

# LIGHT RAIL FARE COMPLIANCE

*PROGRAM EVALUATION AND AUDIT*



# INTRODUCTION

## ***Background***

### **METRO Fare Payment System**

Both the METRO Blue Line, which opened in 2004, and the METRO Green Line, which opened in June 2014, use barrier free stations. Fare compliance is enforced using a proof-of-payment system. Passengers must have proof-of-payment within valid fare zones, both inside the train and on the platform. Metro Transit Police officers perform fare compliance checks as part of their regularly scheduled duties. Passengers identified as being without proof of valid fare can receive a warning or a citation with a \$180 fine.

METRO fares mirror those for non-express buses. The regular fare is \$1.75. During AM Peak and PM Peak times, the fare is \$2.25. There are reduced rates during off-peak hours for certain populations, including seniors, children, Medicare cardholders, and people with disabilities. Disabled veterans, peace officers, fire fighters, and Metropolitan Council employees ride free at all times. The fare within Downtown Zones is \$0.50.

METRO passengers can provide proof of valid fare in a number of ways. Each platform has at least two ticket vending machines where tickets can be purchased directly using cash, credit card, or stored value cards. Passengers transferring from a bus line can use their transfer ticket, as long as they are within the 2.5 hour window. Passengers can also “tag” Go-To Cards, Metropasses, U-Passes, and other electronic fare media at validating machines on each platform. Metro Transit Police officers use mobile phone validators (MPVs) to check for valid fare on electronic fare media, such as Go-To Cards.

The METRO Blue Line has a free-fare zone between Terminal 1 and Terminal 2 at the Minneapolis – St. Paul International Airport.

### **Previous Audits and Studies of METRO Fare Compliance**

An internal fare compliance audit of the METRO Blue Line performed by Program Evaluation and Audit in 2008 estimated an overall fare evasion rate of either 6.47% or 10.97%, depending on the definition of evasion used. An external report of fare compliance on the Blue Line performed by a University of Minnesota professor used police activity log data from 2012 to estimate an overall fare evasion rate of 0.55% on weekdays and 0.7% on weekends. The analysis found a higher evasion rate of between 4.4% and 5.5% for passengers that use some types of electronic fare cards. It also found that the evasion rate varied by station, direction of the trip, time of day, and day of the week.

An internal fare compliance audit of the Northstar commuter rail line performed by Program Evaluation and Audit in 2010 estimated a fare compliance rate of 98% among Northstar passengers, and an evasion rate of 2%.

This report represents the first fare compliance audit for the METRO Green Line.

The previous fare evasion estimates for the Blue Line cannot be compared to the one that is presented in this report. The 2008 audit used different definitions of fare evasion and non-compliance. The University of Minnesota study is likely reliable, but used a very different method than that used for this report.

## ***Purpose***

The purpose of this audit was to determine the rates of fare compliance and fare evasion on the METRO Blue and Green lines.

## ***Scope***

Audit estimated fare compliance and evasion on each line by:

- *Direction*
- *Time of day and week*
- *Fare media used*
- *Area along the line*

To estimate the overall evasion and compliance rates, data was collected from September 22 to October 19, 2014. Additional data was collected in November 2014 at two Park-and-Rides along the Blue Line.

## ***Methodology***

### ***Probability Sampling***

Audit developed a probability sampling method that employed stratified cluster sampling. This sampling method provides statistically sound estimates for the overall population, but allows for a more efficient use of staff time. Overall, Audit asked a total of 886 passengers to show their proof-of-payment. After reviewing the data collected, Audit analyzed 343 observations from the Blue Line and 537 from the Green Line. At the request of Metro Transit, passengers who refused to show their proof-of-payment were not included in the analysis.

Audit defined “evasion” as the following: (1) riding without any fare media; (2) riding with fare media more than 1 hour outside of the transfer period; (3) riding with electronic fare media that had expired or had never been activated; (4) riding with electronic fare media that had been reported stolen; (5) riding with fare media that is not valid on light rail, such as Super Saver Stored Value passes; and (6) riding with a Campus Zone pass outside of the allowed zone or on the Blue Line.

Audit defined “non-compliance” as the following: (1) evasion; (2) riding with electronic fare media that is pre-paid in full, such as a U-Pass or Metro Pass, but was not tagged on the

platform; and (3) riding with electronic fare media that was last tagged on a bus, is within the transfer period, but was not tagged on the platform to denote a transfer.

### ***Special Event Sampling***

In order to determine whether passengers that use Park-and-Rides along the Blue Line to travel to special events are more likely to evade the light rail fare, Audit chose a Vikings football game in November to sample these specific riders. Audit staff surveyed passengers that boarded randomly selected sections of train cars departing from both 28th Avenue Station and Fort Snelling Station. The Vikings game began at noon, so passengers departing between 10:30 – 11:30 AM were surveyed. From 10:30 – 11:00 the ticket booths operated by Metro Transit employees at these stations were open.

