



# **SLOW BUILD**

Creating a More Cost-Efficient Capital Construction Process  
for Cultural Organizations and Libraries in New York City

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This report is a collaboration between the Center for an Urban Future (CUF) and the Citizens Budget Commission (CBC). The report was primarily researched, written, and edited by the Center for an Urban Future. Maria Doulis of the Citizens Budget Commission conducted an extensive data analysis and contributed substantially to the writing of the report.

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# SLOW BUILD

**After more than a decade of skyrocketing attendance, many of New York City's branch libraries, museums, and performing arts institutions are bursting at the seams.** The average library is over 60 years old, and many are either too small to adequately serve the rising number of patrons, poorly designed for the way people are using libraries today, or in need of basic repairs just to keep their doors open. Meanwhile, dozens of the city's cultural institutions—many of which were built more than 50 years ago—could also benefit from a make-over or an expansion to accommodate the hordes of new visitors driven by record population growth and an unprecedented boom in tourism.

But while tackling the infrastructure needs of New York's museums, performance spaces, and libraries necessitates a new level of financial support from city government in the years ahead, it will also require fundamental changes to the city's maddeningly time-consuming and unnecessarily expensive capital construction process for nonprofit institutions.

As this report details, infrastructure projects for libraries and cultural institutions managed by the Department of Design and Construction (DDC), the city's chief capital construction agency, take much longer to complete and cost significantly more than similar capital projects that are managed by the institutions themselves or overseen by other governmental agencies.

Our report features an analysis conducted by the Citizens Budget Commission (CBC) of 144 DDC-managed capital projects at cultural institutions and libraries from fiscal years 2010 to 2014. The findings are troubling. The median capital project in our analysis took more than four years to complete, and 17 lasted for more than seven years. Meanwhile, the median cost for new buildings in our sample was a staggering \$930 per square foot—roughly double the cost of new office space in the city.

Beyond the data, we conducted dozens of interviews with top officials at cultural institutions and libraries, as well as architects, private construction managers, engineers, and even officials at DDC. These conversations depict a city nonprofit capital design and construction process that is badly in need of reform.

One result of this broken system is a squandering of the extremely limited capital dollars that go to library and cultural projects. Other consequences take a more personal toll on libraries and cultural organizations, and the communities that depend on them. Museums are forced to postpone the opening of long-planned exhibitions, libraries remain closed for years longer than expected, performance halls lose revenue for every day they can't put on a show, and organizational budgets end up in the red due to higher-than-expected capital costs.

**In recent years, the Center for an Urban Future** (CUF) has published several studies documenting the growing importance of the city's libraries and cultural organizations. Our *Branches of Opportunity* report showed that patronage at the city's branch libraries skyrocketed over the past decade, in large part because libraries have become the go-to places to learn the essential literacy, language, and technology skills needed to get ahead today. Our *Creative New York* study found that the nonprofit arts and for-profit creative industries were among the fastest growing segments of the city's economy over the past decade.

In this new report, we set out to examine a key challenge facing both libraries and the nonprofit arts sector: the capital construction process for nonprofit organizations. The report, which was made possible thanks to generous support from the Charles H. Revson Foundation, provides the most complete picture to date of city-managed capital construction projects for libraries and cultural organizations.

CUF teamed up with the Citizens Budget Commission to analyze timelines and cost breakdowns for 144 library and cultural capital projects completed between fiscal years 2010 and 2014. These projects constitute approximately one-quarter of all library and cultural projects completed during the Bloomberg administration, and all of the DDC-managed library and cultural projects completed during these five years.<sup>1</sup> In addition to the data analysis, we conducted dozens of interviews with leaders at cultural institutions and libraries, architects, contractors, employees at city agencies, and budget experts. These conversations helped us identify the main challenges and chokepoints that plague capital projects at libraries and cultural institutions alike.

Both the interviews and financial analysis brought us to the same conclusion: city-managed capital projects for nonprofit organizations take way too long and cost significantly more than they should.

To begin with, the projects we analyzed took staggeringly long to finish. The median project took 1,550 days—more than four years—to complete. However, 36 percent of the projects took more than five years, and several lasted more than a decade. The durations are especially shocking given that most projects

were relatively small and involved the replacement or renovation of isolated building components such as mechanical equipment, facades, and roofs.<sup>2</sup>

Of all the library and cultural capital projects we analyzed, the ones that involved new construction took the longest to complete—nearly seven years, or 2,467 days. But fairly routine maintenance projects also take years to finish. When broken down by project type, the median mechanical system upgrade—a category that includes the replacement and installation of fire alarms, boilers, and heating/cooling systems—took 1,573 days (4.3 years) until completion.

As one example of how seemingly simple projects can get bogged down in different stages of the process, a group of fire-safety projects at the New York Public Library (NYPL) took only three months to build and install but spent 1,499 days in the planning and approval phases before construction could even begin. One relatively small parapet reconstruction project at the Brownsville branch of the Brooklyn Public Library (BPL) got so bogged down by the many layers of approval—not just at the Office of Management and Budget (OMB) but at the Fire Department, Department of Buildings, and the Public Design Commission—that it took 1,453 days before construction started, and spanned 2,022 days (over 5.5 years) from the time the project file was opened at DDC until it was deemed substantially complete.<sup>3</sup>

Likewise, construction costs were extremely high. Relying on DDC's cost estimates, the median cost of construction for the new library and cultural buildings in our sample was an astronomical \$930 per square foot.

This is strikingly high, even in a city with the highest construction costs in the nation. Indeed, construction costs for speculative office buildings in New York City range from \$425 to \$500 per square foot, according to a March 2016 analysis by the New York Building Congress. Even the most expensive private sector projects generally cost significantly less than DDC-managed library and cultural projects. For example, the cost of hospital construction—the most expensive category surveyed—averaged \$800 to \$1,000 per square foot. University buildings came in at \$600 to \$900 per square foot, and five-star hotels at \$700 to \$800 per

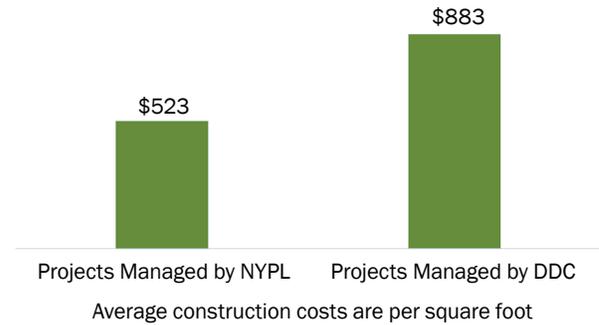
square foot.<sup>4</sup>

Many library and cultural construction projects in the city far exceed the \$930 per square foot median cost of construction. Indeed, after filtering out the minor or highly specific capital projects included in our new construction and renovation categories, we found 12 major projects—out of 28 total—that cost more than \$1,000 per square foot. That includes the Kingsbridge Library, completed in 2011, which cost \$1,117 per square foot, and the Weeksville Heritage Center, completed in 2013, which cost \$1,398 per square foot.

These costs also vastly exceed the prices per square foot that libraries and cultural institutions report paying for projects that they manage themselves. For example, of the six new NYPL branches completed since 2005, the average cost of construction for self-managed projects was approximately \$523 per square foot, versus \$883 per square foot for the DDC-managed projects—a 69 percent premium. When design costs are factored in, the cost difference balloons to 88 percent.<sup>6</sup> (In a handful of instances, known as “pass throughs,” libraries and other large nonprofits receive permission from the city to manage projects themselves.)

The frequent delays and cost overruns are painful for

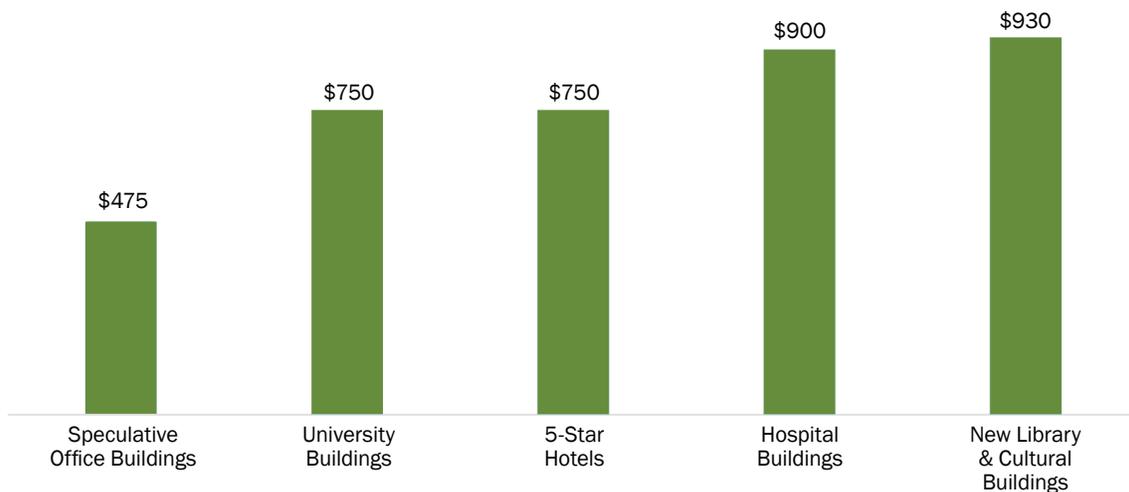
### Comparing Construction Costs: New Library Branches Built for NYPL Since 2005



Source: New York Public Library. Data measures DDC-managed and library-managed capital projects completed between 2005 and 2016.

the client institutions and the communities they serve. For example, a roof repair and Americans with Disabilities Act compliance project at the Park Slope library kept the branch closed for more than three years. As the initial project dragged on, library officials attempted to take advantage of the prolonged closure to revamp and refresh the building’s interior. However, the proposed changes triggered a cascade of new approvals, rejections, and alterations from DDC and OMB, further elongating the timeline. During the years that the

### Comparing Construction Costs: New Library & Cultural Projects vs Private-Sector Development Projects (Per Square Foot)



Source: New York Building Congress; CUF/CBC analysis of DDC project documents. In our sample of new library and cultural projects, the median construction cost was \$930 per square foot.<sup>5</sup>

## THE LONG, SLOW ROAD OF CAPITAL CONSTRUCTION

Although virtually all capital projects for libraries and cultural organizations have encountered delays and cost overruns, a handful of particularly protracted examples stand out:

### **Mariner's Harbor Library**

The development of New York Public Library's Mariner's Harbor branch on Staten Island was initiated at the end of 2005 but wasn't completed until nearly eight years later. Although it is just a one-story, 10,000-square-foot building, the project spent more than three-and-a-half years under construction, experiencing more than a year's worth of construction-related delays in the process. In addition, agency reviews and approvals delayed the project by 287 days, and DDC self-reported further delays totaling 274 days. The cost of the project increased 133 percent from start to finish.

### **Kingsbridge Library**

The project to build a new library on Kingsbridge Road in the Bronx began in 2002 and was completed more than nine years later. Construction cost \$1,117 per square foot, or more than double the average cost of NYPL's self-managed projects. The branch spent nearly four-and-a-half years in the design phase and nearly three years under construction, in addition to a delay of more than a year between design and construction.

### **Queens Museum**

The Queens Museum's most recent renovation and expansion began in 2005 and was completed in 2013 after spending more than four years under construction. The laborious process, which entailed closing for five months in 2013, more than doubled the museum's exhibition space at a cost of nearly \$70 million. Despite the lengthy construction process, the project spent even more time undergoing design scoping, review, and approvals. The design phase lasted nearly two-and-a-half years, with an additional 600-day lag before construction began.

