

# marta

# Service Standards

## FY 2023



**Prepared by: Department of Planning and Project Development**

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# Executive Summary

The Metropolitan Atlanta Rapid Transit Authority (MARTA) Service Standards identify the policies guiding transit service and the transit service change process. Updated annually, the Service Standards comply with Title VI of the Civil Rights Act and related guidance described in the Federal Transit Administration's (FTA) Title VI Circular 4702.1B, as well as the MARTA Act, adopted by the Georgia General Assembly, and MARTA Board requirements.

MARTA's goal is to ensure that its standards and policies are equitable, accountable, and transparent.

The Service Standards delineate MARTA's transit service by service tiers. Service tiers help distinguish different types of MARTA service and are used in evaluation during the service change process (conducted up to three times per year).

The FY 2023 Service Standards update continues the improvement of concise language and acknowledgement of extenuating circumstances that could alter service delivery.

The Service Standards consolidates MARTA's policies guiding service changes into seven chapters, as follows:

1. Introduction
2. Service Change Process
3. Service Design Guidelines
4. Service Standards
5. MARTA Mobility Service Delivery Standards
6. Other Service Considerations
7. Summary

This document is organized into two sections, the Service Design Guidelines and Service Standards. MARTA's Service Design Guidelines ([Chapter 3](#)) are comprised of nine policies that offer general guidance for transit service, though many of the following design guidelines apply only to bus service:

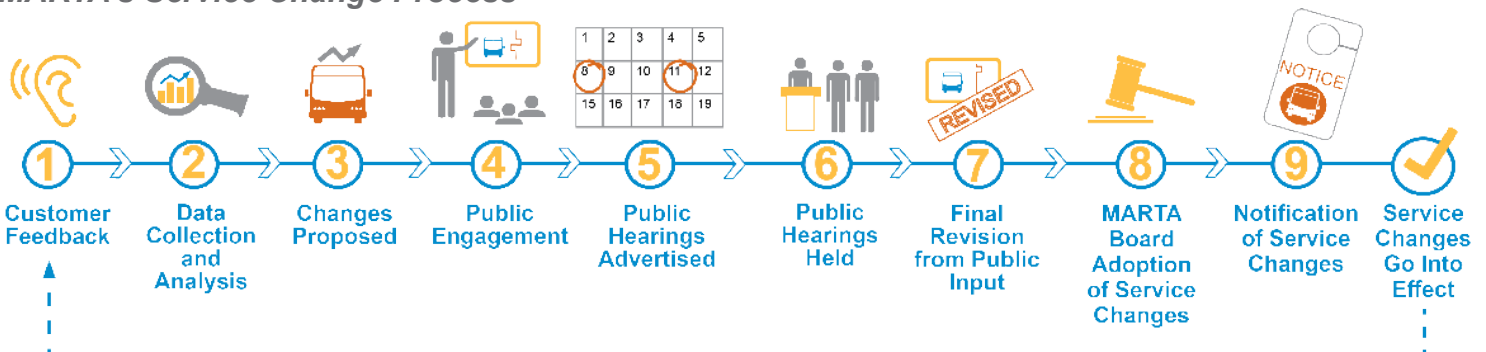
- Direct Route Design
- Simple and Consistent Route Design
- Symmetrical Route Design
- Coordinated Schedules
- Equitably Distributed Routes
- Consistent Stop Spacing
- Transit Amenities
- Transit Access
- Clean Stations and Vehicles

[Chapter 4](#) identifies the five standards MARTA uses to evaluate transit service within the service change process. The standards provide customers with a clear representation of what service characteristics they can expect from each service tier. The following standards are described in [Chapter 4](#):

- Service Hours
- Service Frequency
- Service Capacity
- On-Time Performance
- Bus Productivity

Each standard provides a clear definition and explanation of how it impacts MARTA service and customers' experience on transit. Each standard includes a description of what customers can expect from MARTA service along with a description of how the standard is measured and evaluated in the service change process.

## MARTA's Service Change Process



The graphic on the previous page represents a summary of the process intended to provide customers and stakeholders with a clear understanding of how MARTA evaluates service and how customers can inform the process.

The Service Standards include information about MARTA Mobility eligibility and enrollment, along with performance standards. The Service Standards also provide information and guidance regarding temporary service changes that result from emergencies or special events.

In all, the Service Standards reflect MARTA's effort to proactively engage with customers and ensure transparency for the service change process. Because MARTA depends on customer input to guide service changes, the update includes information throughout the document informing customers how to engage in the process and provide feedback.



# 1. Introduction

1.1 Background

1.2 Service Overview





## 1.1 Background

Reporting of MARTA's Service Standards is mandated by the Federal Transit Administration (FTA Circular 4702.1B specifies the standards required of transit agencies to comply with Title VI of the Civil Rights Act). MARTA staff provide annual updates to the Standards which are adopted by the Board of Directors. The Service Standards establish a process for the implementation of regular transit service changes, including how MARTA's customers can engage in the process.

In addition to state and federal mandates, MARTA's Service Standards are guided by requirements from the MARTA Board of Directors and related MARTA policies.

### MARTA's Mission

*The mission of the Metropolitan Atlanta Rapid Transit Authority is to advocate for and provide safe, multi-modal transit services that advance prosperity, connectivity and equity for a more livable region.*

### What are MARTA's Service Standards?

MARTA's Service Standards identify the policies that guide delivery of transit service. The standards guide MARTA's process for evaluating transit service and implementing regular service changes. The Standards also guide MARTA's public involvement process for service changes, ensuring that MARTA customers receive service that is **equitable, accountable, and transparent**.