Audit also performed the probability sampling described above on the weekends before two different football games at TCF Bank Stadium and following the Twin Cities Marathon. Some conclusions about special event compliance are also drawn from these observations.

### ***Limitations***

#### ***Population***

The fare evasion and compliance estimates presented in this report are valid only for the population of passengers that are required to show proof-of-payment on light rail. That population does not include children five years-old or younger, personal care attendants traveling with disabled passengers, or passengers traveling for free on the “airport shuttle” between Terminal 1 and Terminal 2 stations. Therefore, it would be an overestimate to take the total number of riders on either line and multiply it by the evasion rate to come up with the total number of riders that evade. When Audit states in this report that the evasion rate on the Blue Line, for example, is X%, that isn’t the evasion rate for all passengers. Instead, it is the evasion rate for passengers that are required to show proof-of-payment. Therefore, the evasion rate calculated for this audit accurately represents the evasion rate for the population about which Metro Transit is interested.

#### ***Time frame***

For the probability sampling method, Audit chose departure times so that the earliest trips began at the start of AM Peak and the latest trips ended by 10:00 PM. Therefore, while the sampling method employed provides 95% confidence that estimated ranges represent the true evasion and compliance rates for the population – it is only for the population that rides between about 6:00 AM and 10:00 PM. The rates estimated in this audit cannot be used to explain the fare evasion and compliance of passengers that ride very late at night or early in the morning.

#### ***Identification***

Audit staff did not request to see the identification of passengers traveling with discounted fares, or the identification of those riding with electronic passes that do not have identifying information already on them (such as U-Passes). Generally, Audit staff only inquired about the proof-of-payment for children that appeared to be at least six years old. Therefore, this audit assumed

that someone with a discounted fare had paid the correct fare, and that people carrying pre-paid passes were the authorized users.

### ***Refusals***

Audit staff did not include refusals in the analysis of fare evasion or compliance. This issue can cause non-response bias, if the passengers that refuse are systematically different from the general population. Six passengers refused to be surveyed on the Blue Line (1.7% of total observations), and eight refused on the Green Line (1.5% of total observations). While Audit is confident that not all refusing passengers were evading, some most likely refused because they did not have proof-of-payment. Non-response bias in this case will have biased the evasion rate downward.

### ***Seasonality***

It should be noted that sampling took place during four weeks in September and October. If the fare payment behavior of passengers is somehow very different at this time of the year compared to others, the fare compliance and evasion rates estimated may not accurately reflect those of different times.

### ***Assurances***

This audit was conducted in accordance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing* and the U. S. Government Accountability Office's *Government Auditing Standards*.

# OBSERVATIONS

## Difference from MTPD Reported Evasion Rate

Before presenting the fare evasion estimates calculated by Audit for this report, it is important to distinguish the fare evasion rate presented here from that reported by the Metro Transit Police Department (MTPD).

The fare evasion rate reported by MTPD is around 1%. However, MTPD's rate is calculated using a different method and using a different definition of evasion than that calculated by Audit.

When calculating the evasion rate, MTPD divides the total number of passengers who receive a documented warning or citation by the total number of passengers inspected by officers. With this method, those passengers whose names are collected through a warning or citation, or who are tallied at a special event, are defined as evaders. This method cannot estimate the true evasion rate for the entire population of light rail riders.

Audit used a broader definition of evasion, defining evaders as any passengers who were not in possession of proof-of-payment for their current trip. No determination was made concerning whether they would have received a warning or citation from an MTPD officer. Audit also used a probability sampling method. This is a very different method than dividing the number of evading passengers by the total number of passengers checked. Audit's estimate can be said to represent the true evasion rate for the entire population of light rail riders who are required to show proof-of-payment.

Given these methodological differences, it is not surprising that Audit found a different, and higher, estimated evasion rate. It is actually common for transit agencies with barrier-free light rail systems to find a higher rate of evasion when using a survey or audit, compared to using inspection data.<sup>1</sup> For example, the MUNI system in San Francisco found a 9.5% evasion rate in 2009 when using a carefully controlled sampling process, similar to the method Audit used for this report. But in 2011, data collected by inspection staff, which was not a representative sample of the total population, found an evasion rate of 3.9%. The evasion rate didn't drop 5.6% in two years, instead the two numbers were calculated using different methods and therefore aren't directly comparable.

Audit does not present a comparison of the evasion rate on METRO light rail to other transit systems for the same reason. Audit is not confident that other transit agencies estimate their evasion rate in a way that could be compared as "apples-to-apples."

---

<sup>1</sup> Transit Cooperative Research Program, 2012. "Off-Board Fare Payment Using Proof-of-Payment Verification." Transportation Research Board of the National Academies.

