

Modifying The New York City Turnstile



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Subject: Proposal for a change in the type of turnstiles utilized in public transit

Purpose

With every day that passes, more people grow confident enough to scam the MTA by avoiding the payment of fare. Fare for most MTA services, which includes local, limited and select bus and train service, is \$2.75(MTA), as services such as express busses as well and long distance train rides vary in price. A considerable amount of New Yorkers do not understand, or choose to not care about, the importance of paying the fare, as the MTA, a form of infrastructure, relies on the honesty and support of users to maintain itself and remain open to serve the public. Approximately 38% of the MTA's revenue comes from the "farebox," which refers to accumulated fare that is collected when users pay for their rides(MTA). This implies that when people avoid paying fare, especially on a semi-large scale, the revenue that the MTA produces can take a large hit.

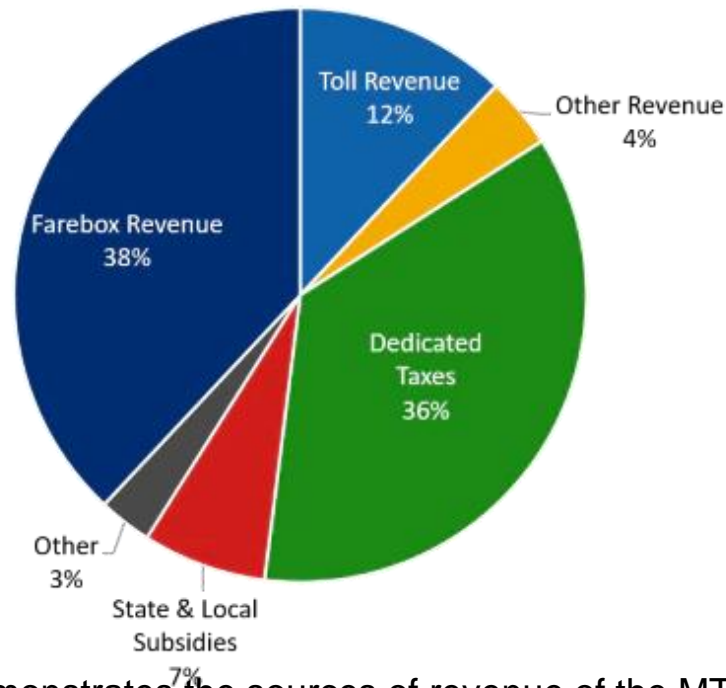


Figure 1 demonstrates the sources of revenue of the MTA

The purpose of this proposal is to request the authorization to introduce a different type of turnstile in the MTA to help prevent people from evading fare by hopping the turnstile while offering those that are disabled a way to enter the train station besides using the emergency exit.

Summary

The MTA has always faced issues relating to people evading fare, as the public becomes more frustrated by the increasing price of a ride. The MTA increases the cost per ride approximately every two years. Seeing as the majority of people that use public transportation in New York City can not afford to travel any other way, that majority often tries to find ways to avoid paying for the fare as a whole, which means that they will hop the turnstile or enter through an emergency exit door.

The hopping of turnstiles has lost the city hundreds of millions of dollars and continues to do so. I suggest that we introduce a new gate that does not give people the opportunity to evade

fare while allowing access to people that are disabled or in a wheelchair. The gate would react to an MTA card swipe and open, only big enough for one person at a time. This will eliminate the need to keep emergency doors open and stop people from hopping the turnstile.

The gate would utilize technology that is already in place in some train stations where people can use their bank or credit cards to pay for the fare. Upon receiving a signal the gate will open on one side and close as that person enters a small area only large enough for an average person. The first gate will then close and the gate that allows riders to enter the station will open, and the cycle will continue.

Introduction

It is in the best interest of the MTA to identify ways to reduce the amount of people that are able to enter train stations without having to pay. Many subway stations are not monitored by MTA workers or police offices all day, thus giving people more opportunities to get away with evading fare. If someone is caught evading fare, they are given a \$100 fine, which, in my opinion, is not enough. This fee is not enough to scare people into paying the fare as many people still hop the turnstile.

New York State has lost an estimated \$200 million as a result of people evading fare in the past year(Colon 1). \$200 million is a huge amount considering the fact that a ride on the MTA costs \$2.75 as of today. Reducing the amount of money that is lost each year is the primary goal that I am trying to accomplish by introducing a new turnstile.

