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**New York State Office of the State Comptroller**  
Thomas P. DiNapoli

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Division of State Government Accountability

# **Selected Aspects of Bus Procurement**

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## **Metropolitan Transportation Authority**

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Report 2011-S-16

March 2014

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# Executive Summary

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## Purpose

We audited the Metropolitan Transportation Authority to determine whether it procures buses in a manner that results in the best value for the lowest cost. The audit covered bus purchases from January 1, 2008 through June 30, 2011.

## Background

The Metropolitan Transportation Authority (MTA) is a public benefit corporation providing transportation services in and around the New York City metropolitan area. The MTA has six operating constituent agencies; two of them, MTA Bus and New York City Transit, provide bus service. In 2008, the MTA established its Regional Bus Operations to consolidate the maintenance and transportation operations into one organization. Regional Bus Operations maintains a fleet of about 5,585 buses operating out of 28 depots and serviced at two maintenance facilities. Officials explained that they try to replace buses on a 12-year cycle but were unable to do so due to the lack of Capital Program funding. As a result, some buses have been in use for longer than 12 years. Several units participate in the bus procurement process including Operations Planning, Bus Maintenance, Procurement and Contracts. The MTA purchased 2,278 buses for \$1,148,699,434 during the period of January 1, 2008 to June 30, 2011. Federal money was not used for these purchases.

## Key Findings

- MTA did not apply for federal State of Good Repair discretionary grant monies for certain bus purchases from May 2010 to June 2011 and, as result, MTA officials potentially missed an opportunity to obtain \$256 million of grant monies.
- MTA did not follow procedures by failing to notify the MTA Board when two contracts were awarded prior to a fair and reasonable determination.
- MTA officials could not justify buying 90 buses for each of five test fleets totaling about \$228 million.

## Key Recommendations

- Require Regional Bus Operations executive management to identify and apply for all available funding sources to maximize money available to purchase buses.
- Establish pass/fail criteria for all test fleets prior to procurement. Reassess the minimum number of buses required to be procured to permit an effective test evaluation of new buses.

**State of New York**  
**Office of the State Comptroller**

**Division of State Government Accountability**

March 3, 2014

Mr. Thomas P. Prendergast  
Chairman and Chief Executive Officer  
Metropolitan Transportation Authority  
347 Madison Avenue  
New York, NY 10017

Dear Mr. Prendergast:

The Office of the State Comptroller is committed to helping State agencies, public authorities and local government agencies manage their resources efficiently and effectively. By so doing, 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 entitled *Selected Aspects of Bus Procurement*. 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,

*Office of the State Comptroller*  
*Division of State Government Accountability*

# Table of Contents

Background	4
Audit Findings and Recommendations	5
Federal Funding	5
Recommendation	6
Cost/Price Analysis	6
Recommendations	7
Test Fleets	8
Recommendations	9
Capital Program Bus Fleet Growth	9
Recommendation	10
Audit Scope and Methodology	10
Authority	11
Reporting Requirements	11
Contributors to This Report	12
Agency Comments	13
State Comptroller's Comments	21

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This report is also available on our website at: [www.osc.state.ny.us](http://www.osc.state.ny.us)

## Background

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The Metropolitan Transportation Authority (MTA) is a public benefit corporation providing transportation services in and around the New York City metropolitan area. The MTA is governed by a 23-member Board of Directors, whose members are appointed by the Governor with the advice and consent of the State Senate. The MTA has six operating constituent agencies. Two of the constituent agencies, MTA Bus Company and New York City Transit (Transit), provide bus service. In 2008, the MTA established its Regional Bus Operations (RBO) to consolidate the maintenance and transportation operations into one organization. RBO maintains a fleet of about 5,585 buses operating out of 28 depots and serviced at two maintenance facilities.

MTA officials stated that they have a 12-year or 500,000 mile replacement cycle, but recently they have not been able to meet that goal due to the lack of Capital Program funding. As a result, some buses have been in use for more than 12 years. Several MTA units participate in the bus procurement process including Operations Planning, Bus Maintenance, Procurement and Contracts. Competition is required when purchasing buses except when the MTA declares competition impractical or inappropriate because it wishes to experiment with or test a product or new technology or a new source. The MTA purchased 2,278 buses for \$1,148,699,434 during the period of January 1, 2008 to June 30, 2011. Federal money was not used for these purchases.

