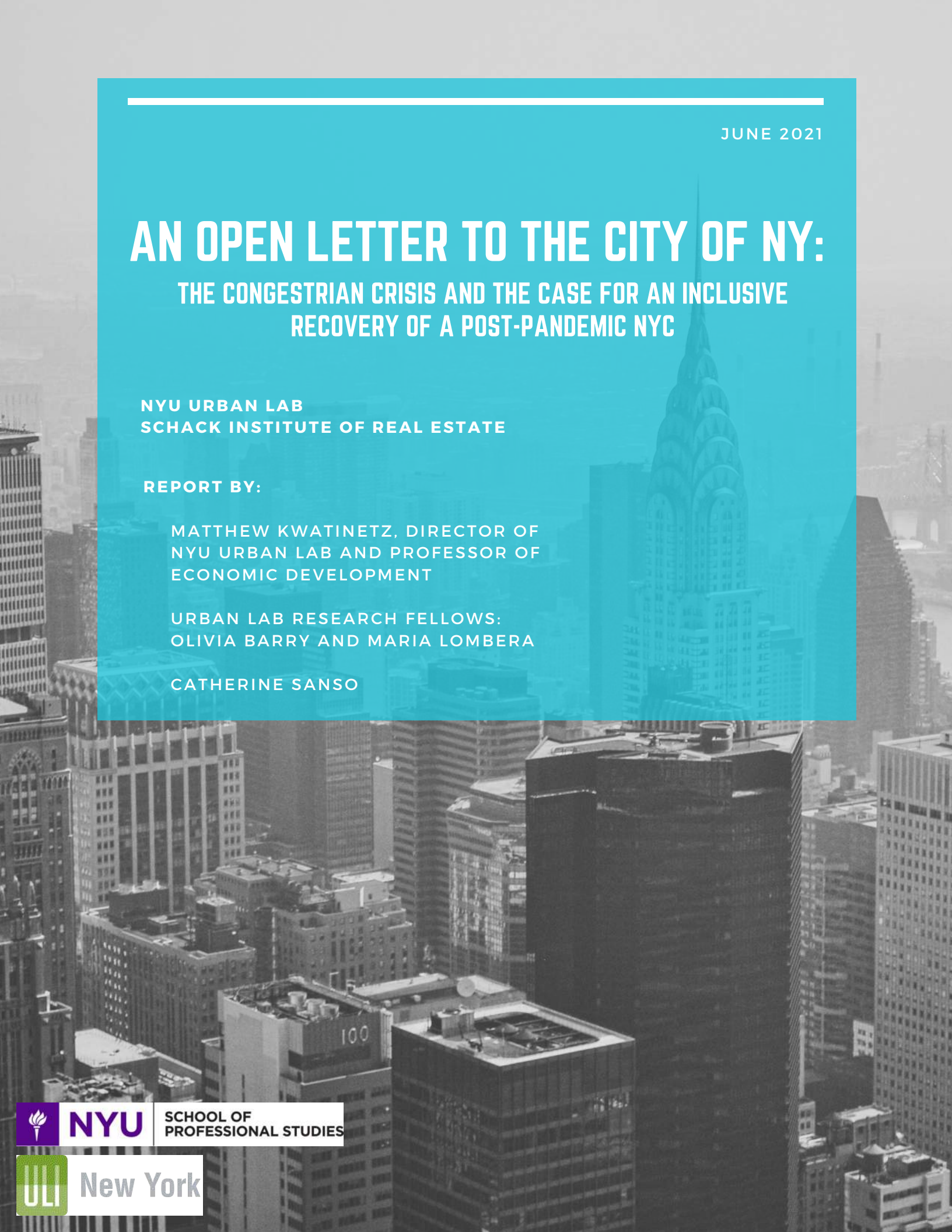
NYU URBAN LAB
SCHACK INSTITUTE OF REAL ESTATE

REPORT BY:

MATTHEW KWATINETZ, DIRECTOR OF NYU URBAN LAB AND PROFESSOR OF ECONOMIC DEVELOPMENT

URBAN LAB RESEARCH FELLOWS: OLIVIA BARRY AND MARIA LOMBERA

CATHERINE SANSO



NYU SCHOOL OF PROFESSIONAL STUDIES

ULI New York

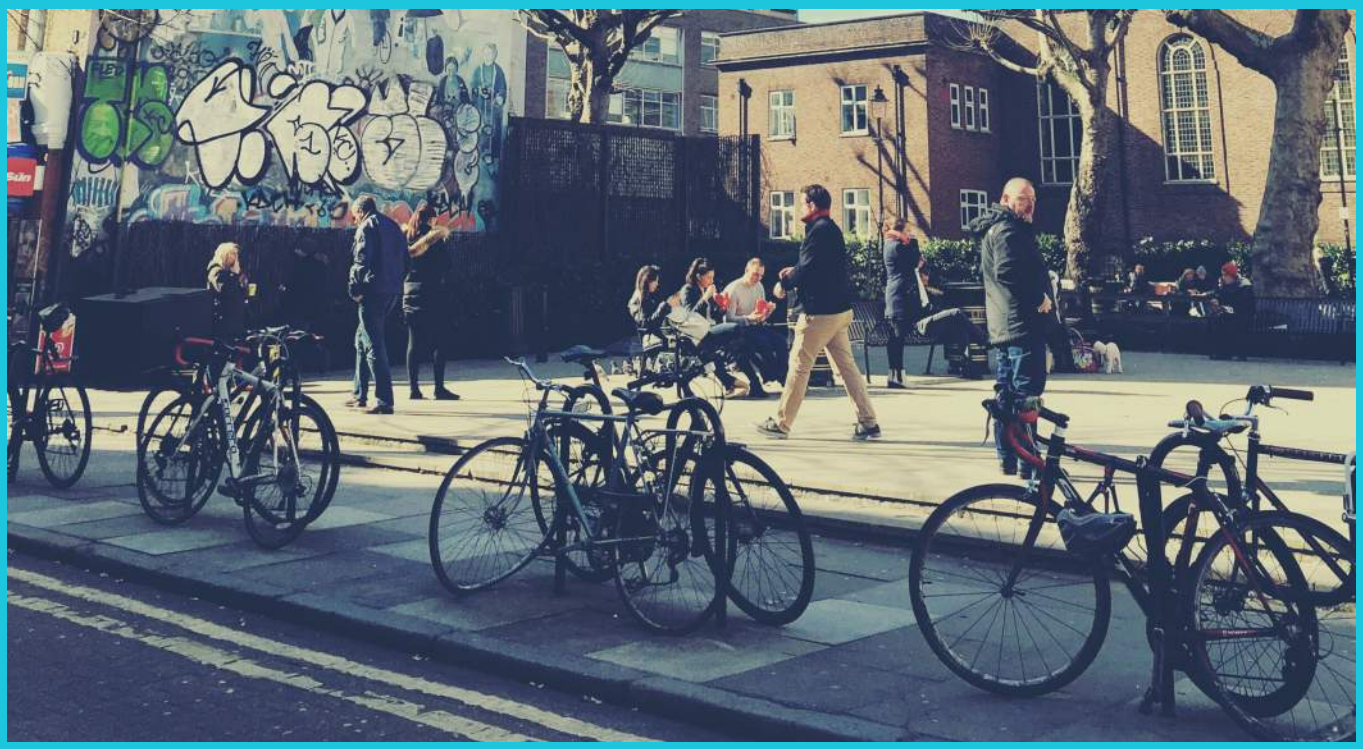
EXECUTIVE SUMMARY

While there is no doubt that COVID-19 is the deadliest killer in New York City's recorded history, the city is no stranger to pandemics and game-changing events that cause leaders and citizens to re-evaluate their urban strategies. There have been over a dozen such events since the 1890's in NYC, often numbering deaths in the thousands [1]. Until the 21st century, in fact, city residents experienced a shorter lifespan than those who lived outside of the city [2]. But conscious public health and urban planning efforts by city leaders have led to better urban living conditions and longer lifespans, such that in 2019 the life expectancy of older New Yorkers had come to surpass the national average by roughly 2.5 years. This did not happen overnight, nor by accident, but rather through strategic policy-making which led to such outcomes as the construction of the Croton Aqueduct that is still used today for potable NYC water (1842), the creations of the NYC Department of Health and Hygiene (1893) and the American Lung Society (1905), the establishment of the first Zoning Resolution to separate noxious uses from residential uses and create open space (1916), and the approval of Central Park (1853) to allow for healthier air for working families living in the city (the "lungs of the city"). [3]

In May 2020, ULI New York hosted "The Future of Our Streets: Reimagining Public Space During the Pandemic and Beyond." This webinar was followed by a series of interactive workshops that further explored the potential to evolve NYC's public spaces to better support city life. With this paper, the NYU Urban Lab seeks to build upon the ideas brought forth during the webinar and subsequent workshops and further examine how NYC can take bold action to repurpose public space in a way that builds equity, inclusivity and connectivity, while also being financially feasible. We propose the following three large scale actions:

- **Cultivating a Pedestrian Circulatory System:** It is time for city leaders to create an intentional pedestrian circulatory system of pathways to support healthy and equitable lifestyles and non-automobile transportation.
- **Embracing & Implementing the 15 Minute City:** There is no better moment for New York City leadership to fully embrace and lean into the global movement of 15-minute cities and invest in a more equitable access to the urban basket of goods.
- **Addressing the Congestrian Crisis:** While New York City has traditionally been a positive example of the benefits of density over sprawl, we are increasingly running out of space for pedestrians due to the congestion of those spaces -- what we call the Congestrian Crisis. The city, to address this problem, should re-purpose curb and parking lanes, providing expanded amenity space to all of the city's residents.

It is through implementing these decisive and intentional plans of action, which each focus on connectivity, inclusivity, and fessibility, that we will continue to evolve one of the greatest cities in the world into a more healthy, equitable, sustainable, and financially sound urban powerhouse.



RECOMMENDATION #1

CULTIVATE NYC'S PEDESTRIAN CIRCULATORY SYSTEM

Just as Robert Moses carved large swaths of the city to enable freight and cars, it is time for city leaders to take similarly bold action to create an intentional pedestrian circulatory system of pathways to support the healthy and equity lifestyles. The city is in desperate need of recreational space for its inhabitants, as amplified by the pandemic. Creating unobstructed and protected biking, walking, and running paths with abundant greenery -- a dual circulatory and respiratory system of sorts for the city -- would have enormous positive effects on levels of obesity, heart attacks, active childhood education, and general fitness and recreation [4,5]. Beyond the positive mental and physical health benefits of a green network which residents may use at no extra cost, this system would bestow upon residents a reprieve from increasingly hot summers and intensifying weather events [6,7].

Temperatures on average have risen year after year, earning the area a sub-tropical climate designation in 2020 and increasing annual deaths by heat stroke [8-10]. There is a direct correlation between neighborhoods most affected by these preventable issues and income levels, further exemplifying geographic and environmental inequality in NYC, as

discussed in detail in Chapter 6 of the New York City Panel on Climate Change Report, and can be seen in the maps of heat vulnerability and income by zip code below [11-12]. Creating a matrix of "green" paths, adding to the approximately 46 square miles of parks in NYC (less than 0.5 square feet per resident) [13].

Breaking up the heat island effect could have enormous positive impacts for all of the city's residents, particularly its most vulnerable.

Furthermore, the costs of implementing a universal green circulatory system which alone, reduces health effects and death due to heat stroke, and with correct biophilic design can mitigate storm surge effects, could be eligible for BRIC funding.

Our proposed circulatory system would improve upon what is currently in place in New York City by increasing the safety, autonomy, and connectivity of the system.

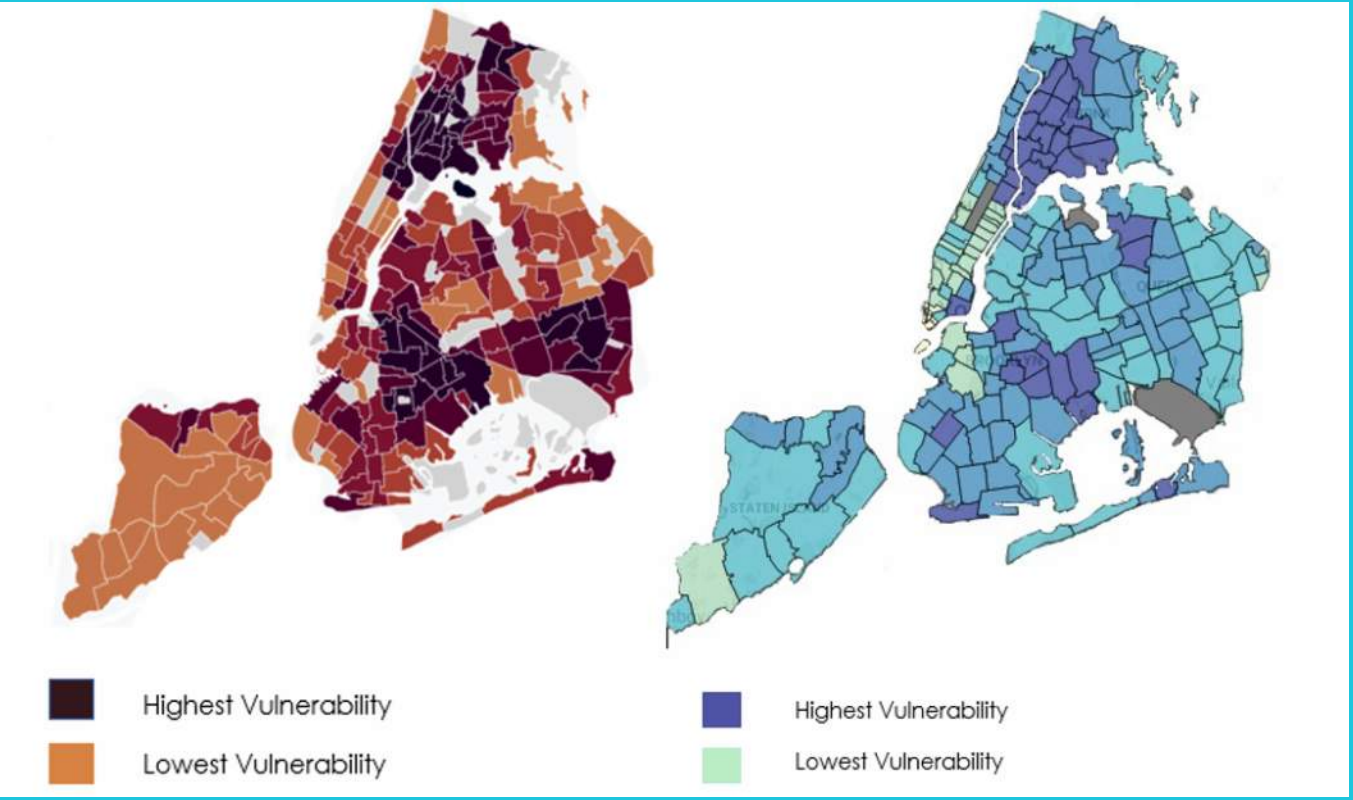


Figure 1: Map of Heat Vulnerability vs. Median Income by Zip Code [14,15]