The MTPD evasion rate calculation is not incorrect. Many transit agencies that operate proof-of-payment systems use a similar method to calculate their evasion rates. As the Transportation Research Board states in guidelines for operating a proof-of-payment system, an argument can be made “that the inadvertent evader is less a continuing enforcement problem than a one-time education problem.”<sup>2</sup> It is understandable that a transit agency would be more concerned with the type of evasion that results in a warning or citation. However, it can also be argued that any evasion, no matter the circumstances, results in a loss of revenue.

### **Overall Fare Evasion and Compliance Rates**

Using the stratified cluster sampling procedure described in the methodology section above, Audit estimated the fare compliance and evasion rates for METRO Blue and Green Lines. Using this particular methodology, Audit is 95% confident that the true values fall somewhere between the ranges presented.

#### ***The Blue Line fare evasion rate is between 2.6% and 3.6%***

The compliance rate for the Blue Line is estimated to be between 80.8% and 84.8%.

#### ***The Green Line fare evasion rate is between 4.6% and 9.0%***

The compliance rate for the Green Line is between 81.6% and 87.6%.

While the true compliance rates on the two lines may actually be the same, given the ranges estimated, Audit can say with certainty that the fare evasion rate for the Green Line is higher than the Blue Line. Fare evasion on the Green Line is between 1.0 and 6.4 percentage points higher than the Blue Line.

The Green Line had only been in operation for about 4 months at the time of this audit, while the Blue Line had been in operation for 10 years. Perhaps the evasion rate on the Green Line will decline as new passengers become accustomed to the system and experience more fare checks by MTPD.

The difference in evasion rates between the two lines may also be explained by the different populations that use the lines. The Blue Line extends to Bloomington, serves several Park-and-Rides, and may be used more by commuters getting to and from work or events in Minneapolis. The Green Line, on the other hand, travels between the downtowns, and may be used more by residents to get to local destinations. If more passengers on the Green Line take shorter trips, some passengers may perceive the risk of being caught without fare as less likely.

### **Estimated Loss of Fare Revenue**

With any proof-of-payment transit system there will be fare evasion, and therefore a loss of revenue due to passengers riding without paying the fare. Even systems that have barriers to entry face the problem of fare evasion, as passengers can hop over turnstiles or evade paying

---

<sup>2</sup> Transit Cooperative Research Program, 2002. “A Toolkit for Self-Service, Barrier-Free Fare Collection.” Transportation Research Board of the National Academies. pp. 3-9 – 3-10.

in other ways.<sup>3</sup> The Metropolitan Transportation Authority in New York had ticket booth clerks observe fare evasion in 1994, and estimated that evasion was between 2.3% and 2.6%, even for a system that is completely closed.

To calculate the loss of fare revenue due to evasion, Audit estimated the average weekly ridership for both weekdays and weekends for the weeks in September and October that were sampled. These averages were multiplied by the low and high estimates of fare evasion on each line, which results in an estimate of the number of passengers who evade paying each week. These values were then multiplied by the value that Metro Transit has calculated to be the average fare (\$0.95) to determine a low and high estimate for revenue lost each week. The estimates for the Blue Line were added to those for the Green Line to determine the overall fare revenue lost per week.

Audit used the average fare because it is the actual amount of revenue that Metro Transit receives from each rider, given that some pay the full fare, some pay a discounted fare, and some don't pay a fare at all.

***Metro Transit lost an estimated \$15,849 to \$28,343 per week due to fare evasion for the month that Audit sampled***

Table 1 presents the estimates for weekly revenue lost on each line. As both ridership and fare evasion are estimated to be higher on the Green Line, the estimate of revenue lost on the Green Line is higher.

**T1. Estimate of Weekly Revenue Lost Due to Fare Evasion**

	Average Weekly Ridership	Low Estimate	High Estimate
Blue	188,761	\$4,662	\$6,456
Green	255,992	\$11,187	\$21,887
Total	444,753	\$15,849	\$28,343

This is likely an overestimate of revenue lost. Given that the average weekly ridership includes passengers that aren't required to show proof-of-payment, multiplying the fare evasion rate by average weekly ridership results in a larger number of total fare evaders than would be true for the entire population.

These fare revenue lost estimates depend largely on the estimates of weekly ridership. If weekly ridership were higher or lower, the estimate of fare revenue lost would reflect those changes. It should not be assumed that ridership is consistent across the entire year, and multiplying the weekly ridership by 52 weeks to get a yearly estimate would be misleading.