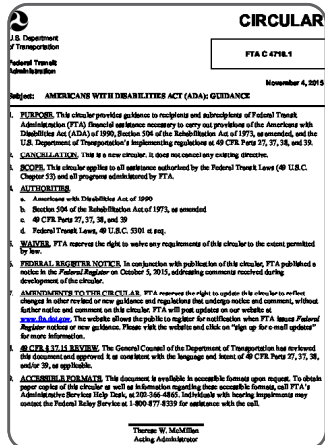
### Summary of Updates to FY 2023 Service Standards

The FY 2023 Service Standards were updated to add an additional performance measurement and to improve the conciseness of language used throughout the document.

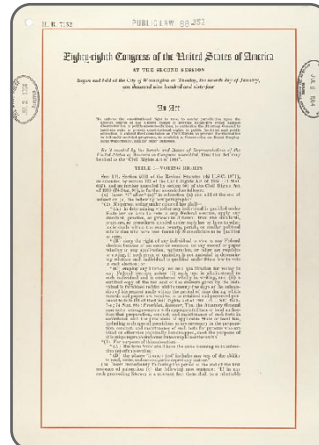


# State and Federal Requirements

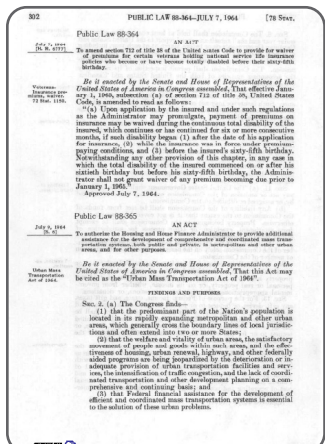
The state and federal requirements identified below provide guidance for MARTA's Service Standards, ensuring that the service change process is equitable and transparent. Federal requirements also mandate that specific standards and design guidelines be included in agencies' Service Standards.



The **Americans with Disabilities Act of 1990** establishes the provision of accessible equipment, vehicles, and facilities on the part of transportation providers, both private and public. The ADA requires the provision of complementary paratransit service for individuals unable to use fixed-route transportation systems.



**Title VI of the Civil Rights Act of 1964** prohibits discriminatory actions based on the grounds of race, color, or national origin. It also ensures the participation of low-income and minority groups in the decision-making process, and requires agencies to establish a process for reporting Title VI complaints and providing meaningful access to services for persons with limited English proficiency.



The **Urban Mass Transportation Act of 1964** established the federal department that preceded the FTA. As amended, the act requires that recipients of federal dollars establish a process to receive and consider public comments prior to fare changes and service reductions.



The **MARTA Act** passed the Georgia General Assembly in 1965 and provides the enabling legislation for MARTA to plan, build, operate and maintain transit service within its partner jurisdictions. It establishes requirements for public hearings and the approval of the Board of Directors for service changes.

# MARTA Board Requirements

As required by the Urban Mass Transportation Act and the MARTA Act, the following potential service changes must first receive a public hearing process to fully consider public input before final decisions are made by MARTA Board:



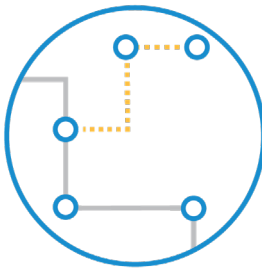
Changes in fare policy.

**Fare Changes**



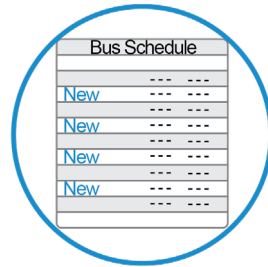
Implementation of new service (including new service tiers, new route numbers, or new vehicle types).

**New Service**



A substantial geographical alteration, such as the addition or deletion of more than one and one-half (1 1/2) directional miles on a given route (3/4 of a mile in each direction).

**Route Alteration**



A major route modification which causes a 25% or greater change in the number of daily scheduled bus trips provided.

**Change in Number of Daily Trips**



The establishment of a new bus route to include the initial service alignment and headway parameters for that route.

**New Routes**



The discontinuation of any bus service not under the demonstration project status.

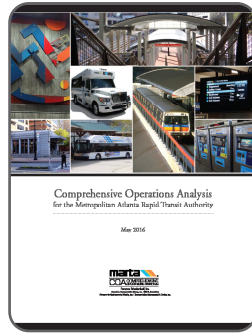
**Discontinued Routes**

# MARTA Guidance

In addition to the state and federal requirements which guide MARTA's Service Standards, the Authority documents and policies identified below inform MARTA's Service Standards, Service Design Guidelines and the service change process.

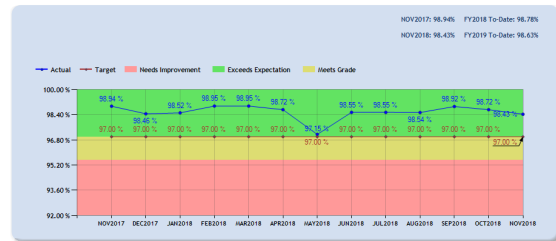
## Comprehensive Operations Analysis

MARTA's Comprehensive Operations Analysis (COA) was last adopted by the Board in 2016 and provides an analysis of transit service along with recommendations to be implemented over a 10-year horizon. The most recent analysis recommended the implementation of new tiers of service that would increase ridership and ensure ongoing MARTA support and stability.