SAFETY

Since 1997, New York City has built more than 1,000 miles of bike lanes, leading to a 225 percent increase in ridership over the past two decades. However, this increase in interest and ridership has led to safety consequences. While the city has committed to reducing pedestrian deaths with the launch of its Vision Zero initiative, 2019 was the deadliest year for cyclists and pedestrians since 2000, with 219 people killed in New York City bike-auto accidents [16]. By creating a truly protected and accessible network of pedestrian streets and bike lanes, usage would increase and vehicle-bike and vehicle-pedestrian accidents would likely decrease [17, 18].

AUTONOMY

In order to raise revenue for this program, and reduce car traffic to further ensure its success and safety, the city should accelerate the approval of congestion pricing, similar to the plan implemented in London, or impose occupancy pricing, as has been proposed by Sam Schwartz [19, 20]. Occupancy pricing proposes a sliding scale based on vehicle occupancy; the more occupants in a car, the lower its tolls, and vice versa. Schwartz is a proponent of this plan which, like the London plan, ultimately aims to generate a revenue stream and reduce congestion.

It is well documented by transportation planners that cars will fill whatever space you give them, as the addition of roadways does not cause a reduction in traffic congestion, but rather attracts more cars to the roads via induced demand [21, 22].

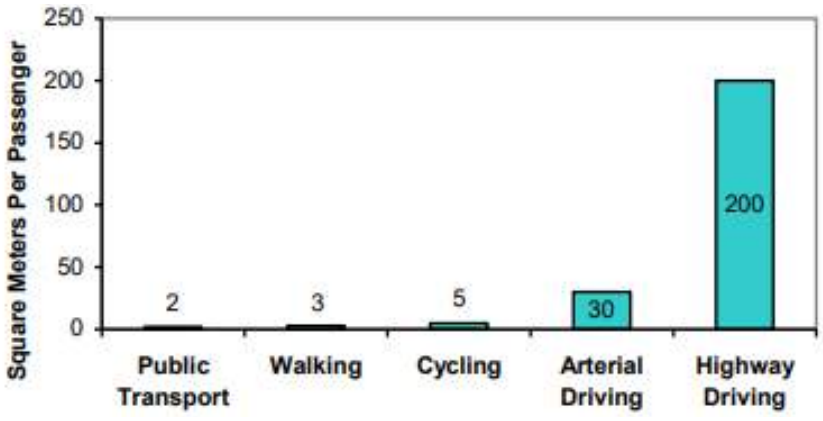


Figure 2: Square meters per passenger needed for various transportation modes

It is time we invest in an inclusive concept of the highest and best public use of our street space, arbitraging the implicit subsidy of single occupancy vehicles in order to support the vibrancy of density.

Single occupancy cars occupy between ten and one hundred times the road space as pedestrians, cyclists and public transportation [23]. These data points are central to the diminishing availability of healthy recreational space that had plagued New York City prior to the pandemic.

Following the same logic, as increased space for cars encourages more car-use, increased space for people in the form of protected, pedestrian greenways, will attract and encourage residents to spend more time in public spaces and use non-automobile means to mobilize. Take, for example, The Highline. There is a direct correlation between the continued extension of the park and its increase in daily visitors [24]. During the COVID-19 Pandemic, the city's Open Streets Plan saw 100 miles of streets (1.6% of NYC's total) as all five boroughs closed to vehicular traffic from 8am to 8pm. Plans such as Open Streets and the pre-COVID Seasonal Streets initiative, as well as the closure of certain congested stretches of Broadway in 2009, saw positive outcomes and beneficial impacts on traffic [25-27]. Pedestrians utilized the available space for (socially distanced) recreation and intra-city mobility. Similar patterns emerged through initiatives in cities across the globe. Notably, London's interim scheme for their "Streetspace Plan" cost a mere £6M to implement, and created 15km of new and protected bike lanes [28-29]. A permanent scheme in New York is feasible and attainable with the city's budget. Furthermore, in terms of funding, there is significant evidence that walkability and access to parks increases property values , allowing the investment to autonomously provide maintenance and improvement financing through the increase of property values, and therefore associated property taxes [30].

