



Public Advocate for the City of New York

STUCK AT THE TURNSTILE: FAILED SWIPES SLOW DOWN SUBWAY RIDERS

**A REPORT BY PUBLIC ADVOCATE BETSY GOTBAUM
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Introduction

Every seasoned New York City subway rider has swiped his or her MetroCard at the turnstile only to be greeted with error messages such as “Swipe Again,” “Too Fast,” “Swipe Again at this Turnstile,” or most annoying, “Just Used.” These messages stall the entrance line, slow riders down, and sometimes cause them to miss their train.

When frustrated riders encounter problems at the turnstile, they often turn for assistance to the token booth attendant who can buzz them through the turnstile or the adjacent gate; however, this service will soon be a luxury of the past. One hundred and sixty-four booths will be closed over the next few months and their attendants will be instructed to roam around the whole station. A user of an unlimited MetroCard informed that her card was “Just Used” will have to decide between trying to enter again after waiting 18 minutes, the minimum time permitted by the MTA between card uses, or spending more money to buy another card.

Currently when riders’ MetroCards fail, they seek out a station agent to buzz them on to the platform. Once booths close, these passengers will be forced to find the station’s attendant. Time spent searching for an attendant will further delay riders and be a notable hardship for people with disabilities, strollers, bikes, or large packages, who need assistance getting on to the platform or through the gate.

To evaluate the extent of problems with failed swipes, The Public Advocate’s office obtained and analyzed turnstile swipe data and found that swipe errors are a disturbingly common occurrence: over a quarter of all swipes fail, and the problem is worse in many low-income neighborhoods.

Methodology

The Office of the Public Advocate requested data from New York City Transit (NYCT), the subsidiary of the Metropolitan Transportation Authority (MTA) that runs the subways, on all failed and successful swipes made since 2003, when MetroCards replaced tokens system-wide. NYCT provided swipe data for over 2.4 billion swipes made from June 2003 to March 2005. The data for each cluster of turnstiles was organized by the closest booth at each station. The Public Advocate’s staff aggregated the data to compile the total number of swipes and the failure rates for each station. The following findings compare failure rates among stations. The Public Advocate’s staff also compared individual booth and station-wide turnstile cluster swipe failure rates with the list of 164 booths losing their attendants over the next few months to see if booths with high failure rates were also losing their attendants.

The Public Advocate’s staff spoke with the Automated Fare Collection office at NYCT that provided the data. The MTA defines a failed swipe as any swipe that does not produce a transaction. The MTA does not keep track of the percentages of different types of error messages at each turnstile. While it’s reasonable to assume some are the result of consumer error—riders who incorrectly or fraudulently swipe—it’s also reasonable to assume that consumer error alone cannot account for the high frequency of swipe failure which total 688 million failed swipes in 22 months. Many errors are due to dirty farecard readers and lack of maintenance.

Findings

More Than a Quarter of All Swipes in New York City Fail

- 28.75% of all swipes in New York City fail. In the Bronx and Brooklyn, the boroughs with the highest MetroCard swipe failure rates, almost a third of swipes fail (31.33% and 30.15% respectively).
- In Manhattan, which has the largest subway ridership, more than a quarter (25.87%) of all swipes fail.

Borough	Total Swipes	% City-Wide Total	Average Fail Rate
Bronx	220,938,866	9.0%	31.33%
Brooklyn	526,551,271	21.4%	30.15%
Manhattan	1,327,436,836	53.9%	25.87%
Queens	382,462,367	15.5%	28.42%
Staten Island	3,388,108	0.1%	29.71%
City-Wide Total	2,460,777,448	100.0%	28.75%

Highest Failure Rates Occur in Low-Income Neighborhoods

Station (Train)	Borough	Total Swipes	Failed Swipes	Fail Rate
ROCKAWAY AV (C)	Brooklyn	3,385,714	1,845,179	54.50%
NOSTRAND AV (3)	Brooklyn	2,842,452	1,297,888	45.66%
MYRTLE-WILLOUGH (G)	Brooklyn	2,423,824	1,106,487	45.65%
167 ST (BD)	Bronx	6,734,325	3,058,769	45.42%
135 ST (BC)	Manhattan	2,044,059	919,131	44.97%
JACKSON AVE (25)	Bronx	2,694,057	1,206,865	44.80%
TREMONT AVE (BD)	Bronx	5,566,347	2,469,630	44.37%
FAR ROCKWY-MOTT (A)	Queens	2,838,798	1,249,932	44.03%
110 ST (23)	Manhattan	4,871,048	2,127,211	43.67%
116 ST (BC)	Manhattan	3,166,163	1,381,506	43.63%

(Bold indicates that at least one booth within the station is scheduled to close)

The turnstile clusters and stations with the highest MetroCard swipe failure rates are concentrated in the City's low-income neighborhoods including East New York, Harlem, the Rockaways, Bedford-Stuyvesant, Tremont, South Bronx, and Southeast Queens.

