



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

ALAN G. HEVESI
Comptroller

**Audit Report on the
New York City Transit's
Maintenance of Wheelchair Lifts
On City Buses**

MJ01-183A

February 22, 2001

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EXECUTIVE SUMMARY

Background

The Metropolitan Transit Authority (MTA) is one of the largest and most extensive public transportation systems in the world. One of the MTA's subsidiaries, New York City Transit (Transit) is responsible for providing safe and efficient transportation for bus and subway passengers throughout the City, including the operation of 204 local and 31 express bus routes that total 1,871 miles.

The Americans With Disabilities Act (ADA) prohibits discrimination on the basis of disability. The law requires transit systems to gradually make their buses and rail systems accessible to the disabled, including wheelchair users, and to provide alternative transportation to those unable to use the transit systems' fixed route service. All Transit buses are equipped with wheelchair lifts to allow individuals with disabilities access. Wheelchair lifts are either at the rear or front door of the bus, and allow wheelchair passengers to enter at street level.

Transit has experienced a major increase in ridership since the introduction of the "One fare, One City" MetroCard, in 1997. From 1996 to 1999, overall bus ridership increased 36 percent, to approximately 666.4 million, while ridership by wheelchair-bound passengers increased 67 percent, to approximately 593,000 riders.

Objectives, Scope, and Methodology

This audit was initiated to determine whether Transit is routinely inspecting and maintaining wheelchair lifts to ensure that they are operable in accordance with federal guidelines. The scope of this audit was calendar year 2000.

Results in Brief

Our audit found that Transit appears to have effective controls over the maintenance of wheelchair lifts, resulting in improved bus service for wheelchair-bound passengers. We found that the wheelchair lifts were operable and that bus operators knew how to operate them. Of the wheelchair lifts in our sample, 98 percent were operable. In addition, 99 percent of the bus operators we observed properly operated the lifts. We also found that the bus depots took a reasonable amount of time to repair buses with defective wheelchair lifts. For the period we reviewed, buses with defective lifts were repaired, on average, within three days. At the end of the audit's fieldwork, we discussed these findings with an advocacy group for disabled persons. A representative of the group corroborated our findings by stating his impression that bus service provided to wheelchair-bound passengers by Transit has improved over the years.

Our observations of a sample of wheelchair lifts on Transit buses revealed that Transit has done an adequate job in ensuring that those lifts are properly operating. We tested the wheelchair lifts on 200 buses and found that the lifts were operable on 196 (98%) of them. In addition, we found that bus operators operated all the bus wheelchair lifts we observed during our field observations at the depots. Our observations of these bus operators indicated that Transit was meeting its guidelines by ensuring that bus operators are capable of operating wheelchair lifts on its buses. We asked 200 bus operators to operate the wheelchair lifts on their buses, and found that 198 (99%) of them properly operated the wheelchair lifts.

According to Transit guidelines, all unscheduled maintenance work on buses shall be completed within seven days. In addition, safety-related defects must be repaired before any bus is returned to service. However, Transit does not have a time standard specifically related to defective wheelchair lift repairs. Nevertheless, for the period we reviewed, we found that lifts were repaired in an average of three days—well within the seven-day standard for unscheduled maintenance.

To determine how long depots took to repair bus wheelchair lift-related defects, we analyzed the actions in response to bus wheelchair lift related defects entered into Transit's computer database, the Maintenance Information Diagnostic

Analysis System (MIDAS)¹ for July 2000. A total of 1,905 wheelchair lift defects were reported at Transit's 18 depots. We compared the date each defect was identified and the date each defect was certified as being corrected, and found that Transit took an average of 2.56 days to repair wheelchair lift-related defects from the time the defects were identified.

After completing fieldwork for this audit, and concluding that Transit performed adequately in ensuring that bus wheelchair lifts are maintained in accordance with federal guidelines, we met with an advocacy group for disabled persons to ascertain whether our findings fairly characterize conditions reported by the disabled passengers they represent. According to that advocacy group, Transit has improved the maintenance of wheelchair lifts on buses since 1996.

Our own analysis of complaints received by Transit has shown an overall decline in complaints about bus service to wheelchair-bound passengers, especially in view of the increase in ridership that Transit has experienced over the years. Our comparison of the total number of complaints received, in relation to both the total number of wheelchair-bound passengers and the overall total number of bus passengers from calendar year 1996 through 1999, revealed that while wheelchair-bound passengers are using Transit buses more often, there seem to be fewer reported complaints relating to the service provided. Transit reported significant increases in both total ridership and total wheelchair lift use from calendar years 1996 to 1999—by 36 percent and 67 percent, respectively. Conversely, there was a 15 percent decrease in the number of wheelchair lift-related complaints.