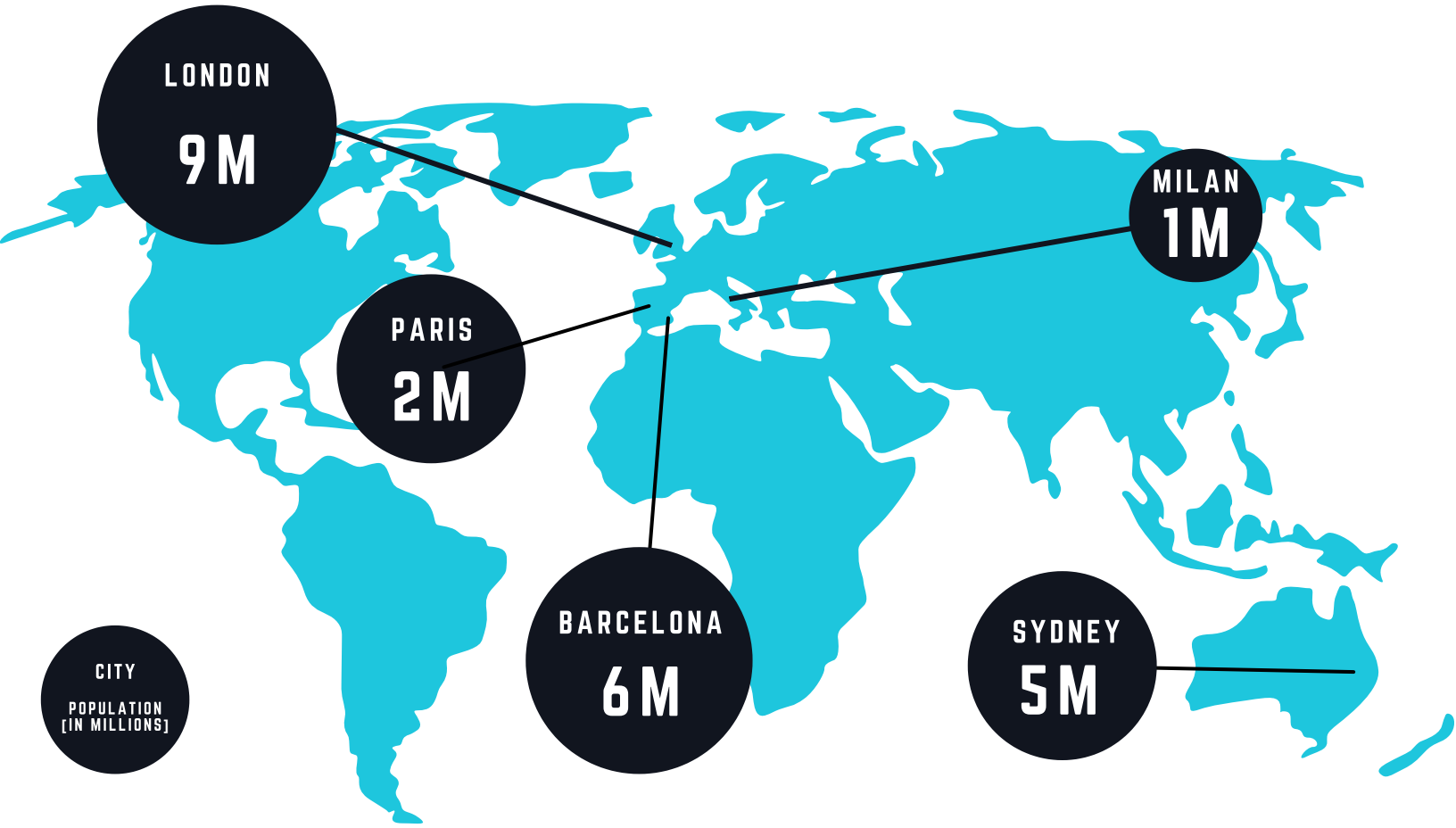
CONNECTIVITY

The Open Streets program reallocated an unprecedented use of public space to pedestrian uses. We see an opportunity to solidify and expand the benefits of this initiative by increasing the connectivity of Open Streets, creating a network that links neighborhoods and boroughs. The most compelling argument for the viability of a connected network is embodied by an annual city recreational celebration: the New York City Marathon, which proves that it is possible to shut down car circulation and form a continuous path that connects all five boroughs, while allowing traffic to flow (See Addendum). Connectivity can be increased by shifting from Induced Demand ("build [roads] and [cars] will come" concept) to Reduced Demand (popularized by Jeff Speck) [31]. In short, if road capacity is reduced, users will eventually adapt and change their behavior, choosing alternative routes or transportation options [32] and thereby increasing their use of public space to foster connectivity.

By permanently implementing these changes in every borough, connecting the pedestrian thoroughfares, and planting these areas with trees and greenscaping, we, in effect, connect recreational areas and literally expand the "lungs" of the city. (See Paris en Común illustration in Addendum). Many other cities have been able to make permanent changes such as these, and it is absolutely feasible for New York to do the same.

In fact, on March 11, 2021, Manhattan's Community Board 6 voted to revive and expand the number of days NYCDOT's Summer Streets program operates from three weekend days in August to one weekend day per week over the entire summer. This includes additional streets connected to the Park Avenue Summer Streets program. This small, local vote exemplifies that the desire for expanded pedestrian access for streets is already in New York City. Moreover, it shows that there is interest in alternative uses of existing infrastructure, such as the FDR Drive. By creating a robust city-wide greenway network, and ensuring every citizen is within a 15 minute walk of this network, the City creates a much more equitable and healthy ecosystem where access to fresh air and exercise is a right, not a privilege.

1. Wikipedia, 2021
2. "Covid-19 might not change cities as much as previous pandemics", The Economist, 2020
3. As quoted by Joanna Frank, Center for Active Design. Further referenced at the time: NYTimes, 1909, Frederick Law Olmsted, "Trees in Streets and in Parks" in Frederick Law Olmsted Writings on Landscape, Culture and Society (New York: Library of America, 2015), 590.
4. Accelerometer measured physical activity and the incidence of cardiovascular disease: Evidence from the UK Biobank cohort study, Plos Medicine, 2021
5. Harvard School of Public Health
6. Keeler et. Al
7. New York State
8. NPCC2, Chapter 8.3, 2018
9. "Sultry Nights & Magnolia Trees: New York City is Now Subtropical" by Lisa M. Collins, NYT (July 24, 2020)
10. Mother Jones, 2018
11. NPCC3, 2019
12. Rosenthal, 2010
13. NYC Parks Department
14. DataNYC
15. Data on Median Incomes, CCC New York
16. Coronavirus NYC Bike Paths
17. NYC Streetscape Changes
18. NYC Bus-Bicycle Lanes
19. "London's Experience with Congestion Pricing: It's Working!" by Bobby Cuza, NYCStreetBlog (May 31, 2019)
20. "'Gridlock Sam' Ups the Ante" by Charles Komanoff, NYCStreetBlog (May 1, 2020)
21. The Congestion Con, Transportation for America, 2019
22. "Reduced Demand is Just as Important as Induced Demand" by Robert Steuteville, CNU Journal (March 19, 2021)
23. Evaluating Complete Streets, Victoria Transport Policy Institute, 2015
24. Friends of the Highline, 2014; ABC News, 2019
25. Open Streets, NYC Gov
26. Seasonal Streets, NYC Gov
27. Ungridlocked, City Journal, 2012
28. Forbes, 2020
29. Sadia Kahn's Streetscape Plan in 15 Photos, Forbes, 2020
30. "The High Line's 'Halo Effect' on Property" by Josh Barbanel, WSJ (Aug 7, 2016)
31. "Reduced Demand is Just as Important as Induced Demand" by Robert Steuteville, CNU Journal, 2021
32. "Reduced Demand is Just as Important as Induced Demand" by Robert Steuteville, CNU Journal (March 19, 2021)



OPEN STREETS ABROAD

Barcelona Superblocks
- Introduced in 2016, this initiative creates a 3 square block perimeter that limits the use of private vehicles to the outskirts of the superblock. Initiative to be expanded post-COVID to more areas of the city.

Paris Plan Vélo
- Through the reallocation of curb space, 150 km of temporary bike lanes and 650km of permanent bike lanes were created to promote social distancing, and promote bike use post lock-down.

London Streetspace Plan
- This initiative included pavement extensions to increase pedestrian space, new cycling lanes, cycling/walking/bus-only corridors, and street closures to cars.

Milan Strade Aperte
- Low cost temporary bike lanes, new and widened pavements, 30km/h speed limits, and pedestrian and cyclist priority streets.
- Post-COVID plans include permanent addition of new bike lanes and pedestrian facilities on 35km of streets.

Sydney Shared Streets Program
- Included three trial initiatives to expand the George St. car-free zone in the CBD, pedestrian-only boulevard in Railway St, and a People's Loop in Parramata Park.

RECOMMENDATION #2

EMBRACE THE GLOBAL MOVEMENT OF 15 MINUTE CITIES

Now is the best moment for New York City leadership to fully embrace and lean into the global movement of 15 minute cities and invest in more equitable access to the urban basket of goods. Originally coined by Sorbonne professor Carlos Moreno, the 15 minute city concept refers to an urban hub-and-spoke model that allows its residents to live, work, and play within a 15 minute walking or biking commute. This convenience not only significantly reduces the time expended on day-to-day activities and errands, it, most importantly, makes supporting a family more feasible through easy access to groceries, daycare, and cultural activities. Even though we are centuries removed from its original iterations, cities themselves grew from the need to create this kind of convenience, yet, the exponential growth of urban areas into what they are today leaves many people in the outskirts without equitable access to these amenities.

