Article

A Review of the Economic Data Emanating from the Development of Central Park and Its Influence on the Construction of Early Urban Parks in the United States

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Abstract
Financing Central Park by general taxation was controversial and precedent setting. It was justified by rationalizing that increases in property values around the Park would generate sufficient annual revenues to cover all the Park’s capital costs. Accordingly, the Central Park Commissioners provided data as “evidence” to support the success of this vehicle in their annual reports. This article shows these data were flawed. Notwithstanding their egregious inaccuracy, these Central Park data were ubiquitously reiterated in arguments to support urban parks in cities throughout the United States for eighty years from the 1860s until World War II.

Keywords
Central Park, financing, urban parks, impacts on property value, flawed analyses, Olmsted

Developers have long recognized that many people are willing to pay a premium for residences located close to parks. This “capitalization” of park land value into increased values of property has been termed “the proximate principle.”¹ In its earliest form, exclusive enclaves of residences for the wealthy were located around a central private garden. These garden squares emerged in the United States in the 1830s and were most prominent in New York City,² Boston,³ and Baltimore.⁴ When public parks emerged, the proximate principle was extended to them.

A recent review of the postmillennial scientific literature that measured the magnitude of a park premium on residential property concluded, “A premium of 8%-10% on properties adjacent to a passive park is a reasonable point of departure.”⁵ In the mid-nineteenth century, tools to do such analyses were not available. In their absence, anecdotes and “guesstimates” by perceived experts,

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advocates, and civic leaders, and naive analyses based on faulty premises resulted in hyperbolic estimates of the proximate premium. The widely cited premium estimate emanating from Central Park in New York City became conventional wisdom in the parks field from the 1860s until World War II. This article dissects that estimate, illustrates its impact on the dissemination of urban parks, and suggests why it ended.

The Context

In 1850, New York City with its population of 600,000 had only eighty-one acres of parkland and all of it was in small parcels. Indeed, Andrew Jackson Downing, who was the editor of the Horticulturalist and the primary agitator for a large park in New York City, when he published Fredrick Law Olmsted’s article on Birkenhead Park in an 1851 edition of the Horticulturist included an editorial footnote in which he described the existing parks in the city as being mere yards:

New York, now one of the largest cities in the world, has no public park whatever—no breathing space, no grounds for the exercise and refreshment of her jaded citizen—for to call the little yards of land, covered with turf, and planted with trees, in various parts of the town parks, is as much a misnomer as it would be to spread one’s handkerchief down on the floor of the rotunda of a capitol, and call it a carpet.6

By 1851, the development of a large park in the city had a viable political constituency which was exemplified by the mayor who sent a message to the city council concluding: “The establishment of such a park would prove a lasting monument to the wisdom, audacity and forethought of its founders. I commend this subject to your consideration in the conviction that its importance will insure your careful attention and prompt action.”7

The constituency’s motives were a complex mix which included: advancing commercial interests, improving public health, currying political favor, creating jobs, enhancing the city’s image and prestige, exercising social control, lifting up the poor, and refining the rich.8 However, perhaps the most powerful source of the momentum for Central Park was its potential for enhancing real estate values along its perimeter. Laudatory civic motives were prominently espoused,9 but underneath the rhetoric, there was an economic undertone: “A different, less flattering explanation for the park’s creation, namely, is that it was the work of speculators out to make a buck.”10

The park’s construction was intended to be self-financing with revenue accruing to the city from two sources. First, a benefit district tax generated from properties close to the park, which directly captured some of the value increments generated by it. Second, it was argued that general taxation would capture value increments indirectly from a wider geographic area from the higher increments in tax revenue that would be collected from appreciated property values.

Financing the park by general taxation was highly controversial because benefit assessments were the prevailing funding mechanism in New York for public projects. However, as the city expanded rapidly in the 1830s and 1840s, and the size of the projects needed to serve it became larger, opposition to local benefit assessments from proximate large landowners became increasingly strident.11

While benefit assessments were appropriate for funding neighborhood parks, the size and attractiveness of Central Park extended its geographical reach beyond the immediate neighborhood and impacted a much larger segment of the city. Hence, some argued it was more equitable for the whole city to pay for it: “This mode of payment seems the fairer and more equitable, for when all is done, the absolute title to the land embraced in the parks, will belong, not to the neighboring owners, but, with all its enhanced values to the city itself.”12

The Croton Aqueduct in New York City which was constructed between 1835 and 1842 had created a partial precedent for the use of general taxes to pay for large public projects. This was
considered fair because the whole city benefited from the clean water the aqueduct provided. However, in that case, the tax investment could be redeemed by charging users a fee for the water. This direct source for capturing the dollar value could not be replicated at Central Park. If general taxes were used to fund it, then a precedent would be established for other public projects.

The contention that the enhanced taxes emanating from the value increments accruing to proximate properties would be sufficient to cover the capital costs of constructing the Park was an adaptation of the financing vehicle used to fund the world’s first purpose-built urban parks in England in London (Regent’s and Victoria Parks) and in Liverpool (Prince’s and Birkenhead Parks). The English approach acquired more land than was necessary for a park and subsequently sold the balance of land on the periphery of the site when the park was close to completion. The appreciation in value of the lots resulting from the park was used to finance the project.

The reliance on this proximate principle funding mechanism was a key factor in selection of the site. The Special Committee on Public Parks, which was established to recommend a site for a large urban park in New York City, preferred the Central Park site to the alternative of Jones’ Wood in part because of the greater border circumference it offered for creating prime real estate lots. The Committee observed:

We consider that Central Park is of sufficient size to permit the selling off of portions of its border. These sites being desirable, will command large prices, and reduce the expense of the original cost, and furnish, from time to time, by sales or by leases, a sufficient sum to pay, if desirable, a portion of the expenses of the keeping and decoration of the park. The great extent of boundary of Central Park favors this view of the matter, presenting, as it does, five miles and a half for such improvements—while Jones’ Park presents a comparatively small border of a mile and a half.

The notion of a public entity selling or leasing the appreciated real estate, however, was untenable in the United States, but the principle remained in a revised form that was articulated by the New York Comptroller in his report of 1859:

The increase in the amount of taxes accruing to the city, in consequence of the enhancements in value of real estate situated in the upper parts of the island, over and above the former value of the land now withdrawn from taxation, on account of the opening of this noble park, will, it is thought, afford more than sufficient means for the payment of interest on the debt incurred for its purchase and improvement, without any increase in the general rate of taxation.

Although the Special Committee suggested revenues could cover “a portion of the expenses of the keeping and decoration of the park,” there is no evidence that others anticipated this was a reasonable expectation when the Park’s construction began. After the Park Commissioners’ early economic analyses ostensibly showed the Park was a highly profitable investment, however, there was space for advocates for similar projects elsewhere to suggest their “profitability” would be sufficiently high to also cover operating costs. Most notably this occurred in the 1884 debate over six new parks in the Bronx which is discussed later in this article.

Central Park was a pioneering venture, so there could be no knowledge of what its operating costs might by. Because the development of a large urban park was unprecedented in the United States, there was widespread interest in its impact. During the seventeen years of the Park’s development, the Central Park Commissioners provided data as “evidence” that ostensibly confirmed the park generated higher increments of tax revenues from proximate properties than the park cost to develop, so it could be viewed as an investment not a cost.

