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June 1, 2016

Borough President Gale A. Brewer  
Office of the Manhattan Borough President  
1 Centre Street, 19<sup>th</sup> Floor  
New York, New York 10007

Council Member Daniel R. Garodnick  
Council Member Rosie Mendez  
New York City Council  
City Hall  
New York, New York 10007

Dear Borough President Brewer and Council Members Gardonick and Mendez:

At your request, IBO has evaluated the cost of constructing and operating a new garage proposed by the Department of Sanitation (DSNY) to serve Manhattan Sanitation Districts 6, 6A, and 8 on part of a city-owned block on East 25<sup>th</sup> Street within district 6. Garages serving these contiguous districts on the East Side are currently located in neighborhoods on Manhattan's West Side and in the Bronx, with many trucks parked on the street due to insufficient space. IBO was asked to compare the cost of the proposed garage with an alternative scenario in which no new garage was built. Instead, district 6A and 8 trucks would remain where they are parked, and district 6 trucks, which are now parked in and around a leased garage in Hudson Yards, would be moved to other DSNY garages.

IBO was unable to model this scenario due to uncertainty about the feasibility of using other sites suggested as alternatives for storing and servicing all of the district 6 equipment and trucks. As an alternative for analysis, the current system for parking and storing equipment was used, although we understand that DSNY has deemed it unsustainable for future use because the lease at the garage in Hudson Yards currently being used for district 6 vehicles could terminate at any time, parking equipment on the street leads to additional wear on vehicles and the existing system is at odds with the city's long-term goal of more equitable distribution of sanitation infrastructure.

IBO was also asked to consider the fiscal impact of using the portion of the city-owned block proposed for the garage site for biotech development, with the remaining two parcels on the block used for a park and residential housing. The current plan for the East 25<sup>th</sup> Street site provides DSNY garage space in the middle of the block, and leaves the two end parcels for commercial and/or residential development. Our findings are summarized below and the enclosed memo provides details on the data, assumptions, and methodology used to derive our estimates.



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**MEMORANDUM**

DATE: June 1, 2016  
TO: George Sweeting  
FROM: Daniel Huber  
SUBJECT: **ESTIMATE OF COSTS TO CONSTRUCT AND OPERATE A NEW DEPARTMENT OF SANITATION GARAGE TO SERVE MANHATTAN'S SANITATION DISTRICTS 6, 6A, AND 8.**

IBO has estimated the cost to construct and operate a new garage proposed by the Department of Sanitation (DSNY) on East 25<sup>th</sup> Street in Sanitation District 6 in Manhattan to serve districts 6, 6A, and 8. IBO was also asked to consider the impact on city revenues of using the proposed garage footprint for development a facility to house biotech firms. The memo provides background information, as well as summarizes IBO's methodology and findings.

**Scenarios Compared.** IBO was asked to compare the proposed garage cost to continuing a modified version of the existing system in which garages are located outside of the districts, with many trucks parked on the street. In this alternative scenario, district 6 trucks and equipment were to be moved from their current garage—a leased facility on the West Side—to Pier 36 and other DSNY garages around the city, while district 6A and district 8 trucks would remain at their current locations at East 132<sup>nd</sup> Street in the Bronx and West 215<sup>th</sup> in Manhattan, respectively. The Pier 36 garage currently houses district 3 trucks and previously accommodated district 1 trucks while the new Spring Street garage (for Manhattan Sanitation Districts 1, 2, and 5) was being constructed. However, the use of Pier 36 was only a temporary solution for parking the smaller fleet from district 1 until the Spring Street garage was completed. Pier 36 would not be able to accommodate the larger district 6 fleet, nor would it have space for other support vehicles, truck maintenance, cleaning, and other support activities.

Although other alternative scenarios for locating a garage elsewhere in district 6 were considered, they were judged to be even less feasible than the Pier 36 option. Because details on where all of the equipment and trucks could be moved if the East 25<sup>th</sup> garage were not built were lacking, IBO instead compared the cost of constructing the proposed garage and operating the fleet from that location with the cost of maintaining the existing system. Although DSNY has deemed the current arrangement to be unsustainable in future years because the lease at the district 6 garage could terminate at any time, there is an additional toll on equipment from on-street parking, as well as for equity and environmental reasons, IBO's comparison of the current condition with the condition after construction of the garage at East 25<sup>th</sup> Street provides baselines for the cost of maintaining the status quo and the costs and benefits of DSNY's preferred outcome.

