

AUDIT REPORT



CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
BUREAU OF MANAGEMENT AUDIT
WILLIAM C. THOMPSON, JR., COMPTROLLER

Audit Report on the Fire Department Procedures for Replacement of Front-line Vehicles

MH05-073A

May 17, 2005



THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
1 CENTRE STREET
NEW YORK, N.Y. 10007-2341

WILLIAM C. THOMPSON, JR.
COMPTROLLER

To the Citizens of the City of New York

Ladies and Gentlemen:

In accordance with the Comptroller's responsibilities contained in Chapter 5, §93, of the New York City Charter, my office has examined the Fire Department's procedures for replacement of front-line vehicles. The audit covered Fiscal Years 2004 and 2005 (through December 2004).

The results of our audit, which are presented in this report, have been discussed with the Fire Department officials, and their comments were considered in the preparation of this report.

Audits such as this provide a means of ensuring that City resources are used effectively, efficiently, and in the best interest of the public.

I trust that this report contains information that is of interest to you. If you have any questions concerning this report, please e-mail my audit bureau at audit@comptroller.nyc.gov or telephone my office at 212-669-3747.

Very truly yours,

A handwritten signature in black ink, appearing to read "William C. Thompson, Jr.", written in a cursive style.

William C. Thompson, Jr.
WCT/fh

Report: MH05-073A
Filed: May 17, 2005

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*The City of New York
Office of the Comptroller
Bureau of Management Audit*

**Audit Report on the Fire Department Procedures for
Replacement of Front-line Vehicles**

MH05-073A

AUDIT REPORT IN BRIEF

The audit determined whether the New York City Fire Department (the Department) is in compliance with its union contract with regard to replacement requirements for front-line firefighting vehicles.

Audit Findings and Conclusions

In our opinion the Department is in compliance with the replacement requirements for front-line firefighting vehicles in its union contract. However, the Department needs to formalize its replacement procedures in its own written policies. Based on our tests, we concluded that it has assigned front-line vehicles that are less than 11 years old to all 216 firehouses throughout the city. In addition, it has a procurement procedure that replaces a front-line vehicle beginning 27 months prior to the vehicle's eleventh anniversary. This procurement procedure ensures that a vehicle approaching 11 years of age will be replaced before its eleventh year.

We also noted that the Department uses its spare vehicles to temporarily replace their out-of-service front-line vehicles. This is in accordance with the requirement that if a regularly assigned vehicle is unavailable, firefighters must respond to fires on available equipment. During our visit to 21 firehouses, we found that six (17%) of the 36 front-line vehicles assigned to these firehouses were out of service and were replaced with spare vehicles.

However, the Department has no written guidelines to dictate when and for how long a spare vehicle should replace a front-line vehicle. According to officials, if it is determined that a front-line vehicle will be out of service for longer than five hours, based on the type of repair needed, a spare vehicle is assigned to the firehouse.

The Supervisor of Mechanics on duty at the Control Center, a 24-hour operation, checks the Spare List to determine which spare vehicle is available to replace the out-of-service vehicle. (The Spare List is a sheet of paper that lists all the spare vehicles.) The locations of the available spare vehicles are written in pencil and erased each time the vehicles are assigned. Even though the location information for the spare vehicles is tracked in the FDFLEETS computer database,

FDFLEETS is not being used to assign spare vehicles. In addition, the location information for spare vehicles in FDFLEETS is not updated regularly.

Audit Recommendations

Based on our findings, we make the following four recommendations. The Fire Department should:

- Have its own written policy regarding the replacement of the front-line firefighting vehicles and spare vehicles when they reach a certain age.
- Develop written guidelines to determine when and how long a spare vehicle should replace a front-line vehicle, and ensure that newer spares are assigned to those vehicles out of service for a longer time.
- Ensure that the location information for spare vehicles maintained in FDFLEETS is kept up-to-date.
- Consider computerizing the process of assigning spare vehicles to replace out-of-service front-line vehicles.

INTRODUCTION

Background

The New York City Fire Department (the Department) responds to fires, public safety and medical emergencies, disasters, and terrorist acts to protect the lives and property of City residents and visitors. Firefighters respond to nearly 300,000 fire- and non-fire-related emergencies each year.