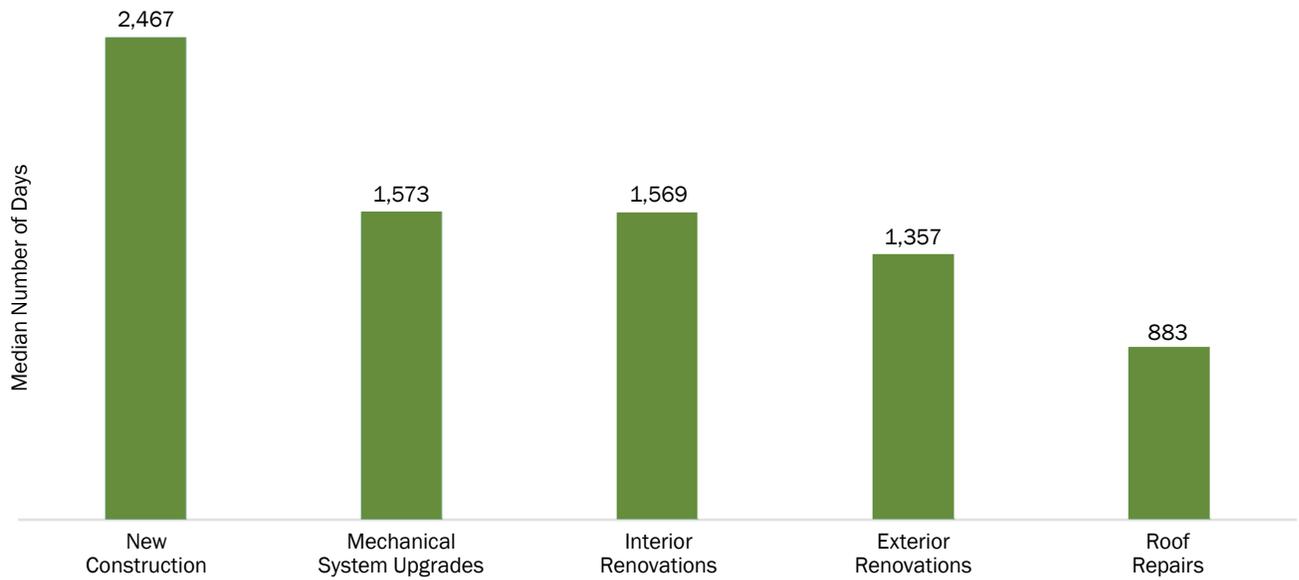
### **Weeksville Heritage Center**

The development of the Weeksville Heritage Center in Brooklyn began in 2004 but it did not open to the public until December 2013, more than nine years later. Completed at a cost of nearly \$35 million, the Center's new two-story building cost approximately \$1,398 per square foot—one of the most expensive in our study. After a delay between design and groundbreaking of nearly two years, construction took an additional four years.

### **Queens Theatre in the Park**

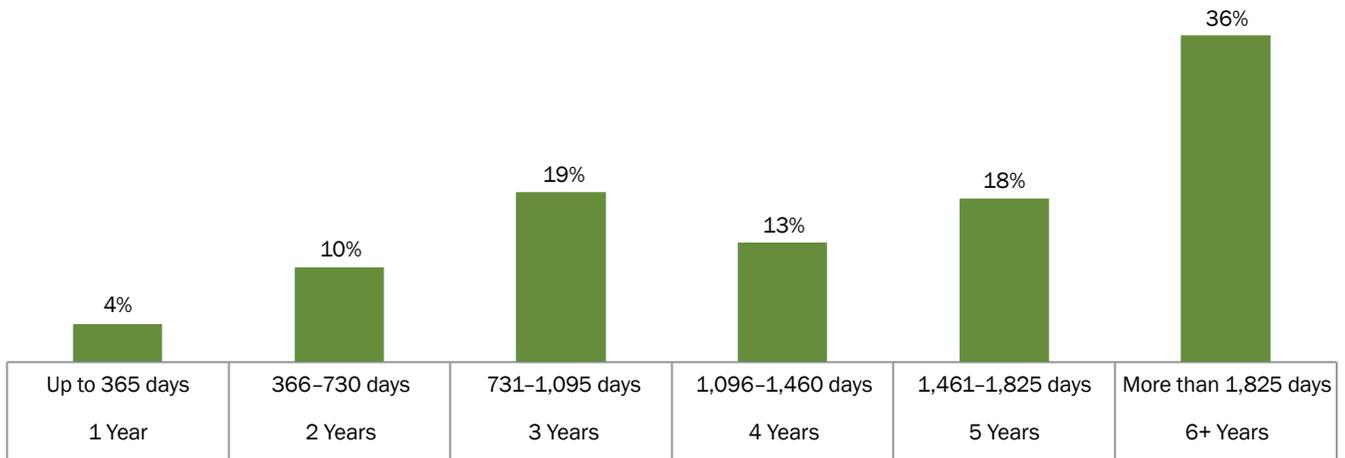
A major new construction and renovation project for Queens Theatre in the Park took more than 11 years to complete from awarding the commission to closing out the invoices. Significant changes in the scope of the project, along with an arduous approvals process, resulted in many months-long delays and dozens of meetings with city agencies. These delays can sometimes lead to unintended consequences. At one point, unfinished portions of the new building were damaged by debris from an adjacent structure and had to be rebuilt.

## Duration of DDC-Managed Capital Projects for Libraries & Cultural Institutions



Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future.

## Duration of DDC-Managed Capital Projects for Libraries & Cultural Institutions (by share of total)



Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future.

12,500-square-foot library was closed for repairs, the entire 675,000-square-foot Barclays Center was built.

“At the end of the day, our patrons suffer,” says one public library official. “When a branch does have to close for construction, the duration is longer than it should be. We have rooms offline, we have systems that don’t work. If our librarians are worried about the boiler or the HVAC, it all impacts how we run our business.”

The delays and high costs stem in large part from inefficient systems and processes at DDC and OMB, the agencies that are most involved in overseeing capital projects for libraries and cultural organizations. However, another major factor is the piecemeal way that many capital projects for libraries and cultural groups are funded—a process in which scope changes are common. In addition, there are several system-wide issues that contribute to major inefficiencies, including laws that both mandate a low-bid procurement system and prevent city projects from adopting a design-build process.

Overall, we were able to identify seven major drivers of delays and costs in city-managed capital projects for nonprofits:

*The complex and time-consuming approvals process can take years before construction even begins.* The three stages of the capital process that precede construction—pre-design, design, and post-design—involve an arduous multiagency review process and many stages of project scoping and cost estimating. Projects can spend months in limbo while DDC, OMB, and other agencies make determinations on scope changes, design elements, and capital eligibility, such as whether a light switch is eligible for capital funds in an electrical system upgrade.

*The average project spends nearly a year waiting for approval of Certificates to Proceed.* Although DDC manages the capital process for nonprofits, OMB reviews every amendment to the project. Among the projects we analyzed, it took 62 days on average for OMB to approve each amendment. For the average project, these approvals added up to 328 days.

*Little accountability for the efficient and cost-effective delivery of capital projects.* DDC and OMB do not

track timelines and costs in a systematic way and do not keep project managers accountable to pre-established targets. Layers of review designed to protect public dollars can have the unintended consequence of contributing to delays and driving up costs.

*Lack of coordination among oversight agencies.* DDC, OMB, and other agencies such as the Department of Buildings, the Fire Department, and Public Design Commission too often work at cross purposes, stymieing effective project management at all phases of design and construction.

*Ineffective budgeting and capital planning processes and major changes in scope.* The city’s discretionary funding process, which allows individual elected officials to fund projects in their districts independently, makes it difficult for OMB and DDC to create a predictable pipeline of capital-eligible projects. Scope changes are fairly common, with many libraries and cultural organizations raising additional funds for dramatically expanded projects after the design phase has begun. Each new financial infusion and scope change leads to new rounds of agency review.

*Insufficient management experience at nonprofit client organizations.* Many small cultural nonprofits lack experience working with city capital dollars and struggle to meet the extensive legal requirements that come attached.

*Outdated and costly procurement processes.* State procurement law, which generally requires DDC to hire the lowest bidder without room to compare the quality of contractors or the overall value of bids, introduces inefficiencies and misaligned incentives into the contracting process and leads to project management conflicts.

To be sure, across the spectrum of public projects funded and managed by city agencies, library and cultural projects are among the most complex. Major underlying factors that affect cost and complexity include a mix of public and private funding sources and ownership structures, some of which trigger additional state and federal capital finance rules, as well as needs that do not allow for a cookie-cutter approach to design and construction. The result is that libraries and cultural institutions are hit particularly hard

by the burdens that accompany city-funded capital projects.

It's worth noting that DDC has made a lot of progress over the past decade in the design and overall quality of the construction projects it manages. Dozens of buildings, from firehouses and libraries to theaters and museums, have won recognition from prominent critics and organizations; the Design and Construction Excellence program has even streamlined rules to make it easier for talented architects to contribute to public buildings. Moreover, this study found no evidence that these investments in quality design have contributed to long delays and cost overruns.

This report solely analyzed data from DDC-managed capital projects that were substantially completed prior to the administration of Mayor Bill de Blasio, and there are signs that the current administration is making progress. Under the leadership of Commissioner Feniosky Peña-Mora, DDC has focused more attention on improving project delivery. DDC's 2017 State of the Agency report cites a number of achievements, including a 22 percent reduction in project approval durations from OMB and an initiative to schedule bids for release within two weeks of approval by DDC's Law Division.<sup>7</sup>

DDC's commitment under the current administration to improving its processes is immensely encouraging, but it's also clear that these improvements only begin to address the sources of cost escalation and delay in their oversight of capital construction projects at libraries and cultural institutions, many of which stem from citywide oversight rules—particularly those enforced by OMB—and inefficient procurement practices that are mandated by state law.

The de Blasio administration cooperated fully with us on this study, granting access to project managers and other personnel at a variety of city agencies and offices. In addition, our data analysis was reviewed by DDC officials with expertise in project management and budgeting. Although the majority of city and nonprofit employees interviewed for this report chose to speak anonymously to avoid offending other agencies and organizations, most were candid in their assessments of the city's capital funding and management

system. Together, these interviews describe a system that presents obstacles throughout the entire process, from approving the initial design brief through cutting the final check. In the words of one nonprofit executive with extensive capital construction experience, “The biggest [cost] escalator in a construction project is delay—and the city system is built to delay.”

At a time when the city appears to be heading into a period of diminishing tax revenues and reduced federal funding, it will be more important than ever for New York policymakers to ensure that the city's capital funds are stretched as far as possible. That hasn't been the case with respect to the city's capital programs for libraries and cultural organizations. But the good news is that there is no shortage of promising ideas to improve this deeply flawed system.

In the final chapter of this report, we set forth 12 achievable recommendations for creating a more cost-efficient—and more effective—capital construction process for cultural organizations and libraries. Our recommendations include:

- Create a task force to review and reform the capital construction process.
- Start systematically tracking capital project costs and timelines.
- Streamline project approval practices and reduce redundancies between OMB and DDC.
- Simplify the design review process at DDC.
- Strengthen DDC's data analytics team to inform smarter decision-making.
- Institute a process for nonprofits to prequalify for discretionary capital funds.
- Establish dependable funding for capital construction projects, including routine state-of-good-repair investments.
- Standardize and disseminate capital eligibility rules and requirements.
- Allow appropriate capital projects to be contracted through a design-build process.
- Expand the use of self-managed projects.
- Improve contracting by assessing value rather than defaulting to the lowest bid.
- Create a “Director of Libraries” inside City Hall.