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# Audit Findings and Recommendations

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## Federal Funding

The Federal Transit Administration (FTA) provides grants that help transportation agencies throughout the United States to construct, repair and maintain bus facilities and to acquire, repair and maintain buses. For example, in May 2010, the FTA awarded over \$775 million in grants to transportation agencies throughout the nation using monies from its State of Good Repair (SGR) Bus and Bus Facilities Program.

During the period December 2010 through June 2011, MTA Transit purchased 938 buses totaling \$512 million. However, Transit did not seek SGR grants for these bus procurements and, therefore, potentially missed an opportunity to obtain an estimated \$256 million to \$410 million of federal support, depending on MTA's ability to meet certain eligibility factors.

MTA officials pointed out that eligibility for the SGR grants requires competitive procurements and, if competition is not sought, the grant recipient would need a waiver from the FTA to obtain grant funding. MTA officials explained that because there was a critical need to replace buses as quickly as possible, they did not have time to either follow a competitive procurement or seek a waiver for the procurements in question.

In response to the draft audit report, MTA officials reported that they sought \$440 million in federal aid from the Bus SGR funding in federal fiscal years 2010 and 2011, and received \$174.2 million. However, they did not request funding for these 938 buses, indicating their belief that doing so would have delayed their purchase, would not have been approved for test buses, and required a competitive process and they may not have been approved for more funding than they received. The response indicated that MTA had latitude in how to allocate the \$174.2 million, and as such it was used for other items.

It is important to note that federal officials we spoke with indicated that if an agency identified a bus manufacturer with new technology (for example, reduced air emissions) or unique specifications for bus construction, the agency could apply for a waiver, which may be granted even if it were a sole source procurement.

Regarding the MTA's response that buses were needed "as quickly as possible," the MTA's practice is to replace buses in 12 years or at 500,000 miles. Basically it needs to replace between 450 and 500 buses each year, and it should not be a surprise or an emergency to procure the number of buses it does each year. Furthermore, it has a reserve fleet of 746 buses, about 15 percent of its fleet, so it is not in danger of a bus shortage at any time.

Officials also advised us that in December 2011, MTA Bus was awarded its first federally funded bus procurement grant totaling \$25,430,671 (80 percent of the total cost of \$31,788,339 for the procurement). The remaining 20 percent will be funded by New York City. We urge MTA officials to adequately plan bus procurements so that there is sufficient time to request and obtain federal

grant funds and to apply for any waivers from eligibility requirements that may be necessary. Based on the difficulties MTA has faced in funding its Capital Program 2010-2014, opportunities to obtain outside capital funding must not be missed.

## Recommendation

1. Adequately plan bus procurements to maximize federal grant funds and to allow time to process any waivers from federal eligibility requirements that may be necessary.

## Cost/Price Analysis

The MTA bus procurements during our audit period should have complied with MTA's Materiel Procurement Procedure IV-A-16 "Cost/Price Analysis Requirements for Procurements." The Procedure specifies that:

- a market survey should be performed prior to exercising contract options to buy additional buses,
- any non-competitive procurement over \$1 million requires field pricing support through an audit of contractor records that is performed by MTA Audit Services prior to negotiating the procurement, and
- a "Fair and Reasonable" determination of the price must be made by the Cost/Price Analysis Unit (CPAU) at the conclusion of negotiations. If warranted, and to expedite a procurement action, the Cost/Price Analyst may issue a preliminary fair and reasonable determination, to be followed by a formal memorandum.

During the audit period, Transit exercised two contract options to buy a total of 1,100 buses costing \$550,717,550. According to the Procedure, a market survey should have been completed to support proceeding with these procurements. However, for one of the procurements costing \$113,254,000 for 250 buses no market survey was performed by Transit, and for the other procurement costing \$437,463,550 for 850 buses the market survey that was performed was incomplete. For example, the market survey did not independently obtain bus price information and, instead, relied on pricing provided by the vendor being considered for the procurement.

Also, as shown in the following table, for five of the ten bus contracts awarded by Transit during the audit period, the required determination of fair and reasonable price was dated after the date of contract award. In one instance, the determination of fair and reasonable price was dated ten months after the contract award date.

