



# A Review of NYC Capital Project Delivery

## Highlights

- The City is shifting from publishing the Capital Project Detail Data (CPDD) report to a Capital Projects dashboard; both suffer from a number of limitations for reporting on project delivery.
- The CPDD excludes about half of the City's total project inventory, amounting to roughly \$73.9 billion, or 47.2 percent of all capital commitments in the plan.
- Projects for schools, loans for housing and equipment are not covered in the CPDD and dashboard.
- Among 5,128 projects analyzed, a majority suffer from project delays and cost overruns.
- About 64 percent of analyzed projects were delayed, which is defined as projects that are at least three months past their planned completion date.
- Nearly half, 48.4 percent, are excessively delayed, defined as projects that are three or more years behind their scheduled completion date.
- Of the 73 percent of projects with a reported delay, more than half were due to budgetary constraints.
- The Department of Design and Construction (DDC), the City's primary capital project manager, did not achieve particularly better results than other agencies, however it is tasked with more complex projects. The impact of recent reforms is also unlikely to be reflected in the data during the analysis period.

Capital planning is a long-term process, which can make tracking project delivery difficult, but which ultimately requires greater transparency to ensure dollars are being used efficiently. Planning, tracking, monitoring and revising budgets and schedules in this process are each important for executing an understandable capital strategy to ensure investment in existing and new infrastructure assets. New York City's robust capital planning process can still be enhanced to help the public understand these decisions.

While there is fairly robust aggregated and planned spending data made available by the City, consistent data on City-funded projects is more difficult to ascertain across its entire capital project portfolio. In particular, there are many City-funded projects that are excluded from its reporting requirements, and data on budgets and schedules lack certain details that would benefit capital project monitoring. In recognition of these limitations, the City has installed a new capital planning dashboard, but it does not yet live up to this standard, and can be improved to do so.

While this report highlights some of the limitations of current capital project reporting, its main purpose is to review the commitment of funds toward capital projects and assess progress on project delivery as compared to the City's initial budgetary projections. The analysis finds that a majority of analyzed projects are over both their initial budget and schedule, suggesting greater monitoring could lead to adjustments that ultimately improve capital project delivery. Given this finding, the report isolates project characteristics that were most likely to lead to delays and cost overruns, and suggests the City reports on, and looks more closely at, these shared characteristics to avoid future overspending and fund its capital needs in a cost-efficient manner.

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## Background

New York City is required by law to provide regular information on how it plans for, funds and executes the delivery of capital projects. Two regularly provided documents inform and define the capital strategy at a high level: the annual Asset Inventory Management System (AIMS) Report and the biennial draft and final Ten-Year Strategy. Once these capital needs, purpose and strategy are identified, funding information is detailed on a project level, with planned commitments and existing appropriations laid out in the Capital Commitment Plan (CCP) and the inclusion of new and existing appropriations in the capital budget. (See the appendices in this report for more details on required reporting.)

The City's Capital Projects Detailed Data (CPDD) report monitors progress on its capital projects. This document provides the most detail at the project level, which enables a better understanding of the delivery of capital projects as compared to their initial budget and schedule. Given this report's focus on budget and schedule monitoring, understanding the details in this document is useful.

The CPDD is required by the City Charter and contains information on project schedules by phase, the initial and current budget, and explanations of any delays for particular projects. The projects can be aggregated by the managing agency and type.

Aligning capital planning documents so that local officials and the public can clearly identify the purpose, cost, schedule and progress of projects enhances transparency, and ultimately leads to better capital project management.

In recognition of this goal, the City has created the NYC Capital Projects Dashboard ("the dashboard"), which is expected to fully replace the CPDD. The new dashboard is an opportunity to provide this detail publicly in a clear and

comprehensive manner and enhance capital project monitoring.

However, in its current form, the dashboard lacks the update frequency and details included in the CPDD, making it less useful than its predecessor as a capital project tracking tool.

## Analytic Limitations

There are some important analytic limitations of the documentation used in the City's capital planning process. Those limitations impact the findings in this report. In most of these cases, the limitations are a function of the City's capital reporting process and its fragmented approach to delivering capital projects. The main limitations of this analysis include:

- 1) The dashboard has not been updated since September 2023 and currently lacks details on initial project budgets and explanations for schedule delays that make it difficult to track progress. Due to these limitations, the Office of the State Comptroller (OSC) makes use of the CPDD, the last update for which was done in October 2023. The City has suggested to OSC that the dashboard will eventually sync with CPDD reporting details and frequency.
- 2) A substantial number of projects that are in the CPP are not included in the CPDD or dashboard. City-funded projects undertaken by other entities, such as the School Construction Authority (SCA) and Metropolitan Transportation Authority (MTA), as well as projects that are effectively for purchasing (such as equipment) or loans (such as for housing) are not included in the dataset. Some of these projects are reported on by other entities but are not able to be easily reconciled with funding in the CCP or compared to project delivery performance as measured in the CPDD.