# TIME AND COSTS

**Capital construction tends to take too long and cost too much. Here’s how the time and money is spent.**

## Lost Time: Slowdowns in Every Phase

The capital construction process for libraries and cultural organizations is slow from start to finish. Of the 144 projects we analyzed, 73 percent took more than 1,000 days to complete and 17 lasted for more than seven years. These projects get tripped up every step of the way, from initial design scoping to issuing final payments to contractors. A dive into the data can shed light on the nature of these delays.

In our analysis, project timelines were divided into the following four distinct phases:

1. A pre-design phase, in which DDC and OMB work together with the client institution to evaluate initial project scopes and cost estimates and their eligibility for city capital funds, among other factors.
2. A design phase, in which DDC and the client work with contracted architects and engineers to produce detailed designs and construction documents.
3. A post-design phase, in which DDC drafts a bid

package for contractors, publishes it in the City Record, and evaluates bids by general contractors.

4. A construction phase, in which the contractors, architects, and project managers at DDC erect or renovate a building or building component.

In 86 percent of projects, most of the time investment is spent in the three phases prior to construction. Phase 1 lasts 323 days for the median project; Phase 2, 397 days; Phase 3, 374 days; and Phase 4, 367 days. The two lag periods in the pre-construction phase are unique to public projects and involve a detailed legal review to make sure that all projects are eligible for city capital dollars and that all RFPs and contracts obey the extensive city and state procurement laws. Still, these important oversight requirements fail to fully explain the extraordinarily long durations for these two phases, which together come to 720 days or just under two years for the median project.

As further explored in the “Challenges and

Comparing the Phases of Capital Construction Projects				
	Number of Projects	Average Lag, Project Start to Design Phase	Average Duration, Design Phase	Average Lag, Design End to Construction Start
Culturals	50	284	653	342
Libraries	94	366	446	396
Total	144	342	507	380
	Average Duration, Construction Phase	Average Total Project Time	Average Lag, Project Start to Construction Start	Percent of Days Before Construction Start
Culturals	606	1,691	1,085	61%
Libraries	385	1,549	1,164	76%
Total	462	1,599	1,137	71%

Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future. Durations are in days.

Chokepoints” section, pre-design scoping and eligibility review can be particularly burdensome for smaller nonprofits with inexperienced or nonexistent capital departments, as these organizations often propose projects that do not meet state finance law requirements. But this does not explain why state-of-good-repair projects have such long Phase 1 durations. For example, pre-design scoping and eligibility review should be relatively routine for mechanical system upgrades, although unanticipated problems can surface. But for the 43 projects in this group that we reviewed, the median Phase 1 duration was 431 days, longer than any other project category.

Similarly, after projects complete the design process in Phase 2—at which point all construction documents and funding should be in place—projects sometimes experience delays when bids come in higher than expected and require value engineering to bring down the cost.<sup>8</sup> But this phenomenon still cannot account for the extreme duration of Phase 3 for relatively routine projects such as mechanical system upgrades, roof replacements, and exterior renovations.

The median exterior renovation in our group, for example, endured a 441-day lag between the end of design and the start of construction, and the median roof replacement endured a 419-day lag. Both were longer than the median new construction project, which has a Phase 3 duration of only 375 days.

For the projects in our group, the median Phase 2 duration—which encompasses design—was 966 days for new construction projects, 535 days for mechanical system upgrades, 460 days for renovations, 287 days for exterior renovations, and 75 days for roof replacements and repairs. Outside of the roof repair projects, which correspond closely to private sector durations, these are all extremely long timelines for the design and execution of relatively small buildings or renovation projects.

Although the design and construction phases in our sample were extremely long across almost all project types, DDC’s own benchmarks treat these delays as normal and expected, reflecting structural problems with the current system. DDC records an “early/on time” metric annually in the Mayor’s Management Report and, according to these figures, the vast

### Percent of Total Project Duration Spent in Pre-Construction Phase



Source: Analysis of data provided by DDC on 144 projects by Citizens Budget Commission and Center for an Urban Future.

majority of projects meet expectations. The design phase of projects was completed “on time” or “early” 88 percent of the time in fiscal year 2010—the lowest score during the examined 2010 to 2014 period. The construction phase was completed “on time” or “early” 76 percent of the time in fiscal year 2014, and again that was the lowest in five years. The result is that major inefficiencies are absorbed by highly forgiving benchmarks, which present an incomplete picture of design and construction timelines.

DDC and OMB, the primary oversight agencies, do not bear sole responsibility for delays. New construction and renovation projects, in particular, require extensive input and collaboration with the client regarding program and service design issues, and often the design phase is the first opportunity clients have had to think through these questions in detail. For this reason, scope changes are fairly common. Some clients have even raised additional funds for dramatically expanded projects after this phase had already begun, which requires another round of legal review. Still, a median design phase duration of 966 days (2.7 years) for new construction projects with a median size under 20,000 square feet is surprisingly long.

Moreover, scope changes happen much less often for basic state-of-good-repair projects, and these still routinely take more than a year to design. When an HVAC replacement, for example, enters Phase 2, relatively few questions are left outstanding, since the size, cost, and placement of the new equipment were already assessed in Phase 1. Still, for the 43 projects in this group, the median design phase took 535 days (over 1.5 years). The median life safety project—another subset of mechanical system upgrades, which involves the installation of fire suppression systems—spent 548 days in design. According to several construction management experts interviewed for this report, design work for fire safety improvements, even in very old buildings or across multiple sites, shouldn’t take longer than six months—roughly a third of the time it takes DDC.

“Six months is generous,” says one architect with extensive experience working on city-funded projects. “That’s if everything goes wrong.”

Although the construction phase (Phase 4) was

generally shorter than the approval and planning phases (Phases 1 through 3) for the projects in our sample group, this, too, was relatively long for all project types. From the time contracts were signed until substantial completion, the median new construction project took 817 days; exterior renovations, 478 days; renovations, 467 days; roof replacements, 310 days; and mechanical system upgrades, 243 days.

Because so many of New York’s libraries and cultural facilities are relatively old—the average age of the city’s libraries is approximately 61 years, with a quarter of them 100 years or older—unexpected problems can arise. Project managers and contractors who have worked on these buildings say it is not uncommon for construction crews to tear down walls and find new problems that widen the scope of work. This can cause construction delays as crews wait on the architects to make changes to the project plans and on the managers at DDC and OMB to approve change orders.

At the same time, however, the vast majority of the buildings in our sample are extremely small. For example, for the seventeen roof replacement projects studied, the median building size—often larger than the project area itself—is approximately 8,800 square feet, and still the median construction phase takes nearly a year. Assessed together, the data suggests that long delays unique to the current process are likely to occur at all phases of a capital construction project.

### **Cost Drivers: Change and Delay**

Out of more than two dozen construction professionals interviewed for this report, a vast majority cited lengthy delays and the uncertainty that accompanies them as a major driver of high costs. Several different architectural firms with extensive experience on city projects said that work stoppages were common and that construction crews would often not return to a site for months at a time because the contractor had not been paid. “We lose money on city projects,” one architect says. “We do it because we like the work, but when your projects drag out over years and go on hold for months and months at a time, you end up losing money.”

Several general contractors explained that many quality companies, particularly small- to mid-sized

ones, don't bid on city projects because they can't make the timelines work. "DDC is one that I've stayed away from," says one general contractor who owned a small construction business before moving to a much bigger company. "The most basic of all reasons is the time that it takes to get paid. With my own firms, basically smaller shops, I wasn't in the position to wait two, three, four years to negotiate change orders, close-out projects, and finally receive payment."

DDC provided information on the Certificates to Proceed (CP) for 114 of the 144 library and cultural projects in our sample. The CP is an OMB-issued document that describes project scope, specifies important details about the project, and releases the available funding. This funding may be released all at once, or in stages. For example, project funding might be released for the design phase while it is withheld for the construction phase. In this case, the design funding and construction funding have different CP "strains." As a project moves from stage to stage, each CP strain may be amended to reflect cost changes. These changes can account for cost overruns, tapping contingency funds, or include major expansions to the scope and purpose of a project. This analysis sums the original value of all CP strains, referred to as the "initial cost," and compares it to the final value of all CP strains after amendments, referred to as "final cost".

For 87 of the 114 projects analyzed, the CP amendments increased the cost of the project. For more than half of these projects, the final cost was up to 50 percent greater than the initial cost. Seventeen projects, or 15 percent, were between 50 and 100 percent greater than the initial cost. The remaining 18 projects were at least 100 percent greater; these projects likely had CPs that were revised to accommodate significant expansions in scope or additional phases of work.

The data provided does not make it possible to identify the reasons for these changes, although projects with greater cost changes tended to have a greater number of amendments. In addition, the number of amendments was strongly correlated with the length of the project, but was not strongly correlated to the magnitude of cost changes or the overall project cost. Overall, we found that projects had an average

Comparing Project Costs after Certificates to Proceed		
Final CP Value vs. Original Value	Number of Projects	Share
All Projects	114	100%
Lower than Original Value	9	7.9%
Same Value	18	15.8%
Greater than Original Value	87	76.3%
0–9.9%	9	7.9%
10–49.9%	43	37.7%
50–99.9%	17	14.9%
100–999%	14	12.3%
1000+%	4	3.5%

Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future.

of 5.3 CPs and CP amendments and that it took 62 days on average to approve each amendment. Therefore, for the average project, CP approval took 328 days—nearly a year—to complete. Though expensive projects did not always have the most amendments or take the longest to complete, the delays brought about by the amendment process would seem to support the argument made by contractors that DDC-managed projects are unpredictable and prone to frequent pauses, two important factors that can increase costs over the long run.

Nonprofit administrators and construction professionals expressed near-unanimous frustration with the way DDC and OMB manage capital projects. "It was a very slow process and it was a very expensive process," says one nonprofit administrator. "If we would have had that money privately, we could have done the work a lot faster and at a lot better price, even with union labor. We got stuck in OMB with approvals for many months, and I was really getting nervous."

According to construction professionals with extensive experience working either with or for DDC, projects can spend months in limbo while different units inside the agency debate whether a light switch is eligible for capital funds in an electrical system upgrade, or whether a fire alarm unit needs to be

## NOTES ABOUT THE DATA

Although this report offers the most comprehensive analysis of city-managed capital construction projects for libraries and cultural organizations, the data is limited in a number of ways.

While DDC provided us with detailed information on 144 library and cultural capital projects completed between fiscal years 2010 and 2014, that sample includes just ten new construction projects, and those range from new libraries and cultural centers with complex public programs to parking garages, amusement rides, and retaining walls. Our renovation category includes total interior renovations as well as comparatively limited ADA compliance projects. Our exterior renovation category includes large-scale facade reconstructions as well as relatively small parapet replacements. In each case, because the projects are so different in scope and scale, the range of costs is large.

In analyzing data from the DDC, the limitations of the city's financial accounting system and DDC's project tracking databases became immediately apparent. Neither system is designed to retain a record of past estimates in order to hold project managers accountable and to allow for a rigorous performance assessment after each phase of the project. The accounting platform, known as the Financial Management System (FMS), is geared toward managing budgeted expenditures and recording up-to-date estimates. One improvement would be to revise FMS to lock in historical data, allowing future analyses to benefit from a more complete picture of the process.

The figures used earlier in this report about the duration of capital projects would likely be even more stark if the clock started when funding for the project was approved in the budget and stopped when the project was closed out and contractors paid. Instead, the project start time is normally logged when a project file is opened at DDC, and project end date usually corresponds to the project manager's judgment of substantial completion, with payments often lagging for months or even years.