<b>Contract Number</b>	<b>Award Date (Staff Summary)</b>	<b>Date of Fair and Reasonable</b>	<b>Award Amount</b>
1	07/01/2008	06/19/2008	\$ 21,859,806
2	12/10/2007	10/11/2007	437,463,550
3	05/29/2009	04/28/2009	60,145,920
4	08/20/2010	07/15/2010	61,288,650
5	06/30/2011	03/25/2011	113,254,000
6*	12/21/2010	10/19/2011	40,100,385
7*	02/10/2011	10/19/2011	49,461,120
8*	04/08/2011	09/06/2011	39,924,150
9*	06/17/2011	10/24/2011**	38,345,460
10*	06/06/2011	10/19/2011	230,870,672
*Fair and Reasonable completed after contract award			
** Not completed as of October 24, 2011			

The purpose of pricing support from Audit Services is to enable the MTA to have information useful in price negotiations with the bus manufacturer. This information also provides support for the CPAU's determination of fair and reasonable pricing. Five of Transit's bus contracts exceeded \$1 million and were non-competitive procurements (see prior table contracts numbered 6, 7, 8, 9, and 10) and, therefore, required pricing support from Audit Services prior to contract award. For three of the five contracts (contracts 7, 8 and 10 from the above table) MTA audit completed the required audit pricing support and provided results in a timely fashion to the CPAU prior to the determination of fair and reasonable pricing and prior to contract award. However, for two of the contracts (contracts 6 and 9 from the above table), the pricing support from Audit Services was not completed in a timely manner to support the determination of fair and reasonable pricing and for use in negotiations with bus manufacturers.

## Recommendations

2. Require market surveys be done independently and in a timely manner to verify the market price of similar buses.

(MTA replied to our draft audit report that it will implement the recommendation.)

3. Ensure that a determination of fair and reasonable pricing is completed in writing prior to awarding a contract.

(MTA's reply to our draft audit report indicates that if warranted, and to expedite a procurement action, the Cost/Price Analyst may issue a preliminary fair and reasonable determination, to be followed by a formal recommendation.)



**Auditor's Comments:** The files for the five procurements did not contain a preliminary fair and reasonable determination. Therefore, our finding and recommendation still apply.

4. Ensure that pricing support from Audit Services is completed in time for negotiations with bus manufacturers and in time for fair and reasonable pricing determinations.

(MTA replied to our draft report that it will continue to ensure field pricing support is obtained when required by DPM IV-A.16.)

## Test Fleets

Section 1209 (9) (d) of the Public Authorities Law states that the Authority may declare that competitive bidding is impractical or inappropriate if “the Authority wishes to experiment with or test a product or technology or new source for such product or technology or evaluate the service or reliability of such product or technology.” Consequently, during the period January 1, 2008 through June 30, 2011, the MTA awarded five non-competitive contracts for the procurement of test fleets. Each test fleet contained 90 buses for a total of 450 buses costing about \$228 million. According to MTA officials, the test buses were to be evaluated for fuel economy, reliability, durability, maintenance costs, engine and transmission performance, and driver/customer acceptance. The results of the evaluation would serve as the basis for MTA to issue requests for proposals to obtain additional buses with features that had been determined to be most advantageous.

In our examination of the test fleet procurements and related evaluations, we noted that there were no set criteria against which the test buses would be evaluated to determine their viability for future procurements. For example, there were no documented, predetermined benchmarks for acceptable fuel consumption, engine performance, etc. We question how an effective test evaluation can take place absent predetermined necessary benchmarks for performance.

Also, there was no documentation justifying why so many buses were necessary to permit an effective evaluation. In fact, in the past, MTA utilized test fleets of as few as ten buses as a basis to proceed with an initial procurement of 375 hybrid-electric buses from one manufacturer, and made subsequent purchases bringing its investment in hybrid-electric buses from that manufacturer to a total of 1,677 buses, or 30 percent of its fleet.

We noted that other transit agencies, such as the Chicago Transit Authority, rely on far smaller test fleets than does the MTA. Chicago Transit indicated to us that its test fleet is generally comprised of 10 buses, and its website indicates it tested 10 hybrid buses for 12 months in 2007 before approving a contract to purchase articulated hybrid buses. Another test in 2004 involved 20 hybrid-electric buses (partially purchased with federal funding). In a more recent test, Chicago Transit purchased two all-electric buses for testing, using a federal grant to cover the costs.

Further, in order to qualify for federal funding, each bus model must be tested and pass the tests established in 49 CFR Part 665 and the applicant must obtain a copy of the resulting test report before FTA funds can be released. Tests under this provision are performed at the FTA's test

facility in Altoona, PA.