**Background.** Sanitation garages serving Manhattan Sanitation Districts 6, 6A, and 8 are currently located in various neighborhoods outside of their respective districts, with many collection trucks parked on the street due to a lack of adequate garage space. DSNY has proposed building a new garage for these districts within district 6 to consolidate and modernize its facilities, reduce truck travel and related emissions, lower response times to clear snow and ice, and avoid parking trucks on streets, as it causes traffic congestion and jeopardizes the safety of the equipment.

The current garage for district 6, which encompasses areas east of Lexington Avenue in the neighborhoods of Midtown East, Murray Hill, Kips Bay, and Gramercy Park, is located on Manhattan's far west side in a leased facility near Hudson Yards that is scheduled to be sold and redeveloped. The garage is not large enough to accommodate all the vehicles based there, after allowing space needed for repair bays and offices. As a result, most collection trucks are currently parked on the adjacent streets. The district 8 garage, which serves the Upper East Side south of 96<sup>th</sup> Street, is located on the site of a former incinerator on West 215<sup>th</sup> Street in Manhattan. Again, due to lack of space, most collection trucks are parked on the street. Mechanical brooms (street cleaning trucks) for Manhattan Sanitation Districts 3, 6, and 8 are stored at the Manhattan 6A Broom Depot, located on East 132<sup>nd</sup> Street in the Bronx. Manhattan Borough Command vehicles, which would also be housed in the proposed garage, are currently parked on the street at East 87<sup>th</sup> Street.

Current DSNY plans for the East 25<sup>th</sup> Street site call for constructing a facility in the middle of the block to store 180 vehicles along with the necessary maintenance facilities and offices for support personnel. The two parcels at either end of the block would be available for commercial and residential development. An earlier plan had called for the district 6 and 8 garage, previously located at a former incinerator site on East 73<sup>rd</sup> Street in Manhattan, to be demolished and replaced with a new garage. In 2007, the district 8 trucks were temporarily moved to the West 215<sup>th</sup> Street site to accommodate the anticipated construction at East 73<sup>rd</sup> Street. During citywide budget cuts in fiscal year 2009, capital funding for the new garage was eliminated. The parcel of land at East 73<sup>rd</sup> was then sold in 2012 as part of a development project between Memorial Sloane-Kettering Cancer Center and the City University of New York's Hunter College. The proceeds from that sale totaled \$215 million, with \$200 million earmarked by the city to fund a new sanitation garage at East 25<sup>th</sup> Street. The site—which is city-owned—is currently used by Hunter College's nursing school; to free up the site for the sanitation garage, the nursing school is slated to move to East 73<sup>rd</sup> Street. In the meantime, district 8 trucks have continued to be parked outside at West 215<sup>th</sup> and the district 6 garage is currently on a month-to-month lease agreement that could be terminated at any time.

**Analysis.** IBO's estimate of the fiscal impact of the new garage plan is made up of several distinct components. In addition to estimating the construction costs associated with the new garage, IBO compared collection truck mileage under the existing system with the mileage that could be expected if the new garage were in place. This was used to determine how the proposed garage would impact fuel, maintenance, and personnel costs, as well as pollutant emissions compared with the status quo.

Analysis on pollutant emissions was included both because reducing the environmental impacts of waste disposal is a key component of the city's Solid Waste Management Plan and because adverse

health effects associated with air pollution have a fiscal impact on the city, such as the reductions in tax revenue from lost work time as well as the city's share of health care related costs resulting from lung and other respiratory illness exacerbated by diesel truck emissions. While IBO's analysis provides information on the level of magnitude of the environmental impacts, quantifying the cost of is outside the scope of this study.

IBO also analyzed the impact on city revenues of replacing the proposed garage with the development of a biotech facility, including revenues from land sales and property and income taxes.

