Metropolitan Transportation Authority – Long Island Rail Road

Management of Capital Projects

Report 2018-S-70 | December 2020

OFFICE OF THE NEW YORK STATE COMPTROLLER
Thomas P. DiNapoli, State Comptroller
Division of State Government Accountability

Audit Highlights

Objectives

To determine whether the Metropolitan Transportation Authority's (MTA) Long Island Rail Road (LIRR) has a formal capital project management process that its employees and contractors/consultants are required to follow; and whether LIRR followed the capital project management process and was successful in completing scope of work timely, with quality, and within budget. The audit covered from January 1, 2015 to March 4, 2020.

About the Program

LIRR is the busiest commuter railroad in North America, carrying an average of 301,000 customers each week day on 735 daily trains. LIRR is an essential component of the region's transportation infrastructure, helping to develop the Long Island communities it serves and facilitating economic growth in the region. A subsidiary of the MTA, it comprises over 700 miles of track on 11 different branches, stretching from Montauk – on the eastern tip of Long Island – to Penn Station in the heart of Manhattan. Nearly 500 of LIRR's daily trains originate or terminate at Penn Station. Most of the remainder originate or terminate at the Atlantic Terminal (formerly Flatbush Avenue) in Brooklyn, with a number of others originating or terminating at Hunters Point Avenue in Long Island City, Queens. All of these terminals provide convenient connections to MTA New York City Transit subway service. Ten of the 11 branches pass through the important Jamaica hub, where customers may change trains to connect to other branches or terminals.

The MTA must submit a five-year Capital Program to the State's Capital Program Review Board (CPRB) for approval and can amend the program annually thereafter. For the 2010-2014 and the 2015-2019 Capital Programs, the CPRB approved $2.3 billion and $2.9 billion, respectively, for LIRR.

One objective of the Capital Program is to bring the MTA's capital assets to a "State of Good Repair" and keep them there through capital maintenance and replacement schedules. However, the MTA and its agencies have a history of not delivering capital projects on time, on budget, and within scope.

Key Findings

LIRR's capital management process is guided by a series of Department of Program Management (DPM) Procedures (Procedures); however, project managers do not always comply with, and contractors/consultants are not required to follow, these Procedures. We believe that this contributed to LIRR completing 10 of our 11 sampled projects late, ranging from three months to over four years.

In addition, eight of the projects sampled were over budget, two projects came in on target, and one was under budget for a net over budget of $69.9 million, or almost 20 percent. The cost overruns range from $675,049 to over $35 million. We found budgeting issues, including the MTA not allowing LIRR to account for inflation when preparing project budgets. Additionally, LIRR's Estimating Unit was not always involved in the initial budget process, for example, when bids show substantial variance from initial estimates.

Key Recommendations

- Comply with all the Procedures examined and listed in Exhibit B.
- Revise and strengthen the Procedures by incorporating terms used by other MTA agencies, including, but not limited to: defining and requiring a project start date and testing materials and compliance with related regulations.
- Require, in writing, that contractors/consultants comply with DPM Procedures.
- Develop protocols for reassigning LIRR employees to other projects that deviate from the original project plan and document the impact to the project schedule in the project records.
- Work with the MTA to calculate and include in the budget an inflation factor for projects that begin in subsequent years of the Capital Program.

Office of the New York State Comptroller
Division of State Government Accountability

December 14, 2020

Mr. Patrick J. Foye
Chairman and Chief Executive Officer
Metropolitan Transportation Authority
2 Broadway
New York, NY 10004

Dear Mr. Foye:

The Office of the State Comptroller is committed to helping State agencies, public authorities, and local government agencies manage government resources efficiently and effectively. By doing so, it provides accountability for tax dollars spent to support government operations. The Comptroller oversees the fiscal affairs of State agencies, public authorities, and local government agencies, as well as their compliance with relevant statutes and their observance of good business practices. This fiscal oversight is accomplished, in part, through our audits, which identify opportunities for improving operations. Audits can also identify strategies for reducing costs and strengthening controls that are intended to safeguard assets.

Following is a report of our audit of Metropolitan Transportation Authority – Long Island Rail Road entitled *Management of Capital Projects*. This audit was performed pursuant to the State Comptroller's authority under Article X, Section 5 of the State Constitution and Section 2803 of the Public Authorities Law.

This audit's results and recommendations are resources for you to use in effectively managing your operations and in meeting the expectations of taxpayers. If you have any questions about this report, please feel free to contact us.

Respectfully submitted,

Division of State Government Accountability

Contents

Glossary of Terms

Term	Description	Identifier
BVA	Best Value Analysis	*Key Term*
CPRB	Capital Program Review Board	*Oversight Board*
DPM	LIRR Department of Program Management	*Unit*
FA	Force Account, used to account for costs of LIRR employees who work on capital projects	*Key Term*
Guidelines	Project and Construction Management Guidelines, established by the Federal Transit Administration	*Key Term*
LIRR	Long Island Rail Road	*Agency*
MTA	Metropolitan Transportation Authority	*Auditee*
Procedures	DPM Capital Program Procedures	*Key Term*
PTC	Positive Train Control	*Key Term*
QA	Quality Assurance	*Key Term*
QMCC	Quality Management and Code Compliance	*Unit*
TBTA	Triborough Bridge and Tunnel Authority	*Agency*
Transit	New York City Transit	*Agency*

Background

The Long Island Rail Road (LIRR) is the busiest commuter railroad in North America, carrying an average of 301,000 customers each week day on 735 daily trains. Chartered on April 24, 1834, it is also the oldest railroad still operating under its original name. Throughout that time, LIRR has been an essential component of the region's transportation infrastructure, leading to the development of the Long Island communities it serves and providing a gateway to the economic growth of the region. A subsidiary of New York State's Metropolitan Transportation Authority (MTA), it comprises over 700 miles of track on 11 different branches, stretching from Montauk – on the eastern tip of Long Island – to Penn Station in the heart of Manhattan. Nearly 500 of LIRR's daily trains originate or terminate at Penn Station. Most of the remainder originate or terminate at the Atlantic Terminal in Brooklyn, with a number of others originating or terminating at Hunters Point Avenue in Long Island City, Queens. All of these terminals provide convenient connections to MTA New York City Transit (Transit) subway service. Ten of the 11 branches pass through the important Jamaica hub, where customers may change trains to connect to other branches or terminals.

The MTA must submit a five-year Capital Program to the State's Capital Program Review Board (CPRB) for approval and can amend the program annually thereafter. For the 2010-2014 and the 2015-2019 Capital Programs, the CPRB approved $2.3 billion and $2.9 billion, respectively, for LIRR.

One objective of the Capital Program is to bring the MTA's capital assets to a "State of Good Repair" and keep them there through capital maintenance and replacement schedules. However, the MTA and its agencies have a history of not delivering capital projects on time, on budget, and within scope.

Audit Findings and Recommendations

We sampled 11 projects during the scope of our audit and found that the majority were not completed timely and within budget. Ten of the 11 projects in our sample were late, ranging from three months to over four years, and eight were over budget, resulting in a net over budget of $69.9 million or almost 20 percent. The cost overruns range from $675,049 to over $35 million (see Exhibit A).