The Department's Fleet and Technical Services Unit maintains approximately 2,000 vehicles. This includes ambulances, trucks/ladders, engines/pumpers, and rescue and support vehicles. As of September 16, 2004, the Department had 353 front-line trucks, engines, rescue, and squad vehicles regularly assigned to 216 firehouses throughout the five boroughs. It also had 126 spare vehicles,¹ stored in five garages and used to temporarily replace out-of-service front-line vehicles.²

The Department Fleet and Technical Services Unit uses two computer systems to keep track of its fleet: the Maintenance Control Management System (MCMS) and FDFLEETS. MCMS is an on-line processing system used to record vehicle maintenance information. It is maintained by the Department of Information Technology and Telecommunication (DoITT) for all City agencies, such as the Police Department, Fire Department, and Department of Sanitation, that use and maintain vehicles. FDFLEETS is an in-house database system for internal use; it records the location of the vehicles. The Department officials use FDFLEETS to create reports specific to Department needs.

According to the Department contract with the United Fire Officers Association, Article XIII, Safety Standards and Equipment, § 2, the Department should operate all regularly assigned engine, ladder, squad, and rescue companies with vehicles less than 11 years old. However, if a regularly assigned vehicle is unavailable, firefighters must respond to fires on available equipment.

According to a Fire Department official, the Department spent approximately \$9.5 million for fire trucks, engines, and equipment in Fiscal Year 2004 and Fiscal Year 2005 through February 2005.

Objective

The objective of this audit was to determine whether the Department is in compliance with its union contract with regard to replacement requirements for front-line firefighting vehicles.

¹ Spare vehicles are front-line vehicles that were replaced with new ones at their 10th anniversary.

² Front-line vehicles are considered out of service when they are not available due to breakdowns or repairs. "Out of Service" does not apply to preventive maintenance, which is coordinated with the quarterly medical examinations of firefighters. At those times, the unit is closed down and neighboring units are responsible for any emergencies within the zone.

Scope and Methodology

The scope period of the audit is Fiscal Years 2004 and Fiscal Year 2005 through December 2004.

To achieve our objective and gain an overall understanding of the Department's fleet maintenance program, we interviewed officials at the Department's Fleet and Technical Services Unit. We also interviewed various officials responsible for the computer systems to gain an understanding of the systems' functions, processes, and reporting capabilities.

To determine whether the Department is in compliance with the union contract requirement to replace front-line vehicles within 11 years, we obtained a printout from FDFLEETS listing all Department front-line vehicles including statistics, such as the Vehicle's Identification Number (VIN) and Registration Numbers, and reviewed the procurement procedures for front-line vehicles.

To assess the reliability of the computer data, we interviewed Department officials regarding user access levels, security, and system policies. In addition, we randomly selected a sample of 30 front-line vehicles from the listing of all front-line vehicles. We visited the firehouses from October 6 to October 13, 2004, to determine whether the vehicles were at their assigned firehouses.

If the sampled front-line vehicle was out for repairs and a spare vehicle was in the firehouse, we selected another vehicle from the listing of all front-line vehicles as a replacement in our sample. We visited the firehouse to which that vehicle was assigned. We found that six front-line vehicles were replaced with spares. Therefore, we checked a total of 36 vehicles assigned to 21 firehouses throughout the five boroughs.

We also reviewed the receiving documents for the 30 randomly selected front-line vehicles and compared the VIN and Registration Numbers with information obtained directly from the vehicles. We used the manufacturer's date from the receiving documents to calculate the ages of the vehicles.

To determine the extent to which spares are being used to replace out-of-service front-line vehicles, we obtained the repair history from MCMS for a randomly selected sample of 30 front-line vehicles and analyzed how often and for what length of time the vehicles were out for repairs for more than a day.

The results of the above tests, while not projected to the entire population, provided a reasonable basis for us to form an opinion regarding our audit objective.

This audit was conducted in accordance with generally accepted government auditing standards (GAGAS) and included tests of the records and other auditing procedures considered necessary. This audit was performed in accordance with the City Comptroller's audit responsibilities as set forth in Chapter 5, § 93, of the New York City Charter.