However, the Commissioners’ data were flawed. Nevertheless, they were widely cited and resulted in the belief that urban parks had a net positive impact on the tax base becoming embedded.
as an almost inviolable conviction among planners, real estate developers, the business community, elected representatives, and government officials. It was consistently reiterated as conventional wisdom; each reiteration reinforced its legitimacy; and it persisted until World War II.\(^{17}\) The concept was so appealing and seductive to all stakeholders involved in creating urban parks that it metamorphosed into a cliché and was part of the collective psyche that was rarely challenged. The penultimate section of the article illustrates that the analyses were consistently cited to justify urban parks in other US cities.

### The Cost of Constructing Central Park

When Central Park was authorized, the settled part of the city extended little beyond 23rd Street, and the city’s effective outer boundary was 40th Street.\(^{18}\) The Park stretched from 59th to 110th Street, so it was located in the countryside. Its southern boundary was one mile from 40th Street and two to three miles north of where most residents lived; while its northern boundary was 31/2 miles from 40th Street.

The land was a squalid messy landscape of squatters, pigsties, trash, slaughterhouses, goats, mud, and swampland, with a pervasive odor. A contemporary observer noted: “A suburb more filthy, squalid and disgusting can hardly be imagined.”\(^{19}\) The poor quality of the site led the 1852 Special Committee on Public Parks to estimate the Central Park site would cost $1,852 per acre, compared to $4,579 per acre at the alternative Jones’ Woods site, which was one of the reasons it was selected.\(^{20}\)

Central Park was the biggest public works project undertaken in New York City up to that time. Its total cost was approximately four times the city’s 1850 annual budget. The costs of acquiring the land for it are summarized in Table 1.\(^{21}\) The Park’s construction was mostly completed by 1873.

<table>
<thead>
<tr>
<th>Table 1. Total Price Paid for the Land for Central Park.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9½ acres purchased in 1838 for old reservoir site</td>
</tr>
<tr>
<td>27½ acres of common lands for old reservoir site (no cost)</td>
</tr>
<tr>
<td>106½ acres for new reservoir site, award of April 14, 1856, including $342,695 to city for common lands</td>
</tr>
<tr>
<td>10 acres; 1856 purchase of Arsenal building and grounds from State.</td>
</tr>
<tr>
<td>624½ acres between 59th and 106th Streets, award of February 5, 1856</td>
</tr>
<tr>
<td>Error and additional cost of same</td>
</tr>
<tr>
<td>Expenses and compensation of commissioners for same</td>
</tr>
<tr>
<td>Incidental expenses of same</td>
</tr>
<tr>
<td>65 acres between 106th and 110th Streets, award of April 21, 1863</td>
</tr>
<tr>
<td>Cost of first appraisal of same</td>
</tr>
<tr>
<td>Cost of second appraisal of same</td>
</tr>
<tr>
<td>843 acres</td>
</tr>
</tbody>
</table>

Of the total expenses of acquiring the land for the park, $1,657,590 was assessed on property owners for the original area, and $171,075 for the extension. The net cost of land acquirement to the City can thus be placed at something like $3,850,000 for the original area, and $1,000,000 for the extension (these figures again varying in the various documents giving costs). Dr. Hall commenting on the table observed: “It is interesting to note the rise in the price of land as improvements progressed in the Central Park region . . . The first nine and one-half acres bought in 1838 for the old reservoir cost about $2,316 an acre. In 1856, the new reservoir site cost about $6,838 an acre and the rest of the land south of One Hundred and Sixth Street (not counting the Arsenal grounds) cost about $8,121 an acre. In 1863, the sixty-five acres north of One Hundred and Sixth Street cost about $18,147 an acre, whereas at the time when the 1856 lands had been purchased, it was appraised at $4,000 an acre [much less than the cost of the original taking because of its greater distance from the center of population]. If it had been purchased at that time, it would have saved the city over $910,000.”

Note. It can legitimately be debated as to whether the reservoir costs of 1938 and 1856 should be attributed to the Park since their primary purpose was to augment the city’s water supply.
when the onset of a nationwide economic depression essentially halted all further construction. At that time, the improvements had cost $8,873,671. Thus, the total cost was $16,263,398. According to the US Bureau of Labor Statistics, in New York City, $1 in 1870 was equivalent to $27.55 in 2018. Thus, the cost of Central Park in 2018 dollars was $431.8 million.  

Central Park’s Purported Influence on Proximate Property Values

When the park plans were announced, they sparked a speculative boom in surrounding real estate. The value of lots fronting on Central Park multiplied by a factor of ten or more times in value in the decade between the late 1840s before the park site was selected, and the late 1850s after work commenced. In 1850, three years before the Central Park Bill became law, the Twelfth Ward, comprising the whole island area north of Fortieth Street, was valued at $8,356,265. By the time construction work on the park commenced six years later in 1856, the Twelfth Ward had been divided into the Twelfth, Nineteenth, and Twenty-Second Wards, and its valuation had increased more than threefold to $26,429,565.

The increases in land value were all attributed to the Park. However, there were some who were skeptical that it would add value. They suggested it would become a place for the poor and destitute to congregate, and that property values and taxes collected from proximate neighborhoods would decline. For example, a leading article in the *New York Herald* in September 1857 projected, “The great Central Park will be nothing but a great beer-garden for the lowest denizens of the city.” The article suggested it was “sagacious liquor dealers” not respectable citizens who would pay the highest prices for land around the park as sites for dramshops and lager-beer gardens. The implication being that the park would lower rather than raise property values. Even some supporters of Central Park were apprehensive. *Harper’s Weekly* warned in 1857:

> Already rumors are current to the effect that the corner lots and other desirable sites on the Fifth and Eighth Avenues, fronting the park, have been secured by the lager beer sellers and keepers of barrooms for the prosecution of their business. Naturally the temptation to do so must be strong in the minds of every enterprising grog distributor. It need hardly be said that if the streets adjacent to the park are peopled with traders of this class the park itself will be nothing more than a great beer garden, where the drunken will resort to sleep off their liquor and the tipsy to seek fights, illicit rencontres and every sort of evil communication.

Other skeptics believed it would be a preserve paid for by taxpayers “only for the upper few who ride fine carriages.” A letter writer to the *New York Tribune* asked: “Will anyone pretend the Park is not a scheme to enhance the value of up-town land and create a splendid center for fashionable life, high rents, etc. without regard to, and even dereliction of, the happiness of the multitude upon whose hearts and hands all the expenses will fall?”

In the light of such skepticism, the Park Commissioners deemed it important to document the positive financial impact of Central Park on proximate property which they and other advocates confidently predicted would occur. This was the earliest documentation in the United States of the impact of public parks on real estate values. Accordingly, the assessed values of property in the three wards adjacent to the park that were published annually by the Commissioners of Taxes and Assessments were reproduced in all the Park Commissioners’ annual reports from 1857 through 1873. *The Commissioners attributed all the valuation increase in the three wards to the presence of the park*. This heroic assumption enabled them to proclaim as early as 1861: “If the park is regarded in a pecuniary point of view only, it is the most profitable enterprise ever undertaken by the city.”

This ostensibly extraordinary impact of the park occurred despite three factors that negatively impacted proximate real estate values during that period. First, the park site was not fully available
for public use for many years after it was authorized in 1853. It took three years to acquire titles to all the land and then another ten years “before the people could traverse the limited portions which they were free to use.”

