City of New York

OFFICE OF THE COMPTROLLER

Scott M. Stringer
COMPTROLLER

MANAGEMENT AUDIT

Marjorie Landa

Deputy Comptroller for Audit

Audit Report on the Performance of New York City Express Buses Operated by the Metropolitan Transportation Authority

THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
1 CENTRE STREET
NEW YORK, NY 10007

SCOTT M. STRINGER
COMPTROLLER

April 22, 2015

Dear Residents of the City of New York:

My office has audited the Metropolitan Transportation Authority (MTA) to determine whether the MTA has adequately monitored the performance of its express buses with respect to on-time performance, wheelchair lift functionality, and customer satisfaction. We perform audits such as this to help agencies improve their operations and customer service to New York City residents.

The audit found that the MTA does not have on-time performance targets for the percentages of buses that it expects should be on time. However, it does have criteria by which it measures timeliness for a scheduled pick-up. Our field observations found that 31 percent of sampled express buses were not on time, based on the MTA's criteria for timeliness. Additionally, the MTA does not publicly report progress towards meeting its targets for reliable express bus service; it combines the results for express buses with those of the much larger population of local buses when reporting bus performance. Consequently, the riding public has no means of assessing express bus service performance. The audit also found that the MTA has not developed a standard methodology for conducting routine checks of wheelchair lifts on express buses. Regarding customer satisfaction, the MTA implemented a new complaint management system subsequent to the initiation of this audit to help it assess customer satisfaction and address complaints.

Based on the audit findings, we recommend that the MTA develop on-time performance targets for its express buses and publicly report progress toward meeting those targets; update its procedures for the wheelchair lift inspection process; and continue to utilize its new complaint management system in tracking express bus service complaints so that it can more effectively determine trends and patterns that need to be addressed.

The results of our audit have been discussed with MTA officials, and their comments have been considered in preparing this report. Their complete written response is attached to this report.

If you have any questions concerning this report, please e-mail my Audit Bureau at audit@comptroller.nyc.gov.

Sincerely,

Scott M. Stringer

TABLE OF CONTENTS

THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
MANAGEMENT AUDIT

Audit Report on the
Performance of New York City Express Buses
Operated by the Metropolitan Transportation Authority
MH13-118A

EXECUTIVE SUMMARY

This audit determined whether the Metropolitan Transportation Authority (MTA) adequately monitored the performance of its express buses with respect to on-time performance, wheelchair lift functionality, and customer satisfaction.

The MTA was created in 1965 as a public-benefit corporation chartered by the New York State Legislature. New York City Transit (NYCT), one of the several agencies that comprise the MTA, operates and maintains the City's subways and some of the bus service lines (local and express). The MTA Bus Company (MTA Bus), another agency that is part of the MTA, was created to assume the operations of seven privately operated bus companies that ran both local and express bus lines under agreements with the City's Department of Transportation. MTA Bus and NYCT are each responsible for the operation and maintenance of their own local and express bus fleets.

Based on data obtained from the MTA, MTA Bus and NYCT operated a fleet of 509 and 508 express buses, respectively, as of January 5, 2014, with annual ridership of 9,023,396 and 11,544,719, respectively, for Calendar Year 2013.

Audit Findings and Conclusion

The MTA does not have on-time performance targets for the percentages of buses that it expects should be on time. However, it does have criteria by which it measures timeliness for a scheduled pick-up. Our field observations found that 31 percent of sampled express buses were not on time, based on the MTA's criteria for timeliness. Additionally, the MTA does not publicly report progress towards meeting its targets for reliable express bus service. The MTA has developed two bus performance indicators—*percent of bus trips completed* and *mean distance between failures*—to measure how well it is attaining its goal of service reliability. When reporting bus performance, however, it combines the results for express buses with those of the much larger population of local buses. Consequently, the riding public has no means of assessing express bus service performance.

In May 2014, the MTA completed its implementation of a computer program called Bus Trek, which uses GPS-generated data to track the location of its local and express buses in real-time. With Bus Trek, the MTA now contends that it has the ability to track the on-time performance for express buses on a regular or consistent basis. The agency, however, has still not developed on-time performance targets for express bus service.

The audit also found that the MTA has not developed a standard methodology for conducting routine checks of wheelchair lifts on express buses, increasing the risk that deficient inspections may occur and personnel will not identify and correct problems with lifts in a timely manner.

Subsequent to the initiation of this audit, the MTA overhauled its tracking of customer complaints to enable it to better evaluate customer satisfaction with its express bus service. In April 2014, the MTA rolled out the Customer Relationship Management (CRM) system, which is designed to enable the MTA to track customer complaints more effectively. The MTA expects that the CRM system will allow the agency to better identify persistent service issues raised by customers and take steps to address them in a timelier manner.

Audit Recommendations

Based on the audit, we make the following recommendations:

- The MTA should continue to utilize Bus Trek to modify and improve express bus schedules so that they are more reliable.

- The MTA should develop on-time performance and other performance targets for its express buses and publicly report progress toward meeting those targets.

- The MTA should update its cycling directive to include procedures for the wheelchair lift inspection of the express buses currently used in its fleets.

- The MTA should ensure that the updated cycling directive is communicated to all necessary officials and followed.

- The MTA should continue to utilize CRM in tracking express bus service complaints so that it can more effectively determine trends and patterns that need to be addressed.

Agency Response

MTA officials agreed with four of the audit's five recommendations. Officials did not indicate whether they agreed with our recommendation that the MTA develop performance targets for its express buses and publicly report progress toward meeting those targets.