This idea of a “mini-metropolis” has already been modeled for years by real estate developers providing luxury housing at a steep premium. City leaders globally are investing in making this a universal reality of city life. In New York City, this translates to spreading out '15 minute hubs’ into every borough and utilizing existing transit hubs, as the city has begun to create in Downtown Brooklyn and Long Island City.

Within the context of the present Congestrian Crisis, the planning phase for this type of urban expansion should ensure that residents are always within a certain distance of a hub, and that these hubs are interconnected via a circulatory system of pedestrian pathways to ensure easy and equitable access to the network.

As part of the effort to provide proximity to residents' required essentials and amenities, leaders should incentivize creation of affordable healthy grocery options, early childhood education, small business and neighborhood retail spaces, as well as localized commercial offices and city services through traditional zoning incentives, as the city already does for certain use groups and special interests.

Moreover, significant reduction of daily travel outside of their local hub would likely decrease automobile use, reduce time spent in traffic or running errands, and decrease daily carbon emissions. As these areas experience higher levels of density, there will be an opportunity to develop affordable housing, permanently affordable commercial space, and nonprofit and service amenities such as universal pre-K and additional workforce training centers. Local Business Improvement Districts (BIDs) can play a significant role in achieving, programming, and maintaining these spaces to ensure that they have a sustainable future.

An ambitious plan such as this may be met with resistance and skepticism since the space and locational advantages needed to succeed are not necessarily apparent. However, when taking a closer look at existing NYC infrastructure, the opportunity to leverage existing layouts of buildings and boroughs is significant. Starting with the locational aspect of a hub-and-spoke model, Douglas Hamilton has suggested the creation of transit-oriented clusters in areas such as South Williamsburg, Broadway Junction, Forest Hills, and Jackson Heights to encourage the development of alternative central business districts (see image below) -- a prime component of the viability of a 15 minute city [33].

Figure 3: Proposed Hub-and-Spoke by Douglas Hamilton

In Manhattan, where transportation hubs are already established, we must leverage existing public space. Surprisingly, there is a vast amount of space available for mobility within the borough that is currently inaccessible for pedestrian use. This can be seen in the figure below, where the shaded red areas represent unused space that could be converted to courtyards, mini-parks, etc. NYC should explore better ways to connect these areas and better utilize any "dead" space.

Other cities have identified this issue and implemented zoning changes to make this space accessible. Miami, for example, created special redevelopment districts -- a frequent tool for the NYC Zoning department -- that tied increases in building density to the implementation of cross block “Paseos,” which connect main thoroughfares with publicly accessible and enjoyable open space (as is required in Miami’s larger zoning code). Wynwood NRD-1 is an example of the successful implementation of this initiative [34].

Figure 4: Wynwood (Metro 1)

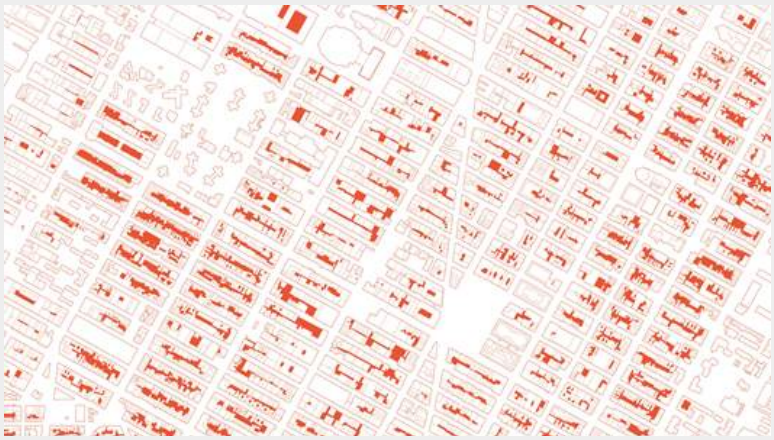


Figure 5: Existing Public Space, Eran Chen - ODA, Future of Our Streets

A change such as this encourages pedestrian focused corridors with recreational and retail activations, and mid block interior “open space” to provide respite from heat and weather elements, while creating another layer in the neighborhood economy. These small but major improvements can contribute to the development of 15 minute cities to reduce travel time, as well as connect to the overarching pedestrian circulatory system that ensures that all hubs exist as networks instead of as isolated areas.

TABLE 1: GLOBAL 15 MINUTE CITY INITITIATIVES

LOCATION	POPULATION (MILLIONS)	INITIATIVE
Paris	12.60	Ville du Quart d’Heure
London	8.98	High Streets For All
Singapore	5.64	20 Minute Towns & 45 Minute City
Melbourne	4.94	20 Minute Neighborhoods

RECOMMENDATION #3

REVERSE THE CONGESTRIAN CRISIS

While New York City has been the prime example of the benefits of density over sprawl, in recent years the city has exhausted space for pedestrians due to the congestion of those spaces -- what we call the Congestrian Crisis. This crisis manifests as the exacerbation of congestion of sidewalks and public space due to competing uses of residents, businesses and tourists. During the pandemic, the private business use of public space has skyrocketed with restaurants and last-mile delivery taking over curb lanes and sidewalk space, while simultaneous requirements for safe social distancing have compelled pedestrians to take up more personal space. With limited available area, this has become unsustainable.

Taking Manhattan as a proxy, we can evaluate this thesis using historical density figures of the borough and comparing it to an approximate number of square feet of sidewalk available to pedestrians. We can assume that over time, sidewalk space has grown in tandem with new construction, but that otherwise, large public spaces have increased at a slower rate as parks require significant city-owned available space. Economic downturns have resulted in the City selling more of its assets, leaving less space available to consider for new park creation. As evident in Graph 1, density and population have a strong correlation in Manhattan, and have seen a declining trend since the 1900s. Following this data, one expects to

see a decline in sidewalk congestion, but this assessment does not account for the number of tourists and outside workers that visit the city daily. Table 4 shows a back-of-the-envelope calculation that accounts for these visitors and effectively shows that the square footage of sidewalk available per person in the city has decreased from 20 square feet (1910) to 13 square feet (2019), as levels of commuters and tourists have risen.

Figure 6: Manhattan Population & Density (1910-2020) [35]

Yet, this crisis does not end here, as this is a pre-Covid calculation. As city officials and leaders attempted to create solutions for social distancing and aid businesses during the COVID-19 pandemic, while generally trying to extend public outdoor amenities, we have seen further reduction in sidewalk space available for pedestrians (see image below). This has created an environment that is unsustainable as people increasingly return to the city. Our recommendation is not to eliminate outdoor dining or quash last-mile deliveries, but to find alternative uses of parking spaces in the same way that city agencies have started to find ways to creatively repurpose curb lanes (see Table 5).

Currently in NYC there are over 5.3 million parking spots, of which almost 3 million are street parking.

Furthermore, 95% of on street parking is free of charge, and thus non-revenue generating [37]. Is this how we want to use this public space, subsidizing privately owned goods?

TABLE 2: CONGESTRIAN CRISIS: SQUARE FEET OF SIDEWALK PER PERSON IN NYC
(PRE-COVID SIDEWALK TAKEOVER)

YEAR	MANHATTAN POPULATIION (MILLIONS)	TOTAL SIDEWALK (SF, IN MILLIONS)	SF OF SIDEWALK PER PERSON
1910	2.80 M	56 M	20
2019	1.63 M	58.7 M	36
2019	4.60 M*	58.7 M	13

Note: Represents the population of Manhattan residents and visitors [36]

Figure 7: Photo of Gabriel Kruether Restaurant showing outdoor dining and narrow egress pathway that would not suffice during pedestrian congestion.