A second factor in the early years was a major downturn in the US economy in 1857 when 5,000 businesses failed, including several prominent banks and railroads. This recession endured until 1860, when the onset of the Civil War brought a new set of economic priorities and challenges to the city.

A third factor inhibiting value in these early years was that it did not offer appealing aesthetic vistas to adjacent property owners. A New York Daily Times editorial observed when the 1853 authorization bill passed the legislature:

The park is a work of labor and time—a work in which in some respects, labor cannot make up for time. The contemplated area is nearly barren of trees the great desideratum and necessity of a park—and no labor will make these grow faster than the old laws of nature will permit. Long and weary years—during which, perhaps, most of the present generation will have passed away—must elapse before the vegetation of this Central Park will stretch its arms, and interlace them over the shaded avenues.

In 1860, seven years later, the park was described by a New York newspaper as:

Neither a park, a stone-yard, nor a piece of waste ground, though by turns it reminds you of all of these... After the expenditure of millions of dollars, New York is almost as parkless as ever. For all practical purposes the Central Park is at present useless, and there seems to be not the slightest probability that it will answer the real purpose for which New Yorkers need a park for years to come.

In 1878, five years after the park was pronounced finished and seventeen years after the Commissioners proclamation of its profitability, the Real Estate Record and Building Guide observed that wealthy New Yorkers were “unwilling to [live] opposite a vast open space which presents so dreary and bleak an appearance in winters’. Far from appreciating the splendors of nature, fashionable families dreaded the ‘the unwholesome influences emanating from such a large surface of unimproved land’.

These unflattering descriptions make the Commissioners’ 1861 claim improbable that the park was the exclusive cause of all the increase in valuation of land north of Fortieth Street. Nevertheless, the aggregate property valuations in the three proximate wards continued to be dutifully reported each year in the Commission’s annual reports, and they inexorably increased at a remarkable rate. When construction of the park effectively ended in 1873, the Commissioners’ final report summarized the annual growth in assessed valuations in the adjacent three wards and used them to proclaim their estimate of the park’s impact on the city’s revenues in a table which is reproduced in Table 2.

The total cost of land for the park shown in Table 2 is lower than the amount shown in Table 1 because it shows only costs to the City of New York and excludes the proportion of land costs met by benefit assessments levied on owners of proximate properties that were included in Table 1.

The annual interest charge incurred in borrowing the capital amount is shown in Table 2 as $830,158. The debt instruments were term bonds, so the principal that was borrowed did not have to be repaid until the end of the forty-five-year term of the bonds. The tax base of the three wards around Central Park increased from $26.4 million in 1856, the year before development of the park began, to $236.1 million in 1873. When the city’s tax rate was levied on the incremental increase of $209.7 million, it generated $5.24 million per year in income to the city. Hence, the Commissioners concluded that after the interest charge of $830,000 had been paid, the city made a “profit” on its Central Park investment of $4.41 million per year.
Table 2. The Central Park Commission's Data.

The Commissioners were aware that many in the City of New York were skeptical of spending so much money on the Park. To justify the expenses, in every annual report from the start of construction in 1856 to its effective completion in 1873 the Commissioners reported the value of real estate in the three wards surrounding the park, and compared the higher tax revenue accruing from the increased valuations in these wards to the debt charges the city was paying on the bonds used to fund the park. The results of this tracking and the conclusions derived from it are shown below:

<table>
<thead>
<tr>
<th>Ward</th>
<th>1856</th>
<th>1857</th>
<th>1858</th>
<th>1859</th>
<th>1860</th>
<th>1861</th>
<th>1862</th>
<th>1863</th>
<th>1864</th>
<th>1865</th>
<th>1866</th>
<th>1867</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twelfth</td>
<td>$8,149,360</td>
<td>$8,134,013</td>
<td>$8,476,890</td>
<td>$10,062,725</td>
<td>$11,857,114</td>
<td>$12,454,375</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nineteenth</td>
<td>8,041,183</td>
<td>8,558,624</td>
<td>10,971,775</td>
<td>12,621,894</td>
<td>16,830,472</td>
<td>16,986,152</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twenty-second</td>
<td>10,239,022</td>
<td>10,489,454</td>
<td>11,563,506</td>
<td>13,261,025</td>
<td>14,775,440</td>
<td>17,666,866</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$26,429,565</td>
<td>$27,182,091</td>
<td>$31,012,171</td>
<td>$35,954,644</td>
<td>$34,463,026</td>
<td>$47,107,393</td>
<td></td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Ward</th>
<th>1868</th>
<th>1869</th>
<th>1870</th>
<th>1871</th>
<th>1872</th>
<th>1873</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twelfth</td>
<td>$28,143,005</td>
<td>$42,648,865</td>
<td>$48,869,700</td>
<td>$50,362,925</td>
<td>$54,568,885</td>
<td>$62,457,680</td>
</tr>
<tr>
<td>Nineteenth</td>
<td>53,608,040</td>
<td>59,608,040</td>
<td>71,319,633</td>
<td>77,711,930</td>
<td>91,283,545</td>
<td>110,519,305</td>
</tr>
<tr>
<td>Twenty-second</td>
<td>36,175,185</td>
<td>47,663,245</td>
<td>53,146,920</td>
<td>57,666,340</td>
<td>60,185,020</td>
<td>63,104,530</td>
</tr>
<tr>
<td>Total</td>
<td>$117,926,230</td>
<td>$150,224,743</td>
<td>$173,336,040</td>
<td>$185,801,195</td>
<td>$206,038,250</td>
<td>$236,081,515</td>
</tr>
</tbody>
</table>

Assessed value in 1873: $236,081,515.00
Assessed value in 1856: 26,429,565.00

Showing an increased valuation of $209,651,950.00

The total expenditure for construction, from May 1, 1857, to January 1, 1874 is $8,873,671.50

The rate of tax for the year 1873 is $2.50, yielding on the increase of valuation as above stated from the three wards, $524,129.75

The annual interest on the cost of land and improvement of the Park, up to this time, at six percent is $834,150.94

Deduct one percent on $399,300 of stock, issued at five percent, 3,933.00

Excess of increase of tax, in three wards, over interest on cost of land and improvements is $4,411,140.81
In the decade after 1873, the financial impact of Central Park appeared to be even more convincing. By 1881, the assessed values of the three wards had risen to $312 million (a 1,180 percent increase), while property in the city’s other nineteen wards increased 211 percent from $314 million in 1856 to $664 million in 1881.36 Before the park was announced, these three wards paid one dollar in every thirteen the city received in taxes; by 1883, they paid one-third of the entire expenses of the city. These Central Park numbers seemed too good to be true—and they were.

Were the Central Park Data a Search for Truth or Used to Legitimize an Advocacy Position?

Arguably, no other data had more influence in facilitating the widespread dissemination of urban parks in the United States than the comparison of the 1856 and 1873 valuations in the three adjacent Central Park wards. Although the data were seriously flawed, they were reiterated ad nauseam for the next eighty years in numerous cities to justify expenditures on urban parks. Thus, in 1939, the author of the first attempt to use mathematical regression to measure the impact of parks on property values identified the obvious limitations in the Central Park data, but noted: “In spite of its limitations this method has been followed by practically all students of the problem.”37

Most research projects are predicated on a search for the truth. However, when research is sponsored and reported by those with a vested interest in its outcome, invariably there is suspicion that rather than offering a disinterested and balanced interpretation of the results, the data have been interpreted or manipulated to legitimize the position espoused by the vested interest. In their Central Park analysis, the Commissioners attributed all the increase in assessed value in the three wards to the park, which was clearly inappropriate.

