2024

System-Wide Passenger Survey Report

Report prepared by The Office of Performance Management and Innovation in Spring 2025

OPMI

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Executive Summary

The Massachusetts Bay Transportation Authority (MBTA) regularly surveys our riders to understand who rides the bus, subway or light rail, Commuter Rail, and the ferry. The MBTA's rolling System-Wide Passenger Survey, often referred to as the "Rider Census," represents the diversity of people who ride MBTA services and is an important tool in planning for bus, rail, and ferry services in the Greater Boston region. In 2022, the MBTA initiated an annual survey to collect information about who is using the transit system and which services they rely on. The MBTA is required to collect this information by the Federal Transit Administration (FTA) to ensure that the changes to the system, service, and fares equally benefit people, regardless of their income levels or race and ethnicity. In addition to ensuring equity in transit, the MBTA uses results from the rolling Rider Census to understand how people move through the system to better plan improvements. This report marks the third year of annual survey results and offers data from the last three years as a single, pooled dataset with more station- and route-level disaggregation than previous releases. Data is collected annually from spring through late fall, and data will typically be available mid-spring of the following year. The documentation included on this page represents the most current data publication and provides context and guidance to understand and use the rolling Rider Census data. The technical documentation may assist those who are looking to more deeply understand the data calculation and aggregation process. The data is available for download on the MBTA Open Data Portal.

Survey Background

Pursuant to Title VI of the Civil Rights Act of 1964 and in line with guidance from the Federal Transit Administration (FTA) circular FTA C 4702.1B, the MBTA must conduct regular evaluations of our system to ensure equity across income levels and race and ethnicity demographics. Additionally, major changes in service or fares must be evaluated to ensure they do not disproportionately impact populations protected on the basis of race or ethnicity, or disparately burden lower income riders (see the MBTA Service and Fare Change Equity Policy for details).

Previous versions of the Rider Census, conducted once every five years, reflected point-in-time snapshots of rider demographics; the last such survey was conducted in 2016. As of 2022, the MBTA conducts an ongoing, or "rolling," Rider Census, which collects data annually from a smaller sample of riders across the T. This shift to more frequent data collection allows for a more accurate understanding of who travels on bus, rail, and ferry services. For example, a rolling survey format allows riders of new services to be counted sooner, which enables the MBTA to include riders of new services – like the East Boston Ferry (opened 2022) or the Medford Branch of the Green Line Extension (opened 2023) – in its planning and analysis, rather than having to wait up to five years to survey riders of new services. In addition to Title VI equity analyses, the results of the Rider Census are used across the T in capital planning, service planning, fare policy, and public outreach planning. Among other benefits, this survey model means that pilot programs can be evaluated using demographic data collected through a methodologically consistent effort.

Methods: Data

To ensure that the MBTA surveyors talk to a sample of transit riders that accurately reflects the people riding specific services and traveling between specific stops or stations, the rolling Rider Census research team developed a sampling plan that allows for accurate representation of the system every five years. This means that, during the first five years of the new rolling Rider Census data may be summarized at a more aggregate level than that of previous system-wide surveys. With each additional year of data collection, the MBTA will be able to share more granular data, specific to individual routes and stations.

Detailed information about the rolling Rider Census sampling plan and response weighting may be found in Chapters 2 and 3 of the technical documentation, respectively. The rolling Rider Census sampling plan was constructed to allow reporting at a similar level of aggregation to 2015-17 by the end of the first five years of data collection. This means that the collection of rolling Rider Census data collected through calendar year 2026 will provide data aggregated at a similar level as the 2016 Rider Census data release. Prior to the 2026 data release, survey data will be publicly available at a higher level of aggregation than in years past. Specific aggregation by service mode is as follows:

- Heavy rail (Blue, Orange, and Red lines) will generally be reported by station or small group of stations
- Light rail (Green and Mattapan lines) will generally be reported by station or small group of stations for the Green Line, and the Mattapan Trolley will be reported for the whole branch
- Bus will be reported individually or in small groups for high-ridership routes and in larger geographic groups for moderate and low-ridership routes
- Ferry data will be reported in one group, consisting of all routes
- Commuter Rail reporting is aggregated to the individual line

Responses to the rolling Rider Census survey are weighted by both ridership (how many people ride that particular service) and transfer rate (how many people make similar transfers as reported in the survey). This ensures that conclusions drawn from survey data are as representative as possible of overall MBTA ridership. It is important to note that all survey research and data collection is exposed to some level of bias and error. The MBTA acknowledges that sampling bias may have been introduced by a series of factors, including but not limited to:

- Primarily weekday only surveying, between 6:00AM and 8:00PM
- The need to prioritize high-ridership locations in order to meet minimum response requirements for statistical validity of reporting
- Limited range of languages available (12)
- Survey respondents' potential lack of awareness of available languages

Survey Findings

Findings remain relatively stable over time; see Chapter 4 for detailed presentation of findings. The three-year pooled dataset from indicates that 56% of riders system-wide self-identified as women, with women comprising the majority of riders for every service mode as well, ranging from 50% of riders on ferry service and Mattapan Trolley to 58% of riders on Green Line service. At the system level, 62% of riders surveyed self-identified as being part of class protected on the basis of race or ethnicity, consistent with findings from previous years.