We found that project managers do not always comply with, and contractors/consultants are not required to follow, LIRR's Department of Program Management (DPM) Procedures (Procedures). For all 11 capital projects reviewed, we found instances where LIRR was not in compliance with its Procedures (see Exhibit B for a list of Procedures examined). Moreover, these Procedures do not always incorporate beneficial practices already in place with other agencies of the MTA.

We also found that the MTA does not allow LIRR to account for inflation when preparing project budgets, which can contribute to budget overruns. These overruns are then sometimes accounted for by reallocating money from other projects, contributing to other projects being delayed. We believe this occurred when LIRR officials transferred $23 million from the installation of the Positive Train Control meant to enhance safety throughout the system.

During the initial phase of certain capital projects, we found noncompliance with critical Procedures, including project plans not being developed. (Project plans allow project managers to chart out all tasks required for a project and gain an understanding of the total resources required to complete each task.) Moreover, kick-off meetings were not held; LIRR's Estimating Unit was not adequately involved in the initial budget process – for example, when bids showed significant variance from initial estimates and oversight was missing throughout the course of some projects.

Furthermore, there is a lack of oversight related to money being transferred in and out of LIRR's Reserve account, resulting in a lack of accountability for the account being reduced from $30 million in 2008 to $6.7 million in 2019. We also determined that there is not enough independence in the Quality Assurance (QA) component of many projects, both within the organizational structure of the DPM and in the practice of allowing third parties to perform their own QA and develop their own QA procedures.

Compliance With Procedures, Cost Overruns, and Delays

We found that LIRR completed 10 of the 11 projects in our sample late, ranging from three months to over four years. In addition, eight projects were over budget, two projects came in on target, and one was under budget for a net over budget of $69.9 million, or almost 20 percent. The cost overruns range from $675,049 to over $35 million (see Exhibit A).

According to LIRR officials, one overriding reason for the cost overruns is that the MTA did not allow LIRR to account for inflation in its preparation of the Capital

Programs. LIRR officials specifically mentioned the 2020-2024 Capital Program was budgeted in 2018 dollars without consideration for inflation. The Capital Program was submitted to the MTA and CPRB without an inflation adjustment. We calculated that one project's initial budget was underfunded by $5.4 million and another by $2 million, because the first was prepared in 2011 using 2009 dollars and the second in 2012 using 2009 dollars.

However, we found that the cost overruns and delays were, in part, also the result of deficiencies in project administration. LIRR's DPM provides project management personnel to manage the majority of LIRR's capital projects and has issued a series of 37 Procedures that its project managers are required to follow. If DPM staff determine that they cannot comply with a Procedure, they can request a waiver from its requirements. (Contractors and consultants are not required to follow Procedures.)

We tested the projects in our sample for compliance with eight critical Procedures and identified a significant amount of noncompliance, as follows:

- LIRR is required to prepare a project plan for "each Design and/or Construction project funded by the Long Island Rail Road (LIRR) Capital Program." We determined that LIRR did not prepare a project plan for a Station and Yard Rehabilitation project. Instead, three project plans were prepared for the six components of the project with one budget. This process did not provide information to show where the cost overruns occurred. For another project – the Installation of Signals on a Branch – the project plan was incomplete and lacked several necessary elements, including the "Project Plan Kick-Off Meeting," project plan template, and preliminary quality hold points. The kick-off meeting is intended to review the project's scope, schedule, budget, drawings, procurement, and delivery methods; while the preliminary quality hold points document activities required to meet the predetermined quality requirements, technical specifications, and design standards of the project. Each hold point in a project requires inspection or verification before the next step of the process can begin in order to avoid higher costs of rework later in the project.

- Procedures also require review and evaluation of Force Account (FA) daily logs (used to account for costs of LIRR employees who work on capital projects), head counts, and actual work performed by each work code in order to support that the work paid for was actually performed as required. The compliance test for this procedure includes examination of FA overtime from the Payroll Work Order Detail Report. Eight of the projects incurred overtime. We found that LIRR was noncompliant for four projects with significant FA labor, and because of this, overtime worked was not supported.

- LIRR officials did not comply with the established budget development process. In one project, they were in a hurry to get funding to defray project planning costs. In another project, they were rushing to facilitate funding in the aftermath of Superstorm Sandy. As a result, the Estimating Unit was not consulted to develop estimates, as required, causing LIRR to underestimate the initial project budget by $35.7 million for one project and $7.5 million for another.

LIRR's executive management significantly changed the scope of work for one project – Centralized Train Control – when it was 85 percent complete, delaying project completion for 23 months. This major redesign effort cost the LIRR an additional $4.87 million over the original estimate of $12.9 million. The additional funding came from a budget amendment and not from any specific project. LIRR did not provide any documentation to support that the original design was inadequate and thus requiring substantial changes.

The cost overruns also impacted the timely completion of some projects while deferring the start of others. For example:

- To pay for one project to install signals on one branch, LIRR officials transferred $23 million from another project – the installation of Positive Train Control (PTC) over all branches in the system. PTC is designed to enhance system-wide railroad safety. Another $6 million was transferred to this project as part of a plan amendment, but does not identify the projects used for the funding increase. The project was completed 1.9 years late. One goal of the project is accident prevention. However, the delays contributed to another safety measure – PTC – not being implemented timely.
- Another project to restore the Long Beach Branch from damage sustained during Superstorm Sandy also required transfer of funds from other projects due to cost overruns. LIRR officials initially estimated the cost to be $7 million in the 2010-2014 MTA Capital Program, amended July 2013. The cost of the project ballooned to $14.5 million with a $0.4 million reserve – $2.9 million more than the revised project amount of $12 million. To fund the project, LIRR took funding from three other projects and its reserve. LIRR attributed $5 million of the increase to the rush to meet Superstorm Sandy federal budgeting requirements.
- Three projects were delayed because planned FA labor was reassigned. Responding to our queries, DPM officials explained that the FA reassignments were due to changing priorities among the Capital Program projects; however, these decisions are not documented.

Capital project delays contribute to public frustration as, ultimately, they may adversely impact riders' travel time. It is thus important to consider and document in the project records changes that may have an impact on the project schedule.

Recommendations

1. Work with the MTA to calculate and include in the budget an inflation factor for projects that begin in subsequent years of the Capital Program.
2. Use the Estimating Unit for all project budget estimates. Develop the capacity within the Estimating Unit to prepare budget estimates in a shortened period of time in an emergency.
3. Comply with all the Procedures examined and listed in Exhibit B.

4. Require, in writing, that contractors/consultants comply with DPM Procedures.
5. Develop a procedure that defines when project redesign can take place, and require involved departments' input to effect major change to the project scope and document the results.
6. Coordinate with the Procurement and Logistics Department to establish a percentage for comparing the Engineering estimates to the bids that would trigger a review of the difference between the estimate and the bid.
7. Document the justification for the need for FA overtime.
8. Develop protocols for reassigning FA personnel to other projects that deviate from the original project plan and document the impact to the project schedule in the project records.

Project Management Process

Our review and comparison of LIRR's DPM Procedures with procedures used by other MTA constituent agencies found that, in some cases, DPM Procedures could be strengthened to improve project management. For instance, our comparison of eight DPM Procedures (see Exhibit B) with eight procedures from Transit found that, unlike LIRR's Procedures, Transit's procedures reference international standards, specifically ISO standards. ISO standards are internationally agreed upon by experts and help ensure that products are safe, reliable, and high quality. Transit procedures incorporate both ISO 9001[1] and ISO 14001[2]. LIRR's Director of Quality Management and Code Compliance (QMCC) indicates that his work is done in compliance with ISO 9001. However, by not formally referencing the standard, there is a risk that the work will not be held to the necessary standard. Such standards help ensure DPM work meets customer and regulatory requirements.