The structure of the gate will be large enough so that no person can climb under and/or jump over it and it will provide a large enough space so that people with disabilities are able to enter the station through the pathway(Petrie 11). Although the full body turnstile may seem like a more efficient way to minimize the amount of money lost due to fare evaders, the full body

turnstile does not prevent people from using the turnstile at the same time. Additionally, emergency exit doorways are not only used during emergencies as subway riders, including myself, have utilized the emergency door because it provides an easy path when compared to the annoying full body turnstiles. If a new gate system is introduced, people can then be fined for utilizing the emergency exit door when there is no need for the door.

As mentioned in the summary, the MTA continually increases the cost of fare. Increases in fare are usually a result of inflation and the necessity to improve and maintain the conditions of the train stations. However, according to a scientific study, , “a 10% increase in the fare raises evasion by 2 percentage points”(Troncoso 1). This demonstrates the impact that the price of fare has on fare evaders. While the increase in price cannot really be stopped or slowed down, the way that the MTA manages people evading fare and the accessibility of the turnstiles can change.

Proposed Task

Remove all of the hoppable turnstiles with gates that only allow one rider at a time, or introduce these gates in newly refurbished stations and offer 24 hour service of stations that still have the hoppable turnstiles.

Task 1: Offer 24 hour police service to stations with hoppable turnstiles

Generally speaking, people tend to follow rules when an authoritative figure is present(such as a police officer). A scientific study that tested if people complied more with authority if they are or are not given physical orders or cues that the authority is present and the results demonstrated that 60-70% of participants complied when the cues were provided as opposed to the 40-50% that complied without cues present(Karakostas 1). This signifies the value that the presence of a police officer has. Although the introduction of police officers seems

like a good idea, the budget of the MTA must be taken into account. The MTA's yearly budget will decrease in proportion to the amount of police officers that will remain in the stations, and the average police officer in New York City is paid between \$40,000 and \$80,000. Police officers will provide a sense of security, reduce the amount of crime occurring in train stations, and reduce the amount of fare evaders, but the trade-off relates to the budget cuts necessary to pay the officers that will be working.

Task 2: Increase the fine that comes with hopping the turnstile.

Similar to the repercussions that come with breaking rules and regulation, MTA passengers that choose to hop turnstiles can be fined. Currently, the fine that the fare evader must pay is \$100. I suggest that the amount that must be paid with the fine is raised to about \$250. By increasing the fine, the people of New York City will likely understand the severity of the consequences that they will have to face if they disobey the rules set by the MTA. This will definitely decrease the amount of riders that choose to hop the turnstile as they will begin to question the actions they are taking since it won't be worth it to consistently hop the turnstile. In addition to the amount of money that must be paid, depending on the amount of times that a person has evaded the fare, those that evade fare should be forced to participate in some sort of community service. The introduction of this new policy will cost the MTA nothing and will only serve to increase the yearly revenue obtained.