One key methodological change from the past year impacted the income categorizations. The MBTA now collects income data based on household size and characterizes riders as "low-income" based on 80% of the Area Median Income (AMI) according to household size response. The 80% threshold remains consistent with the change to the MBTA Service and Fare Change Equity Policy to raise the "low-income" threshold from 60% of the Area Median Income (AMI) to 80% AMI in Spring 2023. Detailed information about rider demographics may be found in the technical documentation or the interactive web tool.

Next Steps

We expect to repeat this data collection and release cycle on an annual basis. Rider surveying for calendar year 2025 will result in a public data release in spring 2026. If you have any questions or comments, please reach out at opmi@mbta.com.

Background

1.1 Objectives and Reasons for Conducting the System-Wide Survey

The Federal Transit Administration (FTA) Title VI Circular (C 4702.1B) requires large transit providers to collect demographic, travel, and fare payment data about their riders using passenger surveys at least every five years. In addition, results of past MBTA passenger surveys have provided essential data to many different users, including the MBTA, Central Transportation Planning Staff (CTPS), consultants, other transportation agencies, academic researchers, and members of the public. The results of the Rider Census are used not just in Title VI analysis (as mandated by the Federal Transit Administration), but across the T in capital planning, service planning, fare policy, and public outreach planning. This survey tends to be our broadest survey effort with the largest sample size, including riders from every single fixed-route mode, so questions beyond demography are included to be used in analysis across the T; for example, to understand station access or to assess differences in fare product usage across modes.

1.2 Changes to the Methodology

2024 marked the third year of data collection under the new rolling Rider Census model. Ongoing, annual surveying allows the T to have a consistently fresher, more accurate understanding of who uses its system. The sampling and publishing plan allows for annual publication of meaningful data within months of the end of the year and, importantly, allows for more responsiveness in survey methodologies. If a new service comes online or significant changes are made to an existing service, the survey team can adjust the sampling plan to collect demographic data that reflects these changes. With a traditional census, it would take up to five years for data to reflect these changes, which limits understanding of rider makeup.

To provide statistically adequate data at the level of individual rail stations or bus routes, we pool data from multiple years of the rolling survey, similar to the U.S. Census Bureau's American Community Survey 3- and 5-year pooled datasets. Consequently, 2023 and 2024 data releases of the system-wide survey do not show change in passenger demographics from year to year, but rather show an aggregate of demographic data from 2022 through 2024 that allows us to report on distinct services for which we could not collect a large enough sample size in a single year.

As resources allow, we seek to better understand the shape of bias in our sampling schedule. To that end, in 2024, we adjusted the sampling plan in three ways to help us continue to adjust our process:

1. Extended all survey days by two hours, from 7:00AM - 7:00PM to 6:00AM - 8:00PM
2. Oversampled three bus routes (47, 1, 39) throughout their length to assess the extent to which rider patterns change across the span of a route
3. Collect weekend data at one heavy rail station (Orange Line - Sullivan Square) to understand how weekend ridership demographics compare to weekday demographics, and to generate a cost estimate for weekend surveying

1.3 Survey Content

The survey distributed at stops and stations for all modes – subway, bus, Commuter Rail, and ferry – included the same set of questions pertaining to a respondent's demographic information and most recent trip on the MBTA.

The survey was designed to obtain the following kinds of information:

- Demographic characteristics, including: race, ethnicity, English proficiency, gender, age, and household income
- Non-English languages used at work or home
- Number of usable vehicles in household and vehicles per capita in household
- Trip purpose
- Origin/destination locations
- Modes of access and egress
- Fare and fare payment method
- Frequency of making the reported trip using the MBTA
- Other characteristics as required for federal reporting

The survey was exclusively distributed via an intercept-based tablet survey, meaning surveyors talked with riders on the system and asked riders to complete the survey on a provided tablet. In addition to English, survey forms were available in Arabic, traditional Chinese, simplified Chinese, Cape Verdean Creole, French, Italian, Haitian Creole, Portuguese, Russian, Spanish, and Vietnamese. A paper version of the survey in English, Spanish, and simplified Chinese was available upon request. Just over 1% of surveys (1.1%) were completed in the non-English versions, a slight decrease from last year. The most common language, other than English, was Spanish (1% of responses). The other languages riders responded in were Portuguese, French, Haitian Creole, and Chinese (simplified).