AUDIT REPORT

Background

The MTA was created in 1965 as a public-benefit corporation chartered by the New York State Legislature. Its mission is to preserve and enhance the quality of life and economic health of New York City and the surrounding region through the cost-efficient provision of safe, on time, reliable, and clean transportation services.[1] NYCT, one of the several agencies that comprise the MTA, operates and maintains the City's subways and some of the bus service lines (local and express). MTA Bus, another agency that is part of the MTA, was created in September 2004 to assume the operations of seven privately operated bus companies that ran both local and express bus lines under agreements with the City's Department of Transportation. MTA Bus and NYCT are each responsible for the operation and maintenance of their own local and express bus fleets.

The MTA's Department of Buses (DOB) has jurisdictional responsibility for the MTA Bus and NYCT buses. DOB's Regional Operations oversees depot operations, which include assigning bus operators to bus routes and ensuring that the buses dispatched for service are in good working order. DOB's Road Operations, which is a part of Regional Operations, is responsible for the buses once they leave the depots and are on their scheduled runs.[2] DOB's Maintenance and Support Services (Maintenance) is responsible for bus maintenance and repairs.

Based on data obtained from the MTA, MTA Bus and NYCT operated a fleet of 509 and 508 express buses, respectively, as of January 5, 2014, with annual ridership of 9,023,396 and 11,544,719, respectively, for Calendar Year 2013. As of March 22, 2015, one-way fares for express bus rides increased to $6.50 from $6.00 and local bus rides were increased to $2.75 from $2.50. Single-ride tickets for local buses sold at vending machines increased from $2.75 to $3.00.

Objective

To determine the adequacy of the MTA's monitoring of the performance of its express buses with respect to on-time performance, wheelchair lift functionality, and customer satisfaction.

Scope and Methodology Statement

We conducted this 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. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

---

[1]The MTA transportation network serves a 5,000-square-mile area fanning out from New York City through Long Island, southeastern New York State, and Connecticut.
[2]Regional Operations and Road Operations have one division in each borough except Queens, which has two (Queens North and Queens South).

The original audit scope was January 1, 2012, to December 31, 2013. However, we expanded our scope to June 17, 2014, to conduct observations and walkthroughs of wheelchair lift inspections.

Please refer to the Detailed Scope and Methodology at the end of this report for the specific procedures and tests that we conducted.

Discussion of Audit Results with MTA

The matters covered in this report were discussed with MTA officials during and at the conclusion of this audit. A preliminary draft report was sent to MTA officials on February 4, 2015, and was discussed at an exit conference held on March 3, 2015. On March 20, 2015, we submitted a draft report to MTA officials with a request for comments. We received a written response from MTA officials on April 9, 2015. In their response, MTA officials agreed with four of the audit's five recommendations. Officials did not indicate whether they agreed with our recommendation that the MTA develop performance targets for its express buses and publicly report progress toward meeting those targets but state that "[t]he MTA is currently evaluating how best to measure express bus performance utilizing Bus Time data."

The full text of the MTA's response is included as an addendum to this report.

FINDINGS AND RECOMMENDATIONS

Although the MTA began tracking the on-time performance of express buses in May 2014, it still does not have on-time performance targets for the percentages of buses that it expects should be on time. However, it does have criteria by which it measures timeliness for a scheduled pick-up. Our field observations found that 31 percent of sampled express buses were not on time, based on the MTA's criteria for timeliness.

Additionally, the MTA does not publicly report progress towards meeting its targets for reliable express bus service. The MTA has developed two bus performance indicators—*percent of bus trips completed* and *mean distance between failures*—to measure how well it is attaining its goal of service reliability. However, when reporting bus performance, it combines the results for express buses with those of the much larger population of local buses. Consequently, the riding public has no means of assessing express bus service performance.

The audit also found that the MTA has not developed a standard methodology for conducting routine checks of wheelchair lifts on express buses. As a result, there is an increased risk that deficient inspections may occur and personnel will not identify and correct problems with lifts in a timely manner.

Finally, the MTA implemented a new complaint management system during the course of the audit to help it assess customer satisfaction and address complaints. Prior to April 2014, the agency's complaint tracking system did not allow management to categorize complaints to identify significant problem areas, which hindered management's ability to address service problems in a timely manner. The MTA expects that the new system will address this deficiency.

These findings are discussed in more detail below.

On-Time Performance

Sampled Express Buses Were On Time Less Than 70 Percent of the Time

Based on our observations, we found that sampled express buses were on time only 69 percent of the time as measured against the MTA's criteria for timeliness. The MTA considers an express bus on time if it departs no more than one minute before or five minutes after the posted scheduled time for that stop. MTA officials stated that the posted time for the last scheduled passenger pick-up point in the originating borough should be the relevant point in time from which to measure timeliness.[3] However, to determine whether buses also began their routes on time, we used the first and last scheduled passenger pick-up points as the relevant points in time for on-time performance purposes.

During the period October 18, 2013, through December 5, 2013, we conducted 40 observations (encompassing 645 scheduled bus runs going to and departing from Manhattan) at the relevant points in time for the sampled express bus routes. We observed the following bus routes: BM1, X27, and X28, originating in Brooklyn; QM2, QM5, X63, and X68, originating in Queens; X1 and

---

[3] For example, for buses traveling from Staten Island to Manhattan, the point in time from which timeliness would be measured is the last scheduled passenger pick-up point in Staten Island. For buses traveling from Manhattan to Staten Island, the last scheduled passenger pick-up point in Manhattan would be the point in time from which timeliness would be measured.

X17, originating in Staten Island; and the BxM1, BxM7, and BxM9, originating in the Bronx.[4] We found that the buses departed on time for 443 (68.7 percent) of the 645 observations. Table I presents a breakdown of the on-time performance of the sampled express buses during our observations.