Because we found no significant problems with Transit's maintenance of wheelchair lifts on its buses, we make no recommendations in this report.

Agency Response

The matters covered in this report were discussed with officials from Transit during, and at the conclusion of, this audit. A preliminary draft report was sent to Transit officials December 20, 2000. Transit officials agreed to forgo an exit conference because we make no recommendations in this report. On January 23, 2001, we submitted a draft report to Transit officials with a request for comments. We received a written response from Transit on February 13, 2001. In its response, Transit agreed with the audit's findings. Transit stated:

¹ MIDAS is a maintenance information system on bus repairs.

"We are pleased with the City Comptroller's findings concerning our wheelchair lift maintenance and operating practices. The report found that 98 percent of our wheelchair lifts were operable and 99 percent of our bus operators were proficient in its operation. This performance coupled with the significant decline in the number of wheelchair lift-related complaints reflects the quality service that New York City Transit provides to its customers."

The full text of Transit's comments is included as an addendum to this report.

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INTRODUCTION

Background

The Metropolitan Transit Authority (MTA) is one of the largest and most extensive public transportation systems in the world. One of the MTA's subsidiaries, New York City Transit (Transit) is responsible for providing safe and efficient transportation for bus and subway passengers throughout the City, including the operation of 204 local and 31 express bus routes that total 1,871 miles.

The Americans With Disabilities Act (ADA) prohibits discrimination on the basis of disability. The law requires transit systems to gradually make their buses and rail systems accessible to the disabled, including wheelchair users, and to provide alternative transportation to those unable to use transit systems' fixed-route services. All Transit buses are equipped with wheelchair lifts to allow individuals with disabilities access. Wheelchair lifts are either at the rear or front door of the bus, and allow wheelchair passengers to enter at street level.

Transit has experienced a major increase in ridership since the introduction of the "One fare, One City" MetroCard, in 1997. From 1996 to 1999, overall bus ridership increased 36 percent, to approximately 666.4 million. Ridership by wheelchair-bound passengers increased 67 percent, to approximately 593,000 riders.

In September 1996, the New York *Daily News* published two articles that identified several problems with Transit's buses, including faulty transmissions and malfunctioning wheelchair lifts. The articles stated that 12 percent of all mechanical failures were due to broken lifts. The articles blamed Transit, stating that it routinely failed to maintain and repair the wheelchair mechanism on City buses. A disabled rider was quoted as saying that he rides the buses to work every day and "at least once a week I'm late because the lift doesn't work."

According to Transit guidelines, all unscheduled maintenance work on buses shall be completed within seven days. In addition, safety-related defects must be repaired before any bus is returned to service. However, Transit does not have a time standard specifically related to defective wheelchair lift repairs. Nevertheless, for the period we reviewed we found that lifts were repaired in an average of three days—well within the seven-day standard for unscheduled maintenance.

Objective, Scope, and Methodology

This audit was initiated to determine whether Transit is routinely inspecting and maintaining wheelchair lifts to ensure that they are operable in accordance with federal guidelines. The scope of this audit was calendar year 2000.

To determine Transit's procedures for inspecting and maintaining bus wheelchair lifts, we interviewed the Chief Maintenance Officer, the Assistant General Manager for Depot Operations at the East New York Depot, the acting Chief Officer of Quality Performance, and other Transit officials and staff workers at the sampled depots. We obtained and reviewed agency directives and memoranda concerning the maintenance of wheelchair lifts. We also reviewed quarterly performance reports issued by the Quality Performance unit.

To determine whether wheelchair lifts function properly, we conducted field observations at 9 of the 18 bus depots between July 17, 2000, and July 27, 2000. We observed 20 bus operators deploying wheelchair lifts at each of the nine sampled depots, in order to determine whether the wheelchair lifts were functioning and whether the bus operator knew how to operate the lifts properly. For one depot that had two non-functioning lifts, we tested the lifts on an additional 20 buses to determine whether this was a systemic problem at this depot. We adopted the methods used by Transit's Quality Performance unit when they test wheelchair accessibility.

To determine the length of time Transit took to repair malfunctioning wheelchair lifts, we obtained data regarding all wheelchair lift repair work orders generated for July 2000. We sorted the data and calculated the length of time it took to perform and complete each of the repairs. We then calculated the average length of time it took to repair the buses and have them ready to return to service.