Discussion of Audit Results

The matters covered in this report were discussed with officials of the Department during and at the conclusion of this audit. A preliminary draft report was sent to Department officials on March 7, 2005, and was discussed at an exit conference on March 23, 2005. On April 15, 2005, we submitted a draft report to Department officials with a request for comments. On April 26, 2005, we received a written response from the Department. In their response, Department officials stated that they appreciated the efforts of the Comptroller's auditors and that they agree to implement all four recommendations.

The full text of the Fire Department response is included as an addendum to this report.

FINDINGS

In our opinion the Department is in compliance with the replacement requirements for front-line firefighting vehicles in its union contract. Based on our tests, we concluded that it has assigned front-line vehicles that are less than 11 years old to all 216 firehouses throughout the city. In addition, it has a procurement procedure that replaces a front-line vehicle beginning 27 months prior to the vehicle's eleventh anniversary. This procurement procedure ensures that a vehicle approaching 11 years of age will be replaced before its eleventh year.

We also noted that the Department uses its spare vehicles to temporarily replace their out-of-service front-line vehicles. This is in accordance with the requirement that if a regularly assigned vehicle is unavailable, firefighters must respond to fires on available equipment. During our visit to 21 firehouses, we found that six (17%) of the 36 front-line vehicles assigned to these firehouses were out of service and were replaced with spare vehicles.

The following sections of this report discuss our findings in greater detail.

All Front-line Vehicles Assigned to Firehouses Are Less than Eleven Years Old

We reviewed the list provided by the Department of 353 front-line vehicles, and based on our test concluded that all front-line vehicles were less than 11 years old. They range in age from less than one year to ten years, with an average age of four years.

These 353 front-line vehicles include 143 ladders; 197 engines; seven squads; and six rescue vehicles, assigned to 216 firehouses throughout the five boroughs. Table I, below, shows the distribution of the firehouses and the number of front-line vehicles assigned to each borough.

Table I

Distribution of Front-line Vehicles

Borough	Number of Firehouses	Number of Front-line Vehicles	Average Age of Front-line Vehicles
Bronx	34	60	3
Brooklyn	66	103	4
Manhattan	48	75	4
Queens	50	85	4
Staten Island	18	30	4
TOTAL	216	353	

The Department Replaces Front-line Vehicles Older than 11 Years

The Department has no written policy regarding the replacement of front-line firefighting vehicles when it reaches a certain age. However, it follows the union contract, which stipulates that the Department institute a ten-year replacement policy for all front-line vehicles. The FDFLEETS computer system keeps track of the age of vehicles, beginning with the in-service date, and notifies the Fleet and Technical Unit of the vehicle's tenth anniversary. The Fleet and Technical Unit begins the procurement procedure to replace front-line vehicles 27 months prior to the eleventh anniversary.

The procurement process is monitored by the Department, which usually purchases several vehicles at a time. The process begins with the specifications for the vehicles, written by Department specification writers. The specifications are reviewed by the Fleet and Technical Unit and the Apparatus Committee, consisting of firefighters, fleet personnel, and safety and training units. They review any revisions and recommendations, and approve the specifications.

The specifications are forwarded to DCAS, which conducts the procurement process, including the bid procedure. The Department also reviews the bid procedure. After the contract is awarded, it is submitted to the Office of the City Comptroller for registration. The vendor then begins manufacturing the vehicles, and the Department makes three visits to the factory to check the status of the order. Both the Department and DCAS inspect and accept the vehicles after delivery.

At the end of this process, the vehicle is placed in service and assigned to a firehouse. According to Department officials, 27 front-line vehicles were ordered during Fiscal Year 2004 at a cost of approximately \$18 million.

Out-of-Service Front-line Vehicles Are Replaced with Spares

According to Department officials, front-line vehicles that were replaced at their eleventh anniversary are used as spares for five years, after which they are salvaged.³ The Department has 126 spare vehicles, consisting of 40 ladders; 81 engines; and, five rescues and other vehicles. They are used to temporarily replace any out-of-service front-line vehicles in the firehouses.