- 3) Project details, including broad or inconsistent phase and delay descriptions and lack of descriptions for budgetary cost overruns are limitations in the CPDD that have carried over to the dashboard. The lack of detail makes it more difficult to identify issues that lead to cost and schedule overruns.

## Analytical Findings

Given the limitations noted above, this analysis is limited to those projects reported in the October 2023 CPDD. The findings below identify gaps in reporting on funded projects, rates of cost and schedule overruns, and the types of projects or the managing agencies that most often experience delays and changes to their project budgets.

### Reconciliation of the City’s Capital Project Inventory

As noted in the previous section, the City will no longer update the CPDD, which is being replaced by the NYC Capital Projects Dashboard. The final CPDD update was published with data as of October 26, 2023. However, as of March 2024, the data in the NYC Capital Projects Dashboard has not been updated since September 2023. While the City did publish an update to its CCP and introduced the FY 2025 Capital Budget since then, the City has not yet provided any machine readable and downloadable updates on individual project budgets and schedules (i.e., key milestone dates) that is comparable to the information contained in the CPDD.

As of January 2024, the CCP included more than 8,700 unique project codes in the City’s inventory. The planned commitments (less interfund agreements and contingencies) total more than \$156 billion over the plan window (fiscal years 2024 through 2033). This is compared to 5,128 projects in the CPDD valued at \$95.6 billion in

planned spending as of October 2023. While a substantial portion of this gap can be attributed to projects that have not yet been scoped and therefore do not have project cost estimates and timelines, there are additional reasons why projects may be excluded.

As noted earlier, the CPDD does not include projects managed by other entities but funded with City resources.<sup>1</sup> In addition to SCA, budget and schedule information for projects undertaken are not included for the New York City Transit Authority and are limited to community centers funded by City Council for the New York City Housing Authority (NYCHA). The vast majority of remaining funding included in the CPP, but not the CPDD, is for projects that do not yet have a full development of their scope, making cost estimation incomplete, or that do not include normal project phases (see Figure 1). Examples of projects without traditional phases include housing finance loans to landlords and developers or the purchase of equipment. The City also funds various local capital initiatives in

**FIGURE 1**  
Projects in CCP Excluded from CPDD  
(\$ in billions)

Managing Agency	Number of Project IDs	Planned Commitments
Housing Preservation & Dev.	495	\$19.6
Education	22	18.4
Environmental Protection	171	8.9
Transportation	100	5.9
Citywide Admn. Servc	121	4.4
Parks & Recreation	505	2.4
Sanitation	63	2.3
Health + Hospitals	339	2.3
Transit Authority	9	2.2
All Other	1,989	7.4
<b>Total</b>	<b>3,814</b>	<b>\$73.9</b>

Note: Totals may not add due to rounding. For comparability, planned Capital Commitments shown above are as of the Adopted FY 2024 Financial Plan and include fiscal years beyond the financial plan period, through FY 2033. Sources: NYC Office of Management and Budget; OSC analysis

included in the CPDD. Expenditures for SCA projects are reported on FMS separately (fund “402”) and are not included in the CPDD.

<sup>1</sup> From a technical standpoint, only the construction projects reported in the City’s Financial Management System (FMS) under its Capital Fund (coded as fund “400”) are

the nonprofit sector which are not included in progress updates. In sum, these projects amount to \$73.9 billion, or 47.2 percent of all capital commitments in the CCP.

### More Than Half of Analyzed Capital Projects are Over Budget

One fundamental concern for the City in its execution of capital projects should be understanding how often and why projects go over their allotted budget. While there are many factors that may create pressure on capital projects that the City does not directly control—including inflation, statutory procurement rules and regulations, and community and legal opposition—the City’s monitoring of capital projects can lead to adjustments that provide a more realistic view on project costs .

A review of analyzed capital projects shows that more than 50 percent were over budget (see Figure 2). These projects amounted to \$54.5 billion more in spending than initially anticipated. It is worth noting that nearly two-fifths of all analyzed projects were more than 20 percent over budget. However, it is also important to clarify that the analysis period includes the onset of the COVID-19 pandemic, which likely contributed to project delays and created funding pressure for project budgets.

