False Alarm:
A Study of NYC Transit Emergency Exit Gates

New York City Transit Riders Council
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Background

In 2005 and 2006 MTA New York City Transit modified about fifteen hundred locked access gates within its system so that they can be opened from inside the paid area of a station by a customer pushing on a “panic bar” latch mechanism, which meets state building code specifications. These gates, as modified, are intended to allow customers to immediately pass from the paid to the unpaid area of subway stations and to more quickly evacuate the stations in the case of an emergency. Opening the gate causes an alarm to sound, which serves to notify a station agent of the opening of the gate. The gates are also available for use in non-emergency situations, where station personnel may open the gates upon request to assist customers with strollers, carts or other bulky items. Use of the gates by customers in non-emergency situations without authorization by station personnel is prohibited.

Unfortunately, however, the installation of the panic bar latches has led to a surge in non-emergency use of the access gates. The alarms that were meant to alert station personnel to the opening of the gates are now largely ignored or in some cases appear to have been disabled. As riders become accustomed to hearing the alarms and booth agents and station customer assistants have been removed from subway stations, there is a growing perception that unauthorized use of the access gates is increasing. In response to this perception, the Council decided to monitor locations in the subways with access gates to gauge the degree of improper use of emergency exit gates in the system.

The NYCTRC Project

In the summer of 2010 the members of the New York City Transit Riders Council (NYCTRC) observed designated emergency exit gates at nineteen locations within the subway system. The locations included subway stations in each of the four New York City boroughs that have subways. The locations chosen do not constitute a random sample; rather, they reflect busy subway stations in the system that have a mix of users including persons traveling to and from work, leisure users, and students. While the survey was conducted in the summer months, we obtained a list of public high schools hosting summer sessions and took this into account in selecting stations.

A list of the stations where observations took place may be found at the end of this report. Members were assigned to monitor specific access gates in these stations and were instructed to position themselves in a place where they could comfortably observe the emergency gate in question and have a clear view of the gate at all times. The members performed counts of the number of persons entering and the number of persons leaving the paid area of stations through emergency exit gates at their assigned locations. The counts of persons entering and leaving were recorded simultaneously, using hand counters capable of recording two separate tallies.

Findings

In the course of sixteen hours of observations during peak hours and nineteen hours of observations in off-peak hours, our surveyors counted a total of 2,308 passengers using designated emergency gates for access to and egress from the paid area of subway stations. Most of this activity involved 2,115 individuals who exited the paid areas of the stations through the emergency gates. Our surveyors also observed 193 individuals entering the paid areas of stations through the emergency gates. In 109 cases, surveyors indicated that these entries into the paid areas appeared to be made in the course of evading fare payment.

Most of the use of emergency gates occurred during the peak hour observations, with 1,514 exits through the gates and 103 entries to the paid area through the gates observed during peak hours. During peak periods, the opening of an emergency gate often serves to relieve a backlog of riders waiting to exit the station, so this is not surprising. There was, however, still considerable use of the emergency gates in off-peak hours, and, despite the overall lower levels of ridership, our surveyors observed almost as many individuals entering the system through the emergency gates in off-peak hours as during the peak period.

Many of the surveyors also noted an interesting feature of rider behavior with regard to the emergency exit gates. At many locations where large numbers of riders improperly exited the station through emergency exit gates, it appeared that riders generally refrained from using the gates until one rider “broke the ice” by using the gate. Once the gate was opened and the alarm activated, a substantial percentage of exiting riders turned from using authorized points of egress and exited the station via the emergency gate.

While our surveyors recorded 109 cases of entry into the system through the emergency gates that appear to have involved fare evasion, this number is not large enough to say that fare evasion through the emergency gates is rampant. It has been said that alarms sounding when emergency gates are open serve as notice of an opportunity for fare evasion, but it must also be noted that there is much fare evasion that does not involve the emergency gates. While it was not a focus of our study, our surveyors routinely observed fare evasion by other means in the course of their data collection. Whatever is done regarding the emergency gates, it will not impact the ability of riders to enter the paid area of the station over or under the turnstile, or by multiple persons, three of them in one notable case we observed, entering the paid area through a high entrance/exit turnstile (HEET) on a single MetroCard swipe.

A majority of the apparent fare evasion through the emergency gates that we observed, numbering 74 riders, involved a single entrance to the A,B,C,and D line station at 125th Street and St. Nicholas Avenue. At this location, no alarm

sounded when the gate was opened, and the gate was left unlocked. This resulted in a flow of riders, who appeared to be accustomed to this situation, into the paid area through the open gate. We do not know how many of these individuals possessed a valid time-based MetroCard and were using the gate for the sake of convenience rather than to save a fare, but clearly an open gate without an operable alarm is an invitation to individuals wishing to enter the system improperly.

