July 2023

Issue Brief

Taking the Trash Off the Streets: Innovative Waste-Management Solutions for New York City

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In popular imagination, New York is the city that never sleeps, filled with Wall Street tycoons and fashion moguls, sleek avenues and bustling thoroughfares. But underneath the glamour, the city is fighting a constant yet seldom-acknowledged battle against an unwavering adversary: trash. A veritable arms race between creation and disposal, New York's trash battle is a tale of human ingenuity and resilience, as the city relentlessly pursues better methods to keep its streets clean.

Managing waste has been a perennial issue for the city, even in its humble beginnings as a Dutch colony.[1] Trash pickup was initially a private responsibility and was often disposed of on streets or in rivers, or was simply burned. New York City innovated public-sector trash management in the 1890s, with the introduction of the "White Wings"[2]—uniformed sanitation workers who swept the city's streets. This move, as well as other municipal investments such as the New Croton Aqueduct, greatly improved the sanitation and livability of the city, drastically lowering mortality rates even before the huge advances in urbanism that came in the early twentieth century.[3]

The modern era of trash collection began in the late 1980s, when incineration of trash in buildings was outlawed[4] and recycling was mandated.[5] Banning incineration improved air quality but presented a city with a new problem: how to deal with the enormous volume of trash bags strewn throughout the city, especially without the system of alleyway pickups that predominate in other cities. The solution was to leave trash lying on sidewalks before pickup—leading to the #TrashCity that we all know today.

Moving Away from #TrashCity?

The current system of trash pickup, while economic and convenient in some respects, presents obvious pitfalls, which I've previously discussed in *City Journal*.[6] To state the obvious: no other global city of any repute tolerates massive bags of trash lining its streets, resulting in waves of stench and an irresistible temptation for rodents.

The city, to its credit, has recognized these flaws. Starting in 2020, the city launched a new pilot program of containerized trash pickup, known as the Clean Curbs program, but the rollout has been bumpy. Recently, the Department of Sanitation (DSNY) published a study, conducted by the consulting firm McKinsey, reviewing best practices of trash pickup around the world.[7] As the city moves forward in its fight against trash, it's worth reviewing the state of trash pickup in the city and where the city should go from here.

Moving to Containers

New York City's Clean Curbs program was an important step toward reducing the mountains of trash lining the streets. In March 2020, DSNY proposed a rule requiring buildings with 150 or more units to come up with a plan to provide containerized storage between pickups.[8] Initially, the plan allowed the city's Business Improvement Districts and local business groups to build fixed containers on city property—but at their own expense.

The plan promised a real improvement in the city's livability. With trash moved to covered, rodent-proof containers, residents would be less likely to encounter foul odors while having to dodge heaps of garbage. Importantly, the plan also demonstrated a willingness to take on a key group with a vested interest in the status quo: car owners, who previously occupied the spaces as parking.

However, the rollout of the program was stalled,[9] and over a year into the program, no containers had been placed. The plan started to gain momentum again in April 2022, when it was expanded to cover districts in all five boroughs.[10] This step was then followed by a residential version of the pilot in December 2022.[11]

However, the pilot quickly came under criticism from several quarters. At first, the city allowed local business groups to choose which container to use. A common choice—and one chosen by the city for the residential rollout—was produced by new local producer CITIBIN. But these containers quickly began leaking and showing mechanical issues—especially in high-volume areas.[12] In other areas, the volume of trash growth was so rapid that the containers were overwhelmed, and bags soon started to pile up next to the containers.

Additionally, the bins were not designed for mechanical pickup, as is common in other systems such as that in Los Angeles. The McKinsey report highlighted the importance of expanding mechanical pickup as the city moves forward. Already, 11% of the city's waste is picked up mechanically—especially near schools, public housing buildings, and large public developments—reducing the need for physical labor from garbage workers.

Containerization, even if the trash is picked up manually, is still an improvement for sanitation workers, who now need only access containers, rather than pick up a range of trash bags strewn across streets. But even in a container, the job is strenuous and stressful. Mechanical pickup would

have made their jobs more tolerable, while reducing the city's exposure to medical and disability expenses, as well as workers' compensation lawsuits. Additionally, mechanical pickups can be done more frequently, helping avoid piles of trash that exceed container limits.

The city compounded these problems with other rules, which were intended to address the trash problem but carried costs of their own. In order to limit the time that trash remains on the street, the city moved the time when it is allowed to be placed outside, from 4 PM to 8 PM.[13] However, the rule also had the effect of increasing labor costs for building owners, who now need to cover additional shifts of building employees to put the trash out at later hours. With building owners already reeling under other costs, including rapidly rising costs of insurance, such increases in building operations ultimately get translated into higher rents.