In contrast, about 27 percent were on-budget (the current plan is the same as the original budget), and about 21 percent of projects were under budget. The City does not assign a reason for why projects exceed their budget in its monitoring documents. However, three common reasons that correlate with capital projects exceeding their budgets are: when projects exceed their planned schedule; when their scope is expanded; and where projects exceed a certain dollar amount, suggesting additional unforeseen complexity.

### Delayed Projects Have Higher Costs

Given the importance of project timeliness for both budget and potential agency operations, and a lack of description for why projects go over budget, this analysis reviewed delay descriptions provided in the CPDD. About 64 percent of analyzed projects were delayed (see Figure 3), which is defined as projects that are at least three months past their planned completion date. Nearly half, 49.9 percent, are excessively delayed, defined as projects that are three or more years behind their scheduled completion date. Original budgets on delayed projects anticipated spending of about \$41.9 billion. The current planned spending on these projects is now \$72.3 billion, about 72.5 percent higher than the original budgeted amounts. Significantly delayed projects, where planned completion is at

**FIGURE 2**  
Extent to Which NYC-Managed Capital Projects are Over Budget

(\$ in billions)

Category	Number of Projects	Share of Total	Original Budget	Current Plan	Percent Change	Dollar Change
20% or more	2,029	39.6%	\$ 29.9	\$ 83.3	179.1%	\$ 53.5
At least 10%, Less than 20%	199	3.9%	3.8	4.4	14.5%	0.6
Over 0%, Less than 10%	354	6.9%	10.4	10.9	4.4%	0.5
<b>Subtotal</b>	<b>2,852</b>	<b>50.4%</b>	<b>44.1</b>	<b>98.6</b>	<b>123.5%</b>	<b>54.5</b>
On Budget	1,377	26.9%	11.1	11.1	0.0%	---
Under Budget	1,071	20.9%	35.5	23.4	-33.9%	(12.0)
Incomplete Data	98	1.9%	---	2.7	N/A	2.7
<b>Total</b>	<b>5,128</b>	<b>100%</b>	<b>\$ 90.7</b>	<b>\$135.8</b>	<b>49.8%</b>	<b>\$ 45.1</b>

Note: Totals may not add due to rounding.

Sources: NYC Office of Management and Budget; OSC analysis

### FIGURE 3

#### Extent to Which NYC-Managed Capital Projects are Delayed

(\$ in billions)

Category by Months	Number of Projects	Share of Total	Original Budget	Current Plan	Percent Change	Dollar Change
36 months or more	2,560	49.9%	\$ 41.9	\$ 72.3	72.5%	\$ 30.4
At least 12, Less than 36	686	13.4%	6.7	9.5	41.4%	2.8
At least 3, Less than 12	65	1.3%	2.0	2.8	38.9%	0.8
At least 0, Less than 3	23	0.4%	1.0	1.1	15.7%	0.2
<b>Subtotal</b>	<b>3,311</b>	<b>64.6%</b>	<b>50.6</b>	<b>84.6</b>	<b>67.1%</b>	<b>34.0</b>
On Time	1,435	28.0%	28.6	35.4	23.8%	6.8
Accelerated	359	7.0%	10.5	14.7	40.1%	4.2
<b>Total</b>	<b>5,128</b>	<b>100%</b>	<b>\$ 90.7</b>	<b>\$135.8</b>	<b>49.8%</b>	<b>\$ 45.1</b>

Note: Totals may not add due to rounding.

Sources: NYC Office of Management and Budget; OSC analysis

least one year, but not more than three years later than originally scheduled, have current budgets that are about 41.4 percent higher than projected.

The analysis suggests that projects with substantial delays have seen budgets rise faster than projects that are completed or expected to be completed closer to their initial schedules. However, it is also important to note that in the aggregate, even projects that were on time or accelerated suffered from cost overruns.

#### Why are Projects Delayed?

While the City does not provide a rationale for why projects have exceeded their budgets, the CPDD does provide a description for why projects are delayed. There are at least 12 descriptions excluding a blank description, which the City uses when a project is not delayed. More than one-quarter (27 percent) of all analyzed projects were expected to be completed on time.

Of the projects with a reported delay, 73 percent of the total, more than half are delayed because of budgetary constraints (see Figure 4, see next page). Budgetary constraints are not clearly defined but may be due to a lack of capital funding in the City treasury at points during the project life or needed changes to funding commitments made in the CCP. The City does

not suggest in the CCP where budgetary constraints exist and therefore where project funding changes may be required and are contributing to delays, which make potential future updates to cost estimates of project completion more opaque.

For the remaining projects experiencing a delay, the most common reasons are changes to scope and design, and an unforeseen site or field condition. Less than 2 percent are explained by other reasons, such as the need for a resolution of legal issues, necessary permit approvals, scheduling of utility work, unforeseen hazardous conditions or the unavailability of a product. The concentration of reasons for delays suggests that many are in some way either due to actions taken by the City to manage its capital budget or due to scope changes in the project itself.