Often when transit agencies that operate proof-of-payment systems report their revenue lost due to fare evasion, there are calls for barriers to be put up at stations. However, the very high

---

<sup>3</sup> Transit Cooperative Research Program. "Report 10: Fare Policies, Structures, and Technologies." National Academies Press. Washington, D.C. 1996.



cost of purchasing, installing, and maintaining barriers isn't often worth the return in revenue, especially since barrier systems still face fare evasion. The cost of having a barrier system also usually involves staffing ticket booths on each platform and having other staff available to assist passengers during revenue hours.

In 2009, Los Angeles County's Metropolitan Transportation Authority (LACTMA) began to install turnstiles at some LA Metro stations, and continues to expand the use of barriers across its system. At the time this decision was made, LACMTA's fare evasion rate was 6%, and the agency estimated that it was losing around \$5 million a year, which is much higher than the estimated loss of revenue for Metro Transit presented in this report.<sup>4</sup> While LACTMA believes that the \$46 million investment in barriers will be made back in less than 10 years,<sup>5</sup> that would only be if fare evasion was eliminated by the turnstiles, which has not been shown to be the case 5 years later. Evasion continues to be an issue, even at stations with turnstiles.<sup>6</sup>

### **Additional Analysis**

Audit conducted further analysis for this report by taking a closer look at evasion and compliance among different populations. First, Audit analyzed compliance and evasion among users of the most common fare media types. Audit also analyzed data along the University of Minnesota campus to determine fare evasion and compliance for the population that rides in that specific area, as well as collected additional data about the population of passengers that ride light rail from Park-and-Rides on the Blue Line to special events.

Finally, Audit reviewed the Metro Transit Police Department's fare enforcement policies and strategies.

### ***Compliance by Fare Media Type***

In addition to using a bus transfer or buying a ticket on the platform, passengers use many types of electronic fare media. These can be read on the validators on station platforms and those carried by the Metro Transit Police Department officers when inspecting fares. It is called "tagging" when a passenger puts their electronic pass on a platform validator to pay their fare.

Go-To Cards are bought by passengers and then loaded with money, rides, or a time period. Every time a passenger with a Go-To Card boards a bus or validates on a light rail platform, the fare is deducted from the card, a ride is deducted from their purse, or a pass is validated. The card also registers the transfer period start and end time, which allows the passenger to transfer an unlimited number of times on any mode within 2.5 hours.

---

<sup>4</sup> Progressive Railroading. "L.A. Metro to test turnstile-gate waters at four subway stations." [http://www.progressiverailroading.com/passenger\\_rail/news/LA-Metro-to-test-turnstile-gate-waters-at-four-subway-stations--21115](http://www.progressiverailroading.com/passenger_rail/news/LA-Metro-to-test-turnstile-gate-waters-at-four-subway-stations--21115). August 4, 2009.

<sup>5</sup> The Transport Politic. "Are Turnstiles Worth Their Cost?" <http://www.thetransportpolitic.com/2009/08/17/are-turnstiles-worth-their-cost/>. August 17, 2009.

<sup>6</sup> Linder, Michael. "Metro Fare Jumpers Explain Why and How They Evade Tickets in L.A." LA Weekly. <http://www.laweekly.com/news/metro-fare-jumpers-explain-why-and-how-they-evade-tickets-in-la-video-5128290>. October 8, 2014.

There are several electronic fare media types that are completely pre-paid. That means that when a passenger boards a bus or validates on a light rail platform, his or her use of the pass is acknowledged, but no fare is deducted. The cards themselves hold no money. Metropasses, Student and College Passes, U-Passes, and 31-Day passes (on either a regular Go-To Card or Go-To Lite card) fall into this category.

Audit used the data collected from the probability sampling to determine the levels of compliance and evasion across different commonly used fare media. Tickets, transfers, Go-To Cards, Metropasses, and U-Passes were the most commonly used fare media types.

### ***Tickets and transfers have high compliance***

No transfers observed were outside of their transfer period, and between 99% and 100% of passengers with tickets were compliant.

### ***Go-To Card users are the least likely to tag when transferring***

Audit found that Go-To Card users were more likely than passengers with other electronic fare media to have transferred from a bus to light rail without denoting their transfer by tagging on the platform. Between 16% and 23% of Go-To Card users fail to tag when transferring. Between 3% and 12% of Go-To Card users evade paying their fare by boarding the train without tagging on the platform, or by riding the train after their transfer period ended.

### ***Some pre-paid pass users could have high rates of not tagging at all***

Of the passengers that aren't transferring from a bus, between 4% and 12% of Metropass users and between 10% and 15% of U-Pass users, board light rail without tagging on the platform.

### ***Metropass users have high rates of compliance***

Audit found that that between 85% and 90% of Metropass users are compliant. This range of compliance could be higher than for either of light rail lines overall. Audit also found that between 76% and 86% of U-Pass users are compliant, and between 65% and 78% of Go-To Card users are compliant.