Likewise, DDC's project information system is focused on capturing the current status of a project, rather than managing costs and timelines to meet or beat predetermined targets. For example, project managers estimate a completion date at the beginning of the project, and this date is "reestablished at the beginning of construction, giving the project manager a 'clean slate' each time."<sup>9</sup> Neither provides the tools necessary to assess in real time whether projects are actually proceeding on time and on budget, much less to analyze broader performance indicators across multiple projects over time. Nevertheless, the project data includes important milestones for every capital project, including the project start, when DDC receives notice of the project; the design start and design completion; and the construction start and completion.

recessed to meet preservation requirements and, if so, whether the project has enough funds to do it. Making matters worse, OMB officials prefer to be a part of nearly every decision if it involves the interpretation of eligibility rules or is not explicitly outlined in the Certificate to Proceed, and because OMB employees normally lack construction experience, explanations can require an extensive time investment on the part of DDC project managers and other construction professionals inside the client agency. This is a factor in the approval of CP strains and amendments, but the ramifications extend beyond each budget adjustment, as OMB is often called in to approve the *interpretation* of a CP as well. This applies to every city-funded project, whether managed by DDC or any other agency.

In addition, payment approval is governed by Directive 7 of the Office of the Comptroller, which mandates the audit of any payment request for construction services. This rule was reinforced by a 2015 memo mandating that "all changes to contracts for construction, equipment, and construction-related services must be reflected in a change order." For a contractor to get paid, the project must be audited under the terms of Directive 7. And any change to the contract must be documented in a change order and approved before the project can proceed. Although this process is designed to protect public dollars by ensuring that the city has received appropriate value for its funds, it has the paradoxical effect of generating delays and accruing higher costs.

# CHALLENGES AND CHOKEPOINTS

## Five obstacles to design and construction management

### Lack of Coordination Among Oversight Agencies

New York City's capital procurement and management process is extremely complex, involving thousands of personnel at multiple oversight agencies, client agencies, and contracting firms. Multiple agencies, including DDC, OMB, the Mayor's Office of Contract Services, the Department of Cultural Affairs (DCLA), the Public Design Commission, the Department of Buildings, the Department of City Planning, the Fire Department, and client nonprofits, are all involved in the approval and management of capital projects, and all have priorities which can be difficult to reconcile. OMB's priorities—ensuring that dollars are not wasted on ineligible projects and unnecessary change orders—sometimes come into conflict with DDC's goal of managing a quality project, and both interests often clash with the client's timetable and ambitions.

Even DDC and the Public Design Commission, which reviews designs before they go on to OMB for a second round of approval, often fail to see eye to eye on projects. "The first thing we found on DDC projects," says one architect with extensive experience working for the city, "was that we would go through an intensive design development process with the client and DDC staff, and then we would go to the Public Design Commission, and whether that design development was a good fit was a complete unknown. [On] one of our projects it was a pretty good fit, and [on] another project they were completely unsympathetic."

This issue often reoccurs when projects move from DDC back to OMB so that the next stage of funds can be released, or when client agencies first propose a building program to the agencies for initial approval. Work is completed in one part of the process without prior input from each oversight authority, precipitating conflict with its purview and concerns.

On most projects, OMB is involved in all four phases of the capital construction management process and in many ways sits at the center of this complex multi-agency system. As protectors of the public purse, staff at OMB have to make sure each component of every capital project is eligible to receive capital funds, that funds are sufficient to cover the costs of the project, and that the organization is capable of operating the facility and its programs. "OMB has the very important role of safeguarding city money and making sure the integrity of the bonds that underlie these funds is being respected," notes one city employee with experience on capital projects.

Due to the requirements and approvals of multiple agencies, city-funded projects undergo many stages of project scoping and cost estimating, whereas private-sector projects hardly ever do. When a project receives funding from the mayor or other elected officials, the client agency begins an initial review process with OMB and DDC to determine the project parameters, including its purpose, scope, cost, and eligibility. But all of this is preliminary at best. True scoping and cost estimates cannot happen until architects and engineers do an environmental survey, flesh out the design, and produce construction documents.

"We can't submit a CP for a design consultant unless the project is fully funded," says one long-time employee at DDC, "and that's a tricky thing because without a design consultant we don't know the full parameters of the project. We can make educated guesses, but as the project gets fleshed out, things come up; different decisions are made, sometimes scope is added, and sometimes scope is taken away. It's a challenging process because we're asking for a certainty we can't have until we begin the [design] process."

When the project moves from the initial approval phase to the design phase, it receives a Certificate to

Proceed. When the project goes through the design process and significant differences in cost and scope result, as they often do, then a new CP or CP amendment is created and the project goes back to OMB for a second round of approval. The client organization may also have to raise additional funds, have them appropriated, and then work with OMB to make sure the new scope is still capital eligible and in accordance with the organization's operational capacity and mission.

Projects in the private sector undergo similar transformations during design, but they are not subject to the same constraints when it comes to funding and oversight. The extra oversight is not optional. Publicly funded projects need hands-on management, not just to weed out impropriety and corruption, but to protect the viability of city bonds. That said, OMB's rules and procedures do go further than other government bodies overseeing debt financing for capital projects, such as the state Dormitory Authority, and its monitoring role contributes to delays in several ways.

First, OMB's oversight efforts sometimes duplicate efforts already undertaken by DDC staff. For example, when project managers request permission to use contingency funds or want to authorize changes mid-project, they are required to get approval from OMB. City projects carry a contingency reserve of 15 percent to deal with surprises during construction, which are routinely encountered in both the private and public sectors.

OMB analysts, who are not versed in the intricacies of construction and are predominantly focused on operating budget requests, try to ascertain if the changes are legitimate in order to release funds. These requests have typically—and more appropriately—been vetted by DDC project managers, but OMB analysts are not always satisfied with or certain of the level of review. As a result, projects go back and forth between agencies, and clients and contractors often feel that they have been left waiting in the dark.

Second, OMB review sometimes adds significant time and uncertainty to the process when the project is already well underway. For our sample of projects, it took OMB an average of 62 days to review and approve CPs and CP amendments. This means that for the

average project in the group, which had 5.3 CPs, OMB review took 328 days—nearly a year—to complete. In some cases, OMB delayed approval of a final CP amendment even after construction was completed, which can leave a contractor waiting to get paid for a portion of the project.

Yet another layer of complexity in the oversight process results from the city and state's procurement requirements. Bidding and awarding almost any contract is a lengthy process that requires an agency to get sign off from its own counsel, OMB, the Law Department, the Mayor's Office of Contract Services, the Department of Investigation, and, ultimately, the City Comptroller. The contract is not reviewed simultaneously: it can only move to the next agency for approval after the previous one has approved it. The process is also not adjusted for risk; whether it is a routine elevator replacement or an elaborate new construction project, the review process is the same. One former New York City official with experience working in several states described the city's review process as complicated, redundant, and highly inefficient.

Duplicative or overlapping functions are not limited to DDC and OMB but occur regularly between DDC and the client and contractor, too. When it comes to design in particular, some projects may have engineers and architects located at three different organizations with three different sets of priorities and assumptions. Even relatively simple life-safety projects are sometimes overseen by an engineer at the client agency (if it is a large organization with extensive facilities, such as the city's libraries), an engineer or multiple engineers at DDC, and an engineer at the firm contracting on the project. Similarly, client agencies with large and experienced capital teams have in-house architects who work alongside outside architects hired by DDC, and DDC's own architects.

DDC's design process is widely considered to be complicated and time-consuming, with projects bouncing between teams inside the architecture and engineering department for unusually long periods, as evidenced by the average design phase durations for even fairly routine state-of-good-repair projects. As projects go through Phase 2 and Phase 3 of

# The procedural paradox is that there are many layers of review and yet no real system of accountability.

the capital construction management process, they undergo several rounds of review to evaluate electrical, plumbing, constructability, design, and historic preservation requirements, among other issues. The level of scrutiny is very high, and sources explained that many of the units do not agree with one another and none are specifically motivated or incentivized to keep the project moving.

Under the leadership of former Department of Cultural Affairs Commissioner Kate Levin, the Bloomberg administration set up a process to bypass some of this oversight. Cultural projects identified as administration priorities were routed to the city's Economic Development Corporation to be managed, rather than sent to DDC. A number of cultural groups with capital construction management experience felt that going through EDC gave them more control over the project. "EDC tends to be more interactive, so we, as a development entity rather than a traditional cultural entity, wanted to have more control over the process [and went with EDC instead]," says one cultural group executive.

Compared to DDC with its many layers of specialized oversight, EDC's process was regarded as much leaner and faster, with the ability to help anticipate issues with other agency approvals. "When it comes to capital eligibility, EDC would help us understand what would sail through easily and what would be stymied," says one top leader of a cultural institution. "If OMB was bound to say no, then OK, we can move it to the pot of private dollars. And if we can anticipate this in advance, then we can avoid a costly delay."

Other executives at cultural intuitions echoed that sentiment, asking why DDC couldn't take on a more proactive role as a guide through the maze of approvals and regulations. "We're facing a once-in-a-lifetime project," says one top museum official. "DDC does this

every day. How can the agency help us anticipate the pitfalls and learn from their experience along the way?"

## Little Accountability for the Efficient and Cost-Effective Delivery of Capital Projects

The procedural paradox is that there are many layers of review and yet no real system of accountability. The problem is largely rooted in a lack of data collection, which evinces the adage that "you can't manage what you don't measure." The city's financial- and project-management systems do not sufficiently capture information on timeline and cost changes in city projects and the reasons for these changes. In fact, the DDC project-management system resets, by default, the baseline completion date of the project after design changes are approved. This makes it virtually impossible to measure systematically how long projects are delayed. Similarly, there is no uniform system to capture changes to a project's cost from the time it was adopted in the capital budget to the time the final checks are cut; rather, it is up to individual project managers or staff at OMB to keep track of this information on a per-project basis.<sup>10</sup>

Data routinely published in the Mayor's Management Report shows that more than 80 percent of projects are completed on time and on budget, but the reliability of the indicators is highly questionable. The measures exclude programmatic scope changes and agency holds on a project, and are based on a starting point that is no more than 30 days from the reset baseline completion dates.

In the absence of performance requirements governing the timely and cost-effective delivery of capital improvements, projects can and often do grind to a halt as they pass from one unit inside DDC to another and from one oversight agency to another. In our interviews,

many of the construction professionals working at client organizations or as contractors on DDC-managed projects expressed frustration at the slowness of the review process. A single light switch not explicitly mentioned in the project CP for an electrical upgrade required several weeks of negotiations, claims one engineer. “DDC is really good at finding the problems and putting up roadblocks,” he says. “They’re less good at finding solutions that make projects run smoothly.” This same sort of frustration was broadly shared in our interviews with clients. Capital and facilities staff members overseeing projects on the client agency’s end felt that DDC personnel were not always motivated to keep projects moving quickly and efficiently.

Although staff members at DDC acknowledge that projects often undergo repeated stops and starts, casting a long shadow over the capital management process by interrupting its momentum, reducing lengthy project timelines has not been an overriding concern at the agency in the past.

In part, this is because managers inside DDC and OMB are shielded from accountability. Projects are not evaluated on reasonable baseline project durations and costs and neither agency is beholden to the building’s end users. When a library location is closed for three years for roof repairs and new ramps to the front door, as was the Park Slope library in Brooklyn, DDC staff members are insulated from angry patrons and their elected officials. In addition, their bottom lines are not affected by a shuttered theater or museum. Aligning the needs of client organizations and the public with the agency’s own processes could help steer the culture toward a greater embrace of efficiency and effectiveness.

### **Ineffective Budgeting and Planning Processes**

New York City is unique among major American cities in how it finances and distributes capital investments. In many places, capital projects are paid for with a mix of tax revenues and bonds, and new bonds must be approved at the ballot box. In many large cities, such as Philadelphia, Los Angeles, and Seattle, officials who want to issue bonds to cover the cost of public works have to provide a detailed building program or capital

improvement plan in order to gain the approval of the City Council and the general public.