*Construction Costs:* IBO based its estimate of the cost to build the Manhattan 6/6A/8 garage on the cost of other completed DSNY garage construction projects. Three garages with designs comparable to the plans for the Manhattan 6/6A/8 garage have been built by DSNY in recent years. These are the 70,000 square foot garage for Queens Sanitation District 14; the 206,000 square foot garage serving Manhattan districts 4, 4A, and 7; and the 425,000 square foot garage for Manhattan districts 1, 2, and 5. Because the city already owns the East 25<sup>th</sup> Street site, the costs of land acquisition were excluded from the comparisons. In 2015 dollars, these facilities, including planning, construction and all expenses other than land acquisition cost an average of \$819 (including inter fund agreements) per square foot, ranging from \$608 per square foot to \$1,132 per square foot after adjusting for inflation. Applying this average figure to the Manhattan 6/6A/8 garage plans for a 447,000 square foot facility, yields a projected capital cost of \$366 million, excluding land acquisition. (Assuming the city finances the capital costs of the garage with 30-year bonds at an interest rate of 4 percent, debt service would total \$21 million per year.)

The city's current 10-year capital strategy (May 2015) anticipates spending \$200 million on the garage from 2016-2020. This is somewhat less than was spent to build the garage for Manhattan districts 1, 2 and 5, a facility completed in 2015 that is nearly the size of the garage planned for East 25<sup>th</sup> Street. (The garage had a total cost of \$252 million after adjusting for inflation and excluding land acquisition.) However, every site is different, and site-specific conditions could result in construction costs that are higher or lower than the city spent for the garage serving Manhattan Sanitation Districts 1, 2, and 5. It is also possible that lessons learned from other recent DSNY garage construction projects result in more efficient planning and execution—and therefore lower costs.

Even if a decision is made to sell the lot at East 25<sup>th</sup> Street for biotech development instead of building a garage at the site, the city is unlikely to realize substantial savings. DSNY would still require a new garage elsewhere in Manhattan in order to provide sufficient parking space for collection trucks, particularly the trucks parked on the street near Hudson Yards. Moreover, the alternative site would need to be within districts 6 or 8 to achieve an equitable distribution of sanitation infrastructure, an objective of the city's Fair Share criteria.

*Operating Costs and Environmental Impacts:* IBO analyzed all individual sanitation collection truck and mechanical broom routes driven in districts 6 and 8 in fiscal year 2015 and calculated the projected mileage to the districts and tip points under the existing garage locations and with the proposed East 25<sup>th</sup> Street garage. IBO then used this mileage to estimate the difference in the costs of personnel, fuel,

and maintenance, as well as the volume of emissions along the truck routes, associated with the proposed garage compared with the existing network of garages.

Under both scenarios, IBO assumed that the tip point for all refuse would be at the East 91<sup>st</sup> Street Marine Transfer Station, which is currently scheduled to open in 2017, instead of the network of private transfer stations currently used. Tip points for paper recycling and metal, glass, and plastic recycling for the districts would remain in their current locations: West 59<sup>th</sup> for paper, and either Jersey City or Hunt’s Point in the Bronx for metal, glass, and plastic. Because IBO assumes that the mileage driven within the district for curbside pickup would remain the same in either scenario, the cost of pickup is therefore not included in the comparisons.

Based on this analysis, relocating truck parking to East 25<sup>th</sup> Street would reduce truck mileage by 40 percent compared with using the existing garages. This would translate to an annual \$606,000 reduction in operating (variable) costs, including the cost of fuel, maintenance, and personnel. IBO estimates that pollutant emissions would also decrease by 40 percent.<sup>1</sup> This analysis focuses on nitrogen oxides (NO<sub>x</sub>) and particulate matter with a diameter of less than 2.5 micrometers (PM<sub>2.5</sub>) because diesel engines are significant contributors to the concentration of these pollutants in the ambient air. NO<sub>x</sub> contributes to smog formation and inhalation of PM<sub>2.5</sub> is a risk factor for a number of lung ailments. Reducing emissions of these pollutants contributes towards improving the city’s air quality and environmental sustainability. A reduction of truck trips would also be associated with less truck traffic and such associated community benefits as less congestion, lower noise levels, and greater parking availability.