Table II shows the age distribution of the spare vehicles. On average, the spare vehicles are 11 years old, ranging in age from two to 21 years. However, 92 (73%) of the spare vehicles are 11 years or older.

³ According to Department officials, exceptions to this rule exist because there is a limited number of certain types of front-line vehicles; therefore, those types of vehicles are kept for a longer period of time.

Table II

Age Distribution of Spare Vehicles

Number of Spare Vehicles	Age (Years)
1	2
2	4
2	6
3	8
1	9
25	10
55	11
7	12
16	13
1	14
7	16
1	17
3	18
1	19
1	21
126	

The Department has no written guidelines to dictate when and for how long a spare vehicle should replace a front-line vehicle. According to officials, if it is determined that a front-line vehicle will be out of service for longer than five hours, based on the type of repair needed, a spare vehicle is assigned to the firehouse. In addition, an official stated that the newer spare vehicles are assigned to replace front-line vehicles that will be out for extended periods.

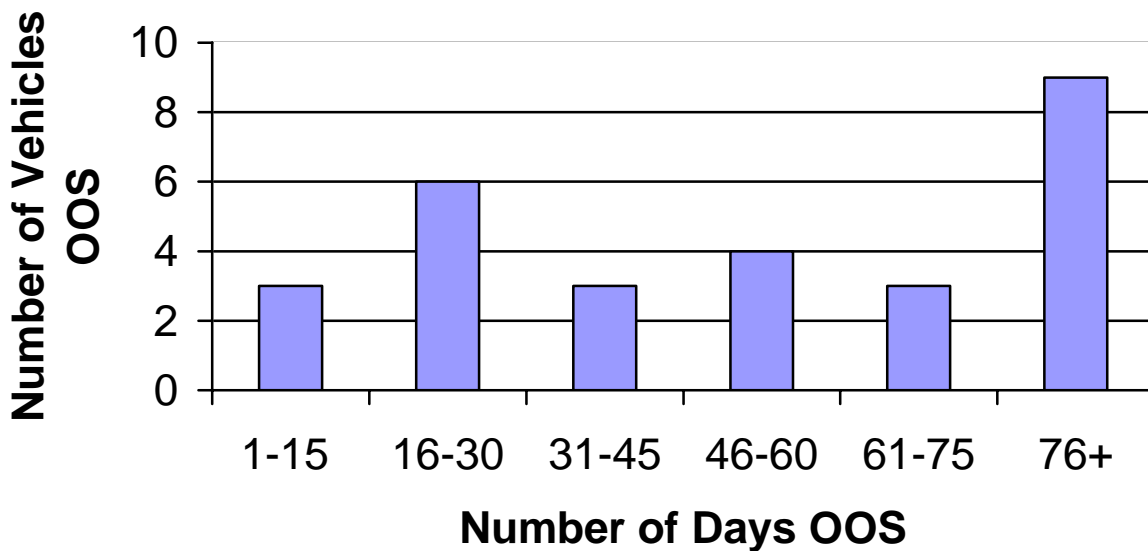
The Supervisor of Mechanics on duty at the Control Center, a 24-hour operation, checks the Spare List to determine which spare vehicle is available to replace the out-of-service vehicle. (The Spare List is a sheet of paper that lists all the spare vehicles.) The locations of where the available spare vehicles are stored are written in pencil and erased each time the vehicles are assigned. Even though the location information for the spare vehicles is tracked in FDFLEETS, the database is not being used to assign spare vehicles. In addition, the location information for spare vehicles in FDFLEETS is not updated regularly.

On April 7, 2005, we reviewed the information in FDFLEETS for the six spare vehicles that we found in the firehouses during our visits and determined that the location of the spare vehicles had not been updated for approximately six months. For example, one of the spare vehicles (Registration Number MP8820) is listed in FDFLEETS as being “available” and not assigned since July 2004. However, on October 7, 2004, we found this vehicle was replacing the front-line vehicle regularly assigned to Engine Company 159. This FDFLEETS information could be used to assign spare vehicles, but the data in the system would have to be updated daily to be effective.