It is reasonable to speculate that the reported impact was intentionally inflated in order to justify the use of general tax revenue to fund the huge public investment, to ensure the continued flow of annual resources needed to develop the park, and to support further investments in additional urban parks both in New York City and elsewhere. The Commissioners acknowledged some of the sources of hyperbole in their narrative accompanying Table 2:

The growth of the city would occasion a natural increase of valuation in these three wards, equal perhaps to the average increase in the other wards of the city, which may be roundly stated as 100 percent in the period 1856 to 1873. At this rate the three wards would now have a valuation of about $53 million; but the evaluation for 1873, as appears from the table is $236 million [a 900% increase]. The great increase thus shown ($183 million) is the immediate result of the expenditures which have been made upon the Central Park, some proportion, since the year 1868, however, being due to the construction of the boulevards and other improvements in the upper wards of the city.38

Despite this qualification, the Commissioners’ naive analysis attributed all the $236 million to the park and did not attempt to unravel the complicated plexus of influences that contributed to it. There were five factors that would have resulted in a radically different conclusion if they had been considered.

First, as the Commission acknowledged, part of the property valuation increase was attributable to a rapid increase in the population of New York City. The population in the three wards that comprised all the land on the island north of Fortieth Street increased from 118,000 in 1850 to 351,000 in 1880.39 It was disingenuous of the Commissioners to suggest a natural increase in the three wards should be expected to be equal to that in the rest of the city, because this outlying land was much less expensive than land in the established city where land prices increased almost sevenfold between 1860 and 1870.40 Hence, it was inherently more appealing to the new immigrant
populations. When the New York Park Association published their advocacy document in support of the Bronx parks in 1882 it stated:

The vacant spaces on Manhattan Island are rapidly filling up and marked signs of increase are evident in the annexed awards. There can be no doubt that the territory north of the Harlem River is destined to receive a large portion of the 700,000 to 800,000 which will be added to the population in the next 10 years. Here land can be built and rented at moderate rates.41

This reprised the situation anticipated in 1854 for the three wards north of Fortieth Street. The key question is: would the additional 233,000 people who moved into the three-ward area between 1850 and 1880 have done so if the Park had not been there? For a large majority of them, the answer seems likely to be “yes.” To those for whom the answer would be “no,” the key question becomes: if they would not have located in the three-ward area, would they have located elsewhere in New York City? Again, for a large majority, the answer is likely to be “yes.” In both cases, the property tax base of the three wards and/or New York City would have been enhanced by the same amount shown by the Commissioners if Central Park had not been built.

The only property tax values that should have been attributed to the Park were those accruing from individuals who would not have lived in New York City if the Park had not been built or those moving from elsewhere in the city who purchased more expensive property than they would otherwise have acquired in order to be proximate to the Park. In the latter case, the increment of extra value could be attributed to the Park.

A pamphlet promoting lots near Central Park in 1865 predicted: “The supply can never be increased, and the demand, when it once sets in, will arise among the class who are able to pay what they want.”42 This prediction was accurate, but its timing was optimistic. It was not until the late 1870s 1880s and 1890s that prosperous merchants, manufacturers, and heirs commissioned elegant town homes, and some of America’s richest, most prominent families including the Astors, Vanderbilts, and Rockefellers, relocated to Fifth Avenue to create Millionaires Row between Forty-sixth and Seventy-second Streets.43

A second factor facilitating the area’s population growth was the city’s investments in streets and avenues in the three wards which one critic of the Park estimated at $150 million over the thirty-year period.44 He offered no source or documentation to support this number, so it is likely to be hyperbolic in order to support his criticisms. Nevertheless, expenditures on this infrastructure were likely to far exceed those on the Park, and their impact on facilitating settlement in the three wards was likely to be greater.

In addition, a system of street cars emerged, along most of the interior avenues from the Battery to the Harlem River, so by 1870, those living in the three wards had relatively good access to the heart of the city in the south of the island.45 Its major role was recognized by the 1884 commission charged with evaluating sites for the Bronx parks. Reflecting on the impact of Central Park, their report stated:

The marked increase in population and enhancement in real estate in the upper part of the Island, and particularly in the Twelfth and Nineteenth Wards, is chiefly attributable to the facilities afforded by the system of rapid transit from the Battery to the Harlem River. 46

Three other factors that arguably should have been addressed when evaluating the Park’s “profitability” were the change in property use from rural acreage to urban development, since the percentage increase in value in that transition is greater than at any other point in a city’s evolution47; costs met by payments from benefit assessments that were omitted from Table 2, since it reported
only “costs to the city”; and annual payments into a sinking fund established to repay the principal amount of the term bonds when they were redeemed which were absent from Table 2.

In the 1884, debate on the proposal to develop six new parks in the Bronx, an opponent of the proposal produced what appears to be the only document challenging the veracity of the Central Park data. He pointed out that Riverside, Morningside, and High Bridge Parks had been developed in the Twelfth Ward between 1869 and 1871, but none of them had stimulated any increase in adjacent property values. Indeed, the evidence suggested they had declined in value. Clearly, these parks were different in character from Central Park, but, nevertheless, the author was perhaps correct in pointing out this lack of increase should arouse suspicion that the Central Park data were “specious.”

An informed commentator, who at the beginning of the twentieth century was Chief Engineer of the Board of Estimate in New York City, recognized the claims were hyperbolic:

The great northward movement in population and improvement [meant] there would undoubtedly have been a marked advance in value even if Central Park had not been bought and improved . . . If we cut the figures in two and conclude that values within these three wards were quadrupled as a result of this improvement [i.e. the Park], it is likely that we would not be far wrong.

However, he offered no data to support this arbitrary estimate, and the analysis in Table 3 suggests it is much too high. In Table 3, the author has attempted an analysis based on what he considers to be reasonable assumptions. It is intended to suggest the magnitude of the hyperbole of the iconic Central Park data. The analysis assumes extraordinarily high premiums, ranging from 50 percent to 20 percent in the park’s zone of impact. These were guided by a recent review of typical premiums based on both distance and park views of residential property. The analysis suggests the Park added $735,146 per year to the city’s tax revenues. This is substantive, but it is far below the Commissioners’ assertion that Central Park created $5.24 million per year for the city. Whatever different reasonable assumptions are substituted for those used in Table 3, they likely will discredit both Commissioners’ claims that (a) the incremental tax revenues created by the park covered the annual interest payments and (b) investment in the park resulted in a substantial “profit” to the city.

It is difficult to believe the elite New York City business, legal, real estate, legislative, and government communities failed to recognize the obvious fallacies in the Commission’s data. The absence of skepticism was even more puzzling a decade later when a commission appointed in 1883 to make recommendations to the state legislature relating to a proposal to develop six new parks in the Bronx, solicited input from a wide range of individuals and organizations. Prominent among the inputs was a letter signed by the Presidents of six major New York City banks:

We have no doubt, that these parks if paid for by the issue and sale of city bonds at thirty years and at the current rate of interest, would not only cost the city nothing, but would enrich its treasury with millions of dollars, with which to meet the cost of other necessary improvements . . .