The high rate of non-compliance among Go-To Card holders may be the result of a misunderstanding that if the card has been validated on a bus additional value will be deducted if the card is then validated on a light rail platform, or may result from a misconception that Go-To Card users transferring from a bus don't need to tag on the platform. The potentially high rate of evasion by riding with a Go-To Card outside of the valid transfer period may be the result of Go-To Card users believing that having a Go-To Card, even if it isn't valid, may reduce the likelihood of having a citation written if they are inspected.

The potentially high rate of non-compliance among pre-paid card holders may be the result of a misconception that these cards don't need to be validated on light rail platforms. It may also be the result of users understanding that they are supposed to tag on platforms, but also misunderstanding why tagging is necessary or important, and knowing that MTPD officers will not fine or cite them for not tagging.

## **University of Minnesota Campus**

There was an interest from Metro Transit to better understand how ridership on the Green Line within the University of Minnesota zone impacted fare evasion and compliance rates. During its probability sampling, Audit collected observations on 148 passengers within the University zone.

For many years, University of Minnesota students have been able to purchase a U-Pass for a semester's worth of unlimited rides on Metro Transit. U-Passes can be used on buses and light rail. The cards carry no money, but U-Pass users are supposed to validate their cards when they enter a bus or a light rail platform.

At the beginning of the 2014-2015 school year, with the opening of the Green Line, University faculty, students, and staff were able to obtain a Campus Zone Pass. It is a "flash pass," meaning the holder only needs to show the card in the authorized zone as proof-of-payment, and it cannot be read on a mobile phone validator (MPV) by police officers. The card has the time period during which it is valid printed on the back. The Campus Zone Pass is only for use on the Green Line between the West Bank and Stadium Village stations. If a holder of a Campus Zone Pass is found without another valid fare outside of these stations or on the Blue Line, they would be considered a fare evader. The Campus Zone Pass is not valid on buses.

Audit staff did not encounter anyone attempting to use the Campus Zone pass as proof-of-payment outside of the allowed zone or on the Blue Line. Audit staff attempted to observe where passengers with the Campus Zone pass disembarked, to make sure they weren't riding further than allowed for free. Audit did not document any observations of this kind. Compliance with the Campus Zone pass is estimated from this analysis to be 100%.

### ***Between 77% and 86% of U-Pass users are compliant***

Between 77% and 86% of U-Pass users are compliant. The passengers that were not compliant had either failed to tag on the platform at all, or failed to tag when transferring from a bus. Between 10% and 15% of U-Pass users do not tag their pass on a validator before riding light rail. Between 2% and 8% of U-Pass users transfer from a bus without denoting their transfer by tagging on the light rail platform.

The high rate of U-Pass users not tagging on station platforms may be the result of a misconception that U-Passes don't need to be validated on light rail platforms. It may also be the result of users understanding that they are supposed to tag on platforms, but also misunderstanding why tagging is necessary or important, and knowing that MTPD officers will not fine or cite them for not tagging.

### ***Evasion between West Bank and Stadium Village stations is not higher than other zones along the Green Line***

While Audit was not able to use the analysis of different areas along the line to determine where evasion is the highest, Audit was able to determine that fare evasion between West Bank and Stadium Village stations is not higher than other areas along the Green Line. Therefore, higher evasion on the Green Line is not being driven by students riding light rail to school without paying.

### ***The evasion rate between West Bank and Stadium Village stations is between 0.0% and 4.8%***

Between 0.0% and 4.8% of passengers riding between the West Bank and Stadium Village stations ride without any fare media at all. By comparison, the evasion rate for the Green Line overall is between 4.6% and 9.0%.

Audit encountered a few passengers along the University of Minnesota zone who wanted to show their school I.D. when asked for proof-of-payment, with the belief that being a University student was their authorization to ride the train.

Evasion in this area of the Green Line may be a result of students misunderstanding which transit options around campus are free. For example, Campus Circulator buses are free, and you can board them from any door. Thus, some students might assume that the light rail through campus is also free. This misinformation may be a general misunderstanding, or it may be passed among friends or student groups.

### **Special Events**

There was also an interest from Metro Transit to better understand the evasion rate of passengers using Park-and-Ride stations on the Blue Line to travel to special events.

The Metro Transit Police Department (MTPD) checks proof-of-payment of riders attending football games at TCF Bank Stadium as passengers board trains leaving from Stadium Village Station along the Green Line after a game ends. They do the same as riders attending baseball games at Target Field board trains leaving from Target Field Station. Passengers must have proof-of-payment; otherwise, they are directed to purchase it before being allowed to board. MTPD has also recently begun frequently checking proof-of-payment as passengers disembark when arriving for the start of a special event.