The tablet-based distribution method enabled translation into more languages than a paper-based method. It also allowed for respondents who did not feel comfortable taking the survey digitally to have a surveyor input their responses, provided the respondent spoke English or another language spoken by a surveyor on-site. Information about survey language availability was provided in each of the 12 available languages on the back of the tablets.

Sampling Plan

This section describes our data collection in preparation for the CY24 Rider Census demographic data release. This document summarizes the reporting groups for the CY24 release, the initial sampling plan, and changes to the sampling plan made in response to events impacting response collection, including the fare-free Blue Line service during the Sumner Tunnel closure.

2.1 Reporting Groups

The five-year reporting groups (i.e., groups for which data will be available after 2026) for all modes were constructed to be comparable to reporting groups from the previous Rider Census (2015-2017). The purpose of creating these groups prior to data collection was to ensure that sufficient data is collected each year to eventually meet independent reporting response requirements.

Stations (for the rail system) or routes (for the bus and ferry systems) were grouped into three ridership categories for purposes of creating five-year and one-year reporting groups. These ridership categories were initially developed based on 2021 ridership values but are subject to change based on observed overall changes in MBTA ridership. Services were classified as: low-ridership if they had fewer than 800 average weekday boardings; moderate-ridership if they had between 800 and 3,500 average weekday boardings; and high-ridership if they had over 3,500 average weekday boardings.

The sampling plan was constructed in order to report high-ridership services independently after the first year of data collection and moderate- and high-ridership services independently after the fifth year of data collection. However, based on higher response rates than anticipated, we are able to release all data at its final aggregation level.

The exact method for construction of these groups depends on mode. Bus groupings used fare transaction data to calculate the proportion of riders on each route who also used other routes in the system and grouped routes likely to be used by the same riders. Light rail groupings used historical demographics to minimize demographic variation within each reporting group.

2.2 Initial Sampling Plan (2024 data collection)

Due to resource constraints, the sampling year was truncated to July through December, instead of the typical April through December.

Using the reporting groups as defined above, response targets, or the number of survey responses required, were set for each station and route in order to collect enough data to report demographics for a single reporting group. These response targets were then translated to survey location targets, or the number of responses needed at a specific survey site. This process was done slightly differently for each mode. For the heavy rail system, ridership is high enough to allow for reporting at the station level with a single year of data, so the response target for each station matched the survey location target. Due to relatively low ridership at outlying Commuter Rail and light rail stations, survey efforts were

focused on downtown stations for these modes in 2022, and surveying expanded outward along each line in 2023 to supplement continued downtown surveying. In 2024, we focused on collecting data to allow reporting at the individual station level.

The process of translating total response targets to site-specific surveying targets was most complex for bus services. Stop-level ridership was evaluated in conjunction with the proportion of riders traveling somewhere other than a station busway (to prioritize riders that were unlikely to be encountered during surveying of other modes), stop amenities, and whether a stop was likely to have riders that differ significantly from other stops being surveyed.

Route-level targets were then proportionally assigned to stops selected by this process. Then, the process was iterated, considering factors such as the number of locations selected for each route. Selecting more locations per route leads to a more balanced sample, but there is an upper limit for number of locations that are reasonable to survey.

2.3 Changes to Sampling Plan

Detailed sampling plans for light rail, bus, Commuter Rail, and ferry were created after the heavy rail system had been surveyed. Accordingly, response targets for these modes were adjusted downwards based on the number of responses on these modes that had been collected during the heavy rail survey effort.

Student ridership during the summer months is different from that during the school year for certain routes and stops in the City of Boston, reflecting lower overall travel and travel more evenly spread throughout the day, day of week, and geographic location within the system. Therefore, a restriction was placed on sampling at heavy rail, light rail, and bus locations in the City of Boston during the summer months.

As the MBTA continues to conduct major rail maintenance efforts, the sampling plan changes throughout the year to account for multi-day or multi-week shutdowns of rail service. The method for sampling plan revision consists of avoiding stations directly impacted by the diversions, as the percentage of riders who opt to use the shuttle buses replacing rail service is relatively low. Where bus routes intersect with the diverted line (or otherwise have high rates of transfer to the diverted service), efforts are made to limit the amount of data collected on these routes and instead focus efforts on routes that are less impacted by the shutdown. The expected level of impact is determined by looking at the percent of riders on each bus route (based on fare transaction data) who also took the diverted line over a given time period. Routes and bus stops with lower proportions of riders on the diverted line were prioritized during the shutdown.

After visiting each survey location for the originally planned number of surveyor-days, the Rider Census team made weekly schedules based on gaps in the initial round of data collection. These schedules were based on the number of responses collected initially and the quality of those responses.