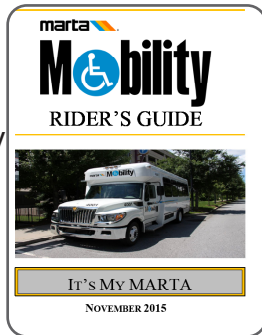
## Key Performance Indicators (KPIs)

MARTA uses its Key Performance Indicators to provide customers and stakeholders with an available dashboard describing MARTA's goals for transit service, customer service, facilities, safety, and finance. Along with each goal, MARTA provides an indication of current performance on the KPI dashboard, available online at [itsmarta.com/kpihome](http://itsmarta.com/kpihome).



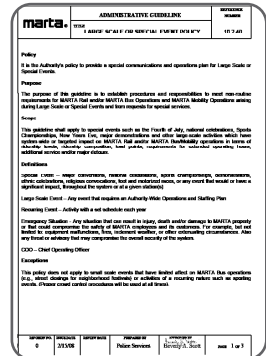
## Mobility Rider's Guide

The MARTA Mobility Rider's Guide identifies the categories of eligibility for Mobility services, including the process for enrolling and scheduling trips.



## Other MARTA Policies

Other policies, like MARTA's "Large Scale or Special Event Policy" provide guidance for the service considerations when service and ridership may be impacted by large events or weather conditions. The policies describe how service may be adjusted with detours, additional service, or extensions of service.



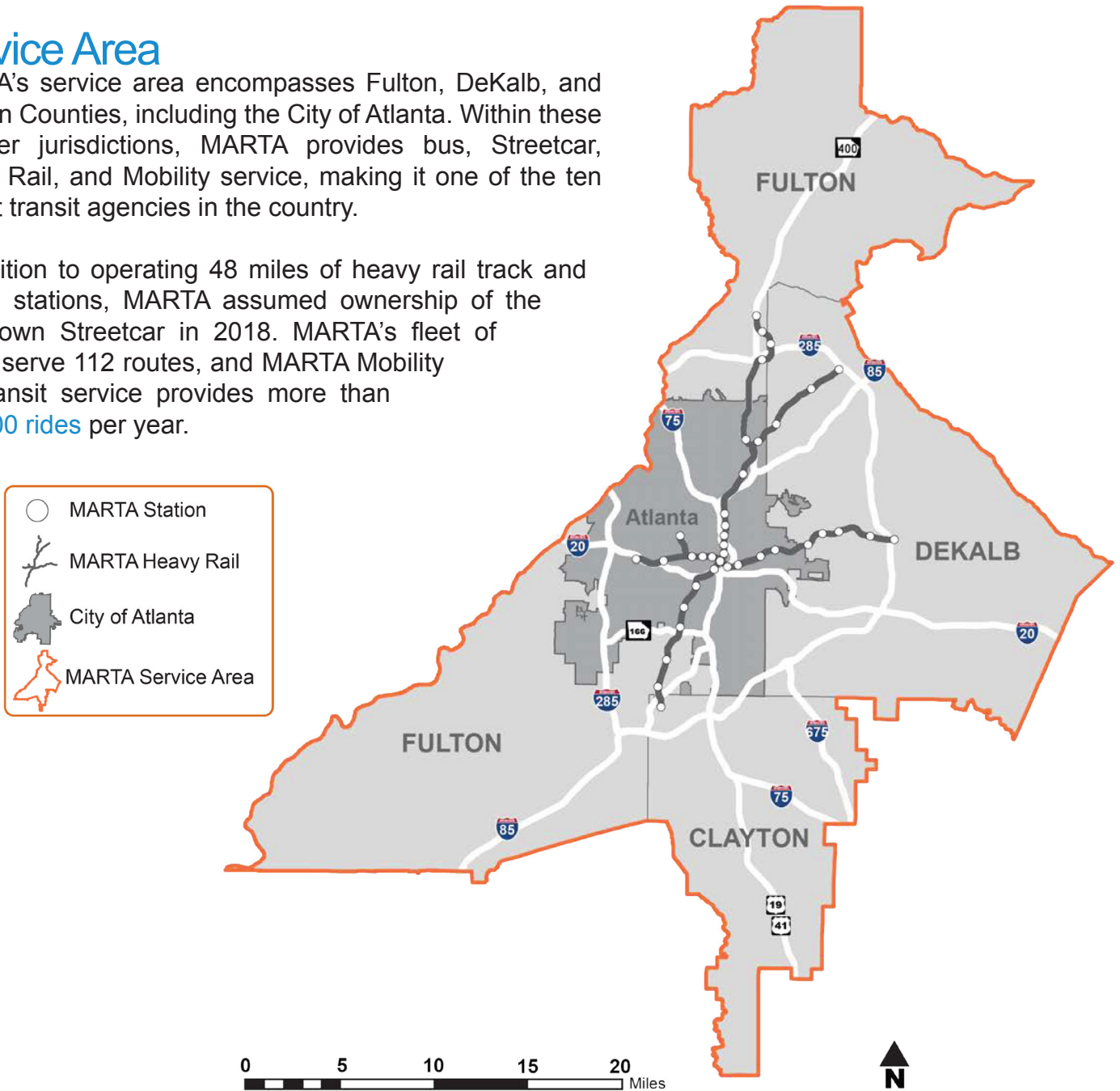
# 1.2 Service Overview

50 years ago voters approved MARTA as a bus and rail system. MARTA bus service began in February of 1972 and rail opened within the decade.