The sampling method used for the analysis of this special event is described in the introductory section of this report. It is important to note that the sampling method employed in this analysis is not the same as that employed to calculate the overall fare evasion rates for the light rail lines. For this special event, Audit did not use probability sampling, therefore the estimate of evasion among this sample cannot tell us what the evasion rate is for the entire population of passengers that use Park-and-Rides along the Blue Line when attending special events. However, it can give us at least a general idea of whether evasion seems to be higher among these passengers.

101 riders were sampled, with one passenger refusing to be surveyed. Of the 100 riders that cooperated, 96 (96%) had compliant fare media. Out of the 100 riders, 62% used a special event pass, 25% purchased tickets, 3% had day passes, 2% had smart cards, 4% used other fare media, and 4% had no fare media (4% evasion rate).

### ***Evasion rates for passengers that use Park-and-Rides to get to special events may be higher than the overall evasion rate for the Blue Line***

Among this specific population, the evasion rate of 4% seems to be higher than for the Blue Line overall (2.5% - 3.5%), but the 96% compliance rate is higher than the sampled compliance rate (80.8% - 84.8%). The 4% rate is also higher than the evasion rate calculated for the weekend on the Blue Line (0% - 2.5%), but compliance is higher than the weekend rate as well (81% - 91.5%).

Therefore, evasion among passengers who use the two specific Park-and-Rides sampled along the Blue Line to travel to Vikings games may be slightly higher than the overall evasion rate for the Blue Line; however these passengers may also be more compliant when they transfer or use electronic fare media.

Passengers that Audit encountered riding without proof-of-payment generally fell into two categories. The first is passengers that expressed confusion about whether they had to pay a fare before riding or confusion about how to pay the fare. For example, two passengers were under the impression that they bought their ticket once on the train. While having ticket booths and on-platform Metro Transit staff at Park-and-Rides allows confused passengers to ask questions and receive assistance, these staff members were gone by 11:00 AM, one hour before kick-off on the day sampled.

The second category of passengers without fare were those that boarded the train, knowing they were supposed to pay the fare first, but not wanting to miss the train that was pulling into the station as they got there. Especially for passengers on the Blue Line that have to transfer to the Green Line to get to the stadium, they may know they can buy a ticket at Downtown East if they are not inspected by police officers before then.

### **MTPD Strategy to Combat Fare Evasion**

The Metro Transit Police Department (MTPD) has a target goal of inspecting the proof-of-payment of 10% of passengers on each line. This inspection rate was developed by MTPD using guidance published by the Transportation Research Board. The target rate was last reviewed 10 years ago when it was established for the Blue Line. It was subsequently adopted as the target inspection rate for the Green Line when it opened in 2014. Inspections performed across the entire system, as well as on the platforms before and after special events, are included in reporting the actual inspection rate.

There is not a one-size-fits-all recommended inspection rate to reduce evasion, according to the Transportation Research Board. In fact, research does not show a clear connection between increased enforcement and lower evasion rates among proof-of-payment transit systems.<sup>7</sup> The

---

<sup>7</sup> p. 3-23

Transportation Research Board advises that any strategy developed to reduce fare evasion should take a holistic approach.

MTPD's Policy 467 for Fare Enforcement states that when an MTPD officer conducting fare inspections encounters a passenger without proof-of-payment, the officer should ask if the passenger understands the fare system or if the passenger has some reason for not having paid the fare. The only example given as a reason not to have valid proof-of-payment is if there was a malfunction with the ticket vending machine. It is the officer's responsibility, according to the way the policy is stated, to determine whether the passenger intentionally avoided fare payment or not. If the officer decides that the passenger did not intentionally evade, the officer is supposed to explain the fare system and issue a verbal warning. The officer may also ask the passenger to exit the train and pay the proper fare at the next stop – or at their final station. If the officer decides that evasion was intentional, a citation should be issued. The policy also details how to proceed with evading passengers that have been written citations previously. There is a section in the policy that discusses documentation. It says officers will "document all incidents on the appropriate Metro Transit Police report form(s) and/or records management system (including patrol logs)." However, the policy does not directly instruct officers to document the name and information of evading passengers that are let off with a verbal warning. There has been a renewed emphasis in the past few years placed on documenting all warnings by reporting the identification and circumstances to dispatch, who can then determine if the passenger has been warned or cited previously.

Observations of officers performing fare inspections on trains indicated that the MTPD policy for fare enforcement was not consistently followed.

Officers receive training on how to perform fare inspections during the regular field training process. They accompany a seasoned officer while performing fare inspections during this training. Currently, MTPD is partnering with Metro Transit Revenue Operations to better train fare enforcement officers on the fare structures and fare policies of Metro Transit. MTPD acknowledges that an officer cannot feel empowered to warn or cite a passenger if she is unsure if evasion has actually occurred.