Our comparison of these eight DPM Procedures to Triborough Bridge and Tunnel Authority (TBTA) procedures found that TBTA procedures include controls that provide better accountability over change orders and Best Value Analyses (BVAs). For instance, TBTA not only sets a change order limit in relation to the contract amount, but also a time constraint for processing and MTA Board approval that is triggered when the need for a change is identified. LIRR, on the other hand, sets its percentage in relation to its estimates (an approximate value) and does not start the clock on processing or MTA Board approval until the change order is actually submitted. As a result, LIRR has no way to control how long it takes to address problems identified. TBTA also includes a step-by-step BVA process for its staff, whereas LIRR does not.

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1 ISO 9001 is the international standard that specifies requirements for a quality management system. Organizations use this standard to demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements.

2 ISO 14001 is a series of international environmental management standards, guides, and technical reports designed to promote effective environmental management systems in organizations.

Other areas of concern in DPM Procedure design that we identified include:

Failure to define a start date – The project start date provides project administrators a measurable starting point to determine the project's progress and if the project is on time, early, or late. The timeline of a project also helps to assess any budgetary implications for time management and adherence to time constraints. However, the Procedures do not clearly define the official project start date. From discussions with LIRR officials, we learned that the project start date is set when it begins to go through a sequence of reviews (gates). However, in some cases, the design start and award dates were used as the project start date. In the absence of an approved start date definition, project managers can use any date within the project operational time frame to measure the project duration, making it difficult to assess whether projects are completed on time.

Lack of specificity related to quality assurance requirements – The Federal Transit Administration has established Project and Construction Management Guidelines (Guidelines) that include guidance on QA procedures and requirements for railway construction projects.

DPM Procedures lack specificity regarding tasks to be accomplished by QA and the project manager, stating only that the Quality Manager assigned to the project shall assess the execution of the Project Quality Plan and report any deficiencies to the Project Manager. Based on Section 3.7.1 of the Guidelines, we conclude that the Quality Manager should ensure that all materials procured for a project meet project quality requirements. However, the Procedures do not discuss requirements for proper materials to be used or LIRR compliance with rules and regulations.

Recommendation

9. Revise and strengthen the Procedures by incorporating terms in procedures used by other MTA agencies, including but not limited to:
    a. ISO 9001 and 14001 international standards that specify requirements for a quality management system and international environmental management standards;
    b. Defining and requiring a project start date;
    c. Testing materials and compliance with related regulations;
    d. Using the contract amount to determine the change order limit; and
    e. Providing a step-by-step BVA.

Reserves

Control activities should be established through policies and procedures to help ensure management's directives to mitigate risks to the achievement of objectives are carried out. Management should establish control activities that are effective, efficient, and cost effective and that contribute to the mitigation of risks. Internal controls help to safeguard resources against loss due to waste, mismanagement, errors, and fraud, and develop and maintain reliable financial and management data.

As of July 2019, LIRR's Reserve account balance was $6.7 million. When an LIRR official initially started documenting amounts transferred into and out of this account in 2008, the balance was approximately $30 million. LIRR does not have documented procedures to authorize the transfer of amounts to and from the Reserve account. Rather, Reserve records merely document the dollar amounts and the source of funds into the account. From interviews with LIRR officials, we learned that they don't require the MTA's approval to transfer "small" dollar amounts from completed projects to the Reserve, but approval is requested via email to transfer "large" dollar amounts. However, there was no clear guideline regarding what dollar value triggers the request for approval. Additionally, rather than seek approval from MTA Capital Program Management, the Office of Management and Budget transfers the funds by encumbering them to a different project. We requested a sample of the documentation that supports the "small" amounts transferred to the Reserve; however, LIRR did not respond. We reconciled the Reserve amount transfers by tracing them to specific capital projects via the project status reporting system. Of concern is that modifications made to the Reserve cannot be tracked. At the time of our review, 51 authorized users could make changes, but there is no record of which of these individuals actually made the changes.

We believe that the absence of effective internal controls – no procedures, authorizations, and approvals – over the transfer of Reserve funds resulted in a lack of accountability over how the Reserve was reduced from $30 million to $6.7 million. While LIRR officials may not consider the Reserve to be a high risk, as each individual transaction is a small amount from individual projects, in aggregate, these amounts totaled $30 million at one point.

Recommendations

10. Strengthen the Reserve account internal controls by:

    a. Developing procedures for the management of the Reserve account funds, and

    b. Establishing a dollar threshold that results in additional authorization to transfer funds to and from the Reserve account.

11. Establish a means of tracking changes made to the Reserve project database.

Quality Assurance

According to the Guidelines, Quality Plan, Section 5.3.4, “An important aspect of the contractor’s quality organization is its independence from the organization responsible for accomplishing the actual work.” Moreover, the Procedures state that when the project design is performed by a third-party consultant, the BVA shall be performed by qualified members, independent of the design staff, and presented to the LIRR as part of the Consultant’s Design Brief. This affords ample time for LIRR review and for approved alternatives to be fully incorporated into the Consultant’s 60 percent design submissions.

We found that the QMCC, a unit within DPM, is not sufficiently independent because it reports to and is supervised by DPM’s Chief Engineer. LIRR officials argued that this unit’s independence was not impaired because the supervision is limited to administrative tasks. However, the DPM organizational chart clearly shows that QMCC reports to the Chief Engineer, both administratively and operationally. To provide for an independent review, this line of reporting needs to be revised to minimize the conflict, by having QMCC report to the Senior Vice President of Engineering or equivalent.

We also found that third-party designers perform the QA examination and develop the QA procedures on individual projects. This is also a conflict because they are reviewing their own procedures. For three projects, we found that the third-party designers reviewed their own designs, performed the BVAs, and conducted their own QA reviews. We found issues with late design submissions and responses to invitations for bids that were substantially higher than LIRR’s estimate, which should have been disclosed in the QA review. These conflicts have been able to occur because DPM’s Project Quality Plan lacks clarity in defining responsibility for this function.

QMCC audits the work of DPM; however, we found that QMCC does not review capital projects to determine whether they are completed on time and within budget. For the 2010-2014 Capital Program, 28 of the 54 completed capital projects were completed late (52 percent) and 7 were over budget (13 percent). Still, QMCC does not review capital projects to determine whether they are completed on time or within budget or recommend corrective action to resolve issues contributing to these delays and overruns.

Recommendations

12. Realign the QMCC unit to report to the Senior Vice President of Engineering or equivalent to achieve independence.

13. Revise QA Procedure 315 (Project Quality Plan) to state that only LIRR can establish quality requirements for capital projects.

Audit Scope, Objectives, and Methodology

The objectives of this audit were to determine whether MTA's LIRR has a formal project management process that its employees and contractors/consultants are required to follow. We also determined whether LIRR followed the capital project management process and was successful in completing scope of work timely, with quality, and within budget. The audit covered the period January 1, 2015 to March 4, 2020.