## Service Area

MARTA's service area encompasses Fulton, DeKalb, and Clayton Counties, including the City of Atlanta. Within these member jurisdictions, MARTA provides bus, Streetcar, Heavy Rail, and Mobility service, making it one of the ten largest transit agencies in the country.

In addition to operating 48 miles of heavy rail track and 38 rail stations, MARTA assumed ownership of the Downtown Streetcar in 2018. MARTA's fleet of buses serve 112 routes, and MARTA Mobility paratransit service provides more than **700,000 rides** per year.



## Service Tier Definitions

To meet the diverse needs of its customers, MARTA provides eight different tiers of service designed to deliver fast, frequent service as well as provide equitable coverage across the service area.



### MARTA Mobility

**MARTA Mobility**, MARTA's complementary paratransit service, provides origin-to-destination shuttle service for eligible MARTA customers.



### Community Circulator

**Community Circulator** routes are short transit routes intended to provide local circulation and connections to the regional rail and bus transit network at major stations and hubs.



### Supporting Local Bus

**Supporting Local Bus** routes make up the majority of MARTA's bus service, providing access to residential and commercial areas with levels of transit demand that warrant regular fixed-route service but cannot support frequent service levels.



### Frequent Local Bus

**Frequent Local Bus** routes operate with consistent, high-frequency service throughout the peak and midday service periods.



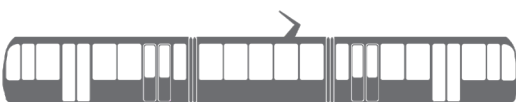
### Peak Only Bus

**Peak Only Bus** routes provide longer-distance rapid transit service, with limited stops, that operate only during peak periods.



### Limited Express Bus

**Limited Express Bus** routes provide service all day from major transit stations or park-and-ride facilities, with limited stops, and may operate on limited-access highways.



### Streetcar

**Streetcar** service was added to MARTA's fleet in 2018, providing frequent service to 12 stations along the Streetcar's downtown loop. Streetcar stations feature system maps and passenger information, fare vending machines, level-boarding platforms, and ADA-accessible ramps.



### Heavy Rail

**Heavy Rail** service consists of four routes using fully separated right-of-way, providing access to 38 stations throughout the service day. Heavy Rail stations feature train arrival information, system maps, wayfinding, trash receptacles and ADA-accessible level-boarding platforms.