HOW HAS NEW YORK CITY REPURPOSED ITS CURB LANES?

COVID-related?: Yes
Permanent?: Yes
Details:

- Effort to implement citywide multi-phase program to expand outdoor seating options for food establishments to promote open space, enhance social distancing, and help them rebound in these difficult economic times.

COVID-related?: No
Permanent?: Currently in pilot phase
Details:

- Private entities (i.e. BIDS) may apply for sealed, on-street (parking spaces) containers for recycling and trash storage.

COVID-related?: No
Permanent?: Yes
Details:

- Program aims to reduce double parking on narrow residential streets to ensure curb lane is available for activities such as: rideshare pick up & drop off, package deliveries, active loading and unloading of personal vehicles

COVID-related?: No
Permanent?: Yes
Details:

- In partnership with City Bike, DOT has repurposed curb lanes to accommodate bike share stations as well as bike lanes throughout the city.

Figure 8: Proposed Repurposing of NYC Sidewalk

Free street parking contributes to the out of control congestion we are experiencing in central areas in Manhattan, with many citizens walking on the streets to make it past vendors, garbage, ticket lines, restaurants, bicycle deliveries and more. We propose that the city take over these parking and curb lanes to expand the public space, creating permanent spaces that can support businesses, restaurants, vendors, artists, and small park-lets, while generating a revenue stream for the city. Some examples of these uses could be:

- Charging e-commerce distributors for use of last mile spots
- Pop-up homeless shelters
- Scooters, Citi Bikes
- Clean Curbs Program
- Neighborhood loading zones
- Vendors
- Small business and retail incubators
- Artist work space and exhibition space
- Pea-patch greenhouses (urban farming)
- Pop-up COVID testing or vaccination site (including cold storage containers)

At present, there is no single agency that manages the use of sidewalks and curb lanes by businesses and residents. Repairs of public sidewalks, Open Streets, and Open Restaurants are managed by the Department of Transportation and Clean Curbs Pilot program is the Department of Sanitation, further contributing to the lack of holistic management of these spaces (see appendix for a holistic view of agency roles). Having an agency or department to manage this took on new importance in 2020, as the streetscape and use of public space became a key tool for pandemic recovery. A simple revenue projection will indicate that positive cash flow can be generated if the City eliminates free parking.

According to the assumptions and valuation exercise denoted in Table 3, eliminating parking spots and instead implementing paid permits to use curb lane spaces for commercial use, could potentially create an annual revenue stream of about $14.24 billion -- a no small figure considering the significant economic impact that COVID-19 has had in New York City. This recurring revenue can be allocated in several ways to alleviate both budgetary and infrastructure deficits. Firstly, it can gradually settle the budget deficit that has been accrued during the COVID-19 crisis, making up for the nearly $10B the city has lost in tax revenue, as well as covering the expected $3.8B deficit in FY

2022 [38-40]. Secondly, it can fund the permanent affordability of 50% of the total commercial rents to enable the suggested uses mentioned above (e.g. scooters, Clean Curbs Program, artist work/exhibition spaces, pop-up homeless shelters). Finally, a project of this magnitude would require significant administration efforts and thus portions of revenues could be allocated towards the operational costs of program administration.

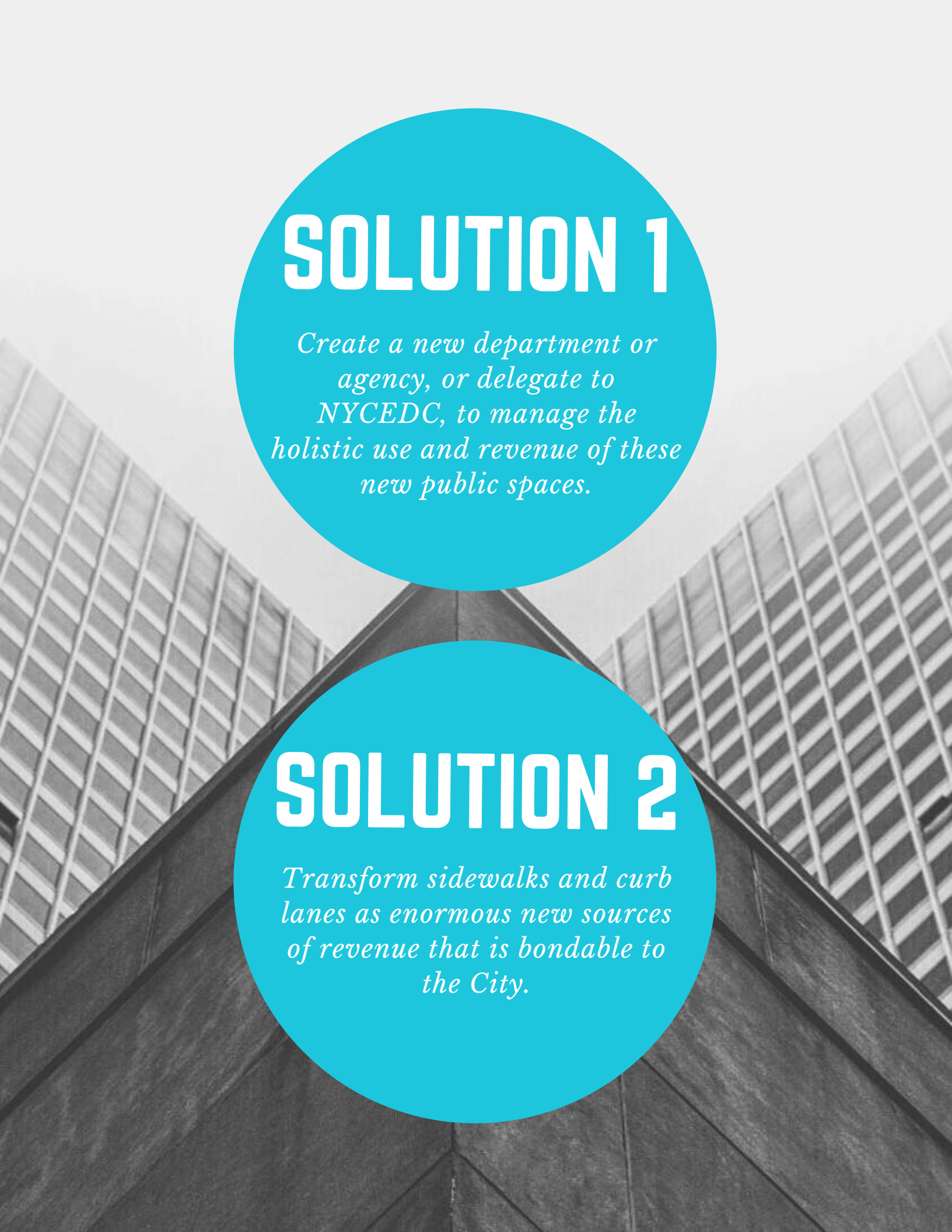
Once the projected 4-year lease-up timeline is achieved, we estimate that cash flows could be sufficient to issue a municipal bond that will fund further capital expenditures. More specifically, as can be seen below, the municipal bond issuance (30 years, 6.25%) will yield $76.3B, effectively providing a budget of: $49B to create the infrastructure needed for the adoption of 15-minute cities and safe & green pathways, $21.5B in subsidies for 331,118 units of affordable housing (double the amount created by Mayor Bill DeBlasio's administration), and 17.6M square feet of public school hard costs.