Table I

On-Time Performance of Scheduled Express
Buses Based on Observations Conducted
October through December 2013

Express Bus On-Time Performance	No. of Observations	Percentage	On-Time Performance Percentage
On time	443	68.7%	68.7%
Departed More than One Minute Prior to Scheduled Time	44	6.8%	31.3%
Departed More than Five Minutes After Scheduled Time	136	21.1%	
No Bus Appeared*	22	3.4%	
Total	**645**	**100%**	**100%**

*The *No Bus Appeared* figure reflects the number of buses that were scheduled to arrive during our observation periods but were not observed by the auditors. These buses may have arrived after our observations ended.

A breakdown of the performance by borough found that the sampled express buses operating in the Bronx had the best on-time performance at 79.7 percent, followed by Queens at 67.9 percent, Brooklyn at 66.3 percent, and Staten Island at 64.1 percent. Table II presents a breakdown of the on-time performance by borough. (Appendix I shows the breakdown by sampled bus route.)

Table II

On-Time Performance of Scheduled
Express Buses by Borough of Service
Origin*

Borough	Total No. of Observations	Total On Time	% On Time	Not On Time					Total Not On Time	% Not On Time
				Morning Early Departure	Morning Late Departure	Afternoon Early Departure	Afternoon Late Departure	Never Arrived During Observation		
Bronx	123	98	79.7%	2	0	0	21	2	25	20.3%
Queens	168	114	67.9%	2	24	5	17	6	54	32.1%
Brooklyn	187	124	66.3%	19	5	0	36	3	63	33.7%
Staten Island	167	107	64.1%	7	5	9	28	11	60	35.9%
Total	**645**	**443**	**68.7%**	**30**	**34**	**14**	**102**	**22**	**202**	**31.3%**

*Buses depart in the morning from their home borough of origin and generally return from Manhattan to their home borough in the evening. Some buses may make several roundtrips from their borough of origin each day.

---

[4] We conducted our observations during the morning rush hours (7:00 a.m. to 9:00 a.m.) for buses heading to Manhattan and the evening rush hours (4:30 p.m. to 6:30 p.m.) for buses leaving Manhattan.

As Table II shows, the vast majority of late departures occurred in the afternoon, with Brooklyn ranking highest with 36 late departures. Queens had the highest number of late departures during the morning rush with 24 late departures. Brooklyn had the highest number of early departures, with 19 of the 30 buses leaving too early during the morning rush. (A more detailed table showing the time ranges for early and late departures appears in Appendix II.)

The inconvenience to passengers is perhaps greater when a bus departs early than when it departs late. This is because where a bus departs earlier than scheduled, passengers who arrive at a bus stop less than one minute prior to the scheduled bus departure time not only miss a bus that they expected to catch, but also then have to wait a longer period of time for the next scheduled bus to arrive. If the subsequent bus arrives late, the passenger's wait time is even greater. For example, on October 29, 2013, we observed a bus with run number 703 (route X1 heading to Staten Island) scheduled to depart from Manhattan's Broadway and Battery Place stop at 4:46 p.m. actually depart at 4:41 p.m., 5 minutes prior to the scheduled time. As a result, passengers who may have arrived at the stop at 4:44 p.m. would have had to wait 9 minutes to catch the next bus, which was scheduled to depart from the stop at 4:53 p.m., rather than 2 minutes for an on-time 4:46 p.m. bus. We also observed that the 4:53 p.m. bus did not actually depart until 5:08 p.m. (15 minutes late). Therefore, the actual wait time for those passengers who arrived on time for the prior bus would have been 24 minutes. Further, it is likely the bus that departed at 5:08 p.m. was more crowded than usual because it included passengers who missed the earlier bus as well as passengers who were waiting for the bus that should have arrived on time.

Thus, the on-time performance from the customer's perspective is also an important indicator that we examined. An example of the impact of delayed buses on the on-time performance from the customer's perspective is illustrated in Chart I below. As shown in the chart, the MTA scheduled buses A, B, and C to depart from a particular bus stop at 8:20 a.m., 8:40 a.m., and 9:00 a.m., respectively. Only one of the buses—bus C—departed on time (at 9:00 a.m.). However, customers who arrived at the bus stop at the scheduled departure times (as listed at the bus stop) would find that a bus departed at the scheduled time in *two* instances from their point of view— 8:40 a.m. and 9:00 a.m. (Bus A departed from the stop at the time bus B was scheduled to depart, and both buses B and C departed at the scheduled time for bus C.)

Chart I

On-Time Performance (MTA's Perspective)
Versus On-Time Performance (Customer's
Perspective) (an example)

Bus	Bus's scheduled departure time from a bus stop	Bus's actual departure time from the bus stop	Difference between scheduled and actual departure times	Customer actual wait time at the bus stop
A	8:20 a.m.	8:40 a.m.	20	20
B	8:40 a.m.	9:00 a.m.	20	0
C	9:00 a.m.	9:00 a.m.	0	0

We performed an analysis of 644 departures and assessed the number of instances in which a bus departed from a bus stop at the scheduled departure time. Our review found that for 543 (84.3%) of our 644 assessments, one or more buses departed from a stop on time from the customer's point of view (i.e., no more than 1 minute before or 5 minutes after the departing time

recorded at the bus stop, regardless of whether it was the scheduled bus). For the remaining 101 assessments in which a bus did not depart at the scheduled time, the average length of time that customers had to wait after the scheduled departure time was 10 minutes, ranging from 6 minutes to 28 minutes. (Appendix III and Appendix IV contain further breakdowns of the on-time performance from the customer's perspective.)