#### Are Certain Types of Projects More Likely to be On-Time and At-Cost?

While many of the analyzed projects are over budget, certain types of projects are more likely to be behind schedule or over budget than others. For all projects, the beginning of the sequence for project initiation is a critical point for understanding why and when projects are delayed.

**FIGURE 4**  
**NYC Explanations for Project Delays**  
(\$ in billions)

Category by Months	Number of Projects	Share of Total	Original Budget	Current Plan	Percent Change	Dollar Change
Budgetary Constraints	2,008	39.2%	\$ 36.7	\$ 64.5	75.8%	\$ 27.8
Changes in Scope/Design	1,200	23.4%	17.2	23.1	34.1%	5.9
Unforeseen Site/Field Condition	462	9.0%	12.9	17.6	36.0%	4.7
Pending Resolution of Legal Issues	35	0.7%	0.2	0.4	75.6%	0.2
Pending Approval of Necessary Permits	19	0.4%	0.1	0.1	40.3%	0.0
Pending Non-City Grant Approval	12	0.2%	0.1	0.1	31.1%	0.0
Scheduling of Utility Work	7	0.1%	0.5	0.5	-2.7%	(0.0)
Unavailability of Products	6	0.1%	0.0	0.0	358.1%	0.0
Unforeseen Hazardous Condition	5	0.1%	0.0	0.0	8.7%	0.0
Pending Release of New Technology	3	0.1%	0.1	0.1	-7.2%	(0.0)
Pending Approval of State Req.	1	0.0%	0.0	0.0	35.0%	0.0
Contractor Default	1	0.0%	0.0	0.0	1,452.0%	0.0
<b>Subtotal</b>	<b>3,282</b>	<b>73.3%</b>	<b>67.8</b>	<b>106.4</b>	<b>56.8%</b>	<b>38.5</b>
No Delay or No Explanation Provided	1,369	26.7%	22.8	29.4	28.7%	6.6
<b>Total</b>	<b>5,128</b>	<b>100%</b>	<b>\$ 90.7</b>	<b>\$135.8</b>	<b>49.8%</b>	<b>\$ 45.1</b>

Note: Totals may not add due to rounding.

Sources: NYC Office of Management and Budget; OSC analysis

OSC aggregated the project inventory data into discrete “project types,” which are the City’s high-level summaries of capital work with a similar purpose, based on the budget code(s) assigned to each project code (Figure 5, see next page). Some projects include budget codes from more than one project type and are aggregated and categorized separately as “Multiple Types.”

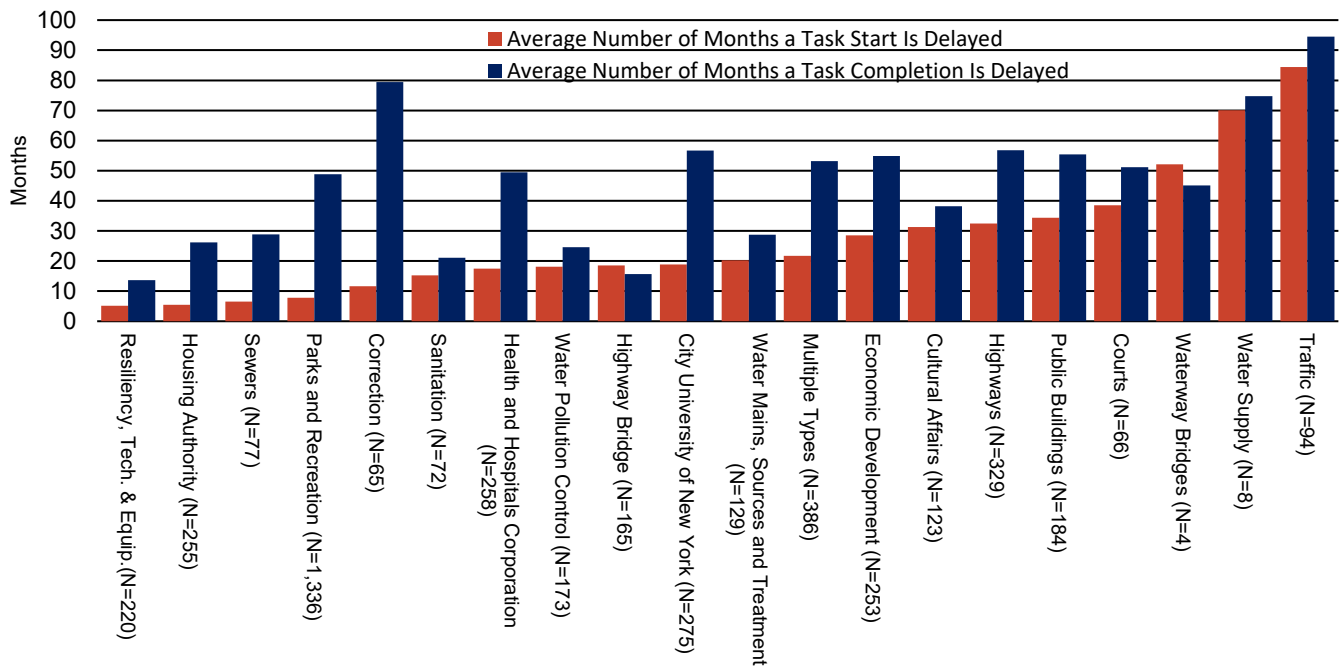
Among the analyzed projects by type, where the type is projected to exceed \$1 billion in aggregate spending over the 10-year commitment period—including sewer work at the Department of Environmental Protection (DEP); resiliency, technology and equipment projects at various agencies; as well as projects at Parks and Recreation and Correction—there was an average delay to the start of a project phase of less than a year compared to initial projections.

