Metro Service Excellence Dashboard

Performance Measure Definitions

Skip to

Last updated July 10, 2023

Metrorail

METRORAIL CUSTOMER ON-TIME PERFORMANCE (MYTRIPTIME)

How is it measured?

Percentage of customer journeys completed on time

How is it calculated?

Number of journeys completed on time ÷ Total number of journeys

What does this mean and why is it key to our strategy?

OTP measures the percentage of customers who complete their journey within the maximum amount of time it should take per WMATA service standards. The maximum time is equal to train run-time + headway (scheduled train frequency) + a set number of minutes to walk between the fare gates and platform. These standards vary by line, time of day, and day of the week. Actual journey time is calculated from the time a customer taps a SmarTrip® card to enter the system, to the time when the SmarTrip® card is tapped to exit.

Rail Customer On-Time Performance (OTP) communicates the reliability of rail service, which is a key driver of customer satisfaction. Factors that can affect OTP include: railcar availability, fare gate availability, elevator and escalator availability, infrastructure conditions, speed restrictions, single-tracking around scheduled track work, railcar delays (e.g., doors), or delays caused by sick passengers.

METRORAIL SERVICE DELIVERED (trips that ran)

How is it measured?

Percentage of service delivered

How is it calculated?

Number of revenue trips delivered ÷ Number of scheduled revenue trips

What does this mean and why is it key to our strategy?

Metrorail service delivered compares the actual number of revenue train trips delivered (i.e., those that ran) versus the scheduled number of revenue train trips over time. It uses “max load points” on each line as its measuring points. Max load points are a pre-determined set of stations where passing trains have the highest passenger loadings.

The measure gauges Metro's “guarantee of service”: whether Metro is providing all the service that was scheduled and committed to. It offers clarity on the relative magnitude of various operational issues on daily rail operation—for example, operator or railcar shortages or incident response strategy. It is an important indicator of transit service quality and productivity. Missed trips (those that are *not* delivered) can negatively impact rail service reliability and can result in longer customer wait times, missed transfers, etc., leading to customer inconvenience and dissatisfaction.

Metrobus

METROBUS ON-TIME PERFORMANCE

How is it measured?

Percentage of bus service delivered on-time

How is it calculated?

Number of timepoints delivered on time based on a window of 2 minutes early and 7 minutes late ÷ Total number of timepoints delivered

“Timepoints” are major stops on a bus route that are used to create bus schedules. Note that this metric only includes service delivered and does not include missed trips.

What does this mean and why is it key to our strategy?

Bus on-time performance (OTP) communicates the reliability of bus service, which is a key driver of customer satisfaction and ridership.

Factors that can affect OTP include: traffic congestion, detours, inclement weather, scheduling, vehicle reliability, operational behavior, or delays caused by the public (crime, protests, medical emergencies, etc.)

METROBUS SERVICE MISSED (trips that did *not* run)

How is it measured?

Percentage of service missed

How is it calculated?

Number of trips missed ÷ Number of scheduled trips

What does this mean and why is it key to our strategy?

Metrobus service missed tells us whether Metro is meeting its level of service that we have committed to our customers through the budget and scheduling process. It is also a key measure of reliability; when trips are missed, customers experience much longer wait times than expected and it reduces the overall confidence in the system. Monitoring whether service was delivered helps Metro understand where there are issues with staffing, planning and scheduling, bus availability and reliability, and service interruptions.

METROBUS PREDICTION AVAILABILITY

How is it measured?

Percentage of predictions available

How is it calculated?

Number of trips with real-time predictions available in GTFS-RT ÷ Number of scheduled trips

What does this mean and why is it key to our strategy?

Prediction availability communicates how likely it is that Metro is using real time location information to generate the predicted arrival times of buses that customers see on BusETA or other third-party trip planning applications. When real time location information is not available, applications will either provide no prediction

information for the bus or substitute the scheduled arrival time. Both of these alternatives are far less reliable than real time data and negatively impact the customer experience through extended wait times and lack of clarity on when their next bus will arrive.

Predictions can be unavailable for two main reasons:

1. Missed Trips: No real time location information was provided because service was cut for the scheduled trip
2. Bus Communication Failure: No real time location information was provided because of a technical issue with the bus. In these cases, service is provided, but customers do not have real time location information to track it.