To accomplish our objectives and evaluate relevant internal controls, we compliance tested 8 of the 37 Procedures and one Guideline and examined records in CAPNET, DPM's capital project record retention system, and in the project status reporting system. Additionally, we observed construction at selected capital projects and confirmed completion of other capital projects. We also met with LIRR officials to gain an understanding of their capital project administration, record keeping, and document storage. Finally, we compared nine LIRR Procedures to ten Transit and ten TBTA procedures.

We initially selected a judgmental sample of 14 capital projects valued at $1.2 billion. We excluded capital projects with a value below $1 million from the population. Selected projects were in progress, completed, or scheduled to be completed in 2019. The 11 capital projects are listed in Exhibit A. Our sample was not designed to be projected to the population.

For the eight LIRR Procedures, we compliance-tested a total of 82 sub-procedures. In addition, we reviewed Guideline 6, "Force Account Project Plan Modification."

Statutory Requirements

Authority

This audit was performed pursuant to the State Comptroller's authority under Article X, Section 5 of the State Constitution and Section 2803 of the Public Authorities Law.

We conducted our audit in accordance with generally accepted government auditing standards. These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained during our audit provides a reasonable basis for our findings and conclusions based on our audit objectives.

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions, and public authorities, some of whom have minority voting rights. These duties may be considered management functions for purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these management functions do not affect our ability to conduct independent audits of program performance.

Reporting Requirements

We provided draft copies of this report to MTA LIRR officials for their review and formal comment. Their comments were considered in preparing the final report and are attached in their entirety at the end of this report, except for the attachments that the MTA LIRR deemed to be confidential.

LIRR officials replied that they accept about half of the recommendations. For the remaining recommendations, LIRR officials indicated they have already incorporated the actions into their capital project management operations. However, in light of the delays and cost overruns identified by the audit, LIRR officials should reassess whether they have truly implemented such actions within their operations.

Within 180 days of the release of our final report, as required by Section 170 of the Executive Law, the Chairman of the Metropolitan Transportation Authority shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and if the recommendations were not implemented, the reasons why.

Exhibit A

Projects Sampled for This Audit

Project Number	Project Name	Original Estimate	Final Cost	Over/(Under) Budget	Months Late
LC	Speonk to Montauk Signalization	$49,907,000	$85,622,909	$35,715,909	23
2E	Flushing-Main Street Elevators	8,450,000	24,619,074	16,169,074	13
ZB	Wreck Lead Bridge Restoration	7,000,000	14,464,764	7,464,764	5
LF	Centralized Train Control	12,940,000	17,900,000	4,960,000	23
UC	Wantagh Station Platform Replacement	22,500,000	25,725,478	3,225,478	19
TX	Second Track Farmingdale to Ronkonkoma, Phase 1	137,200,000	139,200,000	2,000,000	26
TV	Massapequa Pocket Track	19,600,000	19,600,000	0	50
XM	Signal Power Line Replacement	3,200,000	3,200,000	0	3
ZC	Long Beach Branch Restoration	56,400,000	68,666,958	12,266,958	53
YT	Employee Facilities Renewal	10,000,000	10,675,049	675,049	*
YF	Shea Yard Improvements	28,000,000	15,488,691	(12,511,309)	39
Totals		**$355,197,000**	**$425,162,923**	**$69,965,923**	**254**

*LIRR records did not have any information for us to make this calculation.

Exhibit B

LIRR DPM Procedures Reviewed

Procedure Number	Procedure Description
105	Administration and Control of Procedures
310	Project Plan
315	Project Quality Plan
325	Project Controls
425	Contract Change Requests
440*	Invoices
615	Management of Construction Contracts
620	Construction, Force Account
715	Best Value Analysis

*No Transit match.

Agency Comments

2 Broadway
New York, NY 10004
212 878-7000 Tel

Patrick J. Foye
Chairman and Chief Executive Officer

Metropolitan Transportation Authority
State of New York

November 6, 2020

Ms. Carmen Maldonado
Audit Director
The Office of the State Comptroller
Division of State Government Accountability
59 Maiden Lane, 21st Floor
New York, NY 10038

Re: Draft Report #2018-S-70 (Management of Capital Projects)

Dear Ms. Maldonado:

This is in reply to your letter requesting a response to the above-referenced draft report.

I have attached for your information the comments of Phillip Eng, President, MTA Long Island Rail Road, which address this report.

Additionally, I will be working with staff to ensure that management is following up on and enforcing the audit's recommendations, where appropriate, and requesting regular, interim reports to that effect.

Sincerely,

Pat Foye

Patrick J. Foye
Chairman and Chief Executive Officer

c: Anni Zhu, MTA Chief of Staff to the MTA Chairman & Chief Executive Officer
Michele Woods, Auditor General, MTA Audit Services

The agencies of the MTA

MTA New York City Transit
MTA Long Island Rail Road
MTA Metro-North Railroad
MTA Bridges and Tunnels
MTA Construction & Development
MTA Bus Company

Jamaica Station
Jamaica, NY 11435-4380
718 558-8254 Tel
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Phillip Eng
President

Long Island Rail Road

November 4, 2020

Mr. Patrick Foye
Chairman and Chief Executive Officer
Metropolitan Transportation Authority
2 Broadway
New York, NY 10004

RE: Metropolitan Transportation Authority
Management of Capital Projects
Report 2018-S-70

Dear Chairman Foye:

As required by Section 170 of the Executive Law, detailed below are the updated actions that have or will soon be taken to address the recommendations contained in the State Comptroller's (OSC) Draft Audit of Management of Capital Projects as it relates to the Long Island Rail Road (LIRR).

It is pertinent to note that as the OSC issues this audit report, the LIRR understands the importance of good stewardship over the capital program, maximizing accomplishments while striving for cost efficiencies in the delivery of critical capital work. Public trust, service and benefits of a well-maintained infrastructure are paramount to our principles. In addition to the actions outlined below in response to the OSC audit, the LIRR over the last few years has been steadily improving capital project delivery management and methods while engaging industry to ensure that they can be successful in their pursuit and delivery of projects for us.

The LIRR's successful completion of the environmental process for the Mainline Expansion Third Track Project is an industry leading example of public engagement and delivery of an Environmental Impact Statement (EIS). Further, LIRR's role in the procurement of the Design Build (DB) team utilizing Best Value criteria for this project is another example of the LIRR's efforts to ensure successful outcomes on projects by including technical criteria such as expertise, experience, past performance and approach as part of the evaluation process in addition to cost. Utilizing and embracing DB has allowed the agency to shift from traditional low bid Design Bid Build processes that often result in delays, disputes and cost increases. DB provides greater cost and schedule certainty prior to award as the DB team's proposal establishes that as part of its submissions. The LIRR's Double Track, Ellison Avenue Bridge Replacement, and Enhanced Stations Projects are other successful examples of LIRR projects using DB.

Further LIRR has made it a focus to help reduce risk to bidders with necessary track outages in support of work being performed. This focus is both on the planning side by better ensuring bidders are fully informed regarding outage requirements and availability, and further supported during ongoing projects by providing the outages as planned, allowing contractors to maintain schedules and avoid unnecessary costs. LIRR's role in support of the Mainline Expansion Project that remains on time and on budget at the midpoint of this $2.6B project is another example of LIRR's efforts in capital project delivery.