In addition, since the MTA bus life cycle is about 12 years, MTA has committed to the long-term maintenance and repair of a significant and costly number of buses without first ensuring the buses will perform up to expectations. This can prove risky. For example, MTA officials advised us that the transmission of one of the test bus fleets was not performing very well after only three months of service. While the problem has been brought to the attention of the manufacturers and may be rectified, the MTA nevertheless will be committed to relying on these 15 buses costing about \$7.1 million for another 11 plus years.

In order to qualify for the exception from competitive procurements under State law, MTA needed to evidence it was testing either a new vendor or a new technology. Only one of the procurements in the population reviewed for this audit was from a vendor with which MTA had not made previous procurements. This contract purchased 90 new over-the-road coaches from a vendor new to MTA.

In its response to the draft audit report, MTA sent a listing of items to be tested. We compared a test bus contract with a standard bus contract and found that, with few exceptions, most of the specifications cited are standard specifications for any bus purchase. Further, some of the requirements cited that the test buses must meet are not new. For example, MTA's response makes reference to a federal Department of Transportation (DOT) standard for wheelchair lifts and ramps, which was established in September 1992. Another standard in the bus specification is for the exterior sound level (the noise level emitted by a bus), which was originally established in 1969 and has been updated periodically since, with the last revision in September 2011.

## **Recommendations**

5. Ensure that performance criteria are established to benchmark and evaluate performance of test bus fleets.
6. Reassess the minimum number of buses required to be procured to permit an effective test evaluation of new buses.

## **Capital Program Bus Fleet Growth**

According to MTA officials, procurements are made to replace buses that are at least 12 years old or have 500,000 miles of service. In addition, the procurement must include the expected growth in ridership and ensure that 15 percent of the inventory of buses can be maintained as spares to meet contingency needs. Using these factors, the MTA reported that it had planned to procure 1,360 buses costing \$719 million and 2,090 buses costing \$1.7 billion during the course of the 2005 through 2009 and 2010 through 2014 MTA Capital Programs, respectively. The five-year plan is comprehensively amended by the MTA Board each year to reflect actions taken through the year and to modify the mix of projects to reflect changing priorities. The amendment can also reflect changes to funding and project schedules.

Although MTA officials used ridership growth rates in determining bus needs for the 2005-2009 and 2010-2014 Capital Programs, they could not provide documentation to support how the growth rates were calculated for the procurement under the 2010-2014 Capital Programs. MTA officials also could not provide supporting documentation for the two amendments to the 2005-2009 Capital Program. In addition, they could not document how the population and employment growth rates were applied to either of the 2005-2009 or 2010-2014 Capital Programs.

In response to our preliminary findings, MTA officials provided reports that closely tied to the number of buses procured through the 2005-2009 and the 2010-2014 Capital Programs. However, despite repeated requests, the support provided did not include any source documentation that was used to calculate the number of buses to procure.

Additionally, officials responded that a 15 percent spare factor of bus fleet was used to calculate the number of buses they needed to procure. However, we calculated a spare factor of 15.42 percent based on our analysis of the MTA's fall 2011 Peak Bus Requirement and Bus Assignment sheet. This difference results in 20 extra buses totaling approximately \$9.4 million.

## **Recommendation**

7. Require that MTA Bus and Transit managers prepare and maintain documentation to support all required factors to be used to determine the number of buses procured.

(MTA replied to our draft audit report that it agrees with our recommendation and has taken steps to implement it.)

## **Audit Scope and Methodology**

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We audited the MTA's Bus Procurement practices for the period January 1, 2008 through June 30, 2011. Our audit objective was to determine whether the MTA is procuring buses in a manner that results in the best value for the lowest cost.

To accomplish our objective, we met with MTA officials to gain an understanding of their policies and procedures for purchasing buses. We also reviewed the MTA's process for procuring buses at the MTA Bus Company and New York City Transit. In addition, we reviewed the New York City Transit's internal databases and spreadsheets containing bus utilization information.

We surveyed other bus authorities, and contacted several vendors, the New York Metropolitan Transportation Council, and the FTA. We also reviewed procurement folders, the 2005-2009 and 2010-2014 Capital Programs and Capital Program Operating Committee minutes. In addition, we observed morning calls and records of the ridership statistics.