As indicated by our analysis of the on-time performance from the customer's perspective, the percentage of on-time departures for sampled observations becomes higher when the analysis does not differentiate between the buses that were actually scheduled to depart at those times and those that were not. However, this percentage does not reflect the increased risk of overcrowding when buses do not follow their scheduled times. Bus overcrowding is a significant inconvenience on express buses, which travel longer distances on highways than local buses and which are not designed for standing customers. Late buses tend to have more crowding because, in addition to passengers who were at the stop at the scheduled departure times, they also pick up passengers who arrived after those scheduled times but before the late bus arrived. Conversely, the next scheduled bus may pick up *fewer* passengers than normal because some of the regular passengers caught the previous (late) bus. With fewer passengers, it is also more likely that the subsequent bus may even catch up to the prior bus, resulting in "bus bunching."[5]

According to the MTA, traffic conditions are the greatest obstacle to express bus on-time performance. Officials attributed 88 percent of the bus delays and some of the early bus departures that we observed to traffic conditions. The MTA also cited heavy ridership, dispatcher re-routes, and late departures from depots as reasons for delays. MTA officials stated that they are continually working with the Department of Sanitation (DSNY), Department of Transportation (DOT), and Police Department (NYPD) to try to mitigate conditions that lead to bus delays. As an example, MTA officials stated that they coordinate with DSNY officials to have garbage pick-up times shifted to non-rush hour periods along major express bus routes in order to reduce street congestion.

However, the audit found that another significant obstacle to improving express bus timeliness is the fact that the MTA did not, until recently, track the on-time performance for express buses on a regular or consistent basis. Prior to May 2014, the MTA only conducted observations of buses on a rotational basis every one to two years to evaluate the bus schedules, address an issue with a particular route, or meet federally mandated requirements. Without regular and consistent data tracking the on-time performance of express buses over time, the MTA has been significantly hindered in identifying persistent timeliness issues and in gauging how well its remedies are working. The lack of data also restricted the MTA's ability to develop more realistic time schedules, which exacerbates problems with on-time performance.

To help address this problem, the MTA has recently implemented Bus Trek, a computer program that uses GPS-generated data to track the location of its buses (both express and local) in real-time.[6] MTA officials anticipate that this program will help its dispatchers and managers monitor the timeliness of express buses more effectively.

At an exit conference held with MTA officials after we provided them with a preliminary draft of our findings, they expressed concern that this audit report does not discuss the improvement in express bus service since the implementation of Bus Trek. Subsequent to the exit conference,

---

[5] Chart I shows buses B and C both departing from the stop at 9:00 a.m., an example of "bus bunching."
[6] The implementation of Bus Trek began in January 2012 in Staten Island and was completed in May 2014 when it was implemented in Brooklyn and Queens. Bus Time, a customer-oriented counterpart to Bus Trek, was also fully implemented in May 2014. Using the same GPS generated data used by Bus Trek, Bus Time is a Smartphone application that provides passengers with real-time information about the location of local and express buses.

the MTA provided us with its *Performance Overview - All Boroughs* summaries for October and November 2014, which contain the on-time performance results for its express buses during that period.[7] At first glance, it appears that on-time performance has declined since we conducted our observations in October and November of the prior year. (The MTA reports that 63.1 percent of express buses were on time in October and November 2014 while our analysis of the on-time performance for the same months in 2013 found that 68.7 percent of the express buses we observed were on time.) However, the two figures are not comparable because 1) the MTA figure includes the entire population of express buses while our figure includes only a sample of express buses and 2) the MTA includes all scheduled passenger pick-up points in its calculation of on-time performance while we included only the first or last scheduled passenger pick-up points in our calculation. Consequently, based on the new data provided by the MTA, we are unable to ascertain whether timeliness has improved or deteriorated since Bus Trek's implementation.

MTA officials also expressed concern that the audit does not discuss the implementation of Bus Trek in more detail. However, we note that the objective of this audit was to determine the adequacy of the MTA's monitoring of the performance of its express buses, which is what is addressed in this audit report. While, as we note, the implementation of Bus Trek now appears to give the MTA the ability to track the on-time performance for express buses on a regular or consistent basis, the agency has still not developed on-time performance targets for express bus service and it does not publicly report progress towards meeting its targets for reliable express bus service. This latter issue is discussed in more detail below.

MTA Does Not Publicly Report Performance Indicators for Express Buses

The MTA has established performance indicators as they relate to its goal of providing on-time and reliable bus service to customers. However, the MTA does not publicly report on these performance indicators specifically for express buses.

The New York State Public Authorities Law (Article 9, Title 2, §2824-a) requires the MTA, as a public authority, to submit and publicly post on its website a description of its mission, the reasonable expectations of its stakeholders, and the measurements by which performance and goals will be evaluated. In addition, the statute requires the MTA to annually reexamine its mission statement and measurements and publish its performance results.

On its website, the MTA identifies the percentage of bus trips completed and mean distance between failures as performance indicators for its goal of providing on-time and reliable bus service to its customers.[8] According to the MTA's website, the percentage of bus trips completed is the percent of the total number of scheduled bus trips that were completed and the mean distance between failures is the average number of miles a bus travels between mechanical failures. Though the MTA has developed targets for these performance indicators and publicly posts its progress toward meeting those targets, the MTA does not separately report the results for its express buses from the results for its much larger population of local buses.[9] Additionally, as stated earlier, the MTA has not established on-time performance targets for either its express or local buses. The MTA only uses on-time performance and wait time as performance indicators for its subway service.

---

[7] We did not test the accuracy of the performance figures received from the MTA.
[8] http://web.mta.info/mta/compliance/pdf/MTA_Mission_Statement.pdf
[9] Express buses account for 1,017 (18 percent) of the MTA's entire fleet of 5,714 buses.