METROBUS PREDICTION ACCURACY

How is it measured?

Percentage of accurate predictions

How is it calculated?

Number of accurate predictions ÷ Number of predictions

What does this mean and why is it key to our strategy?

Bus Prediction Accuracy measures the quality of Metro's real time arrival prediction data that customers use to plan their trips through BusETA and other third-party trip planning applications. The predictions are compared to the actual time the bus arrived at the stop according to Metro internal records.

Which predictions are evaluated?

To make the measure as customer focused as possible, only the most meaningful predictions are evaluated. Buses begin making predictions well before they begin service on a particular trip and can make predictions for stops hours before they are scheduled to arrive. Customers typically only use prediction information to plan in the very near term and are mostly only looking for the next arrival. To account for this, predictions made well in advance are thrown out, and only predictions made within 30 minutes of the bus's arrival are evaluated.

What is considered accurate?

Bus Prediction Accuracy is measured by comparing the predicted time of arrival to the actual time of arrival. A perfect prediction is when the predicted arrival time and the actual arrival time match exactly, but it is rare for a predicted and actual arrival to match to the second. The goal is not to be perfect, but to provide customers with enough good information so they can effectively plan their trips and are not waiting long periods of time for the bus. Therefore, the measure creates a range of allowable error within which a prediction is considered accurate, and if the prediction falls outside that range, it is considered inaccurate.

The accuracy range follows two key principles:

1. **As the bus gets closer to the stop, predictions should become more accurate.** Errors have greater customer impact when the bus is closer to the stop. Customers are more likely to use these predictions and a two-minute difference has a greater impact if the bus is five minutes away than when the bus is 25 minutes away

2. **A bus arriving before its predicted arrival (Early) is worse than a bus arriving after its predicted arrival (Late).** If customers follow predictions exactly, they will miss their bus if the bus was earlier than its prediction.

Using these principles, Metro uses the following time ranges to determine whether a prediction is accurate. **Prediction Accuracy is the number of predictions that fall within these ranges out of all predictions made (within 30 minutes of a bus's arrival).**

Bus arriving within:	**"Early" threshold** (minutes before predicted arrival)	**"Late" threshold** (minutes after predicted arrival)
0-3 mins	-1 min	1 min
3-6 mins	-1.5 mins	2 mins
6-12 mins	-2.5 mins	3.5 mins
12-30 mins	-4 mins	6 mins

MetroAccess

MetroAccess reports passenger trips. A passenger traveling from an origin to a destination is counted as one passenger trip. Passengers include customers, personal care attendants (PCAs), and companions in accordance with ADA regulations.

METROACCESS ON-TIME PICKUP PERFORMANCE

How is it measured?

Adherence to Schedule

How is it calculated?

Number of vehicle arrivals at the pick-up location within the 30-minute on-time widow ÷ Total stops

What does this mean and why is it key to our strategy?

This measure illustrates how closely MetroAccess adheres to customer pick-up windows on a system-wide basis. MetroAccess customers schedule trips at least one day in advance, and are given a 30-minute pick-up window. MetroAccess on-time pick-up performance is essential to delivering quality service to the customer.

Elevators and Escalators

ELEVATOR / ESCALATOR AVAILABILITY

How is it measured?

In-service percentage

How is it defined?

Hours in service ÷ Operating hours

Hours in service = Operating hours - Hours out of service

Operating hours = Operating hours per unit x number of units

What does this mean and why is it key to our strategy?

Availability is the percentage of time that Metrorail escalators or elevators in stations and parking garages are in service during operating hours.

Elevator/escalator availability is a key component of customer satisfaction with Metrorail service. This measure communicates system-wide elevator and escalator performance (at all stations over the course of the day) and will vary from an individual customer's experience.

Customers access Metrorail stations via escalators to the train platform, while elevators provide an accessible path of travel for persons with disabilities, seniors, customers with strollers, and travelers carrying luggage.

An out-of-service escalator requires walking up or down a stopped escalator, which can add to travel time and may make stations inaccessible to some customers. When an elevator is out of service, Metro is required to provide alternative services which may include shuttle bus service to another station.