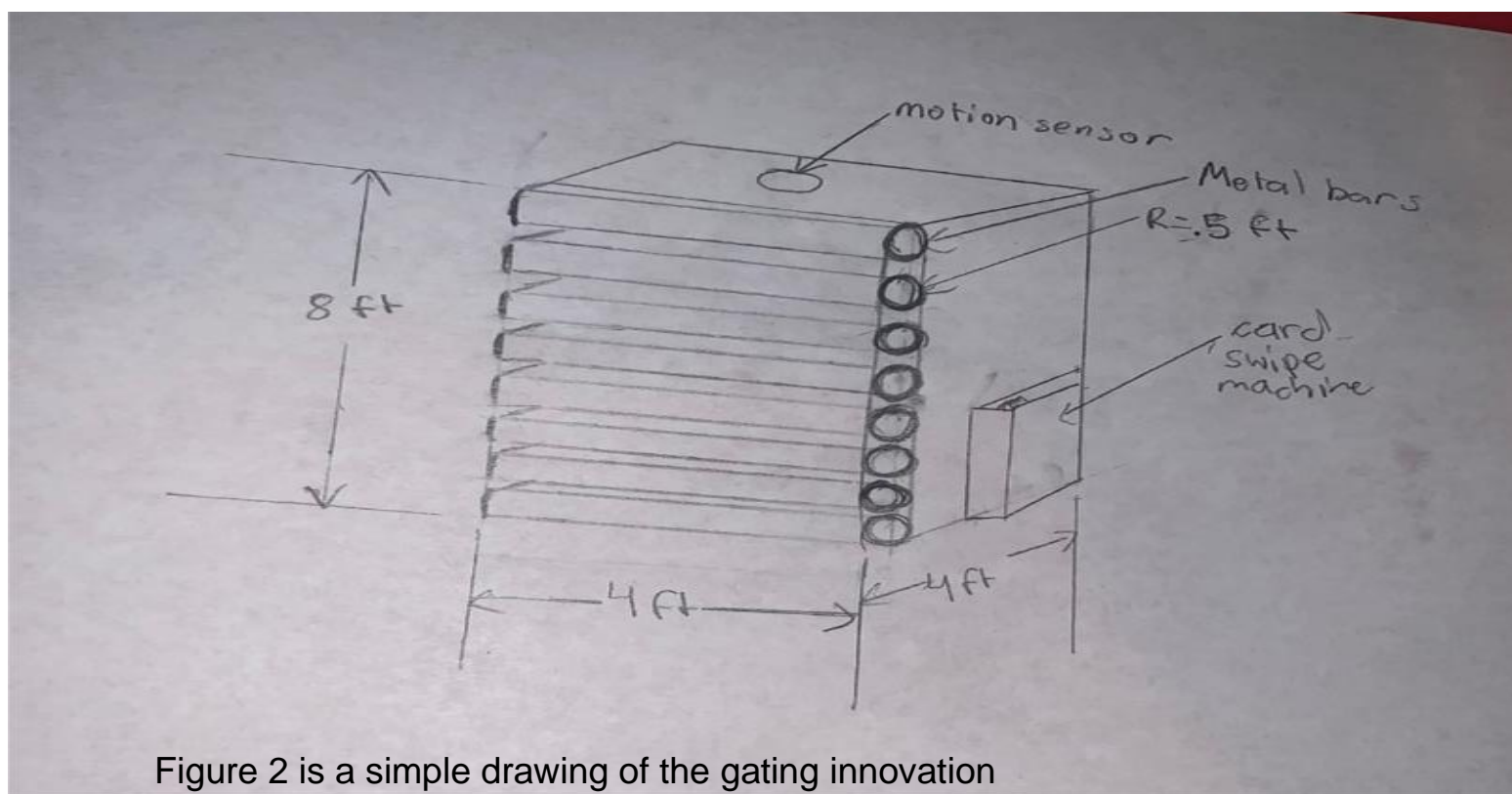
Task 3: Utilize cameras to record all turnstile activity

The implementation of cameras can only help the MTA. Cameras provide a sense of security to both riders and workers, as people will be reluctant to act out of the ordinary and/or do anything illegal or dangerous. For this reason, the introduction of cameras into train stations across New York City can serve to reduce the amount of money lost as a result of fare evasion

while giving riders a better overall experience. The average security camera costs anywhere between \$100 and \$200 and the installment of cameras will cost anywhere between \$500 and \$1000, so, depending on the quality of security system implemented in the stations, the MTA will have to pay between \$1000 and \$2000 per station. This is quite a hefty price, however it will save the MTA money in the long run, as it will help them catch fare evaders.

Task 4: Introduce the New gate technology to stations that have to be renovated or refurbished

The turnstiles that are present in most train stations in New York City are not the most efficient turnstiles that could be utilized. The single bar turnstiles are responsible for the MTA losing millions of dollars each year and should definitely be replaced. The full body turnstiles that are in some stations solve some problems that come with the single bar ones, but they do not address problems relating to people using the emergency exit to enter the station. A new gating system should be introduced into train stations. The gating system should include a sensor or swiping system to read MetroCards, two barred metal automatic doors(so that only one person can enter at a time), and sensors inside the gate so that it will know when to open or close the doors. This gated version of a turnstile will provide a way for people in wheelchairs or crutches to enter the station without using the emergency exit while also eliminating the evasion of fare completely. After swiping your MetroCard, the first gate will open, and once you enter the space that is detected by the motion sensor, the first gate will close and the gate that allows you into the station will simultaneously open, ensuring that only one person gets into the station per swipe and that nobody is able to avoid fare. A labeled drawing of the innovation created by me is provided below.



Cost of innovation

item	cost
Metal bars(16)	\$160
Motion sensor	\$65
Card swipe machine	0(already installed in all stations)
64 ft ² metal wall/ceiling	\$960
labor	\$1,024
total	\$2,209

Conclusion

The MTA plays a crucial role in the transportation of New Yorkers. Millions of people take trains and buses to school and work on a daily basis. Large amounts of revenue is collected through the “farebox”, but fare evaders reduce that revenue, harming the general public in the long run. The MTA, a form of infrastructure, seeks to provide service and help the population of New York, so fare evaders are stealing from honest New Yorkers by stealing the money that could be used to improve the MTA and a riders overall experience. The introduction of the described gating system can effectively solve the problem at hand while providing a better experience for New Yorkers as a whole.

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