With the final implementation of Bus Trek in May 2014, the MTA anticipates that it will be able to track the timeliness of buses at their scheduled stops along their entire routes, not just the first and last scheduled stops. Once the data gathering and reporting capabilities of Bus Trek are fully developed, MTA officials expect the agency to be better able to effectively manage its bus schedules. In addition, MTA officials stated that the agency is in the process of developing on-time performance targets for its express buses.

Although the New York State Public Authorities Law does not require the MTA to maintain and publicly report performance goals and indicators specifically for its express bus service, the law does require that it annually reexamine its mission statement and measurements and publish its performance results.

In the absence of express bus performance targets, the MTA's ability to gauge how well it is meeting its goal of providing on-time and reliable service to express bus customers is severely hampered.

Recommendations

1. The MTA should continue to utilize Bus Trek to modify and improve express bus schedules so that they are more reliable.

   MTA Response: "Agreed. The MTA will continue to utilize Bus Trek to modify and improve express bus schedules so that they are more reliable."

2. The MTA should develop on-time performance and other performance targets for its express buses and publicly report progress toward meeting those targets.

   MTA Response: "The MTA is currently evaluating how best to measure express bus performance utilizing Bus Time data."

   Auditor Comment: Once the MTA establishes performance targets for its express bus service, it is equally important that it publicly report the degree to which it is meeting those targets to increase accountability and transparency with its stakeholders.

MTA Lacks Updated Standardized Procedures for the Weekly Checking of Wheelchair Lifts

The audit found that the MTA depots do not consistently conduct weekly examination (cycling) of wheelchair lifts on express buses and do not follow standardized inspection procedures. An MTA Directive, *Cycling of Wheelchair Lifts at Depots* (dated February 28, 1995) requires the weekly cycling of wheelchair lifts.[10] Nevertheless, we found that some depots conducted the cycling on a bi-weekly basis. In fact, the general superintendent at one depot was apparently unaware of the timeframe stated in the directive and told us that there was no requirement to cycle the buses weekly.

In addition, the directive that mandates weekly cycling of wheelchair lifts was issued prior to the existence of the bus models currently in use and the inspection procedures presented in this directive do not apply to any of the bus models that are currently in use for express buses. As a result, the depots have each adopted their own procedures for conducting cycle inspections,

---

[10] More thorough inspections of wheelchair lifts are conducted as part of the mandatory bus inspections done every 6,000 miles or 90 days, whichever comes first.

along with their own standards for the qualifications and training of the cyclers who perform them. Significant inconsistencies exist among the depots. For example, at two depots, cyclers moved the seats while testing the lifts, while cyclers at the other two depots did not. At one of the two depots where the seats were moved, the cycler used weights to test the lifts, while at the other three depots the cyclers merely checked whether the lifts were operating. The absence of updated cycling procedures that set minimum standards for these inspections and a monitoring system to ensure that these procedures are consistently followed creates an increased risk that deficient inspections may occur and that wheelchair lifts with problems will not be identified or corrected in a timely manner.

During our observations of the wheelchair cycling process at four sampled depots, we found that cyclers identified problems with six of the forty wheelchair lifts they examined. All the buses that were found to have wheelchair lift problems were immediately referred to maintenance for repairs. However, during our observations of express buses in operation at the sampled bus stops, in the one instance where a passenger requested the use of the wheelchair lift, it failed to function properly, even after repeated attempts. The dispatcher on duty subsequently removed the bus from service and dispatched a replacement bus to complete the route.[11]

Recommendations

3. The MTA should update its cycling directive to include procedures for the wheelchair lift inspection of the express buses currently used in its fleets.

   MTA Response: "Agreed. Buses is preparing a directive which will delineate wheelchair lift and ramp cycling procedures for all type buses."

4. The MTA should ensure that the updated directive is communicated to all necessary officials and followed.

   MTA Response: "Agreed. Buses will ensure that the updated cycling directive is communicated to all necessary officials and followed."

MTA Has Recently Upgraded Its Customer Complaint Tracking System

Subsequent to the initiation of this audit, the MTA overhauled its tracking of customer complaints to enable it to better evaluate customer satisfaction with its express bus service. MTA officials emphasized that customer complaints are an integral component of measuring customer satisfaction with its express bus service. They also acknowledged that express bus customers pay a premium for the service they get and tend to be more vocal about service issues. As a result, MTA officials stated that they monitor increases in complaints, which may signal a problem with service on a particular line or route.

The customer complaint system that was in place until April 2014 significantly limited the MTA's ability to monitor and address complaints. Prior to that time, the MTA used a Microsoft Excel-based system to record bus-related customer complaints received via email, telephone, in-person walk-in visits, and letters. Data fields recorded the date, time, bus route, depot, complaint status, and a brief description of the incident and/or complaint. However, the system did not allow management to categorize complaints (e.g., by type of complaint or priority of the complaint) or

---

[11] Since this incident occurred at the first scheduled stop on the route, the passengers had to wait only three minutes for the replacement bus to arrive.

to generate reports to identify significant problem areas. As a result, management's ability to effectively gauge customer dissatisfaction or address service problems in a timely manner was significantly hindered.

Beginning in April 2014, the MTA rolled out the CRM system, which is intended to enable it to track customer complaints more effectively. Initially used primarily for customer complaints received via email, the MTA has since expanded CRM to track complaints received via telephone, in-person visits, and letters. According to MTA officials, the CRM system automatically generates complaint reference numbers and can designate the MTA division (e.g., NYCT, MetroNorth) and service (e.g., subway, local bus, express bus) related to the complaint. In addition, the new system allows the complaint takers to designate a category for the complaints using a drop-down list of complaint-type keywords.

According to complaint totals obtained from the MTA using CRM, the MTA received 660 complaints related to express bus service during the period of May 1, 2014, through September 17, 2014.[12] Table III provides the breakdown of the top ten express bus service complaints received by the MTA as recorded in CRM.