It would vest in the city the title to 3,800 acres of land, destined to increase in value to a vast sum, without the expenditure of a dollar; and, besides, supply it with the means of carrying on other enterprises needed for the health and welfare of the city. If a house or a syndicate could have this privilege, it is doubtful if any enterprise yet known would produce such profits . . .

These remarks are confined to the financial aspect of the matter, and do not touch upon the question of health, culture, enjoyment, the reputation of the city abroad, the sentiment, and other considerations, which, in truth, dwarf the money question into comparatively small proportions.

Essentially, this was an endorsement of the legitimacy of Central Park’s financial impact data by leaders of the city’s major financial institutions.
Table 3. The Author's Estimate of the Impact of Central Park on Proximate Property Values and the Incremental Resources Accruing to the City.

Assumptions:
- The boundaries of the Benefit Assessment District accurately reflect the area the park impacted. The average range of the boundaries was 2,760 feet (920 yards) from the park.51
- Premiums attainable to the park are 50 percent, 40 percent, 30 percent, and 20 percent on one-quarter of the blocks, respectively, in the Benefit Assessment District, reflecting decaying distances from the park. These are arbitrarily selected. However, they are much higher than typically reported in the literature, reflecting the iconic status of Central Park.

Method:
- An 1869 map showing the wards of Manhattan and the blocks within the Nineteenth, Twenty-second, and Twelfth Wards was used. The number of blocks within 2,760 feet of Central Park was counted and expressed as a percentage of the total number of blocks in each ward.
- The gain in property valuation within each ward from 1856 to 1873 was calculated, using the data in Table 2.
- Premiums of 50 percent, 40 percent, 30 percent and 20 percent were applied to one-quarter of the property value increases in the blocks impacted by the Park.

Results

<table>
<thead>
<tr>
<th>Ward</th>
<th>Number of blocks impacted by the park</th>
<th>Total number of blocks in the ward</th>
<th>Property value gain, 1856–1873</th>
<th>Gain attributable to the park (88/285)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nineteenth Ward</td>
<td>88</td>
<td>265</td>
<td>$102,478,000</td>
<td>$34,030,430</td>
</tr>
<tr>
<td>Twenty-second Ward</td>
<td>104</td>
<td>238</td>
<td>$52,865,505</td>
<td>$23,100,672</td>
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<tr>
<td>Twelfth Ward</td>
<td>249</td>
<td>503</td>
<td>$54,308,302</td>
<td>$26,884,079</td>
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</table>

<table>
<thead>
<tr>
<th>Premiums</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 × $8,507,607</td>
<td>$4,253,804</td>
<td>$8,507,607</td>
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<tr>
<td>0.4 × $8,507,607</td>
<td>$3,403,043</td>
<td>$8,507,607</td>
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<tr>
<td>0.3 × $8,507,607</td>
<td>$2,552,821</td>
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<tr>
<td>0.2 × $8,507,607</td>
<td>$1,701,521</td>
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</tr>
<tr>
<td>Total</td>
<td>$11,911,189</td>
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<table>
<thead>
<tr>
<th>Tax base premium in the Twenty-second Ward</th>
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</thead>
<tbody>
<tr>
<td>Number of blocks impacted by the park</td>
</tr>
<tr>
<td>Total number and blocks in the ward</td>
</tr>
<tr>
<td>Property value gain, 1856–1873</td>
</tr>
<tr>
<td>Gain attributable to the park (104/238)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Premiums</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>0.5 × $5,775,168</td>
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<tr>
<td>0.4 × $5,775,168</td>
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<tr>
<td>0.2 × $5,775,168</td>
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<tr>
<td>Total</td>
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<table>
<thead>
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<th>Tax base premium in the Twelfth Ward</th>
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</thead>
<tbody>
<tr>
<td>Number of blocks impacted by the park</td>
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<tr>
<td>Total number of blocks in the ward</td>
</tr>
<tr>
<td>Property value gain, 1856–1873</td>
</tr>
<tr>
<td>Gain attributable to the park (249/503)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Premiums</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 × $6,721,020</td>
<td>$3,360,510</td>
<td>$6,721,020</td>
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<tr>
<td>0.4 × $6,721,020</td>
<td>$2,688,408</td>
<td>$6,721,020</td>
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<tr>
<td>0.3 × $6,721,020</td>
<td>$2,016,306</td>
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<tr>
<td>0.2 × $6,721,020</td>
<td>$1,344,204</td>
<td>$6,721,020</td>
<td>$1,344,204</td>
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</tr>
<tr>
<td>Total</td>
<td>$9,409,428</td>
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</tbody>
</table>

| Total tax base premiums attributable to the park in the three wards | $29,405,852 |
| 1873 tax rate of $2.50 on this tax base premium yields tax revenue of | $735,146   |

Note. The totals of the Premiums have been bolded.
Further credibility came from a similar letter signed by seventy-eight “of our wealthiest men and largest taxpayers. There may be selected from the list twelve men whose taxes would pay the interest on the bonds to be issued for these parks.” The signatories represented such well-known families as the Astors, Belmonts, Jays, Livingstons, Putnams, and many others. They updated the costs and accrued tax revenues of the Central Park data to 1884. Their update showed costs, including maintenance and interest at 7 percent, for the previous twenty-five years were $43.8 million, while taxes accruing from the adjacent wards were $110 million. They concluded:

These facts speak louder than any words, and the silent argument of these figures must be sufficient to convince the most skeptical... Estimating fifty millions of this as an increase from ordinary causes, there remain sixty millions, leaving a balance to the credit of the city of seventeen millions. The city thus has this magnificent domain for nothing, with the enormous increase of tax income from the district in its neighborhood besides... There is no doubt that 4,000 acres secured now north of the Harlem River when it can be done for a few millions of dollars, would similarly prove a very wise and profitable purchase and save millions to the city.

The endorsements by such credible notables essentially confirmed the veracity of the Central Park data to an uncritical external audience.

The Ripple Effect of the Central Park Data

Central Park was a bellwether project and it played an enormous role in the expansion of municipal parks in the United States in the nineteenth and early twentieth centuries. News of its progress and findings relating to it were disseminated widely through mass circulation magazines, the public lecture circuit, and public visitation and also directly by Fred Olmsted whose influence on parks in the major cities was ubiquitous throughout the 1860s, 1870s, and 1880s.

The Commission’s economic analyses were transformative. They repositioned parks from high cost expenditures that could not be afforded because they were a much lower priority than other critically needed facilities to investments providing a measurable return that generated additional financial resources that could be used to fund these other critically needed public facilities. The conviction that parks were self-financing through increased property values was so pervasive in the collective psyche of decision makers, it became an accepted cliché and was rarely challenged. It was “potent with many of those who control the destinies of America’s communities.”

It remained influential until World War II. For example, in 1868, Olmsted Senior, writing to the future developers of the proposed suburban village of Riverside near Chicago, cited the “vast increase in value of eligible sites for dwellings near public parks.” The mantra was reiterated fifty years later in 1919 by his son who stated: “It has been fully establish that... a local park of suitable size, location, and character, and of which the proper public maintenance is reasonably assured, adds more to the value of the remaining land in the residential area which it serves than the value of land withdrawn to create it.”

