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COMPTROLLER



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STATE OF NEW YORK  
OFFICE OF THE STATE COMPTROLLER

September 27, 2017

Mr. Joseph J. Lhota  
Chairman  
Metropolitan Transportation Authority  
2 Broadway  
New York, NY 10004

Re: Train On-Time Performance  
Report 2017-F-8

Dear Mr. Lhota:

Pursuant to the State Comptroller's authority as set forth in Article X, Section 5 of the State Constitution and Section 2803 of the Public Authorities Law, we have followed up on the actions taken by officials of the Metropolitan Transportation Authority to implement the recommendations contained in our prior audit report, *Train On-Time Performance* (Report 2014-S-56).

**Background, Scope, and Objective**

The Metropolitan Transportation Authority's (MTA) New York City Transit (Transit) provides rapid transit services in New York City, 24 hours a day, 7 days a week.

Sometimes, a subway train is canceled (i.e., does not depart from the terminal, or departs later than half the scheduled time between trains), or is abandoned en route (i.e., skips any scheduled station stops or fails to operate on its scheduled route in accordance with the timetable). Transit's Department of Subways (Subways) considers a train on time when it is not canceled or abandoned en route, and it arrives at the end terminal not more than five minutes after its scheduled arrival time.

Subways' Department of Rapid Transit Operations uses its Rail Control Center's Performance Reporting and Operations Analysis Group to report train delay percentages for each line, delays by categories, and on-time performance (OTP) statistics to management and the MTA Board's Transit and Bus Committee (Committee). The information is provided on a two-month delay.

Subways collects information on its daily operations pertaining to delays and distributes it the next day via the Statistical Transportation Analysis and Reporting System to its district managers and Transit support units, such as Maintenance of Way, Division of Car Equipment,

and Operations Planning. OTP statistics are reported separately for weekdays and weekends. For calendar years 2013 and 2014, Subways' OTP goal was 91.9 percent.

Our prior audit determined that for calendar years 2013 and 2014, Subways' reports showed that actual OTP was well below the goal of 91.9 percent. For 2013, weekday OTP averaged 80.5 percent and weekend OTP averaged 85.4 percent. For 2014, weekday OTP averaged 74 percent and weekend OTP averaged 81.2 percent. Also, Subways lacked formal processes to assess the underlying causes of the delays and develop comprehensive corrective action plans to help minimize them.

In late March 2015, Subways' OTP goal was lowered to 75 percent. However, actual OTP was below this goal as well. For 2015, weekday OTP averaged 69.6 percent and weekend OTP averaged 74.4 percent. For 2016, weekday OTP averaged 66.8 percent and weekend OTP averaged 72.6 percent. A line graph detailing monthly OTPs for weekdays and weekends from January 2015 through February 2017 is attached as Exhibit A.

We issued our initial audit report on August 12, 2015. The objective of our follow-up review was to assess the extent of implementation, as of July 17, 2017, of the two recommendations included in the initial report.

### **Summary Conclusions and Status of Audit Recommendations**

We found that Subways made limited progress in addressing the problems identified in our prior report. Of the two prior audit recommendations, neither were fully implemented. Moreover, since the conclusion of our last audit, OTP has continued to decline. Additional actions are thus warranted.