# 2. Service Change Process

2.1 Service Change Guiding Principles

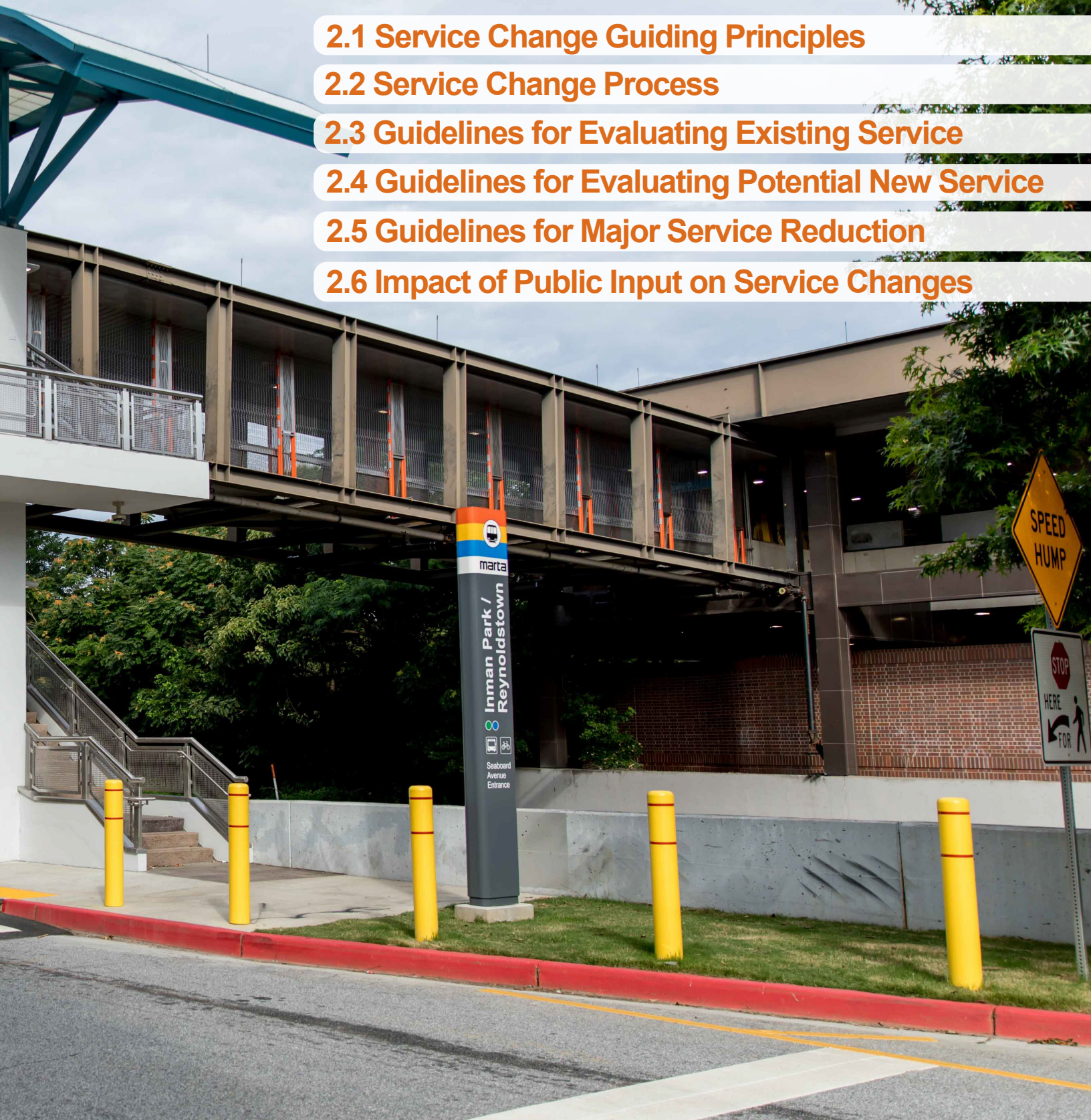
2.2 Service Change Process

2.3 Guidelines for Evaluating Existing Service

2.4 Guidelines for Evaluating Potential New Service

2.5 Guidelines for Major Service Reduction

2.6 Impact of Public Input on Service Changes





## What is MARTA's Service Change Process?

MARTA conducts service changes up to three times a year. Service changes reflect a continuous, thorough process that follows analysis by staff, including public outreach and hearings, and adoption by the MARTA Board. Before any proposed changes are adopted by the Board, MARTA conducts outreach to customers at stations, conducts and attends community meetings, and holds public hearings. Occasionally, MARTA undertakes more comprehensive service change projects that redesign large portions or the majority of the network. These projects may have modified, but equally or more robust public input periods. Information about proposed changes are advertised in local newspapers, as well as posted on buses, at stations and on MARTA's website: <https://www.itsmarta.com/public-hearings-meetings.aspx>

## Why does MARTA conduct Service Changes?

The purpose of the service change process is to deliver service that meets customer demand and to address service that could perform more efficiently. Due to residential and commercial growth and development within MARTA's service area, ridership patterns continue to change. For that reason, MARTA is continuously collecting data about how customers are using transit service, where they need to go, and adapting service accordingly.

## How can MARTA riders inform the process?

The MARTA service change process graphic on page 15 ([Section 2.2](#)) outlines opportunities for customers to be involved and share input about service changes in person and online. During each service change period, MARTA posts information online, on buses, at stations and stops about proposed changes. Customers can provide input about service changes via in-person hearings, online surveys, and through formal requests at [itsmarta.com](https://www.itsmarta.com).



## 2.1 Service Change Guiding Principles

MARTA's service change process is guided by the following principles:

### 1. Maximize Ridership

MARTA will evaluate ridership across the system to retain riders and identify opportunities for growth. Potential new service is considered with respect to its impact on existing riders and its ability to attract new riders.

### 2. Maintain Service Equity

MARTA complies with all Title VI and Environmental Justice requirements. Proposed service changes are evaluated for potential impacts to low-income and minority populations. MARTA adheres to requirements detailed in FTA Circular 4702.1B: routes with at least one-third (1/3) of its total mileage in census tracts that exceed the service area's average percentage of minority or low-income population. To the extent feasible, MARTA will strive to balance the impacts of service changes between its member jurisdictions.

### 3. Minimize Impacts on MARTA Mobility Service

Complementary paratransit service (MARTA Mobility) must be taken into account to ensure compliance with the Americans with Disabilities Act (ADA).

### 4. Improve Network Connectivity

Service change decisions will be considered for their impacts to the network as a whole. Potential new service will be considered for opportunities to provide needed connections to existing MARTA service or regional transit providers.

### 5. Improve Productivity and Performance Across the System

MARTA's Service Standards provide relevant benchmarks that enable evaluation of routes across MARTA's system. Within the service change process, routes will be evaluated according to both the tier standard and the average for routes within that tier. Among other factors, service changes take into account route productivity and performance to ensure that MARTA continues to deliver service that is productive, efficient, and financially sustainable.



#### How are MARTA riders and community members informed of service changes?

When service changes are proposed, MARTA staff distribute information about proposed changes and public hearings at stations and on buses. Information about service changes and public hearings is also provided in community newspapers and by community partners throughout the service area in several languages. MARTA staff present information about proposed changes at community and Neighborhood Planning Unit (NPU) meetings when services within that community are affected. Descriptions of proposed changes are provided online at [itsmarta.com/public-hearings-meetings.aspx](https://itsmarta.com/public-hearings-meetings.aspx).