Survey Weighting

3.1 Introduction and Reasons for Weighting

Survey responses were weighted to ensure that reported values are as representative as possible. Riders of certain services were intercepted at different rates than riders of other services. To reach a statistically valid sample size for a high-ridership service, it is not necessary to intercept the same proportion of riders as would be necessary on a lower ridership service. In addition, variation in response rate between services results in different numbers of responses, even given the same number of surveyor-days spent at a particular location. These reasons necessitate weighting the survey responses by ridership, which enables the calculation of mode- and system-wide demographics in addition to the calculation of specific reporting group demographics.

The survey distribution has an unavoidable bias towards interacting with transferring riders. This is because riders of a particular service might be intercepted while at a boarding location not associated with that service. For example, riders of the 1 bus were specifically targeted at several boarding locations for that service, including Nubian Square, Hynes Convention Center, and Central Square. However, those riders might also be intercepted while at a location not directly served by the 1 bus. For example, a rider who boarded the 1 bus at Central Square, transferred to the Orange Line at Massachusetts Avenue, then transferred to the Blue Line at State might be intercepted at Central Square, Massachusetts Avenue, or the Blue or Orange Line platforms at State. However, a similar rider that made a one-segment trip from Central Square to Washington Street could only be intercepted by a surveyor who happened to be at those locations. For this reason, survey responses were also weighted by the transfer rate on each service.

Each survey response contained information on a recent trip taken by the respondent. This information was used to assign respondents to one or more MBTA services. Each respondent's reported trip was reversed in order to assign their demographics to both boarding and exit stations for the rail system. Then ridership and transfer weights were assigned to each reported or reversed segment. Following that, weighted counts for each measure were summed to the reporting group level. Then, these reporting group totals were summed to report demographics at the mode and system-wide levels.

3.2 Calculation of Ridership Weights

Surveys were conducted on weekdays. A small proportion of trips (less than 1%) were self-reported as weekend trips. These weekend trips were included in calculations, but due to their relative infrequency, values were weighted using average weekday unlinked passenger trips for 2023 as the measure of ridership. Values should therefore be interpreted as corresponding to weekday demographics. Data source varies by mode depending on what is most reliable and available for the given mode. Certain time periods are excluded from the calculations for all modes. This is done if service is different enough from typically operated service such that either: 1) ridership patterns were sufficiently disrupted across modes; or 2) automated data collection was not generally reliable for that time period. Certain time periods are excluded for individual modes if service was disrupted on that mode but unlikely to affect typical behavior on other modes.

Table 1 Aggregation Levels

Mode	Aggregation Level	Examples
Heavy Rail	Line - Station	Red Line - Downtown Crossing; Orange Line - Stony Brook
Light Rail	Line - Stop	Mattapan Trolley - Capen Street; Green Line - Arlington
Silver Line	Route	SL1
Bus	Route	111
Commuter Rail	Line	Haverhill Line

Calculation of Heavy Rail and Green Line Ridership

Heavy rail and Green Line ridership data comes from the MBTA Origin-Destination-Transfer (ODX) model outputs. This model processes many of our automated data feeds including Automated Fare Collection (AFC), Automatic Passenger Counters (APC), and Automatic Vehicle Location (AVL) data. Using these sources, the model estimates passenger transfers within the transit system. Summaries of these movements provide counts of total boardings at specific locations on specific routes.

Boarding values at each heavy rail and Green Line station were averaged across weekdays in 2024, excluding dates on which significant disruptions affected ridership or the automated data collection process. Green Line boardings within the central subway were assigned to stations, rather than assigned to each branch at that station. For example, at Arlington all boardings are grouped together, instead of separating the boardings out to the B, C, D, and E branches.

Calculation of Mattapan Trolley Ridership

Ridership data estimates on the Mattapan Trolley are based on manual counts. Because Mattapan Trolley vehicles are not equipped with APCs, ODX is less reliable for calculating ridership on this service, so manual counts provide the best source for ridership. Manual counts were last conducted in 2023.

Calculation of Bus and Silver Line Ridership

Bus and Silver Line ridership was derived from APC-based weekday average boardings by route. The initial dataset was available at the week level. Weeks during significant service disruptions were excluded and weekday averages were calculated for the year. Data for contracted routes operating in Winthrop (712 and 713) are calculated separately from other routes. These data are also APC-based, but come from a different source. Winthrop route data is only available at the month level, so specific dates for these routes cannot be excluded.

Calculation of Commuter Rail Ridership

Commuter Rail ridership was not available at the stop level. Line-level daily ridership estimates are prepared by Keolis, the operator for MBTA Commuter Rail seervice. Excluding dates covering significant service disruptions, weekday averages were calculated for the year.

Calculation of Ferry Ridership

Monthly ferry ridership was summarized to create a weekday average count of boardings by line.

