



THE CITY OF NEW YORK
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Gene Russianof
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9 Murray Street, 3rd Floor
New York, NY 10007-2272

Dear Mr. Russianof:

Thank you for your letter of August 13 regarding our recent report on the outlook for subway and bus fares if the MTA holds to its recent pattern on fare increases.

Your letter asked that IBO look at how the MTA calculates the average fare and included some specific questions about what types of trips and fares are included in their methodology, and what types are excluded. Alan Treffeisen has prepared the attached document based on information provided by the MTA with answers to each of your questions. He also included a broader discussion and information on differences in the average fare by type of MetroCard.

As always, please feel free to contact us if you have any further questions.

Sincerely,

Ronnie Lowenstein

Response to questions from Straphangers Campaign

1. *How is the average fare calculated?*

It is fare revenue collected (excluding the stored value on pay-per-ride MetroCards which has not yet been used), divided by the number of swipes (excluding swipes of student fare cards and MTA employees' cards). See below for details.

2. *Is it correct that the formula is the total number of non-student trips in a year divided by total fares for the year?*

It is the inverse: fare revenue divided by number of non-student trips (and non-MTA employee trips).

3. *Does "trip" include free trips taken by MTA and NYC Transit employees?*

No those trips (swipes) are not included in the average fare calculations.

4. *Is "fare media liability" treated as fare revenue for the purpose of calculating the average fare per trip? Is NYC Transit able to exclude revenues from student half-fares in making its calculations here?*

Fare media liability, which is the value on already-sold MetroCards that expires during a given year, is excluded from the total fare revenue used to calculate the average fare. Likewise, the stored value on pay-per-ride MetroCards that remains unused at the end of the year is also excluded from the calculations. Both the swipes of student MetroCards and the fares paid by students with half-fare cards are excluded when calculating the average fare.

5. *What is the rate of inflation used in determining the average fare per trip in 1996 dollars?*

To report fare history, NYC Transit uses the CPI for urban consumers in the New York-New Jersey metropolitan area (New York City, Long Island, the southern Hudson Valley, northern New Jersey, Fairfield and part of New Haven Counties in Connecticut, and Pike County in Pennsylvania). The MTA uses an inflation forecast from Global Insight, which is one of the major economic forecasting firms, for projections of future inflation.

6. *Are bus-to-bus transfers treated as linked or unlinked trips for purposes of calculating the average fare per trip? Why are subway trips treated differently than bus trips?*

The average fare that is normally reported by the MTA refers to unlinked trips, so each bus boarding is a separate trip. NYC Transit also estimates an average fare per linked trip (discussed below), and for those calculations a bus-to-bus transfer (as well as a bus-to-subway or a subway-to-bus transfer) would be considered one trip. Subway-to-subway transfers cannot be tracked as linked trips because once a rider enters the subway system,

there is no way to track the transfers between lines. The MTA does come up with some estimates of subway line to subway line transfers for the Federal Transportation Administration, but generally it does not distinguish between linked and unlinked trips within the subway system.

Discussion

The average fare is total subway and bus fare revenue collected, divided by the total number of bus boardings (both local buses and express buses to Manhattan) and entries into the subway system. Revenue from express buses and half-price senior and disabled fares as well as cash fares collected on buses is included in the analysis, as are the associated boardings. Trips using student MetroCards (both full-fare and half-fare) and employee passes are excluded from the total trip count. The revenue from student half-fare trips is similarly excluded from the revenue total. Although express buses and half-price senior and disabled fares trips and revenue are included in the totals used for the average fare calculation, because they represent such a small share of total trips, the average fare is largely determined by the regular fares on subways and local buses.

The “fare media liability” item which appears in the MTA’s financial plans does not enter into the calculation of the average fare. This liability is the value stored on MetroCards that expires during a given year. Likewise, the stored value on MetroCards that remains at the end of the year, and is still valid for travel, is not included in the calculation of the average fare.

Each swipe of a MetroCard is called an “unlinked” trip, so trips that involve transferring between bus and subway or between two bus routes are counted as two unlinked trips, with the second swipe adding to the count of trips but nothing to the total revenue. A trip exclusively within the subway system, even if it requires transferring between lines, is counted as one trip as long as the rider only swipes his or her card once.

There is a separate calculation for the average fare per linked trip, although this number is not widely reported. Determining what constitutes a linked trip is straightforward in the case of pay-per-ride MetroCards: it is the initial paid portion, plus the free transfer. In the case of unlimited-ride MetroCards, calculating the number of linked trips requires more careful analysis. For 2012, the number of linked trips made using unlimited-ride MetroCards was estimated using a detailed analysis of data from October 2011.

According to NYC Transit, the overall average fare in 2012 for linked trips was \$1.96, compared with \$1.65 for unlinked trips. The average fare for linked trips is higher because the subsequent transfers are not counted as additional trips beyond the initial swipe, whereas when measuring unlinked trips, each transfer is counted as an additional trip. In the case of linked trips, dividing total fare revenue by a smaller total number of trips leads to a higher average fare per trip.

The following table summarizes the average fares for linked and unlinked trips for different types of MetroCards. For pay-per-ride MetroCards, the average fare is the amount of value deducted, divided by the total number of swipes. For unlimited-ride cards, the average fare is the price of the card, divided by the number of swipes per card. (Note that over the course of seven days or thirty days, the average fare falls with each additional swipe.)

For holders of both 7-day and 30-day MetroCards, the average fare per linked trip was \$1.80. This compares with an average fare of \$1.42 and \$1.52, respectively, for unlinked trips. The average fare for unlinked trips is slightly higher for purchasers of the 30-day card than the 7-day card because a larger share of the former use their cards almost exclusively for the journey to and from work.

Average Fare per Trip by Fare Type, 2012				
	Swipes per Pass	Average Fare per Swipe (i.e., Unlinked Trip)	Estimated Linked Trips per Pass	Average Fare per Linked Trip
Pay-per-Ride MetroCard		\$1.88		\$2.16
7-day Pass	20.4	1.42	16.1	1.80
30-day Pass	68.6	1.52	57.6	1.80
<u>All fare types</u>		1.65		1.96
SOURCE: Metropolitan Transportation Authority				
<i>Independent Budget Office</i>				