New York City’s capital budget does not work this way. New projects are added every year by the mayor, City Council, and borough presidents, with little information besides cost made public for most projects. The investments are backed entirely by bonds that do not require voter approval. Because a small portion of the principal and interest are repaid each year, there is little incentive on the part of lawmakers to restrain the size of the capital budget, although state law limits the aggregate amount of debt service as a percentage of operating revenues.<sup>11</sup> Projects do not have to adhere to a citywide capital plan, are not limited to city agencies or even city-owned properties, and do not require a highly detailed scope or purpose.

The following four aspects are particularly problematic with respect to cultural institutions and libraries:

### **Capital needs are not systematically assessed or planned for, particularly regarding libraries.**

The city has extensive assessment and planning processes in place for major physical assets, such as bridges, roads, and schools; however, its needs assessment for building facilities is less sophisticated, and its reporting has been criticized for its limited scope and tenuous connection to budget priorities.<sup>12</sup>

The three individual library systems assess their own capital needs, which have recently been estimated to be as high as \$1.5 billion, including \$812 million in state-of-good-repair needs. Unlike many other city agencies, the library systems cannot depend on sufficient capital funding every year to develop a comprehensive capital plan and pipeline of projects over the long term. Instead, officials at each of the three systems raise capital funds on a project-by-project and year-by-year basis; they shop projects around to individual City Council members, borough presidents, and administration representatives and piece together funds—over years in many cases—to cover the full cost of projects, even routine maintenance projects like roof repairs and HVAC replacements. In the long run, this piecemeal process costs the city more money as problems are left to fester, and it requires the libraries

to cut down on hours as outdated mechanical systems begin to fail. For example, the Brooklyn Public Library experienced 140 unplanned closures in 2013, adding up to 540 service hours, due in large part to infrastructure failures.

Though the de Blasio administration included an unprecedented \$300 million over ten years for libraries in the city's capital plan in 2015—an investment that will have a considerable impact on the systems' overall physical plant needs—the money is tied to fifteen discrete projects and will not allow the systems to create a pipeline of smaller repair projects.

The city's cultural nonprofits also assess their own capital needs and shop projects around to individual elected officials. But, in some cases, they have financial resources the libraries lack—including earned income, endowments, and a large pool of private donors—and they also benefit from support at the Department of Cultural Affairs. The DCLA commissioner is a party to budget discussions in City Hall in a way that the library presidents are not, and the agency's capital team has developed a system to help streamline the approval process for cultural capital projects while working with OMB and DDC to fast-track important or time-sensitive projects. DCLA has enabled more projects to be privately managed, while directing other projects to the Economic Development Corporation.

By comparison, the three library systems do not have a central oversight agency or liaison within government that can analyze needs, develop a strategy to address them, and advocate on behalf of libraries relative to other city priorities.

**The prevalence of discretionary funding leads to project selection based on local politics, rather than economic analysis or citywide priorities.**

Discretionary funding grew from 3.2 percent to 5.2 percent of total capital expenditures from fiscal year 2003 to fiscal year 2014, largely thanks to growing capital budget allocations by the City Council. In fiscal year 2003, City Council-funded project expenditures totaled \$67 million; by fiscal year 2014, it was almost \$300 million, more than four times the 2003 amount.

This discretionary funding is particularly important to cultural institutions and libraries. Although most city agencies receive very little in discretionary funds, the libraries and cultural nonprofits depend heavily on borough presidents and the City Council for funding, and this reliance has grown over time. Discretionary funds comprised approximately 20 percent of capital expenditures for cultural institutions and for libraries in fiscal year 2003; by 2014, the share was 49 percent for cultural institutions and 71 percent for libraries.

Without City Council and borough president support, many city libraries and cultural facilities—in addition to many parks, senior centers, and schools—might be in much worse shape than they are today. But New York's discretionary funding process also presents a number of major challenges in the planning, approval, and delivery of capital projects across the city.

When hundreds of millions of dollars in capital funds are distributed at the discretion of 64 different elected officials besides the mayor, planning investments and aligning them with neighborhood and city-wide priorities is extremely difficult, if not impossible. Local representatives want to fund projects in their own districts and can have overly optimistic views about these projects' chances of success and their ability to spur economic development. It is not uncommon for small theaters and arts organizations to get in over their heads when elected officials offer sizable capital grants. A number of these groups have experienced financial distress after building a new facility, either because the organization struggled to operate the building with limited revenue and legacy funds or because the anticipated demand for its programs failed to materialize.

For example, the Weeksville Heritage Center in Brooklyn saw its operating budget fall by nearly 40 percent after its new building opened in 2013.<sup>13</sup> And the Jamaica Performing Arts Center, which also received a large capital investment for an expanded facility, has struggled to put on programs.<sup>14</sup>

Both organizational leaders and local representatives have reason to downplay the risk. “The holy grail

for so many [arts] groups has always been to have a permanent space,” says Paul Wolf, co-president of Denham Wolf, a real estate firm focused on nonprofits. “There is this presumption that you have to have your own space to be taken seriously. Not everyone should have one in my opinion. Very few organizations understand how a new facility is going to expand their operational costs.”

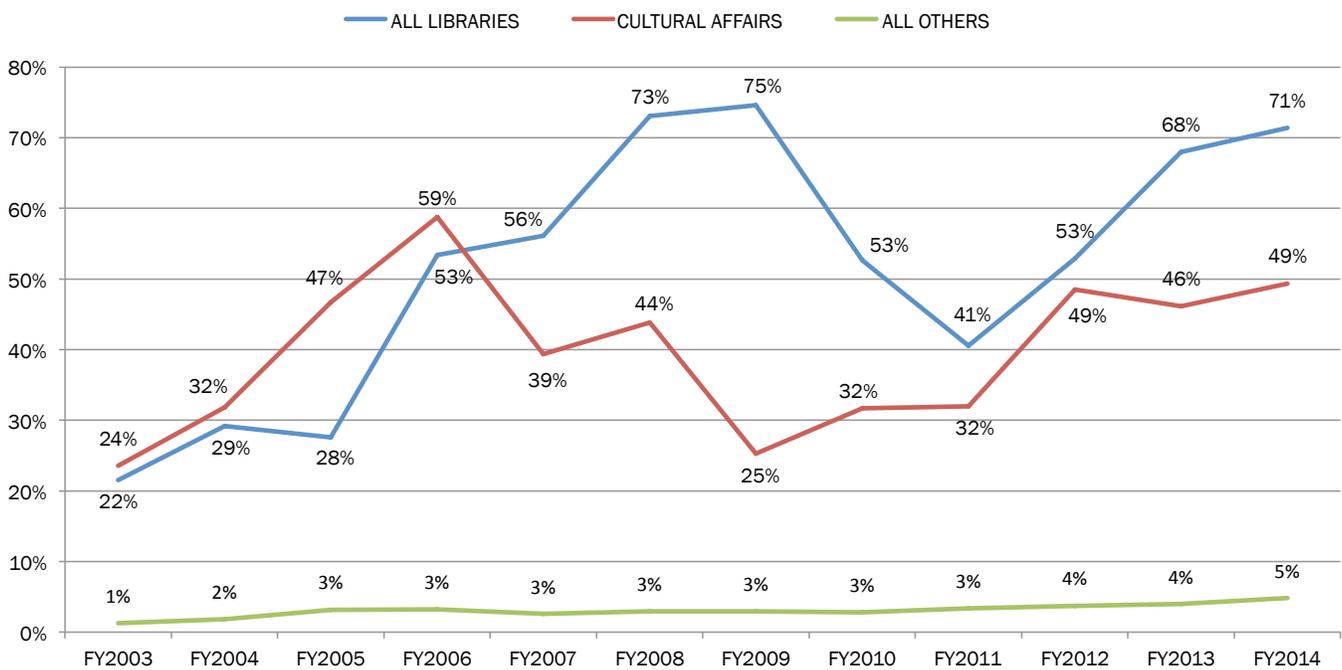
Because City Council members and borough presidents have a lot more to give in capital funds than expense funds, and because capital dollars come with strict conditions on their use, many smaller organizations feel they have to find some way to put it to use, even if they lack the capacity to oversee the capital process or operate the facility after it is opened.

This happened in 2009, when then Brooklyn Borough President Marty Markowitz and City Council Speaker Christine Quinn each gave \$1 million in capital funds to a nascent Brooklyn-based organization with little-to-no revenue or operational experience, so they could open the borough’s first LGBT center.<sup>15</sup> Markowitz ultimately gave the organization a space in Brooklyn Borough Hall and helped it raise enough operational

support to qualify for the funds and use them for a new center in downtown Brooklyn. But, according to one person with inside knowledge of the project, it was without doubt a risky investment. “It’s easier to give \$2 million in capital money than it is to give \$10,000 in expense,” says this source, a former aide who has worked in city government for years. “There’s a lot of political gifting going on, and if it’s a group that’s doing great work, you’re going to overlook shortcomings they may have. It’s nuts to give a group \$2 million when they haven’t really started yet, but that happens a lot.”

Finally, having to rely heavily on discretionary capital dollars makes it difficult to prioritize state-of-good-repair needs over expansions and modernizations, which, in many cases, are less critical for service delivery. This is a particular problem for the city’s libraries, which manage over 214 buildings with an average age of over 60 years. The libraries raise funds for hundreds of state-of-good-repair projects every year and have trouble convincing elected officials to use their limited capital funds on invisible infrastructure projects. Council members and borough presidents prefer

**Discretionary Funds as a Share of Total Agency Capital Expenditures, FY 2003–2014**



Source: Analysis of budget data by Citizens Budget Commission and Center for an Urban Future.

breaking ground on new projects and funding items that directly impact service delivery.

### **Continued prospecting for additional discretionary funds can slow the process considerably.**

Organizations often have to piece together funds from a wide variety of official and private sources before they have enough money to move ahead with a project.

In some cases, nonprofit leaders continue to “fund-raise” from government officials even after their projects underwent preliminary scoping and cost analysis and received an initial CP from OMB and DDC. Having a sizable investment from one city official can make it easier to raise additional funds from another, and having OMB’s imprimatur and professional architectural services on hand through DDC can make it easier for a nonprofit executive to broaden his or her ambitions. One longtime government employee with extensive knowledge of New York City’s capital procurement and construction process calls this “getting OMB pregnant.”

Many major capital projects undertaken on behalf of independent cultural groups started out fairly small. For example, an addition and renovation of the Queens Theatre, first proposed in 1999, started out with a relatively modest budget and design proposal. Early estimates put the total cost of the project at \$3.2 million (in 2000 dollars) and the completion date in 2003. By the end of 2005, when the project broke ground, the price tag had grown to \$16 million as the project changed. Five years later, DDC recorded a final cost of \$29 million.

One person who worked as a contractor on the project says the scope kept changing dramatically and the client was able to raise additional funds to meet the escalating costs. “Once [they] got a fleshed out vision from the design process,” says the contractor, “they had a better idea of what they wanted. Some features were added, and the budgeting process allowed it. I don’t think you can blame the project manager at DDC. It’s more the funding process.”

The Weeksville Heritage Center in Brooklyn and the Hunters Point Library in Queens are two additional projects that grew dramatically in scope and cost after

an initial CP had been issued and certified. Weeksville went from an estimated \$16 million in the pre-design phase in 2006 to \$24 million upon groundbreaking in 2008 to \$34 million in 2013 when the new building opened to the public.<sup>16</sup> Original seed funding came from the borough president but additional funds were raised from City Council members and the mayor as the project was fleshed out further during the scoping and design.