Lastly, the Metropolitan Transportation Authority (MTA) is in the midst of a Transformation that has migrated the LIRR's Department of Program Management (DPM) staff and functions to the MTA Construction & Development Agency (C&D), including capital program management of corporate policy development and compliance at the MTA. LIRR management is confident that measures and practices over these last few years will serve MTA C&D well as they strive to continue improving and streamlining capital project delivery for LIRR and across the MTA.

Below please find detailed responses to the specific findings and recommendations. In addition, we wish to clarify various statements discussed in the report.

Recommendation No. 1

- Work with the MTA to calculate and include in the budget an inflation factor for projects that begin in subsequent years of the Capital Program.

LIRR Response:

The LIRR agrees with this recommendation.

The LIRR understands the need to incorporate an inflation factor when preparing budgets for multi-year capital projects to ensure they are representative of anticipated project costs. The LIRR receives direction from the MTA to incorporate inflation assumptions as part of its standard process of budgeting for its 5-year Capital Programs (Program).

Departments at the LIRR work in conjunction with each other and the MTA to create a Program, which can result in many iterations before being finalized, including resequencing (advancing or setting back) project timeframes. Such decisions not only effect the timing of re-scheduled projects within the Program but funding as well. Dollars are allocated to match moving timeframes while also factoring in requirements from the MTA. The LIRR, whose goal is to include inflation when budgeting for any Program, will look to improve its process by ensuring inflation adjustment of the redistributed funding resulting from the many iterations a Program may—and usually does—experience. Also, as part of the transition to C&D, guidelines and procedures are being developed to unify estimating practices including program and project budgeting.

LIRR Implementation Status: Implemented and Ongoing

Recommendation No. 2

- Use the Estimating Unit for all project budget estimates. Develop the capacity within the Estimating Unit to prepare budget estimates in a shortened period of time in an emergency.

LIRR Response:

The LIRR concurs with, and already includes this recommendation as part of its operation.

On page 9 under "Compliance with Procedures, Cost Overruns, and Delays", the OSC draft audit report states: *"LIRR officials did not comply with the established budget development process. In one project* (as per the preliminary letter to be PNLC)*, they were in a hurry to get funding to defray project planning costs. In another project* (as per the preliminary letter to be PNZB)*, they were rushing to facilitate funding in the aftermath of Superstorm*

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Sandy. As a result, the Estimating Unit was not consulted to develop estimates, as required, causing LIRR to underestimate the initial project budget by $35.7 million for one project and $7.9 million for another."

As previously provided in LIRR's response to the OSC's preliminary letter on Projects LC, LF, ZB, and DPM Procedures, DPM existing procedures document the LIRR's practice for developing and estimating project costs while coordinating with LIRR's Strategic Investments Department and the Office of Management and Budget (OMB). DPM Procedure 320 - Budgets, Section 3.1 states: "The DPM Estimating Group is responsible for developing the budget needs of each Project. The Budget should be based on the anticipated costs required to complete the work and include considerations for scope, schedule, outages, manpower limitations, and other project impacts." DPM Procedure 330 - Estimates, Section 2.1 states: "Estimates are required for the development and revision of Capital Program Project Budgets and associated tasks."

Comment 1

Regarding the projects in question:

- **PNLC:** PTC Project Management worked in conjunction with consultants and LIRR's Estimating Unit to develop the $49.9M Rough Order of Magnitude estimate (see Attachment R3) for the initial project budget was based on the initial planning and concept for the project. The estimate was further refined and updated as the design progressed to 100%.
- **PNZB**: The initial budget of $7 million was based on a conceptual scope derived from a consultant report in the aftermath of Superstorm Sandy. Before the request for bids for the design-build went out, the budget was increased to $12 million because of project contingencies and refining of the scope as the design progressed. The budget was subsequently increased to $14.9 million because LIRR received higher than anticipated bids. The Estimating Unit reviewed the consultant's estimate at the conceptual, 30% and 60% design levels, and provided project level estimates as scope/methods changed. (See Attachments FDR1 and FDR1a).

Comment 2

LIRR Implementation Status: Already Implemented

Recommendation No. 3

- Comply with all the Procedures examined and listed in Exhibit B.

LIRR Response:

The LIRR accepts this recommendation.

As per LIRR's response to the OSC's preliminary letter on Projects LC, LF, ZB, and DPM Procedures, the LIRR provided various sample documentation to demonstrate compliance with the various procedure sections / sub-sections cited in the draft report. The LIRR overall complies with and will continue to operate with the understanding that all procedures relative to Capital Project Management should be followed.

LIRR Implementation Status: Implemented and Ongoing

Recommendation No. 4

- Require, in writing, that contractors/consultants comply with DPM Procedures.

LIRR Response:

LIRR does not accept this recommendation.

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Contractors and consultants working on LIRR capital projects are not required to adhere to LIRR procedures, which are issued internally for the benefit of LIRR employees when they perform project management activities/responsibilities. Contractor and consultant responsibilities and requirements are detailed and stipulated in contract documents consistent with DPM procedures. The procedures they utilize to meet those contractual requirements include their own internal Quality Manual, Project Quality Plan, Construction Work Plans, Safe Work Plans, and similar submittals delineated in the contract documents. Those submissions are reviewed and approved by LIRR as per DPM Division 1 Guidelines related to contract specifications (see Attachment FDR2).

Comment 3

LIRR Implementation Status: Not Accepted

Recommendation No. 5

- Develop a procedure that defines when project redesign can take place, and require involved departments' input to effect major change to the project scope and document the results.

LIRR Response:

The LIRR concurs with, and already includes this recommendation as part of its operation.

DPM Procedure 505 - Basis of Design, Section 3.0 - Changing the Basis of Design, Item 3.1 states: "Each proposed change to the basis of design and associated justification (including operation benefits, schedule and cost savings) shall be transmitted in writing to the Project Manager for approval, before it can be incorporated into the Project. Significant changes to the Basis of Design shall be approved by the DPM Director."

Comment 4

On page 9 under "Compliance with Procedures, Cost Overruns, and Delays" the report states: *"LIRR's executive management significantly changed the scope of work for one project - Centralized Train Control - when it was 85 percent complete, delaying project completion for 23 months. This major redesign effort cost the LIRR an additional $4.8 million over the original estimate of $12.9 million.... LIRR did not provide any documentation to support that the original design was inadequate and thus requiring substantial changes."*

As previously provided in LIRR's response to the OSC's preliminary letter on Projects LC, LF, ZB, and DPM Procedures, DPM has a Record of Concurrence (ROC) process when changes impact multiple departments. For PNLF (the project cited in the report), the original scope was agreed to in the Project Plan. When the project was 85% complete, senior management determined that there were operational benefits in adjusting the design, which required the LIRR to incorporate additional operational groups (specifically, the Signal and Power disciplines in the Engineering department). Subsequently, an ROC was distributed and approved on 4/27/15 (see Attachment FDR3).

LIRR Implementation Status: Already Implemented

Recommendation No. 6

- Document the reason when a BVA is not performed, as required. Coordinate with the Procurement and Logistics Department to establish a percentage for comparing the Engineering estimates to the bids that would trigger a review of the difference between the estimate and the bid.

LIRR Response:

The LIRR concurs with, and already includes this recommendation as part of its operation.