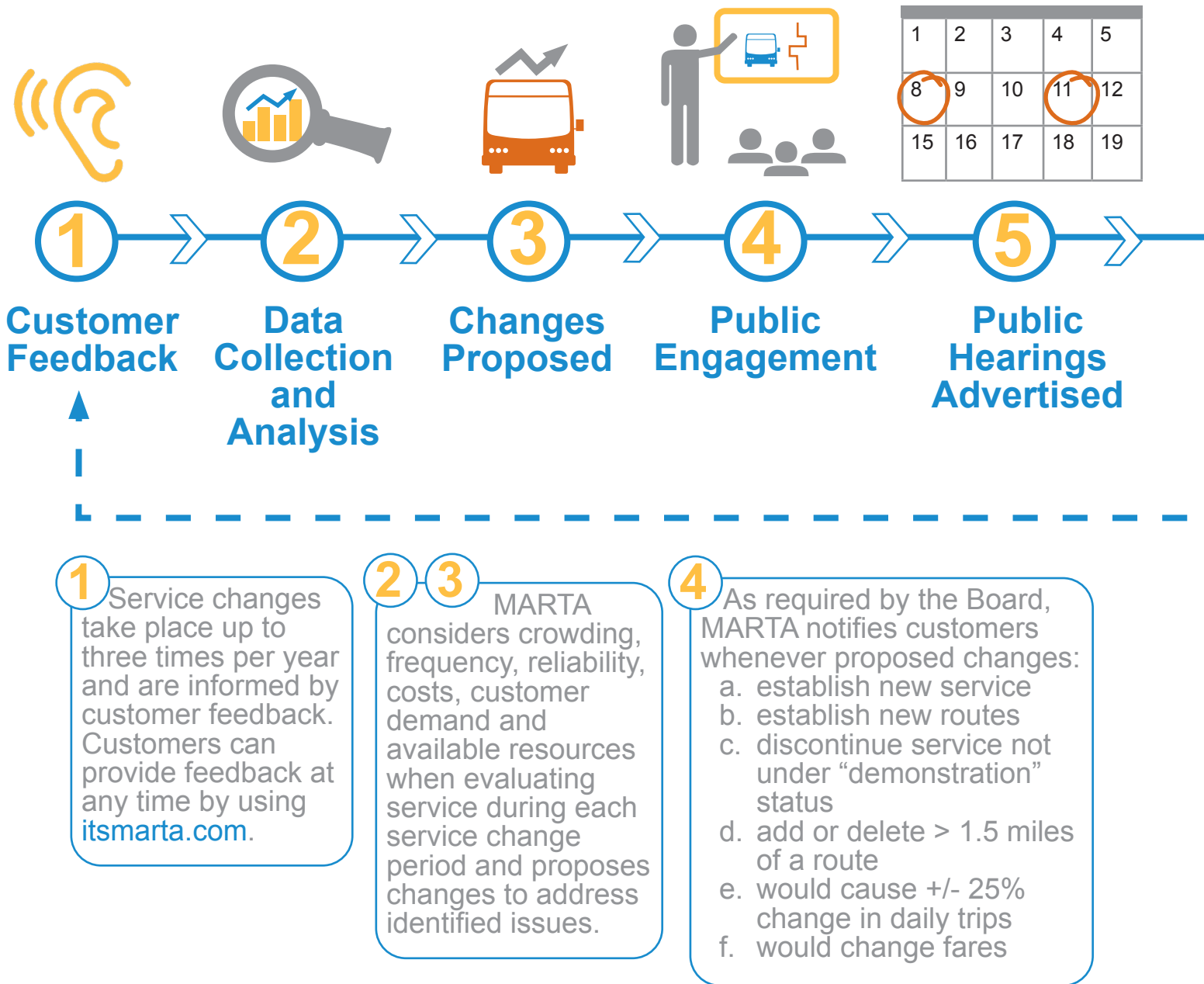
#### What is Title VI?

Title VI of the 1964 Civil Rights Act signed into law by President Johnson established protections for minority and low-income populations relating to programs that receive federal financial assistance. Guidance from the FTA identifies specific standards transit agencies must adopt in providing transit service. [Chapter 1](#) provides more information on legislative requirements that inform MARTA's Service Standards and how MARTA complies with federal regulations.

(photo: University of Texas at Austin)