In contrast, courts, waterway bridges, water supply, traffic, highways, public buildings, library and economic development projects were all likely to start more than two years after the initial

project sequencing start. Similar delays in project starts existed for NYC Health + Hospitals (H+H) as well as the Police and Cultural Affairs departments. The movement of start dates directly impacts the cost of projects, as prices of labor and materials generally rise over time.

While project start delays were generally correlated with project completion delays, identifying certain types of projects where completion delays well exceeded start delays may provide some context when project delivery, rather than simply start times, is impacting completion timelines.

**Figure 5: Average Delay in Phase Starts by Project Type**



Sources: NYC Office of Management and Budget; OSC analysis

Projects with completion delays that exceed the project start delays by an average of more than 12 months, among the project types exceeding \$1 billion in aggregate spending, included those undertaken by the Department of Correction, Parks and Recreation, City University of New York, and H+H.

Certain project types were also more likely to end up over budget. More than half of Sanitation, Water Pollution, Water Mains, Highway Bridges, Courts and Cultural Affairs projects were excessively over budget, exceeding 20 percent of their original budget (Figure 6, see next page). Over budget projects also made up more than 60 percent of projects that spanned multiple types.

Agencies that commonly experience cost overruns generally align with project types, with Parks and Recreation and DEP having more than 50 percent of their analyzed projects over budget. In addition, the Department of Design and Construction (DDC) had the highest proportion of

projects that exceeded 20 percent of its initial budgets, the poorest rate among all managing agencies.

### How Does the Department of Design and Construction Perform in Delivering Projects?

The DDC is the City's primary capital project delivery agency. DDC works with a wide variety of City agencies that leverage its project management, engineering and architectural expertise to deliver projects, but it does not undertake the full portfolio of capital projects for the City. Only about 16 percent of the projects in the dataset are managed by DDC.

Perhaps owing to its coordination role or its expertise, leading to management of more complex projects, DDC does not seem to have a meaningfully better track record than the agencies themselves for delivering projects. In the aggregate, DDC projects are expected to be 50.8 percent more costly than initially projected,

**FIGURE 6**  
**Number of Projects Over Budget By Project Type**

Project type	Excessively Over Budget	Significantly Over Budget	Over Budget	On Budget	Under Budget	Incomplete Data	Total
Parks and Recreation	518	86	136	187	399	10	<b>1,336</b>
Multiple Types	238	17	32	31	65	3	<b>386</b>
Highways	142	9	16	78	73	11	<b>329</b>
City University of New York	52	2	2	185	34	0	<b>275</b>
Health and Hospitals	66	11	16	109	42	14	<b>258</b>
Housing Authority	67	3	10	113	44	18	<b>255</b>
Economic Development	82	8	24	98	38	3	<b>253</b>
Resilicy, Tech. & Equipment	39	5	12	118	44	2	<b>220</b>
Public Buildings	54	9	11	60	49	1	<b>184</b>
Water Pollution Control	96	4	9	21	36	7	<b>173</b>
Highway Bridge	86	8	18	40	11	2	<b>165</b>
Water Mains	75	4	5	22	18	5	<b>129</b>
Cultural Affairs	64	3	4	31	19	2	<b>123</b>
Traffic	32	7	10	30	15	0	<b>94</b>
Sewers	34	7	5	20	11	0	<b>77</b>
Sanitation	47	0	2	8	14	1	<b>72</b>
Courts	37	3	1	13	12	0	<b>66</b>
Correction	30	1	3	1	30	0	<b>65</b>
Water Supply	4	0	0	1	3	0	<b>8</b>
Waterway Bridges	2	1	0	0	1	0	<b>4</b>
<b>Subtotal – Major Types</b>	<b>1,765</b>	<b>188</b>	<b>316</b>	<b>1,166</b>	<b>958</b>	<b>79</b>	<b>4,472</b>
Other Project Types	264	11	38	211	113	19	656
<b>Total</b>	<b>2,029</b>	<b>199</b>	<b>354</b>	<b>1,377</b>	<b>1,071</b>	<b>98</b>	<b>5,128</b>