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DPM's current Procedure 715 – Best Value Analysis describes the process for establishing when a Best Value Analysis (BVA) is required. The LIRR advised the OSC during the audit that the driving factor that determines the need for a BVA, as applicable, is a construction contract's value, not the overall project budget. As previously provided in LIRR's response to the OSC's preliminary letter on Projects LC, LF, ZB, and DPM Procedures, Section 4.1 of Procedure 715 states a BVA is required if the construction contract value is more than $10M. In addition, Section 4.3 states a project does not require a BVA if it is a Design-Build project. None of the reviewed projects cited in the report met these requirements; therefore, none required a BVA. Furthermore, Section 4.1 requires that the non-performance of a required BVA be approved in the form of the Chief Program Officer's documented approval.

On page 9 under "Compliance with Procedures, Cost Overruns, and Delays" regarding PNLF - Centralized Train Control the OSC report states: "[LIRR] *also did not conduct a BVA for this project. If a BVA had been conducted during the early stages of the project, we believe that it could have minimized the impact to the project schedule and budget.*" The overall purpose of a BVA is to provide alternatives given the current scope of a project. While the OSC's statement is generally true, it is incorrect with regards to Centralized Train Control since the reason the project went over the original budget and schedule was due to a change in scope initiated by executive management and agreed upon by the impacted departments. Also, as previously provided in LIRR's response to the OSC's preliminary letter on Projects LC, LF, ZB, and DPM Procedures, a BVA was not required since the construction contract was less than $10M. Neither the original construction contract (approximately $7 million) nor the second construction contract (based on the new scope, approximately $8.5 million) were over the $10 million threshold requiring a BVA.

Comment 5

On page 7, under "Audit Findings and Recommendations", the reports states: *"oversight was missing throughout the course of some projects - for example, when bids showed significant variance from initial estimates."* This statement alluding to bids and estimates does not specify the instance or project in question, and there is no mention of the interaction, or lack thereof, between DPM and Procurement & Logistics. However, LIRR's Procurement & Logistics (P&L) Standard Operating Procedure SOP-013 Procurement by Formal Competitive Bidding details the methods of LIRR's process, in part, for preparing bid documents, soliciting bids, and awarding procurements pursuant to formal competitive bidding for purchase contracts. The SOP details P&L's process, including coordination between departments, for addressing when bids received differ from an estimate, including but not limited to: "when items are bid unusually high or low in relationship to an estimate, the accuracy of the estimated quantities should be checked"; that "the Procurement Officer must obtain the concurrence from his/her respective Senior Manager and Law Department to determine whether a bid with a "material" exception or omission will be considered Responsive"; and, most directly "if the low bidder refuses to make a unilateral price concession, the Procurement Officer can pursue a determination to reject all bids which would allow P&L to resolicit bids and/or change the contract requirements."

The project in question is PN2E, as cited in the preliminary letter on the First Five Capital Projects. As previously provided in LIRR's response, rebidding PN2E was unnecessary. In a memo dated February 5, 2016 to DPM (previously provided Attachment I), P&L confirmed DPM's acceptance that differences between the lowest apparent contractor's bid price and the third-party Engineer's estimate had been addressed (i.e., the estimate was initially incorrect). Specifically:

- The Engineer acknowledged that they under-estimated the magnitude of the building demolition and construction of the new plaza entrance to the westbound station platform.

- The apparent low-bidding contractor indicated market conditions had changed with subcontractors' prices being higher than expected.
- Other areas driving the cost of the project related to the ADA Compliant Ticket Office, and the complexity of work due to extremely limited lay-down areas to position equipment and materials.

LIRR Implementation Status: Already Implemented

Recommendation No. 7

- Document the justification for the need for FA overtime.

LIRR Response:

The LIRR accepts this recommendation.

The LIRR Estimating Unit incorporates Force Account (FA) overtime into Project Estimates and scheduling documents based on the project scope. A majority of LIRR Capital Program work is performed during off-peak train service or track outages, either of which inherently lends itself to FA working overtime hours.

On page 8 under Compliance with Procedures, Cost Overruns, and Delays the report states: *"Procedures also require review and evaluation of Force Account (FA) daily logs (used to account for costs of LIRR employees who work on capital projects), head counts, and actual work performed by each work code in order to support that the work paid for was actually performed as required. The compliance test for this procedure includes examination of FA overtime from the Payroll Work Order Detail Report. We found that LIRR was noncompliant for eight projects with significant FA labor, and because of this, overtime worked was not supported."* The LIRR is first being made aware of this finding and has made a request to the OSC to advise of the eight (8) projects in question. The LIRR will review the projects relative to the review of the overtime documents cited in the report to determine actual compliance, or lack thereof and subsequent necessary procedural improvements, as needed.

Comment 6

LIRR Implementation Status: Accepted and Ongoing

Recommendation No. 8

- Develop protocols for reassigning FA personnel to other projects that deviate from the original project plan and document the impact to the project schedule in the project records.

LIRR Response:

The LIRR concurs with recommendation and already includes most of it as part of its operation.

On page 9 under Compliance with Procedures, Cost Overruns, and Delays the report states: *"Three projects were delayed because planned FA labor was reassigned. Responding to our queries, DPM officials explained that the FA reassignments were due to changing priorities among the Capital Program projects; however, these decisions are not documented."* LIRR DPM Guideline 5 – Force Account Plan Modification (Attachment FDR4) outlines the process of documenting changes in Force Account work at the project level to be performed

Comment 7

on Capital Projects. This process documents scope, schedule, and budget modifications, and once concurred by impacted departments, the documentation becomes an amendment to the approved Project Plan. However, the LIRR will work to ensure all FA reassignments relative to Capital projects are properly documented.

LIRR Implementation Status: Already Implemented and Ongoing

Recommendation No. 9

- Revise and strengthen the Procedures by incorporating terms in procedures used by other MTA agencies, including but not limited to:
  - **a.** ISO 14001 and 9001 international standards that specify requirements for a quality management system and international environmental management standards;
  - **b.** Defining and requiring a project start date;
  - **c.** Testing materials and compliance with regulations;
  - **d.** Using the contract amount to determine the change order limit; and
  - **e.** Providing a step-by-step BVA.

LIRR Response:

9a: The LIRR concurs with and already includes this recommendation as part of its operation.

On page 10 under Project Management Process the report states: *"unlike LIRR's Procedures, Transit's procedures reference international standards, specifically ISO standards. ISO standards are internationally agreed upon by experts and help ensure that products are safe, reliable, and high quality. Transit procedures incorporate both ISO 90011 and ISO 140012. LIRR's Director of Quality Management and Code Compliance (QMCC) indicates that his work is done in compliance with ISO 9001. However, by not formally referencing the standard, there is a risk that the work will not be held to the necessary standard."*

As previously provided in LIRR's response to the OSC's preliminary letter on Projects LC, LF, ZB, and DPM Procedures, it is inaccurate to compare LIRR DPM to NYCT Capital Program Management (CPM) since they are functionally and organizationally different. NYCT CPM procedures include reference to ISO 9001 and 14001 because those certifications are maintained by CPM. By contrast, at the LIRR, ISO Certification is not maintained by DPM and in fact, ISO Certification is not based on DPM Procedures. The LIRR does reference these international standards in relevant documents. LIRR ISO 9001 Certification is maintained and documented by the Quality Management Group and covers all groups under the Senior Vice President – Engineering (Attachment FDR5). LIRR ISO 14001 compliance is managed by the Corporate Safety Department.