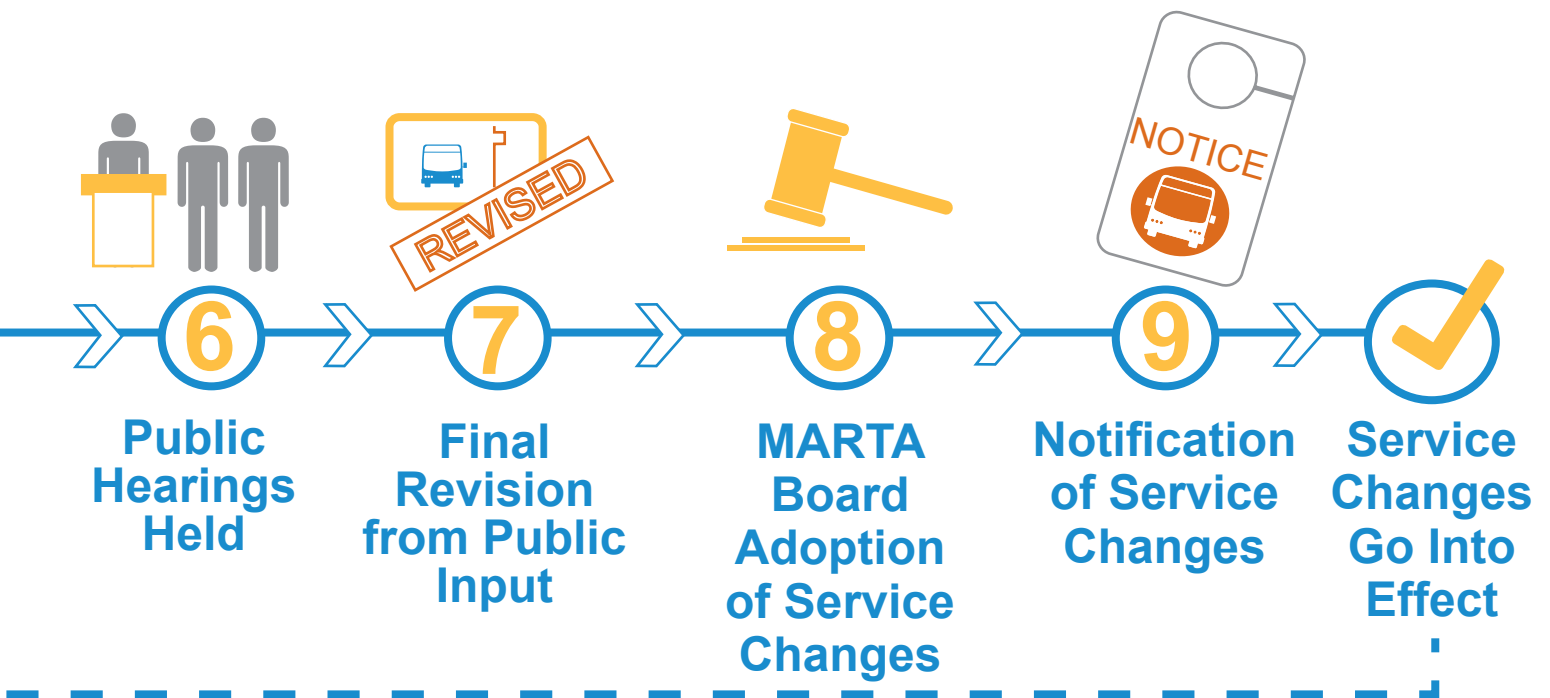
## 2.2 Service Change Process

MARTA service changes take place up to three times per year, and the entire process including data collection and analysis takes approximately eight months. During the first four months of the process MARTA collects and analyzes data to develop proposed service changes. During the following four months, a new round of data collection and analysis begins at the same time that proposed changes are presented to the public and the MARTA Board for comment and hearings. Proposed changes go into effect after public hearing and Board adoption. Following Board adoption, customers are notified of service changes approximately one to two weeks before they take effect. After changes go into effect, a new round of service changes begins.



The graphics below provide an overview of the steps included in the service change process. Customers are able to submit comments regarding service changes or service requests at any time by using [itsmarta.com/comments.aspx](https://itsmarta.com/comments.aspx). Customer demand provides useful data for MARTA staff during the data collection and analysis steps of the process.

Customers are also encouraged to provide feedback to MARTA staff during public engagement and public hearings. Summaries of public engagement events and feedback received are presented to the MARTA Board.



**5** **6** MARTA holds public hearings for service changes in Fulton, Clayton, and DeKalb Counties. MARTA invites customers to share comments at public hearings or during the service change feedback window online at [itsmarta.com](https://itsmarta.com).

**7** **8** MARTA staff provide summaries of public feedback to the MARTA Board and may revise proposed service changes in response to public feedback before the Board adopts service changes.

**9** MARTA provides notice of service changes at rail stations, on affected routes, vehicles, and bus stops approximately 10 days before changes go into effect.

Service changes take effect up to three times per year, but MARTA is constantly collecting and evaluating data about its transit service. After service changes take effect, the process repeats itself with MARTA collecting and analyzing new data.

## 2.3 Process for Evaluating Existing Service

As shown on the service change process, MARTA collects and analyzes data to inform proposed service changes. In addition to proposing changes based on an evaluation of current performance, availability of funding, operators and vehicles must also be taken into consideration.

### 1. Determine Available Funding

Within the service change process, changes are proposed as funding dictates. Limited funding may result in the need to reduce service for routes that fall below MARTA Service Standards and tier averages. Available funding may allow MARTA to provide additional service.

### 2. Determine Availability of Required Resources

A proposed expansion of service may require other additional resources, like vehicles, physical capacity at stops and stations, and staff. Service changes that include additional service may be proposed as resources allow.

### 3. Determine Proposed Changes Through Service Evaluation

MARTA's Service Standards ([Chapter 4](#)) for each tier are used to identify potential changes for MARTA's routes and services. Each route is compared with both the tier's adopted standard and the tier average. For routes that perform more than 50% above or below the tier average, MARTA staff consider the route's performance with respect to other Service Standards. **MARTA develops and considers service changes for any route that performs outside the tier average or below the standard during two consecutive service change periods.**



### When are Service Changes Warranted?

Service changes may be considered for routes that fall below the adopted service standard or the route's service tier average for two consecutive service change periods. If standards or tier averages for the following Service Standards are not met, service changes may be considered:

- Service Hours
- Service Frequency
- Service Capacity
- Bus Productivity

## 2.4 Process for Evaluating Potential New Service

As with evaluating existing service, potential new service is not proposed without identified funding and resources. In addition, new service must have established support from the public. In lieu of performance data, potential new service must also meet defined service warrants to ensure that MARTA Service Standards are met and resources are utilized efficiently. To maintain service that is efficient and financially sustainable, new services should show consistent ridership growth following implementation and perform at 50% of the tier average or above.

### 1. Establish Community Support

Community support for new service can be established in several ways:

- through a public planning process
- from recommendations of MARTA Board Members
- from public input shared at [itsmarta.com/comments.aspx](https://itsmarta.com/comments.aspx)

### 2. Determine Available Funding and Resources

Proposed service changes or new service must have necessary funds budgeted and personnel resources available as identified within the Fiscal Year Work Plan for operation of service.

### 3. Satisfy Service Warrants

MARTA uses three service warrants to help determine how well potential service might perform: potential demand, mobility need, and connectivity. For potential service under consideration, each corridor is evaluated to ensure that new service is projected to show consistent ridership growth and **perform at 50% the tier average or above**. Potential new service must satisfy two of the following service warrants before being proposed during the service change process.

#### a) Potential Demand

Potential demand is determined using residential and job density within a quarter-mile (1/4-mile) of the proposed corridor.