In other cases, nonprofits act entrepreneurially to take advantage of long project lead times by continuing to fundraise for additional improvements at sites that are already undergoing construction and closed to the public. At the Park Slope library, for example, the Brooklyn Public Library’s capital department tried to take advantage of a long delay in a roof and ADA-compliance project to add in an interior renovation. It raised additional funds to update furnishings, flooring, and the interior configuration, but ran into obstacles getting approval from OMB. The library then raised additional funds for a more ambitious renovation and the new project ended up delaying the process further. After everything was finished, a new roof, entrance ramp, and modest interior improvements required the Park Slope branch to be closed for over three years. And from when the first project file was opened at DDC to when the construction was finally completed, an astounding seven years (2,575 days) had passed.

When projects are tackled piecemeal like this, they undergo review, initial scoping, and design work separately and sometimes are bid out to the general contractor or contractors as separate projects. This draws out an already long approval and planning process and greatly complicates the management of construction.

### **Insufficient Management Experience Inside Nonprofits**

Many nonprofit leaders view capital funding as similar to grants and gifts made by other large donors. However, the strings attached to city funds are much more restrictive; many nonprofits do not have the capacity to meet city requirements in a timely way. Accessing city funds requires submitting paperwork and obtaining counsel to complete a lengthy eligibility verification process, acquiescing to loss of control over design and

construction, and planning for a lengthy time horizon for completing the project. (See Appendix A.)

“We often have to warn clients about taking city capital dollars,” says Claudia Wagner, a partner at Manatt, Phelps and Phillips LLP. “Even if you’re not managing the construction yourself, it is a very long and arduous process. Many organizations don’t have the capacity to make it work.”

Organizations will often invest in a proposal without having a clear sense of the city’s strict capital eligibility rules. Many groups find themselves engaging architects for initial plans and fundraising from City Council members, borough presidents, and City Hall, only to find that OMB will rule the project ineligible. Another common sticking point is the lien or restrictive covenant required by the city to invest in privately owned facilities; according to DDC personnel, this is often one of the lengthiest parts of the process, especially if a nonprofit has not previously worked with the city or does not have many resources readily at its disposal.

In a limited number of situations, large nonprofits, such as the New York Public Library, have received permission from the city to manage and complete projects themselves. These projects are known as “pass throughs,” or grants in the case of cultural institutions, which allows DDC to reimburse cultural institutions for the costs of capital construction projects that were administered directly by the institutions. These exemptions are granted typically to large nonprofits that demonstrate sufficient capacity and experience to manage a capital project. Projects that receive such

approval tend to be part of a larger, privately funded plan, or are add-ons to projects already underway and managed by the institution. For example, the Metropolitan Museum of Art, Carnegie Hall, and the American Museum of Natural History completed phases of their extensive renovation plans as grant/pass-through projects, and the New York Public Library added space in some branches and renovated other facilities under a similar arrangement.

According to data collected by NYPL, city-managed construction projects regularly cost much more and take much longer to complete than projects they manage themselves. For example, in an analysis of projects completed between 2005 and 2016, the average total project cost of major renovations is \$656 per square foot and the average duration is 80 months (or nearly seven years), compared to \$412 per square foot and just under two years when managed by NYPL. Similarly, ground-up construction projects averaged a total of \$1,272 per square foot and seven years and four months to complete when managed by the city, compared to just \$641 per square foot and four years when managed by NYPL. The Queens and Brooklyn Public Libraries report similar numbers.

DDC continues to exercise oversight over pass-through projects; for example, projects in danger of cost overruns undergo value engineering or are reassessed to ensure they remain on time and on budget. And nonprofits must file all necessary paperwork in compliance with city regulations to be reimbursed for work performed; city officials cannot allow a project to proceed or provide

### Library and Cultural Projects Completed by DDC, FY2002–2014

Management	Number of Projects	Share of All Projects	Total DDC-Reported Value of Projects	Share (value)
Direct DDC Management	401	72%	\$1,058,848,732	44%
Culturals	139	25%	\$678,189,522	28%
Libraries	262	47%	\$380,659,210	16%
Pass-Through Projects	155	28%	\$1,359,155,649	56%
Culturals	131	24%	\$950,566,423	39%
Libraries	24	4%	\$408,589,226	17%
Grand Total	556	100%	\$2,418,004,381	100%

Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future.

# Ground-up construction projects cost an average of \$1,272 per square foot when managed by the city, compared to just \$641 per square foot when managed by the New York Public Library.

reimbursement without proper documentation.

“I can’t tell you how often our legal staff will request information and the culturals don’t get back to them,” says an experienced DDC employee familiar with this aspect of the process. “The rules are very clear. You have to provide a prevailing wage report, including every worker’s name, hours worked, pay. There is no gray area. We need these reports before we provide reimbursements.”

Small organizations can become overwhelmed, especially when the rationales behind certain rejections or delays are unclear. “OMB is like the Wizard of Oz,” says one nonprofit leader. “We’re not allowed to have a conversation with OMB. That was one of the things I begged for. I said, can we just set up a meeting, intelligent people sitting around a table, and talk about the project?”

## Outdated and Costly Procurement Processes

State law requires DDC to abide by strict procurement rules that limit its range of options in undertaking capital projects. These rules require that design work and construction work be bid out, awarded, and completed separately, and that the winning bidder is the one offering the lowest bid—barring any indication that the bidder would not be qualified or responsible. State law does not allow the city to take advantage of other methods increasingly employed by the private sector and other governments that have demonstrated results in delivering projects on time and on budget. These include design-build contracts, which award both

contracts to one entity; “best value” contracts, which are awarded on the basis of multiple criteria besides cost; and hiring construction managers that bear the risk for cost overruns and delays by coordinating the process from start to finish.

There are several problems with design-bid-build for large projects and with low-bid processes in general, which can result in added costs and delays. First, these approaches separate design from construction; architects, engineers, and the contractor have little, if any, communication, and problems with the designs are only evident once construction is underway. There is also wide gulf in time between the design phase and the beginning of construction, as build contracts must be bid out and awarded, lengthening the entire process.

Second, the requirement that DDC—like other agencies—must always choose the lowest bidder during the contracting process is highly problematic: innovative approaches cannot be considered; experienced, skilled contractors may not win out for complex jobs; and the best value may be sacrificed because it is not necessarily the cheapest option at the start.

For example, the lowest bidder may have underestimated the cost of the work through honest lack of experience. Or, contractors may try to game the system, submitting a low-enough bid to win the contract and then looking for ways to make money back through change orders.

OMB and DDC managers know this. “If the job ends up costing the contractor a lot more than anticipated, they figure out a different way to get that money

back,” says one construction professional at a large cultural institution. “Everything gets contentious because you’re really battling for every cent.”

Although change orders are a natural and inevitable part of the construction process in both the private and public sectors, low bidding can give the contractor an incentive to generate more of them. According to one former project manager, change orders happen all the time in the private sector, too, but they seem to happen more often with the contractors DDC uses.

“The cost of the change order doesn’t necessarily reflect the cost of the work that needs to be done,” says this project manager. “That sort of happens in construction anyway, but I think it’s far worse with the contractors we use.”

Either way, the final cost of the project, once change orders are taken into account, may end up being higher than other bids placed by more experienced or reputable firms during the procurement process.

According to Frank DarConte, the former owner of a general contracting business, the low-bid system can poison the relationship even when the contractor is doing everything above board, because OMB takes it for granted that contractors are inflating the costs of the change orders. As a result, OMB takes a tough negotiating tack on every request, regardless of the project’s specifics or the track record of the contractor, and is not afraid to use time as leverage. “It’s a negotiation strategy where they’re trying to outwait the contractor and then will put a lowball counteroffer on the table to see if the contractor accepts. Time is on the city’s side,” says DarConte. “Time is not typically on the contractor’s side.”

As a result, the city is viewed as a difficult client by contractors, many of whom no longer bid on city projects. Frequent stops and starts, long and often unpredictable project timelines, and the near-constant haggling over cost adjustments with subsequent delays in payment make working with the city unattractive for many firms.

“Many reputable contractors won’t even bid for jobs with DDC,” says Fletcher H. Griffis, a construction management expert at NYU who has particular

experience in public works management.

DDC staff members acknowledge that receiving timely approval for change orders from OMB is a major problem. Processing time in fiscal year 2014 was 109 days for CP amendments classified strictly as “change orders” and 144 days for DDC’s design and construction contracts. Although performance varies from year to year based on the project portfolio, the best performance was in 2008, when processing for these orders took 51 days and 98 days, respectively. Since 2014, however, DDC has reported a 22 percent reduction in the duration of CP approvals from OMB, which suggests that this particular chokepoint is gaining some attention within the agency.

The data also indicates that a substantial share (28 percent) of CP and CP amendments for the sampled projects did not receive final OMB approval until after construction was completed. That often requires contractors to pay out of pocket until OMB approves the new amounts and finally reimburses the contractor. This is another factor that severely limits the pool of contractors who can afford to do business with the city.

The data indicates that DDC received at least three responses, the minimum considered competitive, on 95 percent of its contracts, on average, over the past decade. Its “highly competitive” procurements—those with six or more bids—improved to and remained at 97 percent after fiscal year 2010. But it is hard to know how many more contractors the city could be attracting under different rules and regulations, and what kind of quality and value a deeper pool of contractors could provide to New Yorkers and the organizations the city supports.

Analyzing the city’s procurement process reveals a frustrating paradox: although rules require projects to be awarded to the lowest bidder, costs and timelines inevitably soar. The most effective strategies to reduce capital construction costs do not necessarily require a strict adherence to the lowest bid, but state law prevents the city from choosing contractors based on criteria other than price.

# RECOMMENDATIONS

## Twelve ways to improve capital project performance

### **Create a task force to review and reform the capital construction process.**

The mayor should convene a task force to examine the current capital construction approval and management system, ensuring that representatives of the city's libraries and cultural institutions are at the table. The task force should include representatives from DDC and its largest client organizations—such as the three library systems and members of the Cultural Institutions Group—as well as other agencies with a role in the approval process, including the Departments of Buildings and City Planning, the Fire Department, and the Office of Management and Budget. Charged with identifying and mitigating the inefficiencies that plague the current system, the task force should seek ways to streamline the CP approval process, clarify the rules regarding pass-through projects, and study the potential of a best-value contracting system.

### **Start systematically tracking capital project costs and timelines.**

Though the Department of Design and Construction keeps track of the percent of projects completed “on time and on budget” for the Mayor’s Management Report, these scores are not based on preestablished targets and provide little insight into the delays that plague the system. In the absence of rigorous data collection, it is impossible to manage projects effectively and minimize time and cost overruns, especially given the complex bureaucracy surrounding capital construction oversight. There have been few efforts to evaluate project timelines based on current record-keeping practices, much less any coordinated effort to institute a more robust project tracking system.

The city should leverage its existing Capital Projects Dashboard and expand it to systematically track

the real costs and timelines of all capital construction projects, including DDC-managed projects and those managed by other agencies. This system should track projects from the time that DDC or OMB is first notified until the final checks are cut, while measuring progress against deadlines that are established at the onset of the project. The system should also record past estimates in order to allow project managers to accurately assess performance after each phase is completed. In addition, records should reflect the initial estimated completion date so that delays in earlier phases of the project are not lost once construction actually begins.

The existing dashboard could be significantly enhanced—pulling together data and records from DDC, OMB, client agencies or institutions, and the relevant contractors—to provide a real-time snapshot of time and money spent on a given project and compares the current status to the estimates and deadlines established at the beginning of the process. This dashboard should allow project managers to drill down into specific phases of the project, compare estimates to actual costs for each individual contract, and compare results to those of similar projects.

