

May 1, 1996

Mr. Lawrence G. Reuter  
President  
NYC Transit  
370 Jay Street  
Brooklyn, NY 11201

Re: Report 96-F-5

Dear Mr. Reuter:

Pursuant to the State Comptroller's authority as set forth in Article X, Section V of the State Constitution, we reviewed the actions taken by officials of the New York City Transit (Transit), as of February 29, 1996, to implement the recommendations included in our prior audit report 93-S-27. This report, which was issued October 17, 1993, examined Transit's efforts to control and protect its microcomputers.

### **Background**

Transit, an agency of the Metropolitan Transportation Authority, was created by the State Legislature in 1953 to operate New York City's bus and subway systems. In 1994, Transit had about 5,800 subway cars and 3,700 buses, employed about 46,600 workers throughout 26 departments, and expended about \$2.3 billion.

Staff working in various Transit departments rely on computers to accomplish their jobs. The Technology Division (Division), formerly the Information Services Department, provides the necessary computer support to the departments. In the future, the Division plans to meet even more departmental needs by using microcomputers that can communicate with each other, and the mainframe computers. This strategy will help the exchange of computer data, among various Transit units and it should provide for cost-effective processing.

Transit officials stated that they have about 5,400 microcomputers with a value of approximately \$13.5 million. Seventy-one groups of these microcomputers connect with each other through telecommunications to form local area networks (LANs). In addition, Transit is designing 90 additional LANs as it moves toward achieving its planned objective to connect all of the agency's microcomputers into an organization-wide network.

## **Summary Conclusion**

During our prior audit, we found that microcomputers were not protected adequately against the threat of a microcomputer virus that could disable machines, destroy valuable data and spread to other machines sharing information or files. We also found that certain mission-critical systems were operating on microcomputers and LANs. Departments had not developed contingency plans for maintaining the mission-critical systems in case of a mishap that precludes the use of the systems in their normal setting. In addition, we identified unauthorized software on many microcomputers.

In our follow-up review, we found that the Division officials have revised, but not yet issued, procedures addressing areas of concern cited in our prior audit. The Division will soon issue these procedures and then request written certification from all departments that they have complied with the new procedures.

## **Summary of Status of Prior Audit Recommendations**

Transit has partially implemented seven and has not implemented one of the eight recommendations in our prior audit. For those recommendations partially implemented, Transit management needs to monitor implementation to ensure compliance.

## **Follow-up Observations**

### **Recommendation 1**

*Take action, including modifying staff assignments when warranted, to ensure that the Information Services Department (ISD) and the user departments accept and carry out their individual and coordinated responsibilities as established in Transit policy and procedures for microcomputers and LANs. Reviewing compliance with the policy and procedure should be scheduled by Transit's Internal Audit Department.*

Status - Partially Implemented

Agency Action - The Division has published, but has not yet issued, a revised procedures manual. Division officials indicate the procedures manual will be completed during 1996. Internal Audit will schedule a compliance audit for the first quarter of 1997.

### **Recommendation 2**

*Ensure that user departments identify mission-critical systems operating on microcomputers and LANs.*

Status - Partially Implemented

Agency Action - The Division's revised guidelines address mission-critical data. Departments must provide the Division with information regarding systems deemed to be mission-critical.

Division officials indicate they will follow-up with user departments to ensure that they identify all mission-critical systems operating on microcomputers and LANs. They estimate they will do this in 1996.

### **Recommendation 3**

*Ensure that mission-critical systems operating on LANs and microcomputers are password-protected in the manner required by ISD procedures.*

Status - Partially Implemented

Agency Action - For those systems identified as mission-critical, user departments are asked to provide written certification that controls and security provisions are in place. Division officials gave us written documentation for some departments. However, written documentation was not available to indicate that all departments are in compliance. Division officials indicated they will again request written certification from user-departments to ensure mission-critical systems operating on LANs and microcomputer are password protected as required by Division policies. Division officials expect this to be completed in 1996.

### **Recommendation 4**

*Ensure that user departments provide for daily back-up, an off-site back-up storage, and disaster recovery plans for mission-critical LAN and microcomputer systems as ISD procedures require.*

Status - Partially Implemented

Agency Action - In December 1995, the Division issued new disaster recovery guidelines. For those systems identified as mission-critical, user departments must provide written certification that controls and security provisions are in place. Written documentation was provided for some departments, but not all. Division officials said they would again request written certification from user departments to ensure that backups, off-site storage and disaster recovery plans for mission-critical systems operating on LANs and microcomputers are in place. Division officials expect this to be completed in 1996.

### **Recommendation 5**

*Ensure that all user departments maintain a software inventory which is audited on a timely basis as required by the ISD procedures. Promptly remove any software which audits disclose as unauthorized or in non-compliance with vendor license agreements.*

Status - Partially Implemented

Agency Action - The Division sends each user department a diskette that can be used to check for unauthorized software, as well as a form to fill out concerning unauthorized software found

on a specific computer. Written documentation showed that some departments had responded, but not all. Division officials said they would review software inventories to ensure that all departments have submitted it for 1995. Division officials said that Internal Audit would review compliance during its 1996 scheduled audits.

**Recommendation 6**

*Ensure that virus detection measures promulgated by ISD are adhered to throughout the user departments.*

Status - Partially Implemented

Agency Action - Division officials stated that they had initiated a certification program to train employees in the use of anti-virus software. They said personal computer coordinators are notified when new anti-virus software is available. We found that one department had installed the software, but another had not. Officials in the latter department claimed the anti-virus software had been installed - and then uninstalled - so that Windows 95 software could be installed about a month ago. They simply did not reinstall the virus protection software. Division officials indicated that Internal Audit will review compliance during its 1996 scheduled audits.

**Recommendation 7**

*Ensure that user departments comply with the ISD procedures for the physical security of microcomputers and LANs.*

Status - Partially Implemented

Agency Action - The Division has given each department additional guidelines on making microcomputers physically secure. Internal Audit officials told us they plan to audit this in 1996. Division officials said they would provide additional guidelines during 1996.

**Recommendation 8**

*Ensure that user departments and the ISD coordinate in a timely manner to establish an accurate and complete microcomputer inventory.*

Status - Not Implemented

Agency Action - Division officials said that each department had established its own inventory listing of microcomputers. In addition, they gave us a copy of an inventory listing prepared by IBM in November 1995. However, our limited testing showed this list to be unreliable. Division officials indicated they will follow-up with user departments to obtain an accurate and complete microcomputer inventory during 1996. Internal Audit officials told us they plan to audit this in 1996.

Auditors' Comments - User departments and the Division have not coordinated in a timely manner to establish an accurate and complete microcomputer inventory.

We would appreciate your response to this report within 30 days, indicating any action planned or taken to address the unresolved matters discussed in this report.

We also thank Transit management and staff for the courtesies and cooperation extended to our staff during this review.

Yours truly,

Robert H. Attmore  
Deputy Comptroller

cc: Patricia A. Woodworth