To determine how often front-line vehicles were out-of-service for one or more consecutive days and had to be replaced with spare vehicles, we reviewed the repair orders from July 2002 through November 2004 for the 30 front-line vehicles in our sample. Of the 30 front-line vehicles, Figure I below, shows the 28 front-line vehicles that were out-of-service for one or more consecutive days.

Figure I

Length of Time Front-line Vehicles Were Out of Service (OOS)
From July 2002 through November 2004



As Figure I illustrates, of the 28 vehicles:

- three (11%) were out of service between one and 15 consecutive days;
- six (21%) were out of service between 16 and 30 consecutive days;
- three (11%) were out of service between 31 and 45 consecutive days;
- four (14%) were out of service between 46 and 60 consecutive days;
- three (11%) were out of service between 61 and 75 consecutive days; and,
- nine (32%) were out of service for 76 or more consecutive days.

The Department complied with its union contract by temporarily replacing the out-of-service front-line vehicles with spare vehicles. This provided firefighters with the ability to respond to fires in those instances in which a regularly assigned vehicle might have been unavailable. However, as Figure I illustrates, 43 percent of the vehicles in our sample were out of service more than 60 consecutive days, and as previously reported, 92 (73%) of the Department's 126 spare vehicles are 11 years or older. The practice of using spare vehicles that

may be 11 years or older in lieu of front-line vehicles for extended periods of time might not correspond to the intent of the 11-year replacement requirement.

RECOMMENDATIONS

The Department should:

1. Have its own written policy regarding the replacement of the front-line firefighting vehicles and spare vehicles when they reach a certain age.

Department Response: “The Department agrees and will implement this recommendation.”

2. Develop written guidelines to determine when and how long a spare vehicle should replace a front-line vehicle, and ensure that newer spares are assigned to those vehicles out of service for a longer time.

Department Response: “The Department agrees and will implement this recommendation.”

3. Ensure that the location information for spare vehicles maintained in FDFLEETS is kept up-to-date.

Department Response: “The Department agrees and will implement this recommendation.”

4. Consider computerizing the process of assigning spare vehicles to replace out-of-service front-line vehicles.

Department Response: The Department agreed, stating: “The Department will consider the feasibility of computerization of the assignment process.”



FIRE DEPARTMENT

9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857



NICHOLAS SCOPIETTA
Fire Commissioner

April 25, 2005

Mr. Greg Brooks
Deputy Comptroller
Policy, Audits, Accountancy & Contracts
Office of the Comptroller
1 Centre Street
New York, NY 10007-2341

Re: Audit Report on the Fire Department Procedures for Replacement of Front-Line Vehicles (MH05-073A).

Dear Mr. Brooks:

Attached is a copy of FDNY's response and Agency Implementation Plan (AIP) to the four recommendations made by the Office of the Comptroller in the above-mentioned audit.

Please thank your staff for the time and diligence that they put into this audit – the Department appreciates their efforts, and intends to utilize their recommendations.

If you have any questions about our response or AIP, please contact our Chief Compliance Office, Frank Buccellato, at (718) 999-2033.

Sincerely,

Nicholas Scoppetta

Attachment

cc: M. Fischberger
J. Basile

Audit MH05-073A – Fire Department Procedures for Replacement of Front-Line Vehicles

Audit Recommendations / FDNY Response – Agency Implementation Plan

- 1) FDNY should have its own written policy regarding the replacement of the front-line firefighting vehicles and spare vehicles when they reach a certain age.

FDNY Response – The Department agrees and will implement this recommendation.

- 2) FDNY should develop written guidelines to determine when and how long a spare vehicle should replace a front-line vehicle, and ensure that newer spares are assigned to those vehicles out of service for a longer time.

FDNY Response – The Department agrees and will implement this recommendation.

- 3) Ensure that the location information for spare vehicles maintained in FDFLEETS is kept up-to-date.

FDNY Response – The Department agrees and will implement this recommendation.

- 4) Consider computerizing the process of assigning spare vehicles to replace out-of-service front-line vehicles.

FDNY Response – The Department will consider the feasibility of computerization of the assignment process.