### **Follow-Up Observations**

#### **Recommendation 1**

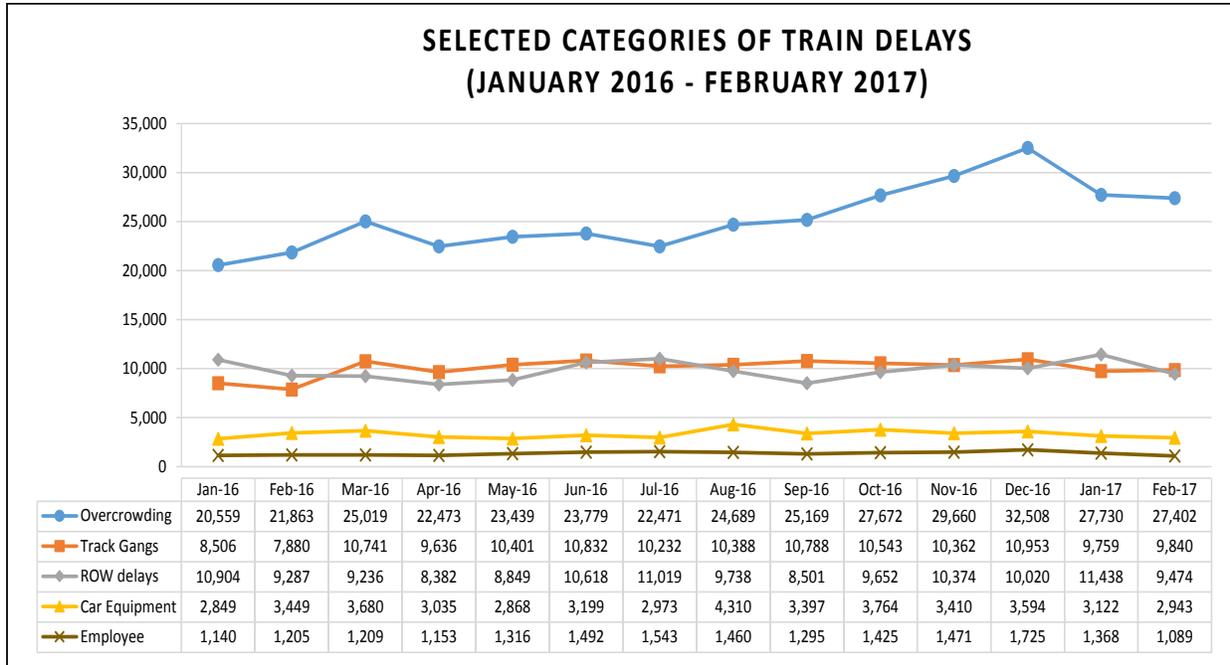
*Identify the underlying causes of recurring train delays and develop corrective action plans to proactively address those causes. Such plans should address the effectiveness of workgroup efforts, identify responsible parties, and require written feedback and measurable solutions.*

Status - Partially Implemented

Agency Action - Subways officials continue to disagree with the recommendation, as stated in their response to the prior audit report. However, through the monthly Committee meetings, officials track the different causes for delayed (late) trains. Per Subways, the three main causes are Overcrowding, Track Gangs (ongoing maintenance needs), and Right of Way (ROW) delays. We selected two of the categories (Overcrowding and Track Gangs) and reviewed the actions Subways officials took to address them. Overcrowding was the most common cause of delays, accounting in February 2017 for 27,402 (38.2 percent) of the total 71,802 delays, while Track Gangs accounted for 9,840 delays (13.7

percent). In light of the substantial increase in the delays attributed to overcrowding, we requested a definition of the conditions that result in the use of this code. However, Transit could not clearly articulate what conditions resulted in a categorization of overcrowding; rather, it appeared that this category was a catch-all when another category could not be specifically identified.

The following graph details the amounts of monthly delays according to the most prevalent categories from January 2016 through February 2017. On balance, there have been increases in the numbers of delays over the 14-month period.



Officials also provided their corrective action plan showing the update status of the initiatives launched in May 2015 on targeted lines (No. 6, No. 7, and F) to address: overcrowding and service management; incident prevention and response; and coordination of planned work to minimize impact. Officials claimed that they focused on these lines because of the long waits for riders in stations. At the time of the prior audit, the weekday OTP for the 12 months ended March 2014 for the No. 7 train was 88.2 percent, the No. 6 train’s OTP was 66.9 percent, and the F train’s OTP was 66.1 percent. However, for all three of these lines, OTP has decreased significantly from the prior period.

The performance of the No. 6, No. 7, and F trains continued to decline after the corrective action plan was implemented.

Train	Prior Audit	March 2015	March 2017
6	66.9	51.9	48.7
7	88.2	86.7	77.0
F	66.1	55.7	55.4

Because the MTA's corrective action plan did not require written measurable goals, it is difficult to precisely evaluate the success of these initiatives or even understand the expected impact of these actions on the MTA's performance.

On May 15, 2017, the MTA publicly announced a 6-point plan to restructure its management and improve system reliability and service. The improvement plan, according to the MTA's website, will target the key causes of subway system delays. However, no detail was available on: who would be responsible for each of these initiatives; how the MTA would measure the plan's success; or a projected timeline for implementation. On June 29, 2017, subsequent to the close of our fieldwork, the State declared a state of emergency to expedite subway repairs and replacement. The declaration required the MTA Chairman to complete a reorganization plan for the MTA within 30 days, as well as review Subways' capital plan, cars, and physical equipment within 60 days. On July 26, the MTA Chairman presented his New York City subway action plan. The plan laid out specific steps that the MTA will take over the next year to improve subway performance.