Note: The categories shown above are organized based on percent change from the original budget to the current plan. **Excessively Over Budget** (20 or more); **Significantly Over Budget** (at least 10 percent but less than 20 percent); **Over Budget** (more than 0 percent but less than 10 percent); **On Budget** (no change in planned spending); **Under Budget** (current plan is any amount less than the original budget); and **Incomplete Data** (project does not report an original budget).  
Sources: NYC Office of Management and Budget; OSC analysis

similar to the 49.8 percent for the entire portfolio. Project phase start dates were, on average, 19 months after the initially projected start date, better than a number of other agencies. However, average project phase completion delays are expected to be 57.5 months, more than two and a half years later than the average start delay. DDC has noted that scope changes were a major cause of project delays and began a front-end planning process, working with sponsor agencies

to revise scope prior to accepting projects and projecting costs.

Greater transparency over what is reported in the Mayor’s Management Report (MMR) regarding on-time and on-budget projects would also be helpful. A significantly higher share of projects was reported as completed on-time in the MMR — 81 percent of design projects and 76 percent of construction projects in FY 2023 — when compared to the projects in the CPDD inventory. The difference may be partly explained by the



DDC excluding delays attributed to external parties due to scope or design changes out of the DDC’s control.

DDC has also released several Blueprint reports outlining existing reforms of, and future improvements planned for, capital project delivery, including phases of planning, design and construction. Additional flags in reporting that enable monitoring of projects that have been able to make use of recent reforms, including alternative project delivery methods such as design-build, would provide evidence of progress made. DDC has also suggested it tracks more detailed reasons for costly delays, which are not included in public reporting in the CPDD or dashboard.

### What Can the Largest Projects Tell Us About Monitoring?

Concrete examples of how a lack of detailed reporting can lead to difficulty ensuring projects adhere to their budgets and schedules may also be helpful for improving capital reporting. A review of the largest projects based on the currently budgeted amounts provides some such examples of the difficulty in understanding the

choices around projects and the limitations in their monitoring (see Figure 7).

For example, three of the largest projects were for the Department of Transportation (DOT), including in-house asphaltting and in-house non-asphalt, two citywide projects, as well as rehabilitation of the Brooklyn-Queens Expressway (BQE) from Sands Street to Atlantic Street. For the two road maintenance projects, the original budget was \$891.3 million, and actual spending has reached \$1.7 billion. The total budget for these items is now \$3.5 billion, nearly four times the original budget. For the BQE portion of rehabilitation, the project is not delayed and currently remains near its budgeted level.

Four of the top 10 projects included are for borough-based jails, all of which have actual spending that is well under budget, as the jails remain in the design phase. Budgets also remain at or near original levels, however the CPDD suggests that projects are already delayed “due to unforeseen field conditions.” The City has suggested outside of the capital process that these delays are related to the inmate population housed by the Department of Corrections at this time and projected into the future. The City has

**FIGURE 7**  
**NYC Largest Capital Projects Explanations for Project Delays**  
 (\$ in millions)

Project Description	Managing Agency	Original budget	Current Budget	Delay Description
In-House Resurfacing – Non-Asphalt	DOT	\$ 891	\$ 3,521	Budgetary Constraints
Brooklyn Boro-Based Jail	DDC	2,021	3,342	Unforeseen Site Conditions
Croton Filtration Plant	DEP	1,689	2,866	Unforeseen Site Conditions
Newtown Crk. Water Pollution Upgrade	DEP	2,119	2,306	Budgetary Constraints
Manhattan Boro-Based Jail	DDC	2,188	2,059	Unforeseen Site Conditions
Kensico-Eastview Connection Tunnel	DEP	563	1,987	Budgetary Constraints
Queens Boro-Based Jail	DDC	2,114	1,986	Unforeseen Site Conditions
Bronx Boro-Based Jail	DDC	2,073	1,933	Unforeseen Site Conditions
BQE Rehabilitation – Sands/Atlantic	DOT	1,901	1,908	Delay Not Current Anticipated
In-House Resurfacing – Asphalt	DOT	251	1,815	Budgetary Constraints
Pedestrian Ramps Rehabilitation	DOT	75	1,736	Budgetary Constraints
Hazard Mitigation East River Bridges	DOT	107	1,677	Budgetary Constraints

Note: Totals may not add due to rounding.  
 Sources: NYC Office of Management and Budget; OSC analysis

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also suggested that the jails are likely to require additional funds due to delays and increases in the cost of materials and labor since the original budget was created, further solidifying the relationship between project delays and cost overruns.