<b>New Garage Can Decrease Costs, Improve Air Quality</b>			
	<b>NOx (US Short Tons/yr)</b>	<b>PM2.5 (lbs/yr)</b>	<b>Annual Variable Costs</b>
Existing System with MTS	33.1	367.3	\$2,047,000
Manhattan 6/6A/8 Garage	19.9	220.7	\$1,441,000
SOURCES: IBO calculations based on Department of Sanitation employee, maintenance, and mileage estimates, and U.S. Environmental Protection Agency data for diesel vehicles			
<i>New York City Independent Budget Office</i>			

*Revenue Implications:* The city-owned parcel at East 25<sup>th</sup> Street proposed as the construction site for the Manhattan 6/6A/8 garage is located in Manhattan’s East Side medical corridor and is an attractive location for a variety of alternative uses besides the DSNY garage. If the garage were not built at this location, the center part of the block—in addition to the end parcels—would be available to one or more developers. IBO assumes that the city would pursue selling the entire block; if the parcels were instead leased we assume the net present value would be equivalent to the sale price. We also assume that both the end parcels (52,000 and 59,800 square feet) and the center parcel (98,800 square feet) at East 25<sup>th</sup> Street would be zoned as C6-4. This yields an estimated valuation of \$124 million for both end parcels and \$92 million for the center parcel.

Thus, if the garage is not built, the city could receive a total of \$216 million from selling the entire block. Alternatively, if the garage is built as planned, the city would receive \$124 million from selling or leasing the two end parcels. Depending on whether the garage is built, the city could also sell the site at East

87<sup>th</sup> Street that currently houses the Manhattan Borough Command office. Currently, DSNY plans to move that office to the new garage at East 25<sup>th</sup> Street, which would make the East 87<sup>th</sup> Street site available for development. IBO estimates that the city could receive \$16 million for selling this site, all of which would be forgone if the garage is not built and Borough Command remains at its present location.

IBO was also asked to estimate the potential gain in city tax revenue if a biotech facility were developed on the midblock parcel at East 25<sup>th</sup> Street instead of the garage, with a park and residential housing developed on the two end parcels. Assuming one employee per 450 square feet of space developed and that taxes generated per worker average \$7,150 per year, then siting a nearly 1.2 million square foot biotech facility on the garage footprint could result in as many as 2,635 employees and as much as \$18.8 million in annual tax revenue.<sup>2</sup> In addition, IBO estimates that developing residential housing on one of the end parcels would generate a total of \$400,000 a year in property tax revenue, for a total of \$19.2 million combined tax revenue. No new tax revenue is estimated from the development of the park.

What we do not know is how many of those jobs would be new to the city's economy and how many would result either from new firms locating at East 25<sup>th</sup> Street rather than at an existing site in the city or existing firms relocating from elsewhere in the city. To represent net new employment, and therefore new tax revenue for the city, all of the jobs would have to come from outside or be created by new firms that had no other location options elsewhere in the city. As the city already has an active biotech sector operating in existing facilities, it is not reasonable to assume that all or even most of the jobs created at a new facility at East 25<sup>th</sup> Street would be new to the city and therefore the amount of new tax revenue that could be attributed to the project will be lower than the amount calculated.

Under the city's current plan the two parcels on each end of the garage would be developed into some combination of residential and commercial space. IBO was also asked to estimate the tax revenue that would be generated under this scenario in order to allow a comparison with the potential tax revenue under the no-garage scenario. IBO assumed that one of the end parcels would be developed for residential use with some ground floor retail and that the other end parcel would be developed as a commercial biotech facility. Because the parcel designated for biotech development is smaller in this scenario than it would be if no garage is built, IBO estimates less potential new employment—1,593 jobs—and therefore less potential tax revenue—\$11.8 million. Thus, IBO estimates that under the most favorable circumstances possible—assuming all jobs are new to the city—the no-garage scenario would result in \$7.4 million more in annual tax revenue than under the city's preferred plan.

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<sup>1</sup>IBO's approach to emissions calculation differs substantially from the much the more detailed approach that will be taken in DSNY's environmental impact statement (EIS). IBO calculates the change in total NO<sub>x</sub> and PM<sub>2.5</sub> emitted based on the distance the truck travels, while the EIS will assess emissions from both mobile and stationary sources with an emphasis on peak PM<sub>2.5</sub> concentrations at high-use roadway segments and intersections using computerized dispersion modeling.

<sup>2</sup>Based on the Department of Finance's "Taxes per Worker" calculations, which were last published in 2014 using 2009 data. IBO has adjusted the data for inflation and expressed the results in 2015 dollars. Eight city taxes are

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included in the calculations: real property tax, banking corporation tax, general corporation tax, unincorporated business tax, utility tax, commercial rent tax, personal income tax, and sales tax.