### **Recommendation 2**

*Require monthly feedback from Subways managers on the actions taken to address recurring categories of train delays.*

Status - Partially Implemented

Agency Action - MTA officials advised us there are: monthly meetings with the Senior Vice President of Subways; regular meetings with line managers; daily (weekday) conference calls conducted at the Rail Control Center; monthly reports by the Division of Car Equipment; and a monthly report to MTA's Board and the Committee. Subways officials stated that these actions produce feedback through managers' discussions of their review of the Line Performance Summary. However, with a few exceptions, Subways officials told us there are no minutes for these meetings or the resulting discussions. The MTA did provide summary information regarding updates on the No. 6, No. 7, and F lines (the lines targeted in 2015), and the Division of Car Equipment provided minutes of its meetings and the actions taken.

While we acknowledge the efforts made by Subways, this has not reversed the continual decline in OTP, which averaged 80.5 percent (weekday, 2013), 74 percent (weekday, 2014), 69.6 percent (weekday, 2015), and 66.8 percent (weekday, 2016), compared to the goal of 75 percent. (See Exhibits B-1 and B-2 for summaries of delays by hour for the A and B Divisions from April 2014 to February 2017.)

Contributors to this report were Robert C. Mehrhoff, Daniel Raczynski, Lillian Fernandes, and Teeran Mahtoo-Dhanraj.

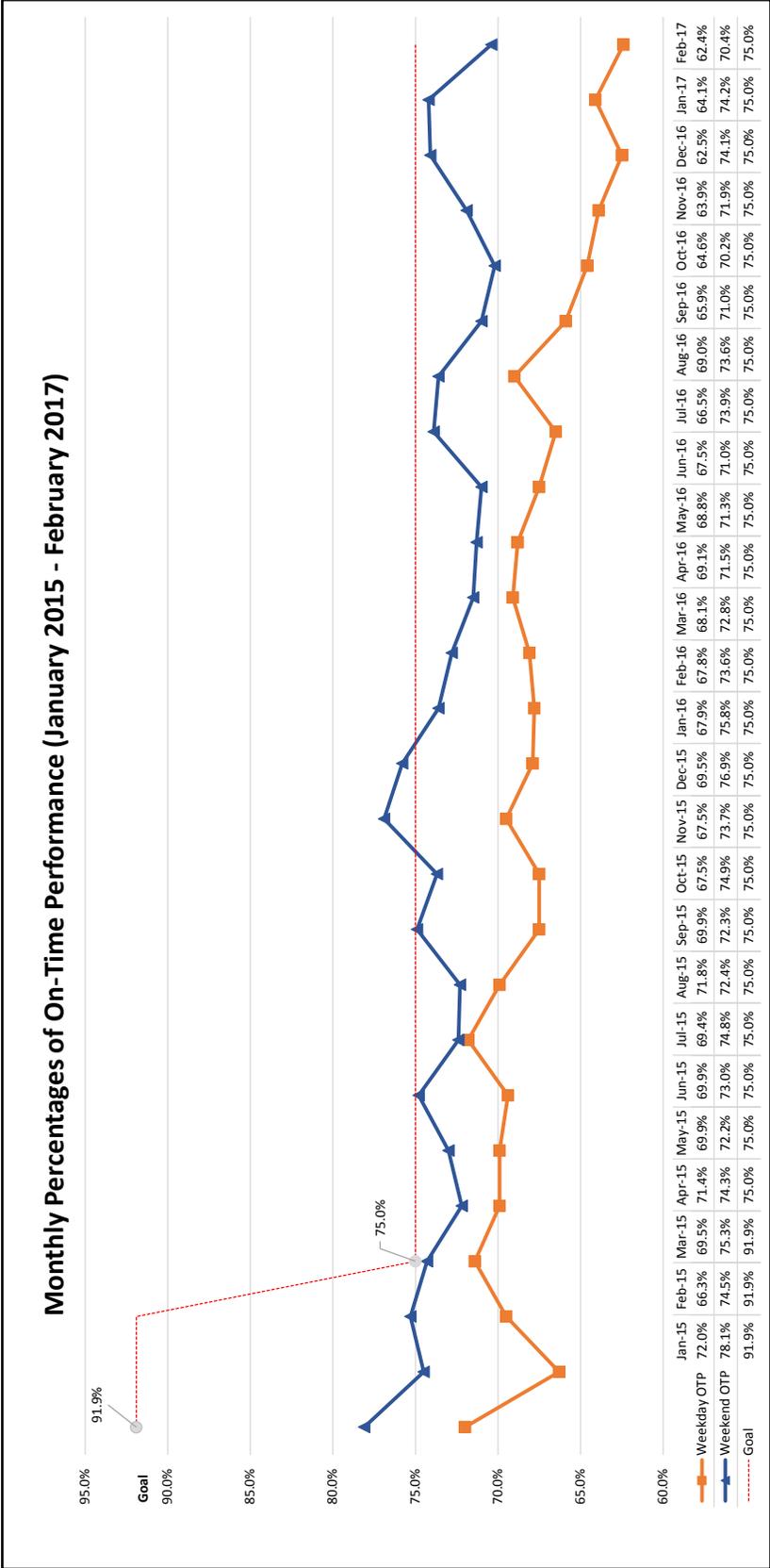
We would appreciate your response to this report within 30 days, indicating any actions planned to address the unresolved issues discussed in this report. We also thank MTA management and staff for the courtesies and cooperation extended to our auditors during this process.