To illustrate the influence of the Central Park analyses, this section briefly examines it in nine contexts: Prospect Park, Brooklyn; the creation of six new parks in the Bronx; Golden Gate Park, San Francisco; the Chicago park system; Back Bay Fens, Boston; the Minneapolis park system; the Kansas City Park and Boulevard system; the Buffalo park system; and the Cleveland Metropolitan Park District.

Prospect Park, Brooklyn

In 1860, Brooklyn was a physically and administratively separate city from New York. Indeed, it was the third largest city in the United States. In the mid-nineteenth century, competition was keen
between the cities. Both were vying for new business, commerce, and residents. Prominent Brooklyn residents perceived the substantial influence Central Park was destined to exert and sought to create a park that could rival it.

From the outset, one of their central arguments for a major park was its likely positive impact on upgrading the caliber of residences and the tax base of Brooklyn. In their First Annual Report, the Prospect Park Commissioners articulated their aspiration for capturing premium real estate values created by the park:

The Commissioners entertain the hope that if these improvements are made, the increased taxable value of the real estate lying in the vicinity of these parks, the addition of a very large amount of taxable personal property, which may be expected as incidental to the increase of population, and to the general rise in the value of the real estate of the city, produced by these and the other great improvements now in progress, will not only prevent the withdrawal from taxation of the lands taken from parks from being felt, but will prevent the payment of the interest upon the debt created, and the gradual extinguishment of the debt itself from becoming a burdensome.59

This aspiration was reinforced by Brooklyn’s mayor in his 1860 annual message. He asserted there was every reason to anticipate that the interest in taxable value of adjacent properties would probably “meet the whole cost both for interest and principal long before the latter falls due.”60

This aspiration appeared to quickly come to fruition. Adopting the methodology of Central Park in 1868, the Park Commissioners reported the assessed values of properties in the three wards adjacent to Prospect Park had increased from $20 million in 1864 before plans for it were released, to $27.5 million in 1867 shortly before construction commenced. By attributing all the $7.5 million increase to the park, they concluded:

The additional tax which was raised from this increased valuation for the year 1867 was $280,692, while the annual interest on the whole Park debt as it now stands is $229,219; showing an increased annual revenue to the city from these three wards alone, over and above the annual interest of the Park debt of $51,385.61

Creation of the 1884 Bronx Parks

In 1883, a Commission to Select and Locate Lands for Parks in the Bronx was established to make recommendations to the state legislature. It resulted in the New Parks Act of 1884 which authorized six new urban parks (Van Cortland, Crotona, The Bronx, St. Mary’s, Claremont, and Pelham Bay) totaling 3,622 acres and 188 acres of parkways.

The need for new parks was easily established because the additional park acreage in the thirty years since Central Park was authorized amounted to fewer than 200 acres. During that period, the city’s population increased from 600,000 to 1.5 million.62 Inevitably, opponents expressed concern about the prioritization of parks over other projects, especially water projects. Advocates responded by claiming the Central Park data showed not only the capital costs would be met but also the maintenance costs would be covered and a surplus would remain:

The proposed rural pleasure grounds would aid in furnishing the means and defraying the expense of the costly works required for an increase in our water supply. From the greatly enhanced value of the land, which, as experience in New York and other cities affords conclusive evidence, has invariably attended the creation of parks, the city will derive from year to year an increased income that will materially lighten the expense of necessary public works . . . Past experience demonstrates that the maturity of the bonds, the amount of both principal and interest, and the expense of putting the parks in order and maintaining them, would be more than repaid by the increased tax income, while the city would hold the title, enhanced in value thirty fold, free and clear and without cost.53
The proposal’s supporters also pointed out the frontage for taxable property around Central Park was six miles, while the frontage around the proposed Bronx parks and parkways was almost thirty miles. The greater amount of frontage meant that the revenues accruing to the city from the proximate premium were likely to be much greater than those generated by the Central Park. Consequently, the Bronx Park Commissioners stated unequivocally: “The enlargement of the park areas in the 23rd and 24th Wards, does not submit of a doubt . . . As a mere financial speculation for the city, as a means of enabling it to meet other and necessary expenditures, there should be no hesitation in regard to the proposed extension of our park area.” Again, the allusion is that a surplus would be available “to meet other and necessary expenditures.” Advocates recognized the social benefits of the parks, but they stressed the benefits of the parks to the tax base rather than to people.

Golden Gate Park, San Francisco

When San Francisco first considered the possibility of creating public parks, Olmsted was residing on the West Coast. He sent a long letter in 1865 to the San Francisco Daily Evening Bulletin in which he urged the city to put aside concerns about cost. Citing the Central Park analysis, he wrote:

[No longer] do the tax-payers now present opposition. The simple reason for this change in their sentiments is the effect which has been produced by the construction of the Central Park upon the value of property, not alone in its vicinity, but for great distances on all sides of it. It has been officially stated that the increase in the value of taxable property, caused by the park, has already more than compensated for its enormous cost.

The rise in the value of 3,000 lots fronting on the park during a period of five years is stated to have been at an average rate of 1,000 percent, and this vast increase cannot be perceived to be at the expense of any other park of the city. On the contrary, the impulse caused by the park extended to all real estate in and near the city.

This rationale was a key factor in the decision to create Golden Gate Park from “The Outer Lands,” which was an area of dunes whose ownership was both disputed and in multiple hands. To create the park, the city persuaded all the owners to donate 10 percent of their land to the city, asserting they would realize substantial profits through the development of their remaining lands if a park was constructed. They all agreed and this mechanism provided the 1,013 acres on which the park was created. Several of the Outside Land homesteaders indicated that the prospect of increased real estate values persuaded them to reach a settlement with the city.

In their Second Biennial Report, the Commissioners stated: “It has been thoroughly proved in all other cities where public parks have been made that the increase in the amount received from taxation on the enhanced value of property resulting from Park improvements is largely in excess of the interest on the money expended.” Later in the same report, the project’s landscape architect spent three pages of his report summarizing the Central Park and Prospect Park property impact data.

In San Francisco, the Real Estate Circular was the monthly magazine of the real estate community. Initially, it opposed the investment of city resources into developing Golden Gate Park, referring to it pejoratively as “our Great Sand Park,” but it gradually changed position. By July 1968 the Circular was approvingly regurgitating the Central Park data, and in 1873 informed its readers that Central Park, “before it was half finished . . . had paid for itself in the enhancement, ten times over, of real estate values” and advocated for more rapid improvement and investment in the park.