Table III

Top 10 Express Bus Customer Complaint
Categories (5/1/14 to 9/17/14)

	Top 10 Express Bus Complaints by Category	No. of Complaints Received	Percent
1	Late/Delay	252	38.2%
2	Flagging/Failed to stop (bypassed stop/kept going)	87	13.2%
3	Failure to make scheduled stop	53	8.0%
4	Rude/Inappropriate language	45	6.8%
5	Reckless driving	38	5.8%
6	Closed door before customer could board	16	2.4%
7	Add more/Not enough (buses)	14	2.1%
8	Not helpful	11	1.7%
9	Early	10	1.5%
10	Overcrowding	9	1.4%
	All others	125	18.9%
	Total	**660**	**100.0%**

As shown in the table above, bus lateness was the number one complaint received, accounting for almost 40 percent of the complaints. Bypassing stops or failing to make scheduled stops accounted for another 21 percent of the complaints received by the MTA. The MTA expects that the CRM system will allow the agency to better identify persistent service issues raised by customers and take steps to address them in a timelier manner.

---

[12] We did not test the accuracy of the complaint data received from the MTA.

Recommendation

5. The MTA should continue to utilize CRM in tracking express bus service complaints so that it can more effectively determine trends and patterns that need to be addressed.

   MTA Response: "Agreed. The MTA will continue to utilize CRM to track express bus service complaints to effectively determine trends and patterns."

DETAILED SCOPE AND METHODOLOGY

We conducted this 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. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The original audit scope was January 1, 2012, to December 31, 2013. However, we expanded our scope to June 17, 2014, to conduct observations and walkthroughs of wheelchair lift inspections.

To gain an understanding of the MTA and its responsibilities with respect to express bus service in NYC, we reviewed Article 5, Titles 9 and 11, and Article 9 of the New York State Public Authorities Law, MTA organization charts, and other relevant material obtained from the MTA and its website. We also met with various senior MTA officials, including the heads of the Operations Planning, Regional Operations, Strategic Planning, and Technical Services Engineering units, all under the Department of Buses.

To evaluate the adequacy of the MTA's express bus service, we reviewed performance data reported on the MTA's website and other data internally generated by the MTA that tracked the performance of its buses. We also requested copies of any performance indicator reports that were shared with senior management officials.

To evaluate the performance of the MTA's express buses, we conducted field observations from October 18, 2013, to December 5, 2013. The audit team judgmentally selected 12 express bus routes, selecting those routes with the largest volume of bus runs. We performed 40 observations during the morning and afternoon rush hours at the relevant points in time (at the first and last posted scheduled stops in the borough from which the buses started their trip), encompassing 645 scheduled bus runs. MTA officials stated that the posted time for the last scheduled passenger pick-up point in the originating borough should be the relevant point in time by which to measure timeliness. However, to determine whether buses also began their routes on time, we used the first and last scheduled passenger pick-up points as the relevant points in time for on-time performance purposes.

During our observations, the auditors noted the following: 1) the bus's arrival and departure times; 2) the bus and run number; 3) the number of passengers getting on and off the bus at the observed stop; 4) the appearance of the bus (e.g., cleanliness, working signs); 5) and whether there were passengers standing inside the bus. In addition, the auditors noted if the bus operator needed to use the wheelchair lift and if there were any problems during its operation.

After we completed these observations, we compared the data we obtained to that which the MTA maintained to determine whether its data was consistent with our observations. Specifically, we determined whether the buses the MTA scheduled and sent on runs for the selected routes were observed on their scheduled runs and whether they were on time. We calculated on-time performance using the MTA's own standards for determining on-time performance (departures less than one minute before or five minutes after the posted scheduled time).

Separately, we calculated how much longer a passenger had to wait to catch the next arriving bus because the scheduled bus departed too early. Because a customer may not be present to observe a bus that departed too early from its scheduled time, we calculated the length of time a customer would have to wait for the next bus to arrive had the customer arrived at the stop just as the first bus was leaving (before its scheduled time).

We also conducted an on-time performance analysis from the passengers' perspective by determining the number of times that a bus arrived at a scheduled stop on time, regardless of whether the bus that arrived at the stop was the bus scheduled by the MTA to arrive at that time. We calculated on-time performance using the MTA's own standards.

Throughout the audit, MTA officials provided us with an understanding of how Bus Trek and Bus Time operate and how they are using the two systems to improve the on-time performance and reliability of express bus service.

For the weekly cycling of wheelchair lifts, we reviewed the MTA Directive entitled *Cycling of Wheelchair Lifts at Depots* (dated February 28, 1995). We interviewed MTA personnel, including depot superintendents, cyclers, supervisors, and repair shop staff to get an understanding of the cycling process. At four judgmentally selected depots (one from each borough that maintains an express bus depot), we observed cyclers as they performed their examination of the wheelchair lifts.

We researched the MTA's website to determine whether the performance indicators relating to the MTA's goal of providing on-time and reliable service were publicly reported. We also interviewed MTA officials to identify the performance measures that the MTA maintains, the performance goals it has set for those measures, and whether those targets for the express bus service were met. We also surveyed 10 judgmentally selected cities across the United States (based on population size and geographic location) to determine whether they maintained performance goals for express bus service. The cities surveyed were: 1) Boston, MA; 2) Chicago, IL; 3) Columbus, OH; 4) Detroit, MI; 5) Houston, TX; 6) Indianapolis, IN; 7) Jacksonville, FL; 8) San Antonio, TX; 9) San Diego, CA; and 10) Los Angeles, CA.