### **Streamline project approval practices and reduce redundancies between OMB and DDC.**

OMB is involved with nearly every decision in the capital construction process, including project scopes and costs, CP interpretations, and change orders within the contingency budget. The agency’s approach hinges on the notion that more OMB control helps to limit cost escalation. Unfortunately, the opposite is often the case: when OMB approvals take a year on average to execute and projects undergo repeated stops and starts, delays cause costs to rise. The problems are

compounded by the lack of real-world contracting and construction management experience among OMB staff. In addition, decisions are often made twice, once at DDC and then again at OMB.

The city should consider reducing OMB's role in project approvals after the initial CP approval and institute frequent randomized audits instead to ensure that all legal and finance law obligations are met. At the same time, the administration could do more to strengthen the change order review process inside DDC to inspire confidence at OMB and allow DDC to manage the contingency budget without OMB approval. With the right checks and balances inside DDC, construction professionals should be allowed to manage a project's contingency budget, which is accounted for in the original CP approved by OMB. Minimizing the need for both agencies to review and approve subsequent adjustments can help to mitigate the current start-stop nature of DDC contracting, saving time and money.

### **Simplify the design review process at DDC.**

The design review process for DDC-managed capital construction projects is invariably slow. The median project reviewed in this study spent more than two years in the pre-design and design phases, and, for 86 percent of projects, the design phases took longer than construction itself. For example, an agency should not discover that a parapet project does not meet Fire Department guidelines or historic preservation requirements only after it is fully designed—leading to months of delays.

With the help of the Mayor's Office, DDC should work with other relevant departments—including the Fire Department, Department of Buildings, and Public Design Commission—to establish a common review process and agree to achievable timetables for feedback and approval. An effective design approval process will require project managers within DDC and contacts at each external agency to sign off on each proposal in a predetermined sequence, ensuring that changes to one element of a project design do not conflict with the priorities of another oversight body. If all of these approvals are granted at the beginning of a project after thorough review, the likelihood that subsequent changes will violate departmental

guidelines is greatly diminished.

### **Strengthen DDC's data analytics team to inform smarter decision-making.**

Data is revolutionizing every aspect of organizational decision-making, and DDC could benefit from increased support for its new data analytics efforts. The current team, created under Commissioner Peña-Mora, needs sufficient staffing and resources to leverage the copious amounts of data that DDC-managed projects generate, which would allow the agency to analyze vendor performance, optimize purchases of raw materials, and assess the efficiency of approval processes, among many other opportunities. However, DDC lacks the capacity to fully capture, process, and interpret this data across all projects and in real time.

The city should fund an expanded agency-wide data and analytics team within DDC, which could work with existing city teams, including the Mayor's Office of Data Analytics and the pool of technologists at the Department of Information Technology and Telecommunications, to develop and implement data analytics tools for capital construction management. These tools could help project managers by analyzing cost trends over time, predicting potential overruns and delays, comparing estimates to previous projects and industry averages, flagging potential cost savings based on fluctuating prices for raw materials, and delivering automated updates to project stakeholders.

At the same time, the existing team needs top-level buy-in from other agencies to realize the full potential of data analytics. DDC's ability to analyze the entire capital construction process will remain limited unless the full spectrum of agencies involved agree to share information through a single system.

### **Institute a process for nonprofits to prequalify for discretionary capital funds.**

The proliferation of discretionary funding for capital construction projects has led some nonprofits to undertake major initiatives that they are ill equipped to manage. The city should follow the lead of the HHS Accelerator system, which centralizes contracting and procurement for social service providers, and develop a similar portal for prospective recipients of capital

construction dollars. This system would ensure that nonprofits are able to meet established criteria, including operating budget levels and staff capacity, before they can accept capital funds from elected officials.

Elected officials are not experts in capital financing or facilities planning and sometimes invest city dollars in organizations that lack sufficient operating support to maintain and manage large new physical spaces. In addition, some organizations seek capital funds as part of an ongoing fundraising campaign, which can lead to shifting goalposts and frequent changes to the scope of work. A prequalification system would allow organizations to be matched with appropriate resources and weed out those that are unable to cope with capital construction projects.

### **Establish dependable funding for capital construction projects, including routine state-of-good-repair investments.**

The current “rolling” capital funding system lacks measurable progress indicators and is vulnerable to sudden shifts in political priorities. Libraries, in particular, rely on individual members of the City Council and borough presidents for the majority of their capital funds, which makes long-term planning a constant challenge. As the libraries piece together funds over multiple years and across various sources, they often have to go back and forth between OMB and DDC to reevaluate project scopes, which itself generates delays and increases costs. As a result, libraries and other cultural institutions are unable to plan for their needs over the long term or create a reliable pipeline of projects.

The size and scope of the discretionary funding process is unique to New York City. Funding municipal endeavors in such a diffuse and uncontrollable manner places capital construction projects at great risk of delay, leading to cost escalations and constant uncertainty. The Mayor’s Office should develop a plan for libraries and other cultural organizations located in city-owned properties to evaluate their capital needs every five years, including state-of-good-repair projects, systems replacements, and expansions to meet increasing demand. Although this is the intent of the city’s current Asset Information Management System (AIMS), which is designed to centralize the

city’s capital construction needs, the system needs to be modernized and updated to take advantage of the current best practices in capital planning. In addition, under the City Charter, AIMS is limited in scope to capital assets with a replacement cost of at least \$10 million. The Mayor’s Office should consider the feasibility of including assets under \$10 million to better understand the full scope of capital needs and allow budgeting for more proactive repairs and maintenance work, which often falls below that \$10 million threshold. The city council should then adopt and fund a fixed five-year capital program, aligned with the city’s required ten-year capital strategy. This approach is particularly essential for repair and maintenance projects, as the longer that repairs go unaddressed, the costlier they become.

### **Standardize and disseminate capital eligibility rules and requirements.**

OMB does not currently provide a guide outlining the requirements for receiving approval of a CP. The Office of the Comptroller’s Directives 7 and 10 cover basic rules for capital funding and auditing, but these are very general and require extensive interpretation by OMB staff, in accordance with state and federal law. Construction professionals caution that OMB’s interpretations are not always clear and have been inconsistent over time. Although these rules are designed to protect public dollars, they often have the reverse effect. As one top official at a cultural institution says, “The money lost to corruption is nothing compared to the money lost to delays and inefficiencies.” To improve the efficiency and transparency of the approval process, OMB should create a handbook providing an easy-to-understand summary of all capital eligibility rules and requirements with specific examples to help institutions understand the rationales behind various rulings. This document would help OMB staffers, capital construction managers at client nonprofits, and other agencies to understand how capital eligibility decisions are made and to ensure that proposals are in compliance before being submitted.

### **Allow appropriate capital projects to be contracted through a design-build process.**

Current state law requires design work and construction work be bid out, awarded, and completed separately, which can lead to inefficiencies and costs that exceed standards in the private sector. Although not all capital projects will benefit from a design-build process, this approach has been used by other governments, including certain New York State–funded projects, to reduce delays and control costs.

For large, complex projects, such as mechanical system replacements, a design-build process can help to ensure that architects, engineers, and contractors are in sync, reducing the likelihood that major changes will have to be made during the construction phase. In addition, a design-build approach can help to reduce total project durations by eliminating the bidding phase for construction and greatly reducing the likelihood that disagreements between the architects, engineers, and contractors will result in work stoppages and change orders in the build phase. The city should escalate its long-standing efforts to encourage the State Legislature to authorize design-build on appropriate capital construction projects.

### **Expand the use of pass-through project management**

Large nonprofit organizations can benefit from the authority to manage projects themselves. Cultural institutions report that self-managed projects lead to fewer delays, saving money for the institutions and reducing the burden on city agencies. Likewise, DDC cites the client organization as the source of the majority of project delays; shifting more capital construction projects from DDC-managed to client-managed could help reduce the total number of approvals required when clients decide to make changes once a project is underway.

However, DDC continues to oversee pass-through projects and control the purse strings, releasing reimbursements to the client organization as work is completed. As a result, pass-through projects are also subjected to a host of city rules and regulations, with various filing deadlines that have to be met on time. For instance, prevailing wage documents have to be

filled out by the contractor, signed by every member of the crew, and returned to DDC. This has to happen periodically through the duration of the project or things can stall.

City agencies should expand the use of pass-throughs for libraries and large cultural organizations, including both major capital construction and more modest renovation and maintenance projects. To help client organizations meet the city’s paperwork requirements, DDC should assign a project manager to help the client stay on top of coming deadlines and maintain compliance with all existing rules. In addition, the city should consider creating capital grants for libraries to self-manage necessary repair projects, similar to the Department of Cultural Affairs’ capital grants program. Lastly, DDC could pilot client-managed maintenance projects for certain smaller cultural organizations, in cooperation with DCLA and OMB, and closely compare the timelines and cost overruns to determine whether the pass-through model could work for a wider array of capital projects and clients. In addition, DCLA should publish clear guidelines for pass-through projects and standardize the process whereby pass-through permission is granted, so that client organizations know what to expect when they seek public funding for capital projects.

### **Improve contracting by assessing value rather than defaulting to the lowest bid.**

When DDC is forced to choose the lowest bidder, as mandated by state law, the client organization ultimately pays the price. Low-bid contractors are predisposed to look for ways to make back their money, which creates an incentive to generate more change orders and find ways to recoup expenses once the project starts. Decisions that save money up front can lead to major maintenance headaches in the future—sometimes exceeding the original savings. And the most experienced contractors are often priced out of competition or forced to assign their least experienced people, leaving teams with minimal track records in charge of major construction projects.

The city should implement a risk-based contract review procedure that includes the bidder’s experience as a criterion, with metrics assessed to validate

past performance. Even better would be a system that assesses contracts on value rather than price, which would require a change in state law. A leading national model, known as the Performance Information Procurement System, asks evaluations teams to consider a host of additional factors, including technical expertise, quality of materials and construction methods, projected maintenance costs over a multi-year period, and a demonstrated capacity to mitigate risk.

### **Create a “Director of Libraries” inside City Hall**

By creating a new position in City Hall for a Director of Libraries, the city could strengthen these institutions’ status as quasi-public agencies. Because all three systems are independent nonprofits and yet depend so heavily on city funds for the majority of their expense and capital budgets, and because the vast majority of branch buildings are owned by the city, it makes sense to appoint someone who can both exercise oversight over the libraries’ management of city assets and serve as a knowledgeable voice on the city’s side during budget negotiations. With respect to capital investments,

in particular, a Director of Libraries could provide a knowledgeable perspective on what increased investments could do for library services across the city, how they could support other city goals, and how they might be best structured to create a long-term capital plan consisting of a pipeline of priority projects. A library liaison could target other efficiencies by working with the libraries, OMB and DDC to package capital investments into single contracts, create clearer design standards for new and renovated branch libraries, and pave the way for pass-through contracts for projects that draw on private donations and grants. According to Deputy DDC Commissioner David Resnick, project management support at the Department of Cultural Affairs has had a positive effect on on-time completion rates. “We have an intermediary agency on the cultural side that doesn’t really exist for libraries,” he noted in a City Council hearing. The Director of Libraries would be responsible for managing the city’s investments in its library systems, ensuring that funding is adequate to meet current needs and that the libraries are able to make the most of the city’s crucial investments in library infrastructure.