To determine the level of passenger satisfaction with wheelchair accessibility on Transit buses, we obtained and reviewed all wheelchair accessibility-related complaints for calendar years 1996 through 1999. We sorted the number of complaints into six main categories, and tracked trends in regard to whether the complaints were increasing or decreasing with regard to both total ridership and total number of wheelchair-bound passengers. In addition to reviewing complaint trends, we obtained wheelchair ridership statistics to determine whether complaints were increasing at a greater rate than wheelchair ridership.

At the conclusion of the audit, we met with a representative of the Eastern Paralyzed Veterans Association (EPVA) to obtain an external viewpoint on the level of Transit's wheelchair accessibility service.

As part of the audit, we reviewed Transit's internal controls on its maintenance of wheelchair lifts on buses. Specifically, we reviewed the controls related to (1) wheelchair operability, (2) bus operator training, and (3) repair and maintenance.

* * * * *

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.

Agency Response

The matters covered in this report were discussed with officials from Transit during, and at the conclusion of, this audit. A preliminary draft report was sent to Transit officials December 20, 2000. Transit officials agreed to forgo an exit conference because we make no recommendations in this report. On January 23, 2001, we submitted a draft report to Transit officials with a request for comments. We received a written response from Transit on February 13, 2001. In its response, Transit agreed with the audit's findings. Transit stated:

"We are pleased with the City Comptroller's findings concerning our wheelchair lift maintenance and operating practices. The report found that 98 percent of our wheelchair lifts were operable and 99 percent of our bus operators were proficient in its operation. This performance coupled with the significant decline in the number of wheelchair lift-related complaints reflects the quality service that New York City Transit provides to its customers."

The full text of Transit's comments is included as an addendum to this report.

**OFFICE OF THE COMPTROLLER
CITY OF NEW YORK**

DATE FILED: February 22, 2001

FINDINGS AND RECOMMENDATIONS

Our audit found that Transit appears to have effective controls over the maintenance of wheelchair lifts, resulting in improved bus service for wheelchair-bound passengers. We found that the wheelchair lifts were operable and that bus operators knew how to operate them. Of the wheelchair lifts in our sample, 98 percent were operable. In addition, 99 percent of the bus operators we observed properly operated the lifts. We also found that the bus depots took a reasonable amount of time to repair buses with defective wheelchair lifts. For the period we reviewed, buses with defective lifts were repaired, on average, within three days. At the end of the audit's fieldwork, we discussed these findings with an advocacy group for disabled persons. A representative of the group corroborated our findings by stating his impression that bus service provided to wheelchair-bound passengers by Transit has improved over the years.

98% of the Wheelchair Lifts Tested Were Operating

Our observations of a sample of wheelchair lifts on Transit buses revealed that Transit has done an adequate job in ensuring that those lifts are properly operating. We tested the wheelchair lifts on 200 buses and found that the lifts were operable on 196 (98%) of them.

According to ADA guidelines, it is considered discriminatory for an entity, which provides public transportation, not to make a bus or other vehicle readily accessible to, and usable by, individuals with disabilities, including individuals who use wheelchairs. The guidelines require that buses in regular service be properly maintained to facilitate their use by disabled persons.

According to a Transit directive dated October 29, 1999:

"Effective immediately, to be in compliance with the American with Disabilities Act and to provide better service for our customers, buses with reported inoperable wheelchair lifts, including the tie-down mechanisms, cannot be placed in revenue service until the defect has been repaired."

The directive stated that the Assistant General Managers of Depot Operations are responsible to monitor to ensure compliance with the directive. During calendar year 2000, Transit reported that it had 4,159 buses. Generally, for any given day 3,576 (86%) of the buses were in service. Transit officials say they strive to ensure that all buses put in service have operable wheelchair lifts. To determine whether Transit ensured that lifts on its buses were operable, in accordance with ADA guidelines for providing readily accessible bus service to wheelchair-bound passengers, we observed a total of 200 buses at 9 of Transit's 18 bus depots during the period July 17-27, 2000. We selected only those buses that were in service that day (either returning from or going into service). For each bus observed, we asked the bus operator to deploy the wheelchair lift on the bus. Of the 200 buses observed, we found that 196 (98%) had operable wheelchair lifts. Table I, below, shows the results of our test projected over the population of buses.

TABLE I

Sample Results to Total Population of Buses in Service

Average population of buses in service during test period	3,576
Sample size	200
Number of buses with operable wheelchair lifts	196
Percentage of buses with operable wheelchair lifts	98
Projected number of buses with operable wheelchair lifts ²	3,505

As shown in the table above, we project that more than 3,500 buses in service have operable wheelchair lifts. Accordingly, it appears that Transit has done an adequate job in providing accessible bus service to its wheelchair-bound passengers.