When the San Francisco Parks Commission envisaged new green spaces south of Market Street, connected to Golden Gate and to the other parks by parkways and several tree-lined boulevards, they contended without citing any data:
The increased value of the land surrounding Golden Gate Park has paid for this reservation tenfold; and the same results would accrue in the event of a park system being adopted and carried out for the southern portion of the city... Improved parks encourage better building, and in consequence more revenue to the city; besides a more healthful people and a decreased death rate.\textsuperscript{72}

**The Chicago Park System**

At the outset of the Civil War in 1860, parks in Chicago comprised the eighteen-acre Union Park and “Forty odd parcels of designated parkland scattered through the North, South and West Divisions that were hardly more than ill-shaped vacant lots transferred to the city by developers as they opened their subdivisions.”\textsuperscript{73} The primary advocates for creating a major system of parks were real estate developers who were familiar with the Central Park analysis and saw the profit potential it offered. Their opponents argued such parks would raise the purchase price of real estate. Even the Chicago Tribune warned against “Withdrawing capital from its legitimate and useful channels to be locked up in park fronts.”\textsuperscript{74}

In response, the real estate community sponsored an anonymously authored booklet whose publication was timed to influence legislative action on a bill proposing major parks in Chicago that was debated in January, 1869. The bill was subsequently passed in February. The booklet regurgitated the Central Park data and concluded:

It had hardly been staked out before the hoped-for rise in the value of the surrounding lots began, and today that rise has reached a point beyond the wildest expectations. And, of course, this rise has not affected the immediately surrounding lots alone. The whole upper half of the island has felt the imports.\textsuperscript{75}

The three park divisions had separate commissions and operated independently, but the overall goal was to create a unified ribbon of green that would encircle Chicago. Three parks were established in the West district. These became Humboldt (200 acres), Garfield (185 acres), and Douglas (180 acres). In the North district, Lincoln Park which had been acquired as part of the city cemetery in 1861, was expanded from 60 acres to 250 acres. The South Park Commission hired Olmsted to lay out Washington (372 acres) and Jackson (500 acres) Parks, and the one-mile long, 220-yard wide, Midway Plaisance (known as the Midway).

The lobbying of the real estate community was complemented by a seminal treatise on the benefits of parks written by Dr. John Rauch at the request of the Chicago Academy of sciences.\textsuperscript{76} Rauch was a member of the Chicago Board of Health and a President of the Illinois State Board of Health. While his monograph focused on the moral, physical, and sanitary benefits that a park system would bring to Chicago residents, he approvingly regurgitated the impacts of Central and Prospect Parks on property values.

**Boston Back Bay Fens Park**

In 1874, a Commission was appointed by the mayor to report on “Actions to be taken to secure public parks within the city limits.”\textsuperscript{77} It reported in 1876 and confidently proclaimed that expenditures on the park would be “well invested and quickly returned by betterments and by the increase in value of all lands of surrounding properties.”\textsuperscript{78} They were strongly influenced in this assertion by the Central Park data. An account of the Park’s history published in 1900 stated:

The citizens of Boston had examples before them, in the parks of neighboring American cities, which assured them that, while the cost of necessary open spaces would be great, the returns in taxes from the
enhanced value of real estate in the vicinity of the new parks, as well as the income from betterments, would ensure them a strong financial support.\textsuperscript{79}

In 1878, Olmsted began advising the Boston Park Commissioners, and in that year offered a plan for the Back Bay Fens Park. The Commissioners compared the assessed value of land around the 106 acres in 1878 before the plan was released of $11.1 million, with their $18.8 million value in 1881 after work on the park commenced but before it was completed. They declared the increase of 69 percent in value yielded additional revenue to the city of $122,500, “which justifies the opinion hereto expressed by the board that the park is not a tax upon the city at large but that the increased taxes from the surrounding properties pay its cost. This increased valuation is upon land alone and does not include the buildings.”\textsuperscript{80}

The Minneapolis Park System

In 1883, the business community in Minneapolis passed a resolution urging the city council to create a parks board that would “give Minneapolis the finest and most beautiful system of Public Parks and Boulevards of any city in America . . . [which will] add many millions to the real estate value of our city.”\textsuperscript{81} It engaged H.W.S. Cleveland to develop a master plan. Cleveland was a peer of Olmsted and had a deep and lasting friendship with him. Hence, it was not surprising the Central Park analysis was prominent in his first address in 1883 to the recently formed Minneapolis Parks Commission. He warned that their intent to build a substantial park system was sure to meet with opposition:

Owing to a natural misconception in the minds of inexperienced persons who imagine that such improvements must necessarily involve the immediate outlay of very large sums of money. The absurdity of this argument has been sufficiently proved by the repeated experiences of other cities, in this country as well as Europe, in which the results have invariably demonstrated that merely on the ground of pecuniary considerations, a judicious expenditure for such objects is always a wise safe investment.\textsuperscript{82}

He reiterated the Central Park analysis to illustrate that the argument was “absurd.” This theme was periodically resurrected by the Parks Commission to ensure that the city’s elected officials, taxpayers, and media remained aware of it. For example, in the Board’s 1925 Annual Report, they did not cite the source of their data but observed:

The people of our city are, as a majority, not aware of the fact that from the viewpoint of monetary interest alone, the park system has cost the city nothing, because increased property values produced on account of the park system are several times the amount of the total investment of $15,240,000 made during the Board’s administration of forty-two years.\textsuperscript{83}

Writing in 1946, the long-time Superintendent of the Minneapolis Parks Board stated unequivocally (again without citing the analysis): “The real estate values promoted through the establishment of all of our parks and playgrounds, and, in later years the playground and recreational system, have returned to the city’s commonwealth not only the entire costs involved, but a handsome interest as well.”\textsuperscript{84}

The Kansas City Parks and Boulevards Park System

In the first report of the Kansas City Board of Park and Boulevard Commissioners in 1893, the Commissioners acknowledged “The great advantage of competent advice and guidance received from consulting with the Olmsted firm.”\textsuperscript{85} Thus, it was not surprising that multiple pages of the report were devoted to reiterating the Central and Prospect Park data. In addition, the purported
impact on property values of Boston’s Back Bay Park and the Buffalo Park system supplied by the Commissioners of those park systems was cited. Olmsted was centrally involved in all these projects. After presenting these data, the Commissioners concluded:

The foregoing clearly proves that park and boulevard construction takes high rank as an investment. The increased value of lands and the erection of buildings of a high class and of a more expensive character along the boulevards and in the vicinity of parks will bring about a very decided increase in taxable values, and thereby a greater revenue derived by the city.\textsuperscript{86}

The Commission planned to change the city’s planning \textit{modus operandi} and make parks and boulevards the central focus around which new growth in Kansas City would revolve. A master plan was developed around this guiding principle and it was implemented over the next twenty years. In 1912, the City’s Park Superintendent stated:

Any wide-awake city can establish its park system without one cent of general indebtedness to the city. In other words, the enhancement in values of benefited lands will be more than sufficient to pay the cost of the acquisition and improvement of the park system. This will impress you as being a too optimistic view, yet in our own city it is a fact recognized and not disputed with reference to boulevards, and to a somewhat lesser degree with reference to parks and parkways... In Kansas City, at least, the effect of park and boulevard improvements has been the enhancement of land values far in excess of the whole cost of the acquisitions and improvements of the park system... Wherever this work has been properly executed and maintained, it should be considered an investment and not a tax.\textsuperscript{87}

\textbf{The Buffalo Park System}

In Buffalo, two claims that buttressed the Central Park analysis were made but neither offered any details of the analysis they used (if any) to arrive at their conclusions. In 1884, the Superintendent of Buffalo Parks reported: “The increase in the Seventh, Eleventh, and Twelfth Wards in which the parks are situated is 370 percent, while the increase in all the other wards combined is about 260 percent, and this notwithstanding the great influence of the railroads in the First, Third, Fourth and Fifth Wards.”\textsuperscript{88} The Olmsted firm planned the Buffalo Park system. Olmsted recalled:

The mayor of Buffalo in 1885 addressing the city council on “the main Park of Buffalo” noted that there had been “determined opposition which succeeded in reducing the area originally to be taken—a misfortune since deeply regretted even by those to whom it was due... In looking back over the period since the establishment of the park scheme, the retrospect cannot fail to be exceedingly gratifying. The cost of the park has been in large measure compensated by taxes receivable from increased valuation of adjacent property.”\textsuperscript{89}