Very truly yours,

Carmen Maldonado  
Audit Director

cc: M. Fucilli, MTA, AG  
D. Jurgens, MTA, Audit Services  
Division of the Budget

# Exhibit A



# Exhibit B-1

## Delays by Hour – Weekday A Division

Time (hr:min)		Subway Lines										Total
From	To	1	2	3	4	5	6	7	H	Delays		
0:00	0:59	3,067	4,136	972	4,126	657	4,835	2,196	129	20,118		
1:00	1:59	2,257	3,822	1,031	3,092	513	3,949	1,783	151	16,598		
2:00	2:59	1,644	3,051	848	2,438	473	2,853	1,409	142	12,858		
3:00	3:59	975	1,992	645	1,764	471	1,723	1,261	143	8,974		
4:00	4:59	613	2,115	384	2,513	415	1,433	1,316	162	8,951		
5:00	5:59	680	4,558	1,711	4,002	3,182	2,302	1,466	192	18,093		
6:00	6:59	1,440	8,681	3,385	7,010	8,304	5,859	6,021	169	40,869		
7:00	7:59	4,525	11,482	6,205	14,410	12,298	12,460	13,117	120	74,617		
8:00	8:59	9,327	10,210	8,299	16,253	13,651	22,841	14,724	248	95,553		
9:00	9:59	8,276	9,119	5,963	9,702	9,427	19,423	7,952	188	70,050		
10:00	10:59	6,035	9,071	4,563	8,457	9,512	10,729	4,976	554	53,897		
11:00	11:59	4,886	8,498	4,440	7,310	8,778	9,568	4,910	683	49,073		
12:00	12:59	3,132	7,854	3,797	6,347	6,859	9,152	2,868	522	40,531		
13:00	13:59	2,779	6,055	4,037	5,677	6,043	8,929	1,670	311	35,501		
14:00	14:59	4,000	8,907	3,635	7,075	9,103	11,537	1,562	316	46,135		
15:00	15:59	5,655	9,683	5,133	15,122	14,810	17,868	2,468	258	70,997		
16:00	16:59	6,964	13,557	8,931	20,466	16,332	24,725	3,594	287	94,856		
17:00	17:59	7,777	12,850	10,654	17,197	13,338	26,183	7,871	263	96,133		
18:00	18:59	6,046	10,765	6,690	10,878	8,418	17,949	4,527	284	65,557		
19:00	19:59	4,614	10,417	6,768	10,527	6,618	14,694	3,341	394	57,373		
20:00	20:59	4,467	9,476	6,265	9,376	3,923	12,361	2,718	269	48,855		
21:00	21:59	3,532	8,420	5,296	7,331	4,874	9,871	2,002	158	41,484		
22:00	22:59	2,809	5,439	3,635	4,746	4,000	5,907	2,744	131	29,411		
23:00	23:59	2,422	4,744	1,680	3,400	1,064	4,461	2,756	153	20,680		
<b>Total Delays</b>		<b>97,922</b>	<b>184,902</b>	<b>104,967</b>	<b>199,219</b>	<b>163,063</b>	<b>261,612</b>	<b>99,252</b>	<b>6,227</b>	<b>1,117,164</b>		