We conducted our performance audit in accordance with generally accepted government auditing standards. Those 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

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 the purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

## Authority

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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.

## Reporting Requirements

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A draft copy of this report was provided to MTA officials for their review and comment. Their comments were considered in preparing this final report and are included in their entirety at the end of this report. MTA also attached about 200 pages of procedures, memoranda and other documents, which are not included in this report. These documents are available at our New York City Office and can be reviewed by contacting our office to make the necessary arrangements. The contact information is on page 3 of this report.

Within 90 days after final release of this 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 where recommendations were not implemented, the reasons why.

## Contributors to This Report

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**Carmen Maldonado**, Audit Director  
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### Vision

A team of accountability experts respected for providing information that decision makers value.

### Mission

To improve government operations by conducting independent audits, reviews and evaluations of New York State and New York City taxpayer financed programs.

## Agency Comments

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**Metropolitan Transportation Authority**

State of New York

June 28, 2013

Ms. Carmen Maldonado  
Audit Director  
The Office of the State Comptroller  
Division of State Government Accountability  
123 William Street – 21<sup>st</sup> Floor  
New York, NY 10038

**Re: Draft Report #2011-S-16 (Selected Aspects of Bus Procurement)**

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 Carmen Bianco, Acting President, NYC Transit, and Darryl C. Irick, Senior Vice President, NYC Transit Department of Buses and President, MTA Bus Company, which address this report.

Sincerely,

A handwritten signature in black ink, appearing to read "T. F. Prendergast", with a long horizontal line extending to the right.

Thomas F. Prendergast  
Chairman and Chief Executive Officer

Attachment

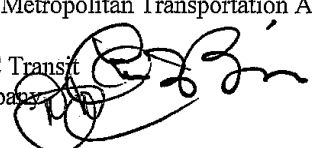
# Memorandum



## Metropolitan Transportation Authority

**Date:** June 28, 2013

**To:** Thomas F. Prendergast  
Chairman and Chief Executive Officer, Metropolitan Transportation Authority

**From:** Carmen Bianco, Acting President, NYC Transit  
Darryl Irick, President, MTA Bus Company 

**Re:** New York State Comptroller Report 2011-S-16  
Selected Aspects of Bus Procurement

We have reviewed the draft report 2011-S-16 entitled "Selected Aspects of Bus Procurement", and generally disagree with many aspects of the report. We believe that the audit team did not take sufficient note of or failed to understand the numerous explanations and documentation previously provided to them. Because of this, many of the report conclusions are misleading. Following are NYC Transit and the MTA Bus Company (NYCT) specific comments to the report findings and recommendations. Our previous responses (of open items) dating from December 14, 2011 to January 24, 2012 are attached for your review.

### Federal Funding

We disagree with the draft report's conclusion that NYCT did not obtain federal funding due to inadequate planning. The Metropolitan Transportation Authority (MTA) has a long history of seeking and obtaining Federal funding. The MTA received \$6.2 billion in federal grant funding during 2009 through 2011 for all Capital Programs.

The draft report fails to reflect the circumstances and business strategy behind the NYCT decision not to seek federal funding for the \$512 million of buses procured in 2010 and 2011. As previously explained to the OSC audit team in meetings and in our response to preliminary draft reports, some of the buses purchased during the audit period were test vehicles. Specifically, in 2010 – 2011 NYCT purchased four 90 bus test fleets for approximately \$169 million to facilitate the evaluation of buses manufactured during full production mode, and to comparatively evaluate various sub-systems in actual operating environments. The performance of these test fleets was evaluated over three duty cycles with 30 buses in each cycle. This allowed for more accurate performance analysis and ensured that the buses were manufactured in full production mode, rather than crafted

individually with a more stringent quality control process which can occur with small test fleets.

While NYCT is permitted by NYS Public Authority Law 1209 to make purchases for testing and evaluation purposes, federal funding guidelines typically do not allow for funding of test fleets purchased on a non-competitive basis. The procurement of these fleets was underway when the 2010-11 grants were advertised. Seeking waivers would have significantly delayed the award and delivery of these buses which were a critical element on the path toward replacing an aging fleet.