3.3 Calculation of Transfer Weights

Transfer weights were derived from two main sources: ODX data and the survey results themselves. Because ODX can only be run for modes using the AFC system, it was not possible to calculate transfer rates using ODX for Commuter Rail, ferry, or free bus routes (i.e., the 23, 28, and 29). In addition, ODX-based transfer rates would not account for riders making a transfer from an AFC mode to a non-AFC mode (such as a Red Line to Commuter Rail trip). Therefore, ODX-based transfer rates were calculated when possible, then adjusted to account for the proportion of riders making such transfers. The following section explains how transfer rates were calculated for each mode. It is split by whether the ODX-based transfer rate was used (with adjustments) or if transfer rates were calculated using survey results themselves.

ODX-Based Transfer Rate

Transfer rates were calculated using ODX and then adjusted for heavy rail, gated light rail stations, and bus (excluding free routes). The calculation has two parts. First, the percent of boardings that were or were not part of a multiride trip was calculated for each route-stop pair. Second, this daily value was averaged over the year to result in a single weekday average for every route and stop. Two adjustments then needed to be made. The first adjustment is needed because ODX is better able to impute trip information for transferring riders, so an assessment of the difference between the ODX-based transfer rate and transfer rate based on Rider Census data was conducted for each mode. ODX-based rates differed from Rider Census-based rates for bus. So, a single correction factor was applied to ODX-based rates to adjust for this bias. The second adjustment is needed because ODX-based rates do not account for transfers to modes not on the AFC system. A second correction factor was developed at the stop level for rapid transit and the route level for bus. This correction factor added the percentage of boardings occurring on that route that transferred to a service not in the AFC system and did not also transfer to an AFC service to each stop or route's initial value.

Non-ODX Based Transfer Rate

Transfer rates for ungated light rail stations, free bus routes, Commuter Rail, and ferry were not calculable from ODX data. For these services, the transfer rates on reported trips for responses collected at boarding locations specific to the service were used. For example, transferring Franklin Line riders are likely overrepresented in the initial survey because they might be intercepted elsewhere on the system. However, transferring Franklin Line riders that were intercepted at a Franklin Line boarding location are not likely to be overrepresented. So, transfer rates were calculated for non-ODX modes based on responses collected at boarding locations specific to those modes.

Key Findings

4.1 Overview

The truncated 2024 year of data collection for the System-Wide Passenger Survey generated nearly 8,000 completed responses. The complete data release is available for use on the MBTA Open Data Portal, and an interactive data explorer tool can be found at mbta.com/ridercensus. Please note that percentages may not add to 100% due to rounding. Any changes in percentages are characterizing how the 2022-2023 pooled data publication changed with the addition of the CY24 survey responses. Due to changes in data processing from some responses, there may be some additional discrepancies from the 2022-2023 pooled responses.

4.2 Demographics

Age

According to the Rider Census results, 62% of riders are between 18 and 34 years old. Continuing prior trends, riders on the Green Line tend to be younger and riders on the ferry lines tend to be older than the system overall. 35% of Green Line riders are between the ages of 18 and 25, compared to 27% system-wide. Ferry riders are primarily between the ages of 35 and 44 (35%) and the ages of 45 and 64 (30%), with those two age groups represented in much higher proportions than the overall system (22% and 11%, respectively). See Table 2 for more information.

Table 2 Percent of Riders by Age and Service Mode

Mode	Under 18	18 to 25	26 to 34	35 to 44	45 to 64	65 or older
System-Wide	**4%**	**27%**	**35%**	**22%**	**11%**	**2%**
Rapid Transit or Bus Rapid Transit	3%	29%	36%	21%	9%	2%
Blue Line	3%	22%	39%	23%	10%	3%
Green Line	1%	35%	37%	19%	6%	2%
Orange Line	4%	26%	35%	22%	11%	2%
Red Line	3%	29%	35%	21%	10%	2%
Mattapan Trolley	6%	23%	35%	23%	12%	2%
Silver Line BRT	2%	22%	39%	26%	11%	1%
Commuter Rail	2%	24%	32%	26%	13%	3%
Bus	6%	25%	33%	21%	12%	2%
Ferry	1%	8%	21%	35%	30%	4%

Gender

Riders self-identifying as female continue to make up the majority of all passengers on the system. 56% of passengers self-identified as female, 42% as male, and 1% as non-binary, which is consistent with the previous data. Additionally, riders self-identifying as female make up the majority of ridership on each individual mode within the system, except for the Mattapan Trolley which has a near equal split of riders self-identifying as female and male. See Table 3 for more information.