Comment 8

LIRR Implementation Status: Already Implemented

9b: The LIRR accepts this recommendation.

On page 11, under Project Management Process, the report states: "*However, Procedures do not clearly define the official project start date. From discussions with LIRR officials, we learned that, while not documented, in practice the project start date is set prior to the commencement of preliminary engineering. However, in some cases, the design start and award dates were used as the project start date.*"

This is not entirely accurate. The LIRR does require and define start dates based on the type of project. State of Good Repair projects typically span the full five years of a Capital Program with a start date in the 1st quarter of year one (1). The start date for a capital replacement project (e.g., new signal system) would be after the completion of the design project. If design is part of a construction project, the start date is based on when DPM and the user department can start preliminary work on the project. These dates are reflected in the Gates documents that are submitted to the MTA for approval. In the MTA's Project Status Reporting (PSR) system, Project Start Dates are driven by Task Open Dates, which are the date the task's contract was approved in PeopleSoft. Contracts (Tasks) are tracked using Contractual Notice of Award (Start) Dates and Completion/Closeout Dates.

LIRR's current DPM personnel will work within C&D to incorporate definitions of start dates per applicable project type into C&D's written procedures.

LIRR Implementation Status: Accepted and Ongoing

9c: The LIRR does not accept this recommendation.

On page 11, under Project Management Process, the report states: *"However, the Procedures do not discuss whether the proper materials are used or whether LIRR is complying with regulatory rules and regulations."* Requirements for materials testing and compliance with regulations do not have to be included in DPM procedures since they are stipulated and accounted for within contract documents, including General Terms and Conditions and Design Specifications, as well as Contractor submittals (i.e., Project Quality Plan, Inspection & Test Plan, Commissioning Plan, if applicable) that stipulate the requirements and records needed to ensure materials are properly procured, tested, installed, and commissioned and in accordance with any applicable regulations.

LIRR Implementation Status: Not Accepted

9d: The LIRR does not accept this recommendation.

This part of the recommendation seems to be based on a comparison of agencies and not based on any concrete finding that demonstrates either an issue with LIRR procedure or the existence of undue risk relative to change orders. On pages 10-11, under Project Management Process, the report states: *"Our comparison of these eight DPM Procedures to Triborough Bridge and Tunnel Authority (TBTA) procedures found that TBTA procedures include controls that provide better accountability over change orders and BVAs. For instance, TBTA not only sets a change order limit in relation to the contract amount, but also a time constraint for processing and MTA Board approval. LIRR, on the other hand, sets its percentage in relation to its estimates (an approximate value) and does not set any time limits on processing or MTA Board approval."*

The LIRR follows the same change order guidelines as all other MTA Agencies (i.e., MTA All Agency Procurement Guidelines and MTA Board Requirements).

LIRR Implementation Status: Not Accepted

9e: The LIRR does not accept this recommendation.

There is no need for a "step-by-step" procedure. The LIRR's BVA process is already detailed in DPM Procedure 715 - Best Value Analysis for LIRR employees. The General Engineering Consultant Contract's Technical Scope of Work identifies the requirements for the performance of a BVA by those Engineering Consultant staff who are independent of the

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Design effort. In addition, included in Procedure 715, the Gates Process ensures the implementation of Best Value.

LIRR Implementation Status: Not Accepted

Recommendation No. 10

- Strengthen the Reserve account internal controls by:
  - **a.** Developing procedures for the management of the Reserve account funds, and
  - **b.** Establishing a dollar threshold that results in additional authorization to transfer funds to and from the Reserve account.

LIRR Response:

10a: The LIRR concurs with this recommendation and already includes most of it as part of its operation.

While the LIRR's OMB currently operates under established policy and procedure relative to the management of reserving project funds, the process is not documented in writing. Specifically, dollar transfers into or out of any capital project are initiated / documented by email, Transfer Memos, WAR Certificates in IMPACT, and Capital Program Plan Amendments that all require the approval and execution by MTA Capital Program Management (MTA CPM). The LIRR agrees that the current process needs to be documented in a written policy and procedure.

LIRR Implementation Status: Already Implemented and Ongoing

10b: The LIRR does not accept this recommendation.

On page 12, under Reserves, the report states: *"From interviews with LIRR officials, we learned that they don't require the MTA's approval to transfer "small" dollar amounts from completed projects to the Reserve, but approval is requested via email to transfer "large" dollar amounts."* The report also states: *"Additionally, rather than seek approval from MTA Capital Program Management, the Office of Management and Budget transfers the funds by encumbering them to a different project. We requested a sample of the documentation that supports the 'small' amounts transferred to the reserve. However, LIRR did not respond."* This is not accurate. As previously provided in LIRR's response to the OSC's preliminary letter on LIRR Capital Project Reserves, transfers of funds in IMPACT between projects and to project reserves require the approval of and execution by MTA CPM. The LIRR does not have the ability to move funds in the system. All transfers require CPM's approval, and there is currently no minimum threshold amount that is exempt from the approval process. Establishing dollar thresholds is therefore unnecessary. There is no documentation of transfers requested by OMB and completed by CPM, as OMB is made aware that transfer requests have been approved when it sees the funds transferred in the system.

Comment 9

LIRR Implementation Status: Not Accepted

Recommendation No. 11

- Establish a means of tracking changes made to the Reserve project database.

LIRR Response:

The LIRR accepts this recommendation.

IMPACT is owned, controlled, and maintained by MTA CPM, not LIRR. The LIRR will reach out to MTA CPM, and MTA IT as needed, to pursue whether IMPACT can show tracking changes made to reserve projects.

LIRR Implementation Status: Accepted and Ongoing

Recommendation No. 12

- Realign the QMCC unit to report to the Senior Vice President of Engineering or equivalent to achieve independence.

LIRR Response:

The LIRR concurs with, and already includes this recommendation as part of its operation.

The Quality Assurance (Quality Management) Group (QMG) currently reports functionally to the Sr. VP- Engineering and administratively to the Chief Program Officer.

LIRR Implementation Status: Already Implemented

Recommendation No. 13

- Revise QA Procedure 315 (Project Quality Plan) to state that only the LIRR can establish quality requirements for capital projects.

LIRR Response:

The LIRR accepts this recommendation.

Procedure 315 - Project Quality Plan is a DPM Procedure, not a QA (or QMG) procedure. It guides LIRR Project Management towards developing a Project Quality Plan (PQP) related to management functions to ensure quality on a Project. A separate PQP is submitted by the Contractor/Consultant, reviewed and approved by the LIRR, to demonstrate how they will achieve contractual quality requirements based on their scope of work. All procedures, including DPM 315, are reviewed periodically, and this recommendation will be considered at the next review cycle.