- The worst-performing station, Rockaway Avenue in Brooklyn, on the C line, has a MetroCard swipe failure rate of 54.5%. This East New York station is also home to one of the worst-performing individual turnstile clusters in New York City: 78.3% of all MetroCard swipes fail at this turnstile cluster.¹
- The 167th Street BD station in the Bronx is also home to one of the highest MetroCard failure rates in the system. In addition to its overall failure rate of 45.42%, one of the turnstile clusters at this station has a MetroCard failure rate of just over 65%.²

¹ According to calculations by the Public Advocate's Office.

² According to calculations by the Public Advocate's Office.

Booths are Closing at the City's 7 Busiest Stations in Midtown

Table 3: The Top Ten Most-Used Stations				
Station (Train)	Borough	Total Swipes	Failed Swipes	Fail Rate
42 St - Grand Central (4567S)	Manhattan	64,353,772	14,382,653	22.35%
34 St (BDFVNRQW)	Manhattan	59,577,498	16,408,589	27.54%
14 St - Union Square (NRQW456L)	Manhattan	48,155,935	12,258,298	25.46%
42 St - Port Authority (ACE12379NRQWS)	Manhattan	47,999,134	15,408,468	32.10%
42 St - Times Square (12379NRQWSACE)	Manhattan	46,825,308	12,657,126	27.03%
34 St - Penn Station (1239)	Manhattan	42,751,053	10,007,704	23.41%
34 St - Penn Station (ACE)	Manhattan	37,052,998	9,241,971	24.94%
Main St (7)	Queens	31,482,433	10,624,121	33.75%
59 St - Columbus (ABCD19)	Manhattan	30,159,686	7,985,448	26.48%
Canal St (NRQW6JMZ)	Manhattan	28,431,263	9,270,286	32.61%

(Bold indicates that at least one booth within the station is scheduled to close)

- 9 of the 10 most-used stations are in Manhattan. These 9 stations alone (out of 439 total stations in New York City) account for 16%³ of total ridership.
- 8 of the 10 most-used stations located in Manhattan have MetroCard failure rates lower than the city-wide average; however, they still require re-swipes about 1 in 4 times.
- At the 8th-busiest entrance point into the subway system, Main Street-Flushing at the end of the 7 line in Queens, swipes fail over a third of the time (33.75%), well above the city-wide average.

³ According to calculations by the Public Advocate's Office.

Conclusion

There is an unacceptably high rate of MetroCard swipe failure city-wide. Swipes fail most often in the low-income neighborhoods of East New York, Harlem, the Rockaways, Bedford-Stuyvesant, Tremont, the South Bronx, and Southeast Queens.

When swipes fail, New Yorkers rely on booth attendants for assistance. Riders who use Midtown Manhattan stations are most likely to notice booths without attendants: the subway system's 7 most-used stations will be losing attendants at least one of their booths.

The Public Advocate's Office recommends that New York City Transit and the MTA:

Do a better job of determining why so many swipes fail so it can improve and target maintenance. New York City Transit should, for instance, upgrade its turnstile software to keep track of the different types of error messages that riders get when they swipe. This will help the Authority determine the causes of failed swipes and identify which farecard readers are faulty or dirty. According to our office's conversations with NYCT this software upgrade would be inexpensive.

Over the next few months carefully monitor the effects of its floating attendant program and strongly consider returning attendants to the booths at busy stations, if necessary.

The Permanent Citizen's Advisory Committee to the MTA recommends adding Smart Card technology to subway turnstiles.⁴ It is a costly solution, but one that the MTA should consider implementing in the future.

⁴ Smart Cards are currently in use in Chicago, San Francisco, and Washington, DC. *In Your Pocket: Using Smart Cards for Seamless Travel*, Permanent Citizens Advisory Committee to the MTA, October 2004.