99% of the Bus Operators Tested were Capable of Operating the Wheelchair Lifts

Bus operators operated all the bus wheelchair lifts we observed during our field observations at the depots. Our observations of these bus operators revealed that Transit was meeting its guidelines of ensuring that bus operators are capable of operating wheelchair lifts on its buses. We asked 200 bus operators to operate the wheelchair lifts on their buses and found that 198 (99%) of them were able to properly operate the wheelchair lifts.

According to a Transit directive dated March 5, 1999:

"Bus operators are advised that any refusal to board an elderly customer or customer with disabilities (when such conditions permit) or failure to operate the wheelchair lift properly, is a violation of NYCT rules. If a bus operator has any doubt about safely operating the wheelchair lift, he/she must request retraining."

When persons are hired as bus operators, they are given training in the operation of wheelchair lifts. Transit officials stated that operators are not given mandatory periodic training in wheelchair lift operation; however, as stated in the directive above, any operator can request retraining at any time. (Retraining will generally be done at the operator's depot.) If an operator is unable to deploy a lift while on a bus, he or she can contact the dispatcher for assistance. During our test to determine whether wheelchair lifts on buses worked, we also tested the operators to ascertain whether they were able to deploy wheelchair lifts on the buses. We asked the operators of the 200 buses in our sample to demonstrate their ability to operate the lifts. Of

² Based on 95 percent confidence level, with a sample precision of plus or minus 2.5%.

the 200 operators, 198 (99%) were able to operate the lifts. One of the operators who was unable to properly operate the lift had recently been hired and was not familiar with the lift's operation. The other operator who was not able to operate the lift said that he had forgotten how, because while on the road, he rarely had an opportunity to operate a lift. (The General Manager at the depot told us that he personally provided the bus operator with refresher training the day after our visit.)

Depots Took an Average of Three Days to Repair Defective Lifts

According to Transit guidelines, all unscheduled maintenance work on buses shall be completed within seven days. In addition, safety-related defects must be repaired before any bus is returned to service. However, Transit does not have a time standard specifically related to defective wheelchair lift repairs. Nevertheless, for the period we reviewed we found that lifts were repaired in an average of three days, within the seven-day standard for unscheduled maintenance.

Although Transit does not have formal criteria for addressing the timeliness of repairs, a November 1996 maintenance directive states that all pick-up work³ shall be completed within seven days. Depot officials told us that their goal is to return defective buses back into service as soon as possible.

To determine how long depots took to repair bus wheelchair lift-related defects, we analyzed all bus wheelchair lift related defects entered into Transit's computer database, the Maintenance Information Diagnostic Analysis System (MIDAS)⁴, during July 2000. A total of 1,905 wheelchair lift defects were reported on MIDAS at Transit's 18 depots. We compared the date each defect was identified and the date each defect was certified as being corrected. Our review found that Transit took an average of 2.56 days to repair wheelchair lift-related defects from the time the defects were identified. A frequency distribution of the time needed for the repairs is shown in Table II, below.

³ Pick-up work is unscheduled repairs that have been identified through routine repairs.

⁴ MIDAS is a maintenance information system on bus repairs.

TABLE II

Frequency Distribution for Wheelchair Lift Defect Repairs
July 2000

Range of Days Needed for Repair	Number of repairs	% of total repairs
1 day or less	1297	68%
2 days	130	7%
3 days	65	3%
4-7 days	242	13%
8-10 days	67	4%
Over 10 days	104	5%

As shown in the table above, 68 percent of the 1,905 reported defects were repaired the same day and only 5 percent of the defects were repaired in more than 10 days.

Transit Has Improved Its Maintenance of Wheelchair Lifts in Recent Years

According to an advocacy group for disabled persons, Transit has improved its maintenance of the wheelchair lifts on buses since 1996.

After completing fieldwork for this audit, and concluding that Transit performed adequately in ensuring that bus wheelchair lifts are maintained in accordance with federal guidelines, we met with an advocacy group for disabled persons to ascertain whether our findings fairly characterize conditions reported by the disabled passengers they represent.

On November 1, 2000, we met with an official from the Eastern Paralyzed Veterans Association (EPVA) to obtain an external viewpoint on the quality of service provided by Transit to wheelchair-bound passengers. EPVA is a not-for-profit organization specializing in services to veterans with spinal cord injuries. Overall, the official believed that in recent years Transit has made efforts to improve wheelchair accessibility on its buses.