Moreover, such a measure will likely have little impact on the rodent problem: New York City's rats are a resourceful bunch and can simply reschedule for a later dinner. Rather than opt for gimmicks like shuffling pickup times or appointing a "rat czar,"[14] the city could simply have opted for faster procurement and innovation around containerization, which reduces some need for specific pickup times. Containers can also be built with bait stations to fight rats on two fronts, and placing these traps in bins off the sidewalk lowers the risk of inadvertently harming pets.

Next Steps

Despite the growing pains of the city's containerization efforts, the program has been a partial success. What are the next steps in fully scaling out the system?

The McKinsey report highlights that a mix of shared containers—akin to the CITIBIN system—as well as individual bins in lower-density neighborhoods, can largely achieve containerization of trash across 89% of residential streets in the city. Doing so would take up 10% of parking spaces in the city—a meaningful cost for car owners but a valuable use of public space.

To handle this reduction in parking spaces, the city should consider moving to a residential parking permit system—something that the state has considered[15] and that has been implemented by other cities such as Boston and Philadelphia. Such a system could offer local residents parking spots at preferential below-market fees. Doing so would benefit local taxpayers, who would no longer have to fight for limited free spots, while raising much-needed revenue. Such a reform would help compensate the car-owning constituency in order to achieve a political consensus around reusing more on-street public parking for higher-value uses, such as trash pickups, outdoor dining, rideshare, and delivery drop-off areas.

Another challenge with moving toward more scalable container systems is that the market for such systems is largely international, meaning that there is less domestic manufacturing capacity. This limit need not be a problem if cities are able to purchase foreign models—however, federal Buy America and domestic-content regulations may limit the ability or desire to purchase internationally.

Ultimately, increasing mechanization may also require revisiting collective bargaining agreements.[16] These agreements contain inflexible requirements—for example, there must be two workers per truck, which would not be necessary in a fully mechanized system.[17]

Over time, the city could also increasingly provide commercial trash pickup, which is currently handled privately. While politically fraught, absorbing both streams of trash pickups would offer fiscal relief for businesses, which would no longer need to pay for pickup, while the increased work for DSNY would limit the need to reduce employee headcount, even with more mechanized and

automated operations. However, private carriers, despite their flaws, are currently far more cost-effective than DSNY.[18] Simply expanding DSNY coverage, without reforming work rules or other sources of cost difference, risks imposing additional costs on taxpayers.

Toward a Different Future

In the short run, it is possible to imagine the city moving toward a combination of compacting and containerization for new greenfield developments and commercial units. This approach has already been used for developments in Battery Park City and elsewhere.[19] Here, it will be important to balance the benefits of more effective trash pickup without unnecessarily imposing undue costs on new buildings. However, the benefits in labor costs—in particular, for employees in these buildings—should be a key motivator for real-estate developers to consider these approaches.

Incorporating sensors to measure actual trash usage may help calibrate better pickup times as well,[20] helping address the problem of too much trash piling up in certain spots around the city.

Some cities have turned to underground containers,[21] which can be far larger, thus reducing the need for frequent pickups while lowering the chance of trash pileups.

New York City should investigate these systems but should also consider another use of underground space: pneumatic systems. This concept is not foreign to New York; buildings on Roosevelt Island have used pneumatic tubes to transport trash since the 1970s.[22] Cities like Bergen, Stockholm, and Singapore—among many others—have been moving toward pneumatic trash collection, especially for new development and in conjunction with subway construction.

Implementing pneumatic trash pickup in New York will not be easy: the space underneath the city's streets remains a patchwork of poorly mapped structures and unclear property rights.[23] A minimal way to begin this lengthy process might begin with pilot projects focused on existing drilling projects, which are already digging up street space to repair electrical, water, or gas piping. It would be well worth exploring whether such regular ripping up of street space, or construction of new subway lines, could be combined with new investments in pneumatic infrastructure. Ultimately, clearer mapping and definition of underground property rights may facilitate a range of new investments in traditional areas like subway line expansion as well as more aspirational categories like pneumatic trash collection.

Even after the city has identified viable new ways to modernize trash collection, implementation will present a significant challenge. Here, direct community involvement will be crucial. Connecting citizens to local government directly through mobile apps and allowing residents to opt in if they want better trash pickup options in their local areas may help prioritize areas for service. Under such a system, residents could also provide feedback on local trash levels, helping calibrate the right frequency of pickups in different areas and avoid the problem of overflowing trash bins.

New York has managed to make noteworthy progress in lowering the mountains of trash. It is crucial to focus on scaling up the efforts to the pilot program to make containerized trash pickup the default for the bulk of the city. But the city should not stop there. Relying on community involvement and leveraging technology will be critical in shaping a more efficient, cleaner, and citizen-friendly waste-management system. Ultimately, the shift toward advanced systems like automated and pneumatic trash collection, coupled with a measured approach toward street utilization, can significantly transform the cityscape. Clearly, the tale of New York City's struggle and triumph over trash will continue to unfold, marking its journey from #TrashCity to a greener, cleaner, and more efficient metropolis.

Endnotes

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