Non-Emergency Use of Emergency Gates

Peak/Non-Peak	Exits through Gate	Entries through Gate	Apparent Fare Evasion Cases
Peak	1,514	103	83
Off-Peak	601	90	26
Total	2,115	193	109

Conclusions

Our casual observations indicated that there is substantial use of the emergency exit gates in the subway system for non-emergency use and this impression was confirmed by the Council's survey. While a relatively small part of this use was for the purpose of fare evasion, there is some fare evasion through the emergency gates and at least some of it is facilitated by the improper use of the gates as an exit.

It is clear that some individuals use the emergency exit gates to exit the paid area of a station to avoid waiting to pass through an authorized egress and that increasing opportunities to exit the paid area, where the existing station design permits, could reduce the incentive to use the gate. The number of stations in which additional exits can be added, however, is limited.

We also observed that station users having a sense that they are being watched can influence improper use of the exit gates. One individual who appeared to be preparing to enter the paid area through the emergency gate stopped and purchased a farecard when he saw our surveyor observing him. Another surveyor noted that a rider who noticed him observing a station exit retreated from the emergency exit gate and instead left the paid area through a high exit turnstile. Recent reductions in station personnel make creating a sense of being observed more difficult, but well placed and conspicuous security cameras might foster something of the same impression among riders.

The alarms that sound to indicate that an emergency gate has been opened, however, do not appear to deter improper use of the gates. We believe that because the alarms sound very frequently, they have lost their ability to alert riders to a possible emergency and, if anything, serve to distract a shrinking force of station personnel from other duties. In addition, we note that some believe that the alarms serve to tell fare evaders that a gate is open. While station personnel should be alerted when a gate is open, we believe that this is better accomplished by discontinuing use of the high volume alarms and informing booth agents of open gates through indicator lights or low volume audible tones.

The condition that appears to be most subject to abuse is an emergency exit gate that is left unlocked and does not sound an alarm when opened. At the 125th Street A, B, C, and D station this situation seems to be well known and consequently this station accounted for the bulk of fare evasion in the stations we observed. A working latch and alarm may not ensure that an emergency exit gate will not be used improperly, but an unprotected exit appears to be an invitation to abuse.

Emergency Gate Locations Monitored

Brooklyn

B,Q,R Train, DeKalb Avenue Station, Flatbush Avenue Extension and Metrotech/Fleet Street - Albee Square end - HEET, High Wheel Exit Turnstile, Emergency Gate

D Train, 79th Street Station, 77th Street end, Coney Island bound - High Wheel Exit Turnstile, Emergency Gate

R Train, 86th Street Station, 85th Street End - HEET, High Wheel Exit Turnstile, Emergency Gate

Bronx

2,4,5 Train, 149th Street/Grand Concourse Station, 149th Street and Grand Concourse, SW Corner - HEETs, High Wheel Exit Turnstile, Emergency Gate

Manhattan

1 Train, 18th Street Station, Downtown side- HEET, High Wheel Exit Turnstile, Emergency Gate

1 Train, 28th Street Station, 27th Street End, Downtown Side - High Wheel Exit Turnstile, Emergency Gate

1 Train, 66th Street Station, Uptown side 66th Street (Northern) entrance - HEET, Turnstile, Emergency Gate

1 Train, 79th Street Station, 79th and Broadway, NE corner - High Wheel Exit Turnstile, Emergency Gate

4,5,6, L,N,Q,R Train, 14th Street/Union Square Station, 14th Street and 4th Avenue, SW corner - HEETs, Emergency Gate

4,5,6,J,Z Train, Brooklyn Bridge Station, Corridor to Frankfort Street exit/SE end of Lexington line tracks - HEET, High Wheel Exit Turnstile, Emergency Gate

6 Train, 33rd Street Station, Park Avenue South and 32nd Street, Uptown side - HEETs, Turnstile, Emergency Gate

6 Train, 33rd Street Station, Park Avenue South and 32nd Street, Downtown side - HEETs, Emergency Gate

6 Train, 110 Street Station, Uptown Platform, Turnstiles, Emergency Gate

A,B,C,D Train, 125 Street Station at St. Nicholas Avenue, Turnstiles, Emergency Gate

B,D,F,M, 7 Train, 42nd Street Station, 42nd Street Entrance (Between 5th and 6th) - HEETs, Emergency Gate

Queens

E,F,M,R,7 Train, 74th Street-Broadway Station, 73rd Street and Broadway Entrance - HEETs, High Wheel Exit Turnstile, Emergency Gate

E, M, R Train, Queens Plaza, Northern Boulevard and 41st Street end - HEET, High Wheel Exit Turnstile, Emergency Gate

M,R Train, 46th Street Station, 48th and Newtown Road/Broadway end, Queens Bound - HEETs, Emergency Gate

M,R Train, 46th Street Station, 48th and Newtown Road/Broadway end, Manhattan Bound - Turnstiles, Emergency Gate