Table 3 Percent of Riders by Gender and Service Mode

Mode	Female	Male	Non-Binary	Other	Prefer not to say
System-Wide	**56%**	**42%**	**1%**	**< 1%**	**< 1%**
Rapid Transit or Bus Rapid Transit	57%	41%	1%	< 1%	< 1%
Blue Line	56%	42%	1%	< 1%	< 1%
Green Line	58%	39%	2%	< 1%	< 1%
Orange Line	57%	41%	1%	< 1%	< 1%
Red Line	56%	42%	1%	< 1%	< 1%
Mattapan Trolley	49%	51%	0%	0%	0%
Silver Line BRT	52%	46%	1%	0%	< 1%
Commuter Rail	51%	47%	1%	< 1%	< 1%
Bus	56%	42%	1%	< 1%	< 1%
Ferry	50%	49%	< 1%	0%	0%

Annual Household Income

Household income brackets used in this survey are calculated as a percentage of Area Median Income (AMI) available through the U.S. Census Bureau's American Community Survey (ACS) five-year datasets, and are updated each year using the latest available ACS dataset. In addition to the annual update of the AMI value used, in CY23 the MBTA's Service and Fare Change Equity Policy was updated and changed the cutoff for a rider to be considered "low-income" from 60% of the AMI in the MBTA service area to 80% of the AMI in the MBTA service area. In CY24, the survey began to collect income data based to household size, in accordance with standard methodologies used for other income evaluations, like the Federal Poverty Limit definition used in the new low-income fare program.

The AMI for CY24 ranged from $46,000 to $165,000 depending on household size, while the low-income threshold ranged between $37,000 to $132,000 (Table 4). For the CY23 data release, the service area AMI was $102,000, and the low-income threshold was $81,000 (irrespective of household size).

78% of riders system-wide self-identified as low-income in the current Rider Census, an increase from the 2022-2023 pooled data (75%). There was an increase in the proportion of riders self-identifying as low-income across all modes from the previous publication. Only ferry service had a majority of passengers who did not self-identify as low income (45%), but still saw an increase from 36%. See Table 5 for more details.

Table 4 Average Household Income Thresholds by Household Size, and Low-Income Thresholds (80% AMI) by Household Size (2024)

Household Size	80% AMI	100% AMI
1	$37,000	$46,000
2	$89,000	$111,000
3	$110,000	$137,000
4	$130,000	$163,000
5	$132,000	$165,000
6	$130,000	$163,000
7+	$130,000	$163,000

Table 5 Percent of Riders Self-Identifying as Low-Income by Service Mode

Mode	Yes
System-Wide	**78%**
Rapid Transit or Bus Rapid Transit	76%
Blue Line	82%
Green Line	78%
Orange Line	76%
Red Line	73%
Mattapan Trolley	91%
Silver Line BRT	72%
Commuter Rail	68%
Bus	84%
Ferry	45%

Table 6 Percent of Riders Self-Identifying as Minority by Service Mode

Mode	Yes
System-Wide	**61%**
Rapid Transit or Bus Rapid Transit	58%
Blue Line	64%
Green Line	53%
Orange Line	64%
Red Line	59%
Mattapan Trolley	76%
Silver Line BRT	59%
Commuter Rail	50%
Bus	70%
Ferry	27%

Populations Protected on the Basis of Race or Ethnicity

The MBTA Service and Fare Change Equity Policy defines Populations Protected in the Basis of Race or Ethnicity as people who self-identify as a race other than white or who self-identify as Hispanic or Latine. System-wide, 61% of respondents were classified as protected on the basis of race or ethnicity based on responses to questions pertaining to race and ethnicity, consistent with last publication. The proportion of riders self-identifying as a race other than white or self-identifying as Hispanic or Latine increased or remained level for all modes except Silver Line. See Table 6 for more details.

52% of respondents self-identified as a race other than white, and 3% of respondents preferred not to self-identify their race. System-wide, respondents self-identifying as a race other than white made up the majority of riders on Orange Line, Mattapan Trolley, and bus services. The Mattapan Trolley was the only service where the majority of respondents self-identified as Black or African American. See Table 7 for more details.

Table 7 Proportion of Self-Identified Race and Ethnicity by Service Mode

Mode	American Indian or Alaska Native	Asian	Black or African American	Middle Eastern or North African	Native Hawaiian or other Pacific Islander	White	Other	Prefer not to say
System-Wide	**2%**	**13%**	**26%**	**3%**	**0%**	**51%**	**8%**	**3%**
Rapid Transit or Bus Rapid Transit	2%	15%	21%	3%	1%	53%	8%	3%
Blue Line	3%	8%	15%	4%	0%	57%	14%	7%
Green Line	2%	16%	16%	3%	1%	59%	6%	2%
Orange Line	2%	14%	26%	3%	0%	47%	10%	4%
Red Line	1%	16%	25%	3%	0%	50%	7%	3%
Mattapan Trolley	1%	4%	61%	2%	0%	29%	7%	2%
Silver Line BRT	2%	13%	20%	2%	1%	59%	8%	3%
Commuter Rail	1%	11%	23%	3%	0%	58%	7%	3%
Bus	3%	12%	35%	3%	0%	43%	8%	3%
Ferry	3%	5%	9%	2%	0%	81%	4%	1%

Vehicles per Household

Overall, 42% of respondents said their household does not own a vehicle, consistent with the previous pooled dataset. The most common response across all rapid transit and bus modes is riders reporting coming from zero car households.