Nationwide, federal funding for the competitive Bus-State of Good Repair (BSGR) program during the 2010 and 2011 period was \$1.53 billion. This funding is allocated geographically, to ensure that no one entity or region of the country receives a disproportionate amount of the funding. While the MTA requested \$440.5 million, it only received \$173 million (greater than ten percent) of the \$1.53 billion nationwide allotment. The MTA has latitude in the internal allotment of this funding, and made strategic business decisions to utilize the bulk of these funds on bus facility projects.

#### **Recommendation #1**

Adequately plan bus procurements to maximize Federal grant funds and to allow time to process any waivers from federal eligibility requirements that may be necessary.

#### **Management Comment**

Agree. Based on the aforementioned comments, NYCT has and will continue to properly plan bus procurements. Contrary to the OSC assertion, there is no guarantee that using a method other than the MTA strategy would have garnered more federal funds.

#### **Initial Bid Analysis**

#### **Recommendation #2**

Develop a base price variance range that is relevant to bus procurements rather than to capital construction projects.

#### **Management Comment**

Disagree. The draft audit report, dated May 2013, states on page 5: "Transit uses a plus or minus 10 percent rule when a proposal or bid is received from a vendor. If a proposal is within plus or minus 10 percent of MTA's estimate, it is deemed reasonable."

NYCT does not deem prices to be fair and reasonable merely because they are within 10 percent of the in-house estimate. The percentage by which a price varies from the estimate is merely one criterion among many that must be satisfied in order for NYCT to

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Comment

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\* See State Comptroller's Comments, page 21.



find a price fair and reasonable. NYCT does not end negotiations merely because a price has been negotiated to within 10 percent of the in-house estimate.

NYCT previously responded to preliminary audit findings regarding cost price analysis dated December 28, 2011 ("Preliminary Audit Findings re: Cost Price Analysis"). NYCT's response, dated January 19, 2012, set forth in detail NYCT's reasons for determining that the prices for the five bus procurements cited in that report were fair and reasonable. In each case, either the price from a prior bus procurement or a field pricing support report issued by MTA Audit Services was used in addition to the in-house estimate to determine whether a negotiated price was fair and reasonable. In no case was a price found to be fair and reasonable merely because it was within 10 percent of the in-house estimate.

As was previously stated in the initial NYCT response, for some types of procurements, including change orders for capital construction projects, a necessary but not sufficient condition for the price to be fair and reasonable is that the price must be within 10 percent of the NYCT estimate. This means that a price more than 10 percent above the NYCT estimate is not fair and reasonable, while a price within 10 percent of the NYCT estimate may be fair and reasonable, but is not necessarily fair and reasonable. Among other things, NYCT would consider the basis for the estimate and the variances between specific components of the estimate and the proposed price before finding a proposed price fair and reasonable.

The draft audit report states on pages 5-6: "We question whether a capital project plus or minus ten percent range in cost variance is too large a range for the procurement of a bus fleet. ... We believe this is too wide a range for the price of a bus to be a useful tool." NYCT does not use any fixed percentage variance between a proposed price and the NYCT estimate as a sufficient condition to find the proposed price fair and reasonable. We believe the use of such a fixed percentage to be inadvisable. Therefore, NYCT cannot and should not implement this recommendation.

**NYCT further recommends that this finding and recommendation be removed from OSC final report.**

### **Cost Price Analysis**

#### **Recommendation #3**

Require market surveys be done independently and in a timely manner to verify the market price of similar buses.

#### **Management Comment**

Agree. The draft audit report states (page 6):

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“The MTA bus procurements during our audit period should have complied with MTA’s Materiel Procurement Procedure IV-A-16 ‘Cost/Price Analysis Requirement for Procurements.’ The Procedure specifies that:

- A market survey should be performed prior to exercising contract options to buy additional buses.”

The procedure cited in the draft audit report, DPM IV-A.16, states only that market surveys must be performed *if appropriate* (see page 26 of DPM IV-A.16). The initial NYCT response set forth our reasoning in detail why formal market surveys were not appropriate for the option exercises cited in the preliminary audit findings re: Cost Price Analysis. For example, in connection with the exercise of an option for low floor hybrid buses a market survey was performed. NYCT contacted the only two qualified manufacturers of such buses; one manufacturer was the contractor with whom NYCT had the option; the other manufacturer declined to submit pricing. Because our bus suppliers are pre-qualified based on compliance with our unique specifications, any accurate market survey can only be based on pricing from those qualified suppliers. Any prices obtained for unqualified buses that do not meet NYCT’s specifications would be misleading.