# APPENDIX A: DETAILS ON THE VERIFICATION PROCESS

The approval of the capital budget in June marks the start of an extensive process to ensure authorized nonprofit capital projects meet the city’s stringent requirements.<sup>17</sup> Projects funded with discretionary dollars have not been vetted previously by the Office of Management and Budget and other city oversight agencies, and the projects must be cleared by these agencies. The process is long, complicated, and understood poorly by many nonprofits. As the timeline below shows, the verification process is estimated to take between one to three years—*before* work can begin. The city does not provide cash up front as it does for own agencies; instead, the city agrees to reimburse the nonprofits for eligible expenses incurred, but only expenses incurred *after* the project has completed the city approval process.<sup>18</sup>

The city must verify an organization’s eligibility as a registered nonprofit and the eligibility of the project

as one which serves a public purpose and meets the city’s capital criteria. The City Charter limits capital investments to physical assets with a minimum value of \$35,000 and an expected useful life of at least five years. There is also a \$500,000 minimum cost for the construction, reconstruction, or upgrade of buildings for cultural institutions.<sup>19</sup>

Filing a complete application, known as a Capital Funding Request, requires completing a series of checklists and forms; sophisticated nonprofits and those that have previously done business with the city may be able to file this application quickly, but it can take a year or more for other nonprofits. To receive city funds, the nonprofits must agree to follow city regulations regarding construction and financing, including paying prevailing wages, following applicable green standards, holding a 15 percent contingency in reserve

Verification of Eligibility	Estimated Timeline
Funding is approved in the city’s budget. If backed by discretionary funds, the elected official sponsoring the project must notify the nonprofit	3–12 months
The nonprofit must complete fully a Capital Funding Request and submit necessary documentation	1–12 months
DDC and other city agencies evaluate the application and to obtain any additional documents or verification necessary, and prepare legal agreements	2–3 months
The nonprofit executes the “Funding Agreement” and provides an “opinion of counsel” letter and any other agreements needed	2–3 months
DDC requests a “certificate to proceed” to release funding for the project and execute the agreements on behalf of the city	2–3 months
The agreements are sent to the Office of the Comptroller for approval and registration	1–3 months
<b>Total</b>	<b>11–36 months</b>

Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future.

for building project costs, abiding by procurement rules, and entering into a restrictive covenant, if necessary. Under state law, capital work on or the purchase of an asset in a privately owned institution requires the institution to record a lien against the capital asset for which the city is providing funding, typically for the useful life of the asset.

The nonprofit works extensively with the Department of Design and Construction and, if applicable, the Department of Cultural Affairs to justify everything from the purpose of the project to the price of items proposed for reimbursement. The details are finalized in a funding agreement that specifies the work for which the city will reimburse the nonprofit. These agreements vary by type of institution, as well as by project type. The city will not provide reimbursement for any work completed, services procured, or items purchased prior

to the execution of the funding agreement. Once the funding agreement, restrictive covenant, and other documents are finalized, the nonprofit's counsel must provide an opinion of counsel letter that attests the organization is a valid nonprofit with the power to execute the legal agreements, and that the execution of the agreements was duly authorized.

When these requirements have been met, the Office of Management and Budget will issue a Certificate to Proceed, which releases funding for the project, and allows the city to execute the agreements. The CP and all supporting contracts are registered by the comptroller after a review by his office; this can last three months, but is typically completed within 30 days. A CP may release funding for the entire project or a portion of it; a project may have one or several CPs and a CP is often amended as the project proceeds.

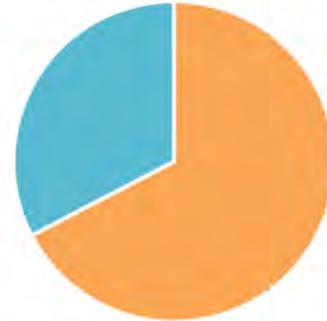
# APPENDIX B: SELECTED DATA ON PROJECT COSTS

Number of Projects Completed, FY2002–2014



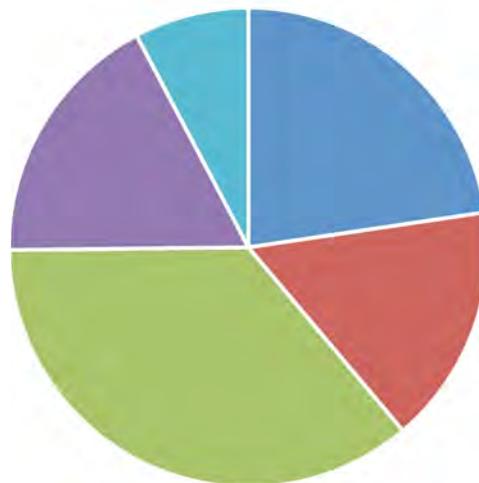
- Libraries, 286
- Cultural Affairs, 270

Value of Projects Completed, FY2002–2014



- Libraries, \$789,248,436
- Cultural Affairs, \$1,628,755,945

Number of Projects by Borough, FY2002–2014



- Brooklyn, 23%
- Bronx, 16%
- Manhattan, 36%
- Queens, 17%
- Staten Island, 8%

Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future.

### Number of City-Funded Capital Projects by Total Cost, FY2002–2014

	Number	Total Percent	Cultural Institutions	Share	Libraries	Share
Up to \$999,000	261	47%	80	30%	181	63%
\$1,000,000–\$4,999,999	186	33%	111	41%	75	26%
\$5,000,000–\$9,999,999	42	8%	32	12%	10	3%
\$10,000,000–\$24,999,999	39	7%	30	11%	9	3%
\$25,000,000 or Greater	28	5%	17	6%	11	4%
Average Cost	\$4,348,929		\$6,032,429		\$2,759,610	

### Capital Projects for City-Funded Libraries and Cultural Institutions by Type, 2002–2014

Type of Work	Number of Projects	Share	Total Cost	Share	Average Cost
New Construction	68	72%	\$689,464,939	29%	\$10,139,190
Renovation	375	67%	\$1,589,099,657	66%	\$4,237,599
Upgrade	95	17%	\$131,580,190	5%	\$1,385,055
Other	18	3%	\$7,859,595	0%	\$436,644
Total	556	100%	\$2,418,004,381	100%	\$4,348,929

### Capital Projects for City-Funded Libraries and Cultural Institutions by Type, 2002–2014

Type of Work	Cultural Institutions		Libraries	
	Number of Projects	Average Cost	Number of Projects	Average Cost
New Construction	54	\$9,954,119	14	\$10,853,035
Renovation	176	\$5,772,531	199	\$2,851,063
Upgrade	32	\$2,095,145	63	\$1,057,630
Other	8	\$568,245	10	\$331,363
Total	270	\$6,032,429	286	\$2,759,610

Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future.

# APPENDIX C: PROJECT DELAYS

To examine the causes of delay for projects with extremely long timelines, DDC provided detailed data on three projects that were among the lengthiest to complete. The projects selected reflected the project managers' intensive use of DDC's project info system to maintain a robust record of the project.

All three were new construction projects completed on behalf of libraries: the \$15.1 million Glen Oaks branch (18,000 square feet) in Queens; the \$8.7 million Mariners Harbor branch (10,000 square feet) in Staten Island, and the \$15.1 million Kensington Branch (18,524 square feet) in Brooklyn (all figures are construction costs). All three took more than 2,500 days (over six years) to complete, according to DDC records. They took longer to begin design than the average new construction project and had

significantly longer construction phases than average; in all three cases, the construction phase took the longest to complete.

The project managers detailed the length and reason for delays in the process. For the Glen Oaks branch, delays were responsible for one-third of the timeline, or 1,135 of 3,371 days; for the Kensington branch, 40 percent, or 1,006 of 2,535 days; and for the Mariners Harbor Branch 46 percent, or 1,307 out of 2,843 days. Across the three projects, the three major causes of delay were classified as: corrections to the baseline schedule; scope change requested by the client; funding issues and agency oversight review. Other delays were due to acquisition and easement issues, obtaining special approvals, consultants, weather, and design errors.

Sample Projects								
Project	City Cost	Project Start	Construction Completed	Time (in days)				
				Lag 1: Project Start to Design Start	Design Phase	Lag 2: Design End to Construction Start	Construction Phase	Total Project Time
New Glen Oaks Branch (Queens)	\$17,013,181	10/20/2003	1/11/2013	577	979	230	1585	3371
New Mariner's Harbor Branch (Staten Island)	\$8,755,300	12/15/2005	9/27/2013	398	720	374	1351	2843
New Kensington Branch (Brooklyn)	\$15,133,881	7/20/2005	6/28/2012	386	837	336	976	2535

Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future.

Reason and Length of Delay for Three Projects				
Management	Glen Oaks	Kensington	Mariners Harbor	Total
Total Days of Delay	1135	1006	1307	3448
Correction to Baseline Schedule	912	-87	586	1411
Scope change by client	-81	572	160	651
Funding Issue/Oversight Agency Review	62		287	349
Correction to Projected Schedule	168	101	-4	265
Time Extension/Non-Scope Change	74	100	39	213
Acquisition/Easement Issue(s)		159		159
Consultant Delays		51	81	132
Approval/Reviews/Special Testing		78		78
Weather Condition			67	67
Design Error(s)/Changes			61	61
Procurement Delay		32		32
Survey Issue(s)			30	30

Source: Analysis of DDC data by Citizens Budget Commission and Center for an Urban Future.

# ENDNOTES

1. DDC also furnished us with a longer list of 556 DDC-managed capital projects at cultural institutions and libraries from fiscal years 2002 to 2014. However, we received more detailed information about timetables and project costs for only the 144 projects completed between 2010 and 2014. As such, the financial analysis mentioned throughout this report refers to our assessment of those 144 projects.
2. The time is measured from the time the project file was opened to the time it was declared substantially complete.
3. After spending 91 days in design, the parapet plan was rejected by the Public Design Commission after new rules at the Fire Department dramatically changed the scale, conflicting with the library's status as a designated landmark. According to the project manager at BPL, the parapet had to go back to the drawing board while the roof repair went ahead, requiring the building to be covered in scaffolding for over three years.
4. New York Building Congress, "NYC Construction Costs Rose to Nearly Twice the National Rate in 2015," March 16, 2016. <https://www.buildingcongress.com/outlook/031616.html>
5. The projects analyzed by CBC and CUF span calendar years 2001 to 2014. Given that construction costs in New York City are now at an all-time high, the disparity between private-sector costs and those reported in our study may have been even higher in previous years.
6. Data provided by the New York Public Library.
7. Department of Design and Construction, "State of the Agency, 2014–2017." <http://www1.nyc.gov/assets/ddc/downloads/publications/about-ddc/ddc-state-of-the-agency.pdf>
8. The Mayor's Office of Contract Services reported 183 days as the median length of time for DDC to complete a procurement cycle for competitive sealed bids in fiscal year 2014. For every project type in our sample, the median duration for this phase was significantly longer.
9. Project Info User Guide provided by DDC, p. 20.
10. See indicator definitions available at <https://data.cityofnewyork.us/report/mmr/DDC/how-we-performed#1a>. See also CUF's report on New York City's infrastructure needs, *Caution Ahead*, available at <http://nycfuture.org/research/caution-ahead>.
11. As a result, the city's debt burden has grown tremendously, see <https://cbcny.org/research/nyc-debt-outstanding>.
12. Maria Doulis, "Planning After PLANYC: A Framework for Developing New York City's Next Ten-Year Capital Strategy," Citizens Budget Commission, December 2013, <https://cbcny.org/research/planning-after-planyc>; Maria Doulis, "Capital Budgeting for 2030: Achieving the Goals of PLANYC," Citizens Budget Commission, December 2007, <https://cbcny.org/research/capital-budgeting-2030-0>; *Caution Ahead*.
13. Felicia R. Lee, "New Center, but Woes at Historic Site," *New York Times*, December 20, 2013. [http://www.nytimes.com/2013/12/21/arts/weeksville-black-history-site-hobbled-by-dip-in-donations.html?\\_r=0](http://www.nytimes.com/2013/12/21/arts/weeksville-black-history-site-hobbled-by-dip-in-donations.html?_r=0)
14. Ewa Kern-Jedrychowska, "Jamaica Performance Center Got \$22M Refurb, But Can't Afford Shows," *DNAInfo*, May 28, 2013.
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