TABLE 3: PAID PARKING VALUATION [41]

ASSUMPTIONS	
# of NYC Parking Spaces	2,900,000
SF per Parking Space	180 SF
Total SF of Parking Spaces, Citywide	522,000,000 SF
Avg. Commercial Rent for Retail PSF	$50
Avg. Cap Rate for Retail	5.50%
Avg. Retail Property Value PSF	$909
Ground Lease (% Retail Prop Value)	3.00%
# of NYC Parking Spaces	$27
TOTAL ANNUAL RENT	
(# of NYC Parking Spaces) x ($/SF)	$14.24 B
Avg. Parking Spot Value	$4,909
NYC Expected FY 2022 Deficit	$3.80 B
NYC Expected FY 2023 Deficit	$6 B

TABLE 4: SOURCES AND USES, PARKING REVENUE [42]	
SURCES OF PUBLIC PARKING REVENUE STREAM	
Annual Ground Lease Payments (for spots) at Stabilization	$ 14,236,363,636
USES	
Debt Payment for Bonds (50%)	$ 7,118,181,818
Annual Rent Subsidy to Policy (50%)	$ 7,118,181,818
USES	
Term of Bond (years)	30
Interest Rate of Bond	6.25%
Debt Service Coverage Required	1.25%
Bond Proceeds	$ 76,331,486,719

A system such as this could be feasible and welcomed in New York City. The abundance of free parking in central business districts is an asset of which New York City has yet to take advantage. Parking is expensive to build in any city, and free parking, in particular, will never create a return on investment [41]. However, in a San Francisco paid parking pilot, with a scope far more limited than the one proposed above, the city was able to make $3.3M more in parking revenue by implementing smart meters for central district parking [42,43]. Imagine, what could be implemented if the vast majority of parking in the city were rented, and not only used for cars. There are endless possibilities and flexible uses for implementing a system such as the one proposed above.



SOLUTION 1

Create a new department or agency, or delegate to NYCEDC, to manage the holistic use and revenue of these new public spaces.

SOLUTION 2

Transform sidewalks and curb lanes as enormous new sources of revenue that is bondable to the City.

LOOKING FORWARD
(TO THE NEXT MAYORAL ADMINISTRATION)

Previous pandemics have been testament to our abilities to break free from the inertia of continuing business as usual and innovating towards a better future. As the United States hits record vaccination rates, we are approaching the end of a year-long reflection on the elements of life to which we want (or don't want) to return. Specifically in New York City, the mayoral race is ramping up and we must ensure that there is direct political and legislative action to improve upon the urban shortcomings that deeply affected the most vulnerable residents of the city. In the same way that post-pandemic recovery influenced the political will to impose diverse changes such as setback ordinances and the creation of Central Park, we must ensure that explicit attention is given to these issues. This is a moment to enact long-lasting change and the window to do so is closing as we return "back to normal."

34. Miami 21 - Wynwood NRD
35. "The Rise and Fall of Manhattan's Density" by Alexander McQuilkin, UrbanOmnibus, Graph by Shlomo Angel and Patrick Lamson-Hall
36. Sidewalk Widths NYC by Meli Harvey Urban Omnibus, Shlomo Angel and Patrick Lamson-Hall
37. "To Break Car Culture, Reduce the Number of Parking Spots" in NYCStreetBlog (Aug 21, 2019)
38. Data sourced from toomanycars.nyc by Jeziah Czebotar. Also Op-Ed "To Break Car Culture, Reduce the Number of Parking Spots" in NYCStreetBlog (Aug 21, 2019)
39. NYC Mayor Proposes $92B Budget for FY2022 in response to COVID-19 Impact, NBC NY, January 2021
40. NYC 2021 Budget Faces $2 Billion Risks, State Comptroller Says, Bloomberg, December 2020
41. NYU Urban Lab, 2021
42. NYU Urban Lab, 2021
43. Mother Jones, 2016
44. Data from Victoria Transport Policy Institute, found in 'Happy City' by Charles Montgomery
45. "What happened when Oslo decided to make its downtown basically car free?" by Adele Peters (Fast Company)
46. "Street by Street, Amsterdam is Cutting Cars Out of the Picture" by Feargus O'Sullivan (Bloomberg)
47. "The Most Widespread Traffic Control Strategy You've Never Heard Of: Traffic Restricted Zones in Italy" by Michelle DeRobertis, M.S., P.E. and Maurizio Tira (Transport Choice, Journal December 2016)
48. Controlled Parking Zones (Wikipedia)
49. Toomanycars.nyc, Jeziah Czebotar.

ACKNOWLEDGEMENTS

This paper was a result of the NYU Urban Lab sponsoring and attending the Urban Land Institute's New York District Council's "The Future of Streets" Webinar on May 28, 2020 featuring Joanna Frank, Sam Schwartz and Eran Chen as panelists.

- Webinar Description: While the rise and persistence of COVID-19 has spawned debates about the future of cities, we have the power today to begin evolving public spaces to better support urban life. With car traffic at all-time lows today (and the promise of congestion pricing and driverless cars coming fast) our street network provides immediately available public space to help relieve the pressures of density, and not just for transportation purposes. New York City has committed to opening up 100 miles of streets to pedestrians, following successful models in other US cities. Experts from the fields of transportation, active open space and government convene to discuss the best uses of roads to support exercise, social distancing, restaurant/bar outdoor seating, last-mile supply chain management, and public health needs such as testing and treatment. Are there permanent changes that should be kicked off now? What else can our streets be used for? What opportunities do we have today to permanently improve the city for tomorrow?

Following the webinar, there were four Open Streets Lunch and Learn sessions, led by ULI-NY Leaders from the Technical Assistance Program: Janice Barnes, Catherine Sanso, Gary Sorge and Matthew Kwatinetz. These sessions convened experts and ULI members: Douglas Hamilton (Archilier Architecture), Jeremy Zenilman (NYU), Leonard Wasserman (NYCEDC), Lisa Gibson (Warner Media), Sara Karerat (Center for Active Design), Terri Gumula (Baruch College), Brian Collins (Silverstein Properties), Michael Bowden (KPFF), Andre E. Gomez (Andre Design Co.), Kristen Fulmer (WeWork), Michael O'Neill (City of Toronto), Carlos Luna (Aether Architecture Atelier), Dominic Ruiz (International WELL Building Institute), Suzanne Nienaber (Center for Active Design). The notes from those sessions were then reviewed, researched and explored by NYU Urban Lab Student Research Fellows Olivia Barry and Maria Lombera under the supervision of Director of the NYU Urban Lab and Clinical Assistant Professor of Real Estate Matthew Kwatinetz. This is the first in a series of collaborations planned for the NYU Urban Lab and ULI New York.