\textbf{The Cleveland Metropolitan Park System}

William Stinchcomb was the “father” of the impressive system developed by the Cleveland Metropolitan Park District in Ohio, serving as its director from 1915 to 1954. In the early years of his tenure, he consistently espoused the Central Park economic principle in his effective advocacy for park funds. For example, in 1920, he told a reporter: “The $200,000 we can get from the levy will enable us to buy. Then the adjacent land will rise in value and this will be reflected in the tax duplicate and hence yield more taxes. Thus, in a sort of circle, the improvement pays for itself.”\textsuperscript{90}
Concluding Comments

The question posed by the Central Park analysis is: What were the motives of those who initially nurtured it and others who subsequently embraced it? It seems untenable that knowledgeable, influential financial and business leaders in so many communities would unquestionably embrace such a flawed analysis. A more tenable explanation is that the numbers created a convenient narrative that supported the agendas of all stakeholders supportive of creating large urban parks, and it was not in any of their interests to expose these fallacies. There appear to be three primary motives for embracing the analyses. It seems likely that each of them played a role in accepting them: financial self-interest by members of a city’s “growth machine,” political goals of key decision makers, and social goals of progressive sanitation and park advocates.

In 1976, Molotch argued that momentum for large city-funded projects usually springs from a coalition of those who will directly profit from them which he termed, “the growth machine.”91 The coalition tends to be relatively wealthy, well-organized, and politically influential. It is likely to comprise landowners, real estate developers, lawyers, investors, engineers, mortgage bankers, realtors, construction contractors, cement suppliers, sand and gravel companies, building suppliers, media outlets, architects, and landscape architects. Their self-interest intent is to advocate for government projects paid for by the public at large that will enhance the value of their projects, so benefits accrue to the few while costs are dispersed to the many. Although he was writing in a different era, Molotch’s perspective appears credible when applied to the urban park context of a century earlier.

Another strategy that furthers such a coalition’s goal is to deliberately underestimate the costs of a public project. In 1852, the Special Committee on Parks was established to evaluate the relative merits of Jones Wood and Central Park as the site for a large urban park. The two authors of its report appear to have been potential members of the growth machine, since they were representatives of the business community and the wealthiest residential ward.92 The report stated the highest estimate of the cost of acquiring the land for Central Park was $1.172 million.93 When purchase of the land by eminent domain was completed in 1856, the cost was $5.069 million (X)—433 percent higher.

An analysis of 258 large infrastructure projects constructed in multiple countries in the last half of the twentieth century concluded: “Cost overruns of 50 percent to 100 percent in real terms are common for large infrastructure projects, and overruns above 100 percent are not uncommon.”94 The authors suggested that delusion and deceptive cost estimates were necessary, since if the true costs were known beforehand projects would not get started: “‘Cost under-estimation and overrun of this magnitude cannot be explained by error and seem to be best explained by strategic misrepresentation, namely lying, with a view to getting projects started.’”95

Since such large errors are commonplace today, then given the limited tools available to the 1852 Select Committee it was inevitable large errors would occur. There is no direct evidence that mendacious motives contributed to explaining an error of 433 percent, but the magnitude of the error suggests such an explanation should perhaps be considered. Indeed, an 1861 editorial commented: “It is an old story of park making and every other sort of grand undertaking . . . the ultimate expense is always ten times the original estimate. It is the regular order of things.”96

Elected officials often are entwined with the “growth machine” and sympathetic to its agenda, so they are comfortable with accepting and perpetuating the prevailing narrative. Some were drawn from the coalition’s ranks and saw opportunities for personal financial gain by enhancing their properties, which was clearly apparent in the debate over Jones Wood or the Central Park site97 or, more audaciously, from bribes98; for others, the coalition may have financially supported their elections, so opposition may have endangered their personal political aspirations; some perhaps saw opportunities in constructing the Park for “buying votes” by providing patronage jobs99; while others may have believed that financing a prestigious, high visibility project was tangible evidence they
could offer to voters that the community was “moving forward” and was a manifestation of their leadership ability; and most were likely to view the narrative as a solution to the conundrum of taxpayers wanting better city facilities and services, but not wanting to pay for them with higher taxes.

Beyond these personal motives, the Central Park Commissioners and those who appointed them successfully secured general taxation to fund the Park by assuring taxpayers that incremental tax revenues attributable to it would cover its construction costs. Hence, they had every incentive to present numbers that purported to confirm that assurance. Presumably, elected officials and business leaders in every other city who reassured taxpayers that parks could be built at no net cost subsequently felt obliged to use the Central Park methodology to confirm their claim.

Among social and sanitation reformers the Central Park economic analyses provided a convenient response to the argument that parks were nice to have but could not be afforded and invariably were prioritized below economic gains. The sanitation reformers believed the squalor and filth which characterized prevailing living conditions in cities created miasmas (noxious gases) that were the source of all diseases. Urban parks were perceived to provide oxygenized oases that offered protection against miasmas and the illness, contagion and epidemics for which they were responsible.100

For social reformers, parks were not construed as benign plots of land. Rather, they were socially constructed to have a range of functions and meanings.101 Most prominently they were perceived to facilitate social control by ameliorating the problem of discontent among the urban masses, encouraging social tranquility, improving civility, alleviating crime, and providing moral uplift; muting class conflicts and encouraging social cohesion by facilitating democratic equality and social integration; and nurturing education, cultural enlightenment, and self-improving forms of leisure rather than the popular activities of gambling, drinking, and cockfighting.

What was Olmsted’s stance on the issue? It seems improbable he did not see the flaw in the analyses. Nevertheless, it was noted earlier that he frequently cited the Central Park data in his advocacy for parks in other cities. It seems likely he justified this strategy as a legitimate tool for achieving the substantial sanitary and social benefits he believed parks provided. Throughout his career, he articulated public health as a prominent rationale for parks arguing they were “outlets for foul air and inlets for pure air.” He lost his first child to cholera infantum and firmly believed the cause was “miasmatic contagion.”102 He stated, “modern science has beyond all question determined many of the causes of the special evils by which men are afflicted in towns” and primary among these was air that “carries in to the lungs highly corrupt and irritating matters, the action of which tends strongly to vitiate all our sources of vigor.”103 He spoke of “the two great natural agents of disinfection, sunshine and fall foliage”104 and explained how parks and tree-lined boulevards performed their cleansing role:

Air is disinfected by sunlight and foliage. Foliage also acts mechanically to purify the air by screening it. Opportunity and inducement to escape at frequent intervals from the confined and vitiated air of the commercial quarter, and to supply the lungs with air screened and purified by trees and recently acted upon by sunlight . . . if these could be supplied economically, our problem [ill-health] would be solved.105

He thought the pastoral tranquility of urban parks had therapeutic value in offering escape from the city’s squalor and from its tensions—“excessive nervous tension, over-anxiety, hasty disposition, impatience, irritability.”106; he anticipated it could impose a calming on the “rough element of the city,”107 and he spoke of the “communicativeness” parks facilitated among all urban classes.108

So, did the end justify the means? Many would respond “yes” by echoing the observation of the authors of the definitive work on Central Park: “The influence of Central Park spans the country. Thousands of municipal parks are [its] direct descendants.”109
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