The remaining three projects are for the Department of Environmental Protection. In each case, the currently planned budget now exceeds the original budget and for the Croton Water Filtration Plant and Kensico-Eastview Tunnel Connection, the original budget has been exceeded by more than \$1.1 billion each.

While there is no explanation for the reason for the cost overruns, budgetary constraints were noted in a number of cases. It is unclear how constraints have held back the projects, which have seen an increase in their budgets since their original budgets were created and have not yet spent all planned funding toward the projects.

## Conclusion

The City recently took steps to reduce the size of its capital program, the first such reduction since 2014. The reduction is based on the recognition that the City is unable to complete currently planned projects and manage its debt prudently, both in terms of managing statutory debt limitations and its own policy on its debt burden, a measure of the affordability of its debt servicing costs as a share of city-fund tax revenues.

The recognition of capital spending impact on debt limitations is important. It also raises questions over the execution of the City's capital plan in recent years, which has more than doubled in size since 2015. While a significant portion of the increase is due to the addition of new projects, this analysis suggests a large amount is also attributable to underbudgeting for the vast majority of projects it undertakes.

This finding suggests that the City may be able to better project potential costs by considering related factors. Most importantly, the cost of

project delays and unforeseen circumstances must be further understood to manage capital project spending. Recent reforms to the City's capital planning process have focused on measures for streamlining project delivery, but little detail is available in public documentation about what is fueling these cost and schedule overruns. The only reform included on monitoring projects was the release of the dashboard, which this report suggests is plagued with similar limitations as its predecessor the CPDD, and has not been updated at the same frequency.

Notably, the dataset analyzed highlights missing entities that drive a considerable amount of capital spending for the City, in particular, the SCA (on behalf of the DOE) and the Department of Housing Preservation for housing loans where the City does not undertake the capital repairs itself. Greater alignment of capital reporting for these other projects would help provide greater transparency into how those entities are delivering on timeliness and their own budgetary constraints. A public listing of those projects that are not in the CPDD or dashboard would help stakeholders reconcile which projects are not able to be compared when managing the performance of capital projects. The inclusion of equipment purchasing projects, which is done by the MTA, would also enhance transparency.

Greater detail for the existing datasets would also enhance understanding of what drives timely and on budget projects. Currently, the City does not include a rationale for why projects are over budget, making it difficult to isolate potential cost drivers to be wary of in preparing and undertaking capital projects. These include unanticipated costs for contractors, materials, outreach, overlapping jurisdictions and other complexities, which may result in delays.

The City does provide some information on the reason for delays, but there is a lack of clarity on the largest cause of delays: budgetary constraints. It is not clear if such delays are due

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to a reprioritization of capital work (i.e., the City no longer believes the work is needed or can be deferred to a future date), or due to actual fiscal limitations (i.e., the City no longer believes it can afford to complete the work within the baseline schedule). OSC recommends that the City create additional delay explanation categories which convey changes in priority, project cancellation or deferrals and whether insufficient resources were available to complete the work on time.

The projects analyzed in this report also suggest there are common themes for projects that go over budget or are delayed that may suggest the need for greater scrutiny. For instance, certain types of projects and agencies were more likely to see delays and cost overruns. Discussions with the managing agency on projects that have faced issues in their delivery may lead to better management processes across the City's capital portfolio.

Projects that spanned multiple types were also more likely to experience cost overruns, suggesting the need for more focus on coordination and complexity in scoping the work and prior to estimating necessary funding. While the City has added reforms, little is known about the progress in better scoping work. The complexity or uniqueness of projects may also afflict DDC, which was created to be able to tackle more complex project work, but which has suffered from delays and cost overruns that are similar to their managing agency peers.

The findings also suggest the City lacks understanding on the effectiveness of capital project delivery of other agencies, such as SCA and MTA, as well as projects which are not undertaken by the City, particularly around housing, which is not reported by other entities, such as is the case for educational or transit projects.