APPENDICES

Table: 5 Highest & Best Use of Street Space: Comparing Travel Needs per Person [44]

TRANSPORT METHOD (AT SPECIFIC SPEED)	SQUARE FEET NEEDED WHEN NOT MOVING	SQUARE FEET NEEDED WHEN MOVING
Pedestrian (5 km/hr)	5	20
Bike (15 km/hr)	20	50
Bus with 40-60 passengers (50 km/hr)	20	75
Single Occupant Car (50 km/hr)	150-400	1,500
Single Occupant Car (95 km/hr)	150-400	5,000

Figure 9: Paris en Comun Illustration, used to demonstrate the pedestrian circulatory system.

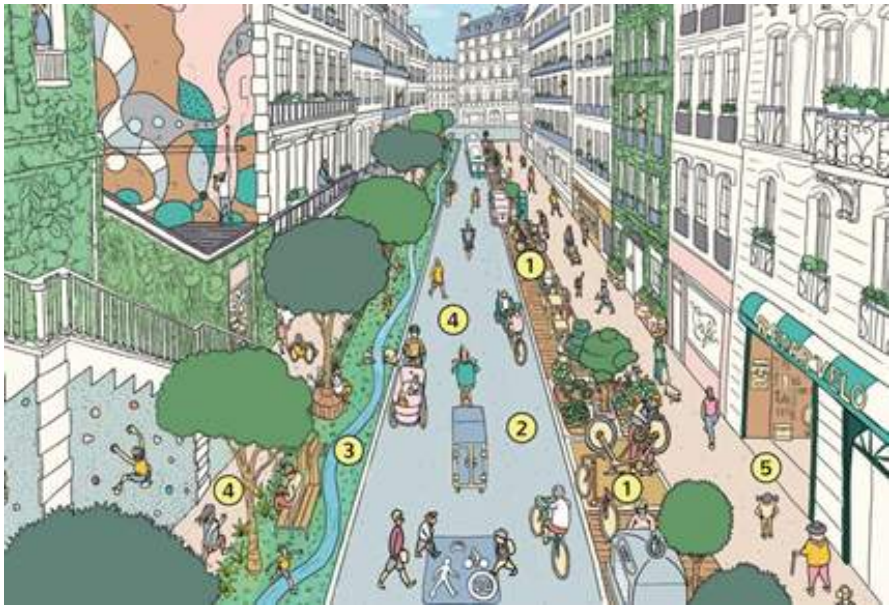


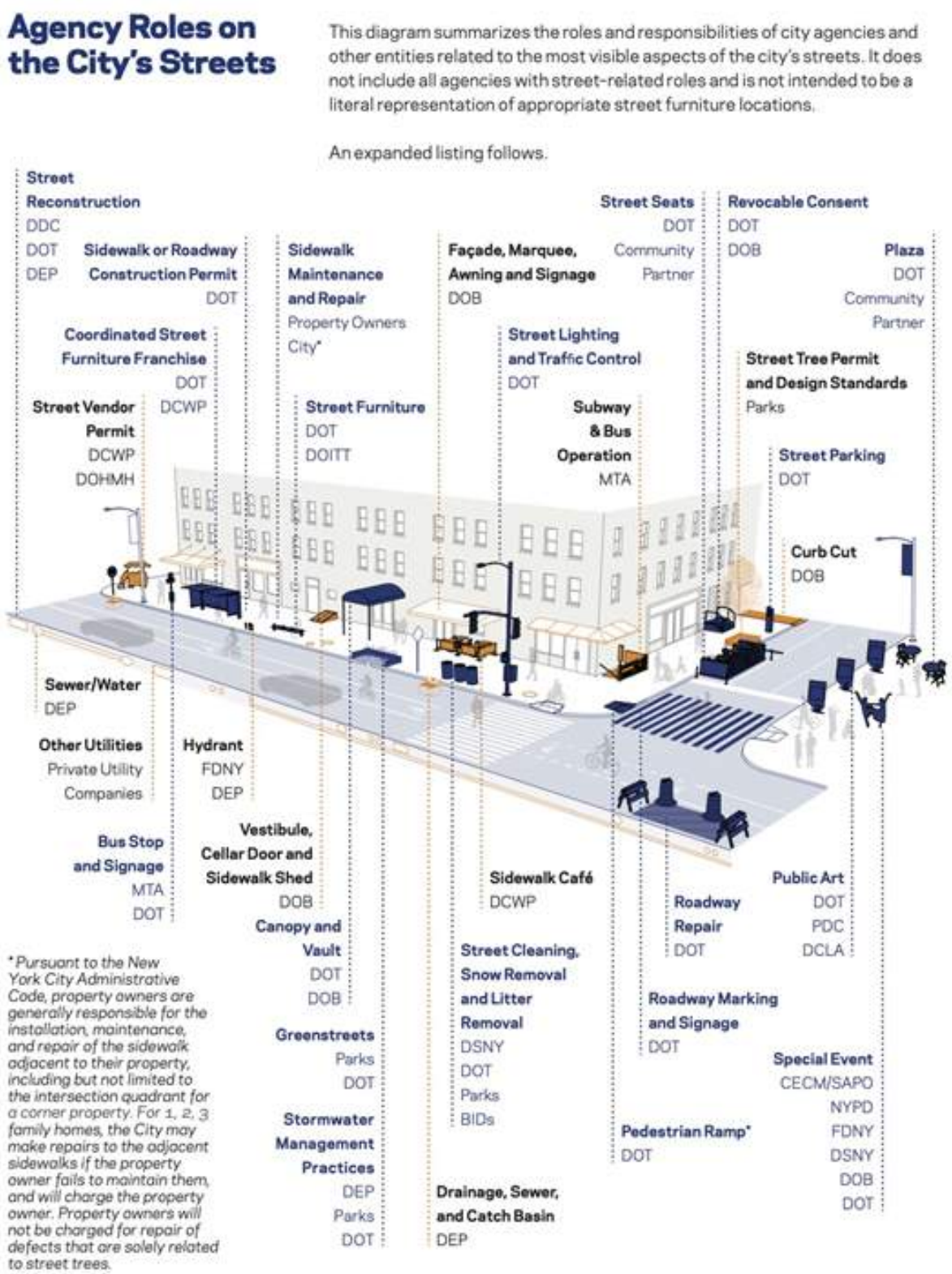
Table 6: Parking Restriction Initiatives Abroad [45-48]

LOCATION	POPULATION (MILLIONS)	INITIATIVE
Oslo	1.58	Parking restrictions: car-free city center
Amsterdam	2.48	Parking restrictions: car-free city center
Milan	1.35	Limited Traffic Zones (ZTL) & Underground Parking Garages
London	8.98	Controlled Parking Zones & Overnight Restrictions

Table 7: The State of Parking in NYC [49]

TYPE OF PARKING	NUMBER OF SPACES	PERCENTAGE OF SPACES	PERCENTAGE OF PUBLIC USAGE AT NO COST
On-street	2,989,413	55.5%	95%
Municipal Parking (Garages)	7,983	0.15%	0%
Licensed Garage/Lot	299,869	5.57%	0%
Private Detached Garage	375,228	6.97%	0%
Parking Lot	1,010,514	18.77%	0%
Driveways	700,000	13%	0%
Total	5,383,007	100%	0%

Figure 10: Agency Roles on the City's Streets



NYU SCHOOL OF PROFESSIONAL STUDIES

Urban Land Institute
New York

ULI New York
1460 Broadway
New York, NY 10036
917.773.8822
newyork@uli.org