To obtain an understanding of the process for tracking and following up on complaints related to express bus service, we held a walkthrough meeting with MTA officials responsible for addressing customer complaints. These officials were responsible for the new CRM complaint management system, which since April 2014 has been used to log, track, and manage all bus-related complaints. In addition, we obtained the dataset of complaints received by the MTA for Calendar Year 2013, which was maintained in a Microsoft Excel-based system. We also obtained the most numerous complaints by type of complaint related to express bus service that the MTA received during the period of May 1, 2014, through September 17, 2014. We did not test the accuracy of the complaint data obtained from the MTA.

On-Time Performance of Scheduled Express Buses
By Borough of Service Origin*

Borough	Bus Route	Number of Buses Scheduled by the MTA	Number of Buses Observed	Total On Time**	% On Time	Buses Scheduled by the MTA that Were Not On Time							
						Morning Rush Hours		Afternoon Rush Hours		Total # of Buses Observed Departing Early or Late	No-Shows	Total # of Buses Not On Time***	% Not On Time
						Early Departure	Late Departure	Early Departure	Late Departure				
Bronx	BxM1	23	23	14	60.9%	-	-	0	9	9	0	9	39.1%
Bronx	BxM7	66	64	52	78.8%	0	0	0	12	12	2	14	21.2%
Bronx	BxM9	34	34	32	94.1%	2	0	-	-	2	0	2	5.9%
Bronx		**123**	**121**	**98**	**79.7%**	**2**	**0**	**0**	**21**	**23**	**2**	**25**	**20.3%**
Brooklyn	BM1	43	43	33	76.7%	0	3	0	7	10	0	10	23.3%
Brooklyn	X27	72	69	39	54.2%	14	0	0	16	30	3	33	45.8%
Brooklyn	X28	72	72	52	72.2%	5	2	0	13	20	0	20	27.8%
Brooklyn		**187**	**184**	**124**	**66.3%**	**19**	**5**	**0**	**36**	**60**	**3**	**63**	**33.7%**
Queens	QM2	61	59	40	65.6%	1	10	2	6	19	2	21	34.4%
Queens	QM5	71	68	51	71.8%	1	8	1	7	17	3	20	28.2%
Queens	X63	18	17	11	61.1%	-	-	2	4	6	1	7	38.9%
Queens	X68	18	18	12	66.7%	0	6	-	-	6	0	6	33.3%
Queens		**168**	**162**	**114**	**67.9%**	**2**	**24**	**5**	**17**	**48**	**6**	**54**	**32.1%**
Staten Island	X1	94	88	58	61.7%	7	3	2	18	30	6	36	38.3%
Staten Island	X17	73	68	49	67.1%	0	2	7	10	19	5	24	32.9%
Staten Island		**167**	**156**	**107**	**64.1%**	**7**	**5**	**9**	**28**	**49**	**11**	**60**	**35.9%**
Total		**645**	**623**	**443**	**68.7%**	**30**	**34**	**14**	**102**	**180**	**22**	**202**	**31.3%**

*Buses depart in the morning from their home borough of origin and generally return from Manhattan to their home borough in the evening. Some buses may make several roundtrips from their borough of origin each day.

**We calculated the on-time performance using the MTA's own standards (1 minute before and 5 minutes past the scheduled times).

***Scheduled buses that were "Early," "Late," and "No-shows" were all counted as "Not On Time."

Note: A dash (-) in the *Morning* and *Afternoon/Early* or *Late Departure* columns means that there were no observations performed during those times for the noted bus routes.

Early and Late Departure Ranges (in Minutes) for Scheduled Express Buses (Not Including No-Shows)*

Rush Hours	Bus Stop	Number of Scheduled Buses	Early and Late Departure Range (in Minutes)** No. of Buses Not On Time Prior to or Past the MTA's Scheduled Times												
			Early			Late						Summary			
			Early 2-3	Early 4-7	Total Early	6-10	11-15	16-20	21-30	31-38	Total Late	Total Early and Late	Early Percent	Late Percent	Total % Early or Late
Morning	First	173	1	0	1	2	1	0	0	0	3	4	0.6%	1.7%	2.3%
	Last	190	21	8	29	23	6	2	0	0	31	60	15.3%	16.3%	31.6%
Evening	First	135	5	2	7	6	5	3	2	0	16	23	5.2%	11.9%	17.0%
	Last	147	5	2	7	37	24	13	10	2	86	93	4.8%	58.5%	63.3%
Total		645	32	12	44	68	36	18	12	2	136	180	6.8%	21.1%	27.9%

*This table does not include buses that did not arrive during our observations.

**We calculated the on-time performance using the MTA's own standards (1 minute before and 5 minutes past the scheduled times).

Analysis of On-Time Performance (from the Customer's
Perspective) for Express Buses Observed

Rush Hours	Bus Stop	Number of Buses Observed to Determine the Length of Time Customers Had to Wait	Number of Buses that Departed Within the MTA's On-time Standard*	Instances in which Buses were Late in Departing from Bus Stops* Using the MTA's Posted Schedules (in Minutes)						
				Number of Buses that Did Not Depart Within the MTA's On-time Standard Broken Down by Time Intervals (in Minutes)				Average Customer Wait Time for Express Buses Later Than 5 Minutes	Total Departures Not Within the MTA's On-time Standard	Percent of Departures That Were Not Within the MTA's On-time Standard
				6-10 Minutes Late	11-15 Minutes Late	16-20 Minutes Late	21-28 Minutes Late			
Morning	*First*	173	163	7	0	1	2	13.20	10	5.8%
	Last	186	155	24	4	3	0	9.35	31	16.7%
Evening	*First*	136	120	12	3	1	0	9.00	16	11.8%
	Last	149	105	26	10	4	4	10.95	44	29.5%
Total		644	543	69	17	9	6	10.38	101	15.7%
Percent		-	84.3%	10.7%	2.6%	1.4%	0.9%		15.7%	
Departed late 11-28 minutes				32 (5.0%)						

*We used the MTA's own on-time standard of no more than 1 minute before or 5 minutes past the departure times listed at the bus stops.