It is important to note that even though particular officers are responsible for fare enforcement along the light rail lines, fare inspection isn't the only thing they are assigned to do. Fare enforcement officers often work special events at TCF Bank Stadium and Target Field, generally keep the peace along the light rail lines, and serve as ambassadors of Metro Transit and the Council when helping passengers navigate the system. MTPD sees themselves as a part of the Metro Transit mission to help more passengers embrace the brand to increase ridership. Especially with the opening of the Green Line, fare enforcement officers have focused more on education of passengers than on strictly enforcing fare payment. MTPD is now moving more toward enforcement on the Green Line, as passengers have had an opportunity to become acquainted with the system.

# CONCLUSIONS

1. A barrier-free system, like that on the METRO Blue and Green Lines, will always have some level of fare evasion, as well as some level of non-compliance.
2. While it may appear that the evasion rate calculated by Audit is higher than that reported by the Metro Transit Police Department, the estimates are in fact different and therefore it is not possible to compare the two.
3. The fare evasion rate on the Green Line is higher than the Blue Line.
4. The estimated loss of fare revenue, while material, must be compared against the cost of methods for increasing compliance and the incremental gains in fare revenue. Research shows that more enforcement does not necessarily reduce evasion.
5. Non-compliance that is not a result of fare evasion is mostly driven by Go-To Card users not tagging when they transfer from a bus and by pre-paid pass users not tagging on a platform before they board a train.
6. High variances on some estimates make it impossible to come to definite conclusions about whether evasion rates are higher during certain times of day, along certain areas of the lines, or between different directions.
7. The higher fare evasion rate on the Green Line is not the result of high numbers of University of Minnesota students riding light rail to school without paying.
8. Metro Transit Police Department procedures for checking fares before allowing passengers to leave special events greatly decreases potential evasion, however evasion still exists among passengers traveling to events.
9. The targeted 10% fare inspection rate was developed for the Blue Line and has not been revised since that time.
10. A written fare enforcement policy that does not align with what MTPD encourages officers to do, along with the discretion given to officers in determining whether evasion was intentional, may result in inconsistencies in how evading passengers are treated by fare enforcement officers.

# RECOMMENDATIONS

Program Evaluation and Audit recommendations are categorized according to the level of risk they pose for the Council. The categories are:

- **Essential** – Steps must be taken to avoid the emergence of critical risks to the Council or to add great value to the Council and its programs. Essential recommendations are tracked through the Audit Database and status is reported twice annually to the Council’s Audit Committee.
- **Significant** – Adds value to programs or initiatives of the Council, but is not necessary to avoid major control risks or other critical risk exposures. Significant recommendations are also tracked with status reports to the Council’s Audit Committee.
- **Considerations** – Recommendation would be beneficial, but may be subject to being set aside in favor of higher priority activities for the Council, or may require collaboration with another program area or division. Considerations are not tracked or reported. Their implementation is solely at the hands of management.
- **Verbal Recommendation** – An issue was found that bears mentioning, but is not sufficient to constitute a control risk or other repercussions to warrant inclusion in the written report. Verbal recommendations are documented in the file, but are not tracked or reported regularly.

**1. (Essential) Metro Transit and the Metro Transit Police Department should review and potentially revise the current fare enforcement strategy, as well as any related policies and procedures, to ensure that evasion on the Green Line is reduced.**

The evasion rate on the Green Line may fall naturally as passengers become more accustomed to the system and officers are better trained on fare structures and policies. However, Metro Transit and MTPD should work together to review and potentially revise the current fare enforcement strategy in order to ensure that evasion on the Green Line is reduced.

***Management Response:** Metro Transit Police Department policies are drafted and adopted with the guidance of professionals in the area of public safety risk management and changing the current language would be ill-advised. Discretion is an essential component of all enforcement policies ensuring that officers are afforded “qualified immunity” helping to insulate the staff and the Council from undue litigation awards when an officer took an action based on their very best judgment.*

*However, Metro Transit Police have implemented several strategies to enhance inspections or educate officers in order to gain more consistency in the fare inspection process:*

- *Officers assigned to fare inspections have been directed to fully document all warnings including identification data of non-compliant passengers which is then entered into a*



*database which tracks all violators that have received a warning or citation. This information is then made available to officers through dispatch so that they can more readily assess whether a passenger is purposely evading the fare.*

- In 2014, with the assistance of Revenue Operations staff, a full training module was developed for the use of the Mobile Phone Validators (MPVs) for all fare enforcement officers. Also, the training presentation is constantly available on the Transit Police Department's Share Point web page so that officers may review the training at any time. That share point web page is available on any department computer as well as in patrol vehicles.*
- In 2015 Revenue Operations staff has developed another training module on the different fare sets and fare media for transit police officers. This training includes some of the history and background on the fare policy to give officers a better frame of reference to more easily understand exactly what they are looking for when they are engaged in fare inspections.*
- Both of the above training modules have been added to the curriculum for the new officers' recruit academy.*
- Metro Transit Police have been examining ridership/boarding data during peak hours at all Green Line locations to better staff those times/locations in order to suppress fare evasion. We are using the internal statistical data (ridership/boardings/day of week/time of day) to complete a strategic staffing plan.*
- Management agrees with the assertion of the audit staff that fare evasions rates may decrease over time as passengers become more familiar the fare structure, the fare collection system, and the likelihood of having their fare inspected by Metro Transit Police.*