The City should continue to provide regular updates on the status of its capital reforms to review the effectiveness of its ongoing efforts to reduce costs or delays. Given limited resources and an escalating cost environment, refocusing on monitoring all of its capital spending in a more uniform manner would help refocus and reprioritize where additional work is needed to stretch capital dollars and deliver projects in a timely fashion.

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## Appendix A: The History of Capital Reporting Requirements

The City's capital project reporting requirements were established over three decades ago under the 1988 and 1989 charter revision process. The reporting requirements specify both the timing of submission of public documents as well as the content of the documents to be submitted. The information provided by the administration on the City's capital projects is utilized by local elected officials to assess the appropriateness of proposed projects, evaluate the projects in comparison to other similar projects, and monitor their progress.

Prior to the 2019 City charter revision, concerns emerged over the transparency and usefulness of the reporting tools. For example, the previous iteration of the NYC Capital Projects Dashboard (launched in 2014), while making a step toward data centralization and oversight over the City's largest projects, had excluded capital projects which did not meet a cost threshold of \$25 million. This meant that the dashboard could not be utilized by residents to track local projects in their community, nearly all of which did not meet the cost threshold.

At a February 2019 public hearing, City officials informed the City Council that there are significant technical challenges associated with integrating the legacy project management systems at the agencies, and the data collection process remains labor intensive (including manual tabulation of the data).

In response to the concerns, the City's capital reporting requirements received significant revision in 2020 and 2021 as part of a new round of efforts to further centralize the City's reported data and improve transparency and usefulness. The current statutory framework for capital planning and reporting is summarized in Appendix B.

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## Appendix B: Capital Project Planning Reporting Requirements

Both the draft and the finalized 10-year capital strategy must include the following content:

- (1) a narrative describing the strategy for the development of the city's capital facilities for the ensuing 10 fiscal years; the factors underlying such strategy including goals, policies, constraints and assumptions and the criteria for assessment of capital needs; the anticipated sources of financing for such strategy; and the implications of the strategy, including possible economic, social and environmental effects;
- (2) tables presenting the capital commitments estimated to be made during each of the ensuing 10 fiscal years, by program category and agency. Where relevant the anticipated sources of financing for particular categories and projects shall be specified; and
- (3) a map or maps which illustrate major components of the strategy as relevant.

Section 219(d) of the City Charter requires the Mayor to prepare periodic reports with certain information on the City's capital projects, which are organized into two formats. The first is the Capital Commitment Plan (CCP), which must be published three times each year, with the submission of the preliminary and executive capital budget, and within 90 days of the publication of the adopted capital budget.

The CCP must include:

- (a) for the current year and each ensuing fiscal year for which information is included, appropriations and planned commitments by project type and planned commitments by agency;
- (b) for each capital project, as applicable, a description of such project, the schedule of planned commitments for the current year and each ensuing fiscal year for which information is included, available appropriations, expenditures and the current milestone associated with such project; and
- (c) for the prior four fiscal years, commitments by project type and total expenditures by fiscal year.

The CPDD report contains information on the progress of capital projects undertaken by the City, including schedules and clear explanations of any delays for particular projects and summary information on each agency's record on such matters.

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## Appendix B (Continued)

Pursuant to Local Law 37 of 2020, a task force made up of agency representatives from the administration was convened to implement the NYC Capital Projects dashboard and an advisory board with representation from local elected officials was convened to provide oversight. The local law prescribed the data elements to be included in the dashboard for each capital project undertaken by the City and within the City's five boroughs.

The data elements, which are substantively the same as those reported in the CPDD, include:

- (a) the name of the capital project and the borough in which the project will be located;
- (b) the agency implementing the capital project and any agencies contributing capital funds for such capital project;
- (c) the current phase of the capital project;
- (d) information regarding the capital project's schedule, such as the baseline project schedule, and, if applicable, the actual schedule variance and schedule variance as a percentage of the planned duration of the project; and
- (e) information regarding the capital project's costs, such as the dollar amount spent to date and, if applicable, the actual cost variance and the cost variance as a percentage of the baseline cost.

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## Appendix C: OSC Methodology to Calculate Project Cost Overruns and Delays

OSC considers a project “**over budget**” if the current plan reported by OMB in the CPDD “Dollar” dataset (equal to the city-funded plus the non-city-funded total) is greater than the original budget established at the time of a project’s inception.

OSC considers a project “**over time**” if any of the individual tasks (e.g., design or construction phases) for each project reports a current start (or end) date that is greater than the original start (or end) date, as reported by OMB in the CPDD “Milestone” dataset.

Since each project may have multiple tasks and a variable number of the tasks can experience start (or end) delays, OSC averaged the difference in months between the original and current dates to estimate the extent the entire project has been delayed.

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