LIRR Implementation Status: Accepted and Ongoing

Other Clarifications

1. On page 6, under "Compliance with Procedures, Cost Overruns, and Delays", the report states *"However, we found that the cost overruns and delays were, in part, also the result of poor project administration."* Given the extensive nature of managing LIRR's Capital Programs, the LIRR believes that the results in this report do not warrant rating its project administration as "poor". The LIRR respectively requests that the language be changed. Comment 5
2. On page 7, under Audit Findings and Recommendations, the report states: *"These overruns are then sometimes accounted for by reallocating money from other projects, resulting in potentially significant safety issues as other projects are delayed."* It is not accurate to generalize that delayed projects jeopardize safety. Safety is always a critical and top priority at the LIRR in all current and future conditions as demonstrated by the agency being named the 2020 APTA Commuter/Intercity Rail Safety Excellence Gold Award winner. Comment 5

3. On page 8 under Compliance with Procedures, Cost Overruns, and Delays, the report states: *"LIRR is required to prepare a project plan for "each Design and/or Construction project funded by the Long Island Rail Road (LIRR) Capital Program." We determined that LIRR did not prepare a project plan for a Station and Yard Rehabilitation project."* This statement references Project YF: "Shea Yard Improvements", which, as part of LIRR's previous response to preliminary findings on Projects YF, ZC AND YT, is comprised of smaller, individual State of Good Repair (SOGR) projects spanning two Capital Programs from 2010 - 2014 and 2015-2019. Each SOGR project had/have individual Beneficial Use (BU) target dates. SOGR projects in YF include:

   - Extraordinary Interior Cleaning (EIC) for West Side Storage Yard (WSSY) Overbuild Project
   - EIC Shea Yard Toilet Servicing
   - Drainage and Pumping System in Shea Yard
   - Existing Mets - Willets Point Station
   - New Mets-Willets Pt. Station

   Each project had its own Project Plan, as funding became available. The scope of project YF was modified over time, based on needs and funding levels.

4. On page 9 under Compliance with Procedures, Cost Overruns, and Delays the report states: "However, the delays resulted in another safety measure - PTC - not being implemented timely." This is an inaccurate statement as the Federal Government set timeframes and subsequently reset them several times when it was apparent that the implementation was far more complex and required additional time by industry providers to meet those expectations across the country. This was not just the LIRR and our vendors, but all rail agencies and their vendors, that caused the Federal Railroad Administration (FRA) to modify deadlines. Notwithstanding, the project is on pace for successful delivery this year, meeting the FRA's timeline. Comment 10

5. On Page 13, under Quality Assurance, the report states: *"We also found that third-party designers perform the QA examination and develop the QA procedures on individual projects. This is also a conflict because they are reviewing their own procedures."* This is not a conflict as vendors are required to have ISO-9001 compliant QA Systems, reviewed and approved by LIRR QMG. Procedures utilized on Projects are in the Vendor's PQP, subject to review and approval by LIRR QMG. Comment 11

6. On Page 13, under Quality Assurance, the report states: "*We found issues with late design submissions and responses to invitations for bids that were substantially higher than LIRR's estimate, which should have been disclosed in the QA review.*" The LIRR would like to clarify that the Estimating Group reviews all bids against independent estimates, not the QA review.

7. On Page 13, under Quality Assurance, the report states: "*For three projects, we found that the third-party designers reviewed their own designs, performed the BVAs, and conducted their own QA reviews.*" The report also states: "*These conflicts have been able to occur because DPM's Project Quality Plan lacks clarity in defining responsibility for this function.*" The LIRR believes that OSC auditors may be misunderstanding the QA function as it relates to design and construction. As part of a design process on LIRR contracts, the consultant's approved Quality Manager is required to perform independent QA (and QC) review of the work performed by the Consultant's Design Team prior to submitting to LIRR. This is to ensure that the Comment 12

Consultant's design procedures (in the approved Quality Manual and PQP) were followed. Design submittals are then reviewed by the LIRR Project Team and others in LIRR, including the QMG Quality Manager. Per contract, BVAs are to be performed by Consultants that are not part of the Design team, but are typically from the same company. Quality Managers from the Consultant and LIRR would perform similar QA/QC reviews for BVAs as they do for other design submittals.

8. On Page 13, under Quality Assurance, the report states: *"Additionally, QMCC is required to monitor and inspect the work of DPM; however, we found that QMCC does not review capital projects to determine whether they are completed on time and within budget. For the capital projects from the 2010-2014 Capital Program, 28 of the 54 completed projects were completed late (52 percent) and 7 were over budget (13 percent). Still, QMCC does not review capital projects to determine whether they are completed on time or within budget or recommend corrective action to resolve issues contributing to these delays and overruns."* The purpose of a Quality Audit is to determine if procedures were followed and quality requirements were met, not to review schedule and budget issues. Schedule and budget issues are reviewed by Project Controls and others, such as Senior/Executive Management and Program Management Oversight (PMO) personnel.

Please contact me should you require additional information.

Sincerely,

Phillip Eng
President

cc: M. Young
B. Ogurek
J. Lieber
P. Dietlin
A. Guerra
J. Sucharski
J. Rosado
H. Cutler
M. Woods
D. Jurgens

State Comptroller's Comments

1. LIRR responded that it already includes project budget estimates as part of its operations. However, the estimating procedures and guidelines call for several items to be included in an estimate, including a detailed scope of work. In response to the draft report, LIRR provided a one-page document including two lines for this $49,937,000 initial estimate. These two lines do not meet its requirement for a detailed scope of work for an estimate of this magnitude.
2. As support for this estimate, LIRR provided the project's revised budget. However, this shows only the consultant's work, and does not demonstrate that the work was reviewed by the Estimating Unit and how they reached their conclusions about whether the estimate was sound.
3. Contract terms are technical and detail only some of the activities required to manage capital projects. For instance, one DPM Procedure calls for Lessons Learned to review weekend or night-time work. Another DPM Procedure calls for documentation of the nature and type of changes to the contract as part of the Lessons Learned to prevent changes to future contracts. These Procedures help improve project management on both current and future work, but are not covered by the contract terms. We urge LIRR to revisit its position.
4. LIRR's operations do not take into account changes made by other LIRR officials who are not part of DPM but whose actions can and have impacted capital project costs and timing. Thus, current LIRR procedures do not account for all such events. In addition, the document provided in response to the draft report was not previously provided to the auditors.
5. This final report was revised based on LIRR's response to the draft audit report.
6. The issue of overtime was discussed with LIRR officials during the audit field work, but it was not included in the preliminary findings issued.
7. Guideline 6 applies to FA projects; however, for projects not designated as FA, the reassignment of LIRR employees was not documented for the projects we examined.
8. Although the ISO certification is part of the QMCC's procedures, it should be added to DPM Procedures to provide a comprehensive document for the project managers.
9. LIRR's explanation that all transfers receive authorization is not supported by documentation and differs from information provided by LIRR officials interviewed. In the absence of documentation, we reiterate our recommendation to provide a dollar threshold for authorization for transfer of Reserve account funds. If LIRR wishes to require all transfers to be authorized, the threshold should be set at 0 and this should be reflected in its written guidance and supporting documentation maintained to support all such authorizations. Currently, there is neither written guidance nor supporting documentation.
10. As part of the capital project process, LIRR's project plan set a completion date, which was not met. We acknowledge that many factors, including the one LIRR cited, contributed to the delay to this project.
11. LIRR is using a narrow definition of independence. While having a different staff person review a colleague's work is better than someone reviewing their own work, it does not negate the fact that both employees work for the same contractor. True independence requires a state

where one's opinion is not influenced or controlled by others, which is difficult when the reviewer works for the company who produced the work. This is why auditors suggest that the process be clear about who is reviewing what work and when to ensure work is reviewed by someone truly independent of the contractor.

12. We did not misunderstand the QA function. Moreover, the need for LIRR to explain its procedures to auditors underscores the need for additional clarity in the current procedures.

Contributors to Report

Executive Team

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