Analysis of On-Time Performance (from the Customer's
Perspective) for the 12 Sampled Express Bus Routes
Observed

Borough	Bus Route	Number of Buses Observed to Determine the Length of Time Customers Had to Wait	Number of Buses That Departed Within the On-time Standard*	Percent of Buses That Departed Within the On-time Standard*	Departures That Were Not Within the MTA's On-time Standard*			
					Morning	Afternoon	Total	Percent
Bronx	BxM1	22	17	77.3	N/A	5	5	22.7
Bronx	BxM7	69	63	91.3	0	6	6	8.7
Bronx	BxM9	33	32	97.0	1	N/A	1	3.0
Bronx		**124**	**112**	**90.3%**	**1**	**11**	**12**	**9.7%**
Brooklyn	BM1	44	37	84.1	2	5	7	15.9
Brooklyn	X27	72	57	79.2	7	8	15	20.8
Brooklyn	X28	72	61	84.7	4	7	11	15.3
Brooklyn		**188**	**155**	**82.4%**	**13**	**20**	**33**	**17.6%**
Queens	QM2	60	48	80.0	5	7	12	20.0
Queens	QM5	72	61	84.7	5	6	11	15.3
Queens	X63	17	11	64.7	N/A	6	6	35.3
Queens	X68	18	13	72.2	5	N/A	5	27.8
Queens		**167**	**133**	**79.6%**	**15**	**19**	**34**	**20.4%**
Staten Island	X1	91	81	89.0	6	4	10	11.0
Staten Island	X17	74	62	83.8	6	6	12	16.2
Staten Island		**165**	**143**	**86.7%**	**12**	**10**	**22**	**13.3%**
Total		**644**	**543**	**84.3%**	**41**	**60**	**101**	**15.7%**

*We calculated the on-time performance using the MTA's own standard as a guide (no more than 1 minute before or 5 minutes after the scheduled times listed at the bus stops).

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

Thomas F. Prendergast
Chairman and Chief Executive Officer

MTA **Metropolitan Transportation Authority**

State of New York

April 9, 2015

Ms. Marjorie Landa
Deputy Comptroller for Audit
The Office of the City Comptroller
1 Centre Street
New York, NY 10038

Re: Draft Audit Report #MH13-118A (Performance of New York City Express Buses Operated by the Metropolitan Transportation Authority)

Dear Ms. Landa:

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

Sincerely,

Thomas F. Prendergast
Chairman and Chief Executive Officer

Attachment

c: Donna Evans, MTA Chief of Staff

Memorandum

MTA Metropolitan Transportation Authority

State of New York

Date April 8, 2015

To Thomas F. Prendergast, Chairman and Chief Executive Officer

From Carmen Bianco, President, NYC Transit
Darryl C. Irick, Senior Vice President, NYC Transit Department of Buses
President, MTA Bus Company

Re New York City Comptroller Draft Audit Report on the Performance of
New York City Express Buses Operated by the Metropolitan
Transportation Authority (MH13-118A)

The draft report on the performance of express bus service identified several opportunities to improve express bus service and highlighted two new initiatives which have resulted in significant operating enhancements. As noted in the draft report, Buses implemented 'Bus Trek', which is a GPS-based application that provides supervision with real-time locations of buses. This allows Buses to monitor, evaluate, and adjust service. The MTA also implemented the Customer Relationship Management (CRM) system, which enables the MTA to effectively track and manage customer complaints. Significantly, this system readily allows complaints to be sorted and evaluated based on routes and complaint types.

The draft report correctly identified that Buses did not have a standard methodology to conduct wheelchair lift checks on express buses. Buses is preparing a directive which will delineate wheelchair lift and ramp cycling procedures for all type buses. Lastly, the report indicated that Buses does not publicly report progress toward meeting its targets for reliable express service. Buses measures on-time performance at designated time-points (major stops that appear on our printed schedules), and the data is utilized internally to provide benchmarking for service management and schedule preparation. However, this measurement is significantly influenced by traffic conditions. Buses also utilizes wait assessment as an indicator of customer experience on local service. The MTA is currently evaluating how best to measure express bus performance utilizing Bus Time data.

New City Comptroller Draft Audit Report on the Performance of New York City Express Buses Operated by the Metropolitan Transportation Authority (MH13-118A)
April 8, 2015
Page 2

Following are our specific responses to the draft report's recommendations:

Recommendation 1: The MTA should continue to utilize Bus Trek to modify and improve express bus schedules so that they are more reliable.

Response: Agreed. The MTA will continue to utilize Bus Trek to modify and improve express bus schedules so that they are more reliable.

Recommendation 2: The MTA should develop on-time performance and other performance targets for its express buses and publicly report progress toward meeting those targets.

Response: The MTA is currently evaluating how best to measure express bus performance utilizing Bus Time data.

Recommendation 3: The MTA should update its cycling directive to include procedures for the wheelchair lift inspection of the express buses currently used in its fleets.

Response: Agreed. Buses is preparing a directive which will delineate wheelchair lift and ramp cycling procedures for all type buses.

Recommendation 4: The MTA should ensure that the updated cycling directive is communicated to all necessary officials and followed.

Response: Agreed. Buses will ensure that the updated cycling directive is communicated to all necessary officials and followed.

Recommendation 5: The MTA should continue to utilize CRM in tracking express bus service complaints so that it can more effectively determine trends and patterns that need to be addressed.

Response: Agreed. The MTA will continue to utilize CRM to track express bus service complaints to effectively determine trends and patterns.