Table 8 Vehicles per Household Percentages by Service Mode

Mode	None	Between 0 and 0.5	Between 0.5 and 1	1 or more	Other*
System-Wide	**42%**	**29%**	**3%**	**7%**	**17%**
Rapid Transit or Bus Rapid Transit	43%	28%	3%	8%	17%
Blue Line	47%	29%	2%	7%	16%
Green Line	44%	28%	4%	8%	18%
Orange Line	42%	29%	3%	9%	18%
Red Line	42%	26%	4%	9%	18%
Mattapan Trolley	49%	32%	3%	4%	0%
Silver Line BRT	42%	24%	4%	12%	17%
Commuter Rail	24%	30%	5%	12%	26%
Bus	46%	32%	2%	4%	14%

4.3 Trip Purpose

Trip purpose was determined by the answers to the questions "Where did this trip start?" and "Where did this trip end?" Trips that started or ended at home were classified as home-based trips, with the trip purpose determined by the type of place at the non-home end of their trip. Trips that neither started nor ended at home were classified as non-home-based trips.

Trip Purpose and Frequency by Service Mode

Overall, trip purpose remained mostly unchanged from prior years. System-wide, 90% of trips were home-based, consistent with previous years. However, there was a shift in home-based social trips, increasing by 4 percentage points from the previous data publication. This increase in home-based social trips was visible across all modes except the Silver Line which remained the same for home-based social and instead saw an increase in home-based work trips from 50% last publication to 63% in the most recent pooled dataset. See Table 9 for more information.

The most common reported trip frequency type are trips that occur five days per week (41%), consistent with previous data. The largest change was seen in the six to seven days per week response, with only 5% of trips surveyed happening with that frequency, down from 10% in CY22 and 7% in CY23 pooled data. See Table 10 for more information.

Table 9 Trip Purpose by Service Mode

Mode	Home-based Work	Home-based School	Home-based Social Activity	Home-based Other	Non-home Based
System-Wide	**54%**	**10%**	**13%**	**15%**	**8%**
Rapid Transit or Bus Rapid Transit	53%	11%	13%	14%	8%
Blue Line	60%	6%	10%	15%	8%
Green Line	50%	15%	15%	13%	7%
Orange Line	55%	10%	11%	15%	8%
Red Line	52%	10%	13%	14%	10%
Mattapan Trolley	53%	9%	13%	21%	4%
Silver Line BRT	63%	3%	5%	18%	11%
Commuter Rail	53%	10%	17%	15%	6%
Bus	55%	9%	11%	17%	7%
Ferry	53%	1%	25%	14%	7%

Table 10 Trip Frequency by Service Mode

Mode	6 to 7 days per week	5 days per week	3 to 4 days per week	1 to 2 days per week	1 to 3 days per month	Less than once per month
System-Wide	**5%**	**40%**	**24%**	**13%**	**9%**	**10%**
Rapid Transit or Bus Rapid Transit	5%	40%	25%	12%	9%	10%
Blue Line	6%	44%	23%	8%	8%	11%
Green Line	3%	39%	28%	15%	8%	8%
Orange Line	6%	42%	22%	10%	10%	10%
Red Line	5%	39%	24%	12%	10%	11%
Mattapan Trolley	4%	38%	23%	14%	16%	6%
Silver Line BRT	4%	34%	31%	6%	6%	18%
Commuter Rail	2%	33%	22%	15%	12%	16%
Bus	6%	43%	23%	13%	8%	7%
Ferry	2%	36%	17%	19%	10%	17%

4.4 Language

Information about language usage of survey respondents was determined through both the languages in which the survey was completed and a question on the survey that asked respondents which language they would prefer to receive information about the MBTA in. Nearly all surveys were completed in English. See Tables 11 and 12.

Table 11 Survey Responses by Language

Language	Number of Survey Responses
English	7,753
Spanish	77
Portuguese	4
Chinese (Simplified)	5
French	3
Haitian Creole	1
Russian	0
Chinese (Traditional)	0
Vietnamese	0
Arabic	0
Italian	0

Table 12 Languages Other Than English Spoken at Home or Work

Language	Percent of Unweighted Responses
Spanish	2%
Chinese	<1%
French	<1%
Portuguese	<1%
Arabic	0%

4.5 Alternate Means of Travel

Of riders who reported use of an alternative service to make the same trip surveyed, the most common alternative reported was taxi or ridershare company (35%, up from 27% in the previous pooled dataset). Taxi or ridershare replaced a different MBTA service as the most common response, which dropped to 29%. Taxi or ridershare is now the most common alternative mode across all modes with two exceptions: Commuter Rail riders who are still more likely to drive alone (49%); and ferry riders who would take a different MBTA service (57%). This is a shift away from ferry riders typically reporting driving alone (41%) and only taking a different MBTA service 36% of the time in the previous pooled data. See Table 13 for more information.