**Staff Responsible:** AJ Olson, Deputy Chief of Police

**Timetable:** December 31, 2015

## **2. (Significant) Metro Transit should educate riders who use electronic fare passes about why tagging on the light rail platforms is important.**

Audit encountered many passengers using electronic fare media who did not understand why tagging on the platform, if they were transferring from a bus or had a pre-paid card, was necessary. Many understood that they would not receive a citation from a police officer if they were found to be non-compliant. In order to increase compliance among passengers using electronic passes, Metro Transit should attempt to find ways to increase knowledge among passengers about why validating these types of passes is important. The point-of-sale for electronic fare media would offer the best opportunity to educate passengers about validating. A process for educating passengers buying U-Passes could be included in negotiations with the University of Minnesota.

**Management Response:** Management is very dedicated to increasing the rate at which Go-To card users tag when boarding light rail, both as an initial boarding and when transferring. In the summer of 2014 Revenue Operations staff dedicated approximately 50 hours, visiting all Green Line stations as well as key Blue Line stations, to continue to personally educate customers on

*the need to tag all Go-To cards. Staff communicated the importance of the ridership information gained through tagging.*

*Revenue Operations staff will work with Marketing in spring 2015 to continue to improve our message to customers on the importance of tagging and determine the best methods to communicate this message. Revenue Operations staff will continue to track Go-To tag rates, with the help of APC data, to determine locations where tagging is lowest. Revenue Operations will provide staffing at these platforms during Q2 in an attempt to increase tagging percentages at these locations through direct contact with customers. Monitoring efforts will continue through 2015 and indefinitely to continuously strive for improvement in tagging rates.*

**Staff Responsible:** *Nicholas Eull, Senior Manager, Revenue Operations*

**Timetable:** *December 31, 2015*

**3. (Consideration) Metro Transit should work with the University of Minnesota to reach out to students concerning fare payment procedures and the availability of U-Passes and Campus Zone Passes.**

While evasion was not necessarily higher along the University of Minnesota campus than along the rest of the Green Line, U-Pass users especially make up a large portion of ridership, and lower evasion and non-compliance among these passengers could make a difference on the Green Line overall.

**Management Response:** *Metro Transit staff spent numerous hours at the University of Minnesota Green Line stations in early September 2014 to educate U-Pass and other riders on fare payment procedures. Metro Transit will continue to work closely with Metro Transit Marketing and University of Minnesota staff to refine the ways in which fare payment procedures are communicated as part of the U-Pass and Campus Pass programs. Metro Transit will determine what additional communications are necessary to improve awareness to fare payment procedures, such as better signage or a more complete U-Pass user packet. In addition Metro Transit will staff U of M platforms at the start of fall 2015 classes to provide hands-on instruction to new and existing University of Minnesota students on fare payment procedures and the need to tag their U-Pass and Campus Pass.*

**Staff Responsible:** *Nicholas Eull, Senior Manager, Revenue Operations*

**Timetable:** *December 31, 2015*

**4. (Consideration) The Metro Transit Police Department should continue inspecting passengers arriving to, as well as departing from, special events.**

Audit found that passengers expect that they will be inspected before boarding to depart from events. As passengers come to expect that a police officer will also ask to see their proof-of-payment before they are allowed to disembark the platform when they arrive for a special event, the evasion rate of passengers traveling to such events should decrease.

**Management Response:** Metro Transit Police have a long standing practice of inspecting the fares of all passengers prior to boarding following large-scale events at Target Field Station, Downtown East Station, and now Stadium Village Station. In 2015 that practice will be expanded to Union Depot Station following events at CHS Field.

In the fall of 2014, on select dates, Metro Transit Police began inspecting all passengers arriving at Stadium Village Station for events at TCF Bank Stadium. In 2015 that practice will be expanded to include more dates at Stadium Village and numerous dates at Target Field Station. We believe that will not only positively impact fare compliance but also enhance post-event operations by encouraging more passengers to purchase round-trip passes reducing the lines at ticket kiosks after the games.

**Staff Responsible:** AJ Olson, Deputy Chief of Police

**Timetable:** December 31, 2015



---

390 Robert Street North  
St Paul, MN 55101-1805

651.602.1000  
TTY 651.291.0904  
[public.info@metc.state.mn.us](mailto:public.info@metc.state.mn.us)  
[metro council.org](http://metro council.org)