According to the official, EPVA has been instrumental over the years in persuading Transit, through legal actions, to implement some of the ADA guidelines.⁵ EPVA has a complaint hotline number that is posted on buses for disabled passengers. According to the EPVA official, the number of recent complaints regarding bus service received from these passengers through this hotline number has been much less frequent than in previous years. The official told us that

⁵ According to Transit's Chief Officer of Special Investigations & Review, the improved wheelchair accessibility on Transit's buses was primarily due to Transit's "proactive efforts" to identify the root cause of wheelchair lift-related problems and to modify its maintenance procedures. The official stated that legal action was not a factor.

among the reasons for the improved service is that Transit management has been more concerned than in the past with ensuring that Transit provide quality service to its disabled passengers. Additionally, management has pressured wheelchair lift manufacturers to ensure that they provide quality equipment and has acted to make sure that those lifts are properly maintained.

Our own analysis of complaints received by Transit found an overall decline in complaints about bus service to wheelchair-bound passengers, especially when compared to the increase in ridership that Transit has experienced over the years. Table III, below, compares the total number of complaints received to both the total number of wheelchair-bound passengers and to the overall total number of bus passengers from calendar year 1996 through 1999.

TABLE III

Comparison of Ridership, Wheelchair Lift use and Complaints for Calendar Years 1996-1999

Year	Annual Total Ridership	Percentage Increase (Decrease) since 1996	Annual Total Wheelchair Lift Usage	Percentage Increase (Decrease) since 1996	Number of Wheelchair Lift Related Complaints	Percentage Increase (Decrease) since 1996
1996	491,590,646	Base	353,888	Base	517	Base
1997	537,429,929	9%	421,594	19%	564	9%
1998	614,946,567	25%	524,579	48%	567	10%
1999	666,441,968	36%	592,747	67%	442	(15%)

These figures show that while wheelchair-bound passengers are using Transit buses more often, there seem to be fewer reported complaints related to the service provided. As shown in Table III, above, Transit reported significant increases in both total ridership and total wheelchair lift use from calendar year 1996 to 1999: 36 percent and 67 percent, respectively. Conversely, there was a 15 percent decrease in the number of wheelchair lift-related complaints.

CONCLUSION

This audit found that Transit has improved bus service to its wheelchair-bound passengers. The conditions found in this audit are in direct contrast to what disabled passengers experienced on Transit buses just a few years ago. Then, according to a series of 1996 New York *Daily News* articles entitled, *Bus Stop: Hurry Up and Wait*, "chronic breakdown in wheelchair lifts on city buses are forcing thousand of buses out of service, leaving riders stranded and creating horrors for disabled passengers." In this audit, we found that the wheelchair lifts we tested were working, bus operators showed the skill to operate the lifts, and the depots repaired defective lifts in timely fashion. Furthermore, the passenger complaints about the service have decreased during the same period that there has been a sharp increase in ridership.

Recommendation

Because we found no significant problems with the Transit Authority's maintenance of wheelchair lifts on its buses, we make no recommendations in this report.

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E. Virgil Conway
Chairman

ADDENDUM
Page 1 of 2



Metropolitan Transportation Authority
State of New York

February 13, 2001

Ms. Faige Hornung
Director of Management Audit
The City of New York Office of the Comptroller
1 Centre Street, Room 1100 North
New York, New York 10007-2341

Re: Report #MJ01-183A Audit Report on the New York City Transit's Maintenance of Wheelchair Lifts on City Buses

Dear Ms. Hornung:

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

I have attached for your information the comments of Mr. Lawrence Reuter, President, MTA New York City Transit, which addresses this report.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Virgil Conway".

Attachment

370 Jay Street
Brooklyn, NY 11201-3814
718 243-4321 Tel
718 598-2146 Fax

Lawrence G. Reuter
President

ADDENDUM
Page 2 of 2



February 2, 2001

Honorable E. Vigil Conway
Chairman
Metropolitan Transportation Authority
347 Madison Avenue
New York, NY 10016

Re: NYC Comptroller Report MJ01-183A

Dear Chairman Conway:

This is in response to the above captioned draft report that examined New York City Transit's maintenance of wheelchair lifts on buses.

We are pleased with the City Comptroller's findings concerning our wheelchair lift maintenance and operating practices. The report found that 98 percent of our wheelchair lifts were operable and 99 percent of our bus operators were proficient in its operation. This performance coupled with the significant decline in the number of wheelchair lift-related complaints reflects the quality service that New York City Transit provides to its customers.

I have passed along my congratulations to the Department of Buses for a job well done.

Sincerely,

Lawrence G. Reuter
President

cc: M.L. Seay
B.R. Spencer
N. DiMola
M. Fucilli