Table 13 Alternate Means of Travel Proportions by Service Mode

Mode	Different MBTA Service	Drive Alone	Taxi or Ride-share Compa-ny	Walk	Drive or Ride in a Carpool	Bike, Scooter, or Other Micro-mobility	Private Shuttle or Other Transit	Other
System-Wide	**29%**	**24%**	**35%**	**14%**	**18%**	**6%**	**2%**	**1%**
Rapid Transit or Bus Rapid Transit	26%	23%	40%	16%	17%	7%	2%	0%
Blue Line	22%	27%	39%	14%	21%	2%	3%	0%
Green Line	26%	20%	47%	15%	11%	3%	2%	0%
Orange Line	30%	24%	36%	17%	18%	7%	2%	1%
Red Line	25%	24%	35%	19%	18%	12%	2%	0%
Mattapan Trolley	30%	26%	35%	6%	34%	2%	2%	0%
Silver Line BRT	24%	25%	45%	6%	17%	6%	3%	0%
Commuter Rail	28%	49%	15%	3%	22%	2%	3%	0%
Bus	35%	15%	37%	17%	19%	7%	2%	1%
Ferry	57%	30%	10%	3%	7%	2%	2%	0%

Appendix

Service Mode Definitions

The MBTA's rapid transit system includes its heavy rail and light rail services, described below.

Heavy Rail: The MBTA operates three heavy rail lines—the Red Line, the Blue Line, and the Orange Line—that provide core subway services.

Light Rail: The MBTA's primary light rail system, the Green Line, provides local service in outlying areas via its surface operations and core subway services in and around the Boston city center. In addition, the MBTA operates the Mattapan Line, which serves as a Red Line extension from Ashmont Station to Mattapan Station via light rail.

Bus: All rubber-tire vehicles regardless of the vehicle's power source.

Commuter Rail: Long-haul, commuter-oriented services that link the outer portions of the region with Downtown Boston.

Ferry: Inner Harbor Ferry services for travel between destinations in Boston, and Commuter Ferry services from the South Shore to Downtown Boston and Logan Airport.

Additional Data Tables

Table A.1 Fare Type Proportion by Service Mode

Mode	Monthly Pass	Pay-as-you-go	7-day Pass	Student Pass (M7)	Semester Pass	1-day Pass	Other
System-Wide	**42%**	**37%**	**16%**	**2%**	**1%**	**2%**	**1%**
Rapid Transit or Bus Rapid Transit	45%	34%	16%	2%	1%	2%	1%
Blue Line	44%	28%	24%	2%	1%	2%	0%
Green Line	48%	34%	14%	1%	2%	1%	0%
Orange Line	44%	33%	17%	3%	1%	2%	1%
Red Line	45%	35%	14%	2%	2%	2%	0%
Mattapan Trolley	32%	44%	15%	7%	1%	1%	1%
Silver Line BRT	41%	37%	17%	1%	0%	2%	2%
Commuter Rail	25%	64%	3%	1%	1%	4%	3%
Bus	41%	32%	21%	4%	1%	1%	0%
Ferry	36%	52%	6%	1%	0%	4%	1%

Table A.2 Percent of Riders Self-Identifying as Minority for Key Bus Routes by Survey Edition

Line	2022-2023 Percent Minority
System-Wide	**67%**
1	41%
9	41%
10	44%
11	88%
15	79%
16	88%
21	87%
22	85%
23	83%
32	60%
39	62%
47	53%
57	66%
66	55%
71	56%
73	62%
86	78%
104	83%
111	76%
114, 116, & 117	88%
28 & 29	70%
34 & 34E	75%
43 & SL5	66%
61 & 70	45%
67 & 77	67%
8, 55 & CT3	71%

Table A.3 - Percent of Riders Self-Identifying as Low-Income for Key Bus Routes by Survey Edition

Line	2022-2023 Percent Low-Income
System-Wide	**83%**
1	69%
9	76%
10	55%
11	90%
15	83%
16	90%
21	82%
22	94%
23	90%
32	82%
39	81%
47	70%
57	83%
66	88%
71	71%
73	85%
86	89%
104	90%
111	89%
114, 116, & 117	91%
28 & 29	80%
34 & 34E	85%
43 & SL5	82%
61 & 70	74%
67 & 77	74%
8, 55 & CT3	76%