Nevertheless, NYCT will continue to ensure that independent market surveys are conducted (when appropriate) before exercising contractual options to purchase additional buses.

#### **Recommendation #4**

Ensure that a determination of fair and reasonable pricing is completed in writing prior to awarding a contract.

#### **Management Comment**

Agree. The draft audit report asserts on page 6 that DPM IV-A.16 requires that “a ‘Fair and Reasonable’ determination of the price must be made by the CPAU [Cost Price Analysis Unit] at the conclusion of negotiations.” As previously stated in the initial NYCT response, DPM IV-A.16 does not require this. DPM IV-A.16 states that “to expedite a procurement action, the Cost/Price Analyst may issue a preliminary fair and reasonable determination, to be followed by a formal memorandum.” More importantly, the initial NYCT response demonstrated in detail that NYCT had established, prior to award of all contracts examined in the draft audit report, that the prices were fair and reasonable. These fair and reasonable determinations were documented in each recommendation for award presented to the MTA Board. A detailed memorandum explaining the reasons for finding a price fair and reasonable is always prepared after negotiations; the memorandum is often finalized prior to contract award.

**Page 1 of the draft audit report states as a key finding that “MTA did not follow procedures by failing to notify the MTA Board when two contracts were awarded prior to a fair and reasonable determination.” This statement is incorrect, since, as**

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Comment  
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stated above, the fair and reasonable determination was included in all staff summaries presented to the MTA Board. This can be verified from the staff summaries included in the attachment to this document.

NYCT will ensure that when the fair and reasonable determination is made prior to the date of the detailed memorandum explaining the reasons for the determination, the prior determination will be documented.

#### **Recommendation #5**

Ensure that pricing support from Audit Services is completed in time for negotiations with bus manufacturers and in time for fair and reasonable pricing determinations.

#### **Management Comment**

Agree. The draft audit report indicates on page 7 that negotiations were completed before the results of field pricing support provided by MTA Audit Services were available for two non-competitive bus contracts (B-31138 with Nova Bus and B-31122 with New Flyer). As was discussed at length in the initial NYCT response, both contracts in question were for standard 40-foot diesel buses and NYCT was able to determine that the prices for these contracts were fair and reasonable by comparison to the price for the competitive bus procurement B-40641, which was negotiated less than seven months before the two procurements in question, as well as through other cost or price touchstones.

NYCT will continue to ensure that field pricing support is obtained from MTA Audit Services for bus procurements when required by DPM IV-A.16.

#### **Test Fleets**

The draft report indicated, "In our examination of the test fleet procurements and related evaluations, we noted that there were no set criteria against which the test buses would be evaluated to determine their viability for future procurements. For example, there were no documented, predetermined benchmarks for acceptable fuel consumption, engine performance, etc. We question how an effective test evaluation can take place absent predetermined necessary benchmarks for performance." Further, the draft report states as a "Key Recommendation" that NYCT should "Establish pass/fail criteria for all test fleets prior to procurement."

#### **Recommendation #6**

Ensure that performance criteria are established to benchmark and evaluate performance of test bus fleets.

**Management Comment**

Agree that criteria is necessary and as was previously communicated to the auditors, NYCT has set criteria against which test fleet buses are evaluated to determine their viability for future procurements including pass/fail criteria. This is evidenced by the detailed bus specifications that were provided to the auditors and against which test fleet buses are evaluated. These pass/fail tests and criteria include: wheelchair ramp is tested to DOT-T-93-03 plus 500 cycles with no defects; rear door interlock is tested to 10,000 cycles with no adjustment and 20,000 cycles with no repairs; brakes tested to FMVSS-121 plus NYCT specific test; acceleration must meet detailed criteria in the specification; top speed must be at least 55 mph at curb weight; air conditioning and heating are tested against the detailed NYCT specification in an environmental chamber; handling is tested for obstacle avoidance with detailed criteria; NYCT tests various clearance angles defined by APTA; the engine cooling system is tested in accordance with SAE J819; and ADA compliance is tested by a full review of the vehicle for compliance.

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Comment  
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NYCT does not set pass/fail criteria for fuel consumption since the wide variety of traffic conditions that buses encounter on NYCT's many routes makes a single fuel consumption standard infeasible. Moreover, as was communicated to the auditors, NYCT obtains copious data on the actual fuel consumption of test buses from different manufacturers and takes account of differences in fuel consumption when conducting competitive RFPs for bus purchases. Similarly, NYCT measures differences in engine performance of different manufacturers test buses via the mean distance between failures (MDBF) and takes account of differences in MDBF during competitive RFPs.