# Exhibit B-2

## Delays by Hour – Weekday B Division

Time (hr:min)		Subway Lines														Total Delays		
From	To	A	B	C	D	E	F only	Franklin Shuttle	G	GS	J	L	M	N	Q		R	W*
0:00	0:59	4,666	-	34	4,449	5,908	5,030	12	2,405	43	722	1,695	166	3,378	2,389	1,148	-	32,045
1:00	1:59	4,393	-	20	3,974	4,964	5,162	20	3,103	8	446	2,046	109	2,940	2,359	1,091	-	30,635
2:00	2:59	3,362	-	-	3,131	4,518	4,567	9	2,803	15	401	1,753	124	2,232	2,402	1,135	-	26,452
3:00	3:59	2,862	-	-	1,958	3,078	3,008	6	1,799	17	351	1,164	108	1,504	1,537	814	-	18,206
4:00	4:59	2,968	-	-	1,188	1,899	2,431	7	1,212	8	310	514	236	979	1,196	568	-	13,516
5:00	5:59	2,999	469	440	1,922	2,336	4,136	7	1,309	43	562	452	828	2,226	1,436	2,373	-	21,538
6:00	6:59	4,125	1,611	1,264	2,744	2,541	4,832	25	1,381	75	1,989	727	1,810	3,104	2,464	3,991	54	32,737
7:00	7:59	8,840	2,551	2,403	4,198	4,414	8,079	50	2,024	159	4,839	1,416	3,120	4,347	2,583	5,243	150	54,416
8:00	8:59	9,750	4,347	3,960	5,117	8,319	10,767	32	4,494	515	5,184	3,255	6,629	4,818	3,779	8,091	448	79,505
9:00	9:59	5,898	3,426	4,183	2,809	7,303	9,468	26	4,031	935	4,182	2,614	2,779	4,504	3,509	4,578	405	60,650
10:00	10:59	5,118	4,000	3,140	2,998	6,484	8,308	23	4,605	162	5,138	2,106	3,177	5,678	4,610	5,110	272	60,929
11:00	11:59	4,340	3,964	3,294	2,574	6,081	6,971	40	4,872	90	5,260	2,679	3,779	5,070	4,602	4,742	304	58,662
12:00	12:59	3,348	3,098	3,220	2,198	4,286	5,075	31	3,771	66	3,891	2,656	2,421	3,865	3,924	4,507	241	46,598
13:00	13:59	3,923	1,825	3,438	2,140	3,093	3,953	59	2,635	79	2,938	2,125	1,582	3,011	2,641	4,082	162	37,686
14:00	14:59	5,709	1,520	3,618	3,658	3,001	4,939	38	2,257	154	2,223	1,715	2,010	3,039	2,300	4,399	188	40,768
15:00	15:59	6,168	1,769	3,920	3,206	4,527	6,320	47	1,837	111	2,418	1,513	2,981	3,425	2,408	4,409	220	45,279
16:00	16:59	7,159	2,736	3,836	5,070	6,123	8,831	21	2,019	402	3,904	1,658	4,722	4,004	2,797	7,159	279	60,720
17:00	17:59	7,003	2,963	4,317	4,782	6,915	10,294	18	2,189	815	5,198	2,029	5,014	5,469	4,461	6,414	421	68,302
18:00	18:59	6,535	1,938	3,830	3,664	5,503	11,343	15	3,074	1,112	2,792	1,822	5,977	4,072	4,506	6,047	324	62,554
19:00	19:59	6,403	2,008	3,385	2,942	5,076	11,278	15	2,528	416	2,657	2,067	4,620	3,837	2,989	5,678	270	56,169
20:00	20:59	5,942	2,339	3,340	2,816	4,994	8,659	21	3,051	360	2,805	2,077	3,974	4,864	3,940	6,531	314	56,027
21:00	21:59	4,424	2,055	3,117	3,284	4,498	6,156	8	2,516	261	2,569	1,711	2,806	5,133	3,263	5,826	443	48,070
22:00	22:59	5,131	98	1,046	3,639	6,114	6,838	9	1,893	197	1,839	935	2,746	6,067	2,903	4,761	236	44,452
23:00	23:59	5,551	-	33	5,019	7,410	7,341	9	1,872	111	1,083	435	693	4,522	2,865	2,108	-	39,052
<b>Total Delays</b>		<b>126,617</b>	<b>42,717</b>	<b>55,838</b>	<b>79,480</b>	<b>119,385</b>	<b>163,786</b>	<b>548</b>	<b>63,680</b>	<b>6,154</b>	<b>63,701</b>	<b>41,164</b>	<b>62,411</b>	<b>92,088</b>	<b>71,863</b>	<b>100,805</b>	<b>4,731</b>	<b>1,094,968</b>

\*W Train Service Effective 11/7/2016.