The audit team failed to acknowledge the data provided during numerous meetings or to understand NYCT's reasons for not using pass/fail criteria regarding fuel consumption in its draft report.

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Comment  
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**Recommendation #7**

Reassess the minimum number of buses required to be procured to permit an effective test evaluation of new buses.

**Management Comment**

Disagree. The draft report indicated, "MTA officials could not justify buying 90 buses for each of five test fleets totaling about \$228 million." The audit team did not consider or reflect NYCT's comments provided in NYCT's response, dated January 24, 2012, to preliminary audit findings. NYCT's response to the preliminary observation explained that NYCT utilized test fleets of 90 buses because NYCT's previous experience with smaller test fleets provided inadequate and inconsistent test results from which to make informed decisions concerning future competitive procurements. NYCT specifically referenced the insufficiency of the data yielded by previous, small scale test fleets with three express buses, ten Cummins-powered buses and ten hybrid buses. NYCT's response further explained that test fleets of 90 buses were selected because larger test

fleets more closely approximate the quality and anticipated performance of buses manufactured by the vendor in full manufacturing production mode. NYCT's response also indicated that larger test fleets more accurately provide indications of performance, fuel efficiency, Mean Distance Between Failure (MDBF), and the performance of sub-systems, such as wheelchair ramps, air conditioning, and lighting systems. This is true in part because larger test fleets can be distributed over a larger base of depots and duty cycles in order to gather information in different environments over a shorter time frame. The performance of these test fleets was evaluated over three duty cycles with 30 buses in each cycle. The performance of these sub-systems is an additional basis for predicting costs associated with the bus life cycle.

NYCT purchased 450 buses under the five test fleet purchases examined in the draft audit report. This represents eight percent of NYCT's fleet of approximately 5,700 buses, the bulk of which have been procured competitively.

### **Capital Program Bus Fleet Growth**

#### **Recommendation #8**

Require that MTA Bus and NYCT managers prepare and maintain documentation to support all required factors to be used to determine the number of buses procured.

#### **Management Comment**

Agree. The MTA is preparing a Policy Instruction to be approved by Department of Buses and collaborative departments' senior managers that delineates the documentation required to determine the number of buses to be procured. This policy will address the basis for generating growth and spare factors for the 20-Year fleet needs forecast and the 5-Year Capital Program. The Policy Instruction will support the development of the 2015-2019 Capital Program.

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## State Comptroller's Comments

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1. Based on the agency response to the draft report, we have deleted from the final report our findings and related recommendation number 2 that pertained to the initial bid analysis.
2. Our report is correct. The documents we have related to the two contracts show that the Staff Summary does not mention that the fair and reasonable determination was not done when the contracts were awarded.
3. There were five procurements of test fleets totaling 450 buses. However, not all were for the purposes stated by MTA, which were to evaluate new clean diesel propulsion systems or buses available from new vendors. In fact, only one of the test fleet procurements involved a vendor from which MTA had not made previous purchases. This contract was for 90 new over-the road coaches. We compared the specifications in the contracts for test buses with a standard bus contract and found they were similar. Most importantly, they did not include evaluative criteria that focused on new technology. For example, MTA's response refers to a DOT standard for wheelchair lifts and ramps, which was established in 1992.
4. Contrary to MTA's response, we reviewed the written response to our preliminary findings and used the information in preparing our draft audit report. We also considered the comments of MTA officials at every meeting during the audit. Still, we continue to believe that test fleets of 90 buses are excessive, especially in comparison to practices used by other transit systems. Because of this practice, test fleet vehicles have grown to comprise eight percent of the MTA's entire fleet. This is not an insignificant number or cost, and may well grow larger as more test fleets are acquired over time. Furthermore, these procurements were carried out under a provision of law that allows MTA to avoid normal competitive procedures specifically to permit tests of new technologies. MTA's use of this provision carries with it the responsibility to ensure that it is actually testing something new and unique, and not just reviewing the next year's offerings from various manufacturers. Additionally, the use of this section bears with it the need for a testing plan with formally stated expectations of successful performance, which was not provided to the auditors. Rather, it appears that the MTA may have been testing current model year offerings of transmissions and engines, but not new technology.