#### b) Mobility Need

To determine the potential need for service within a corridor, MARTA considers an area's transit-dependent population. For an area to meet this warrant, the potential route





must serve an area where the percentage of low-income households or the percentage of households without access to a personal vehicle is greater than the service area average. Other populations such as seniors, students, children, and customers with mobility needs should be considered when evaluating a potential route’s projected performance.

**c) Connectivity**

New service should increase the overall effectiveness of MARTA’s transit network without duplicating existing service. For new service to meet this warrant, it should connect to existing bus, Streetcar or Heavy Rail service.

**4. Making New Service Permanent**

New service is subject to a one-year trial period after which evaluation will determine if it should be assigned permanent status. Service evaluation will determine if new service meets MARTA’s Service Standards and service tier averages before recommending Board action to make the service permanent.

**5. Demonstration Projects**

New and innovative services which receive public input may be designated by the MARTA Board as demonstration projects, lasting up to one year. Evaluation of demonstration projects will take place monthly for the first three months of service. For the remainder of the demonstration period, service evaluation will take place up to three times per year alongside MARTA’s regular service change process. During the one-year demonstration period, the MARTA Board may choose to change the service after notifying the existing passenger base.

## 2.5 Guidelines for Major Service Reduction

In times of national or regional economic distress, MARTA will respond with cost reduction and/or revenue generating actions that may include the following alternatives:

- Implement internal productivity and cost reduction processes.
- Seek new revenue sources.
- Consider fare increases.
- Conduct service adjustments or reduce service as needed.

Depending on the severity of the fiscal situation, a significant reduction of service may be required to align service with expected revenues. MARTA will evaluate existing service and propose service changes following processes outlined in this chapter.

### 1. Prioritization

To the extent feasible, Heavy Rail and Frequent Local Bus service will be preserved along with routes that connect to major job centers, hospitals, and government facilities.

In compliance with the Americans with Disabilities Act (ADA), Title VI, and the Guiding Principles of this chapter, MARTA will consider the impact of service reductions on MARTA Mobility service and routes serving protected populations of low-income and minority residents (as described in FTA Circular 4702.1B).

For other service tiers, MARTA service will be tailored to the service hours of critical and high-demand locations with priority given to span of service over service frequency.

### 2. Approval

As with all other service changes, the process to approve major service reductions follows the steps below:

- a. Brief MARTA Board on the extent of proposed service reductions.
- b. Hold public hearings and community exchanges.
- c. Present final service changes for Board approval based on analysis and public comment.
- d. Implement service changes until MARTA's financial condition allows for full or partial restoration of service.



## 2.6 The Importance of Public Input

MARTA values customer feedback and looks to riders to provide input throughout the service change process. Feedback received during the service change process is forwarded to MARTA staff who consider the feedback and often respond directly to customers.

Feedback received at public hearings is summarized by MARTA staff and presented to the MARTA Board so that Board Members can consider customer feedback when making decisions about service changes. Customer feedback may be used to revise service changes before Board adoption.



### **MARTA relies upon customer feedback**

MARTA staff and the Board of Directors depend upon customer feedback to inform the service change process. MARTA customers can be sure their opinions are heard when providing feedback in person, on surveys, by phone at (404) 848-5299 or online at [itsmarta.com/comments.aspx](https://itsmarta.com/comments.aspx).



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5 LINDBERGH STA

1670

marta

1670

ACCIDENT - INJURED  
1-800-HURT-911

JOHN FOY STRONG  
IS THE STRONG ARM

# 3. Service Design Guidelines

3.1 Direct Route Design

3.2 Simple and Consistent Route Design

3.3 Symmetrical Route Design

3.4 Coordinated Schedules

3.5 Equitably Distributed Vehicles

3.6 Consistent Stop Spacing

3.7 Transit Amenities

3.8 Transit Access

3.9 Clean Stations and Vehicles





## What are service design guidelines?

MARTA's Service Design Guidelines are general principles that guide MARTA service planning as new routes are developed and existing routes are adjusted. While these design guidelines apply more often to bus routes, as they are more flexible than rail services, they serve as the overarching goals to guide new service development and planning. These high-level, conceptual design guidelines shape how service is planned and implemented by MARTA staff during the service change process. Because the design guidelines are not rigid standards, they provide for flexibility as funding and context allow.

## How are they different from Service Standards?

MARTA's Service Standards (as described in [Chapter 4](#)) offer fixed targets for transit service that if unmet, may result in service changes. Unlike Service Design Guidelines which mainly apply to bus service, Service Standards offer targets for all of MARTA's service tiers to monitor performance once implemented. The following Service Design Guidelines provide flexible guidance for revising existing route design as well as designing new routes.



## 3.1 Direct Route Design

**MARTA strives to design routes that are direct.** Bus service that operates along linear, direct paths allows passengers to complete their trip without having to travel out of direction to a rail station or transit hub.

MARTA strives to minimize deviations from major corridors onto side-streets or neighborhood streets. While route deviations can provide convenience for some passengers, they increase the travel time for passengers not served by the deviation. Deviations may be warranted in cases where they serve high volumes of passengers.

Where feasible, bus routes should operate in straight lines, and minimize turning movements which can be significant sources of delay unless they are positioned to access activity centers and dense residential areas to facilitate easy access.

In developing its service tiers, MARTA balances service designed for speed and reliability with providing convenient access to transit. Service tiers like the Community Circulator provide local service with access to activity centers so that Frequent Local Bus routes can provide longer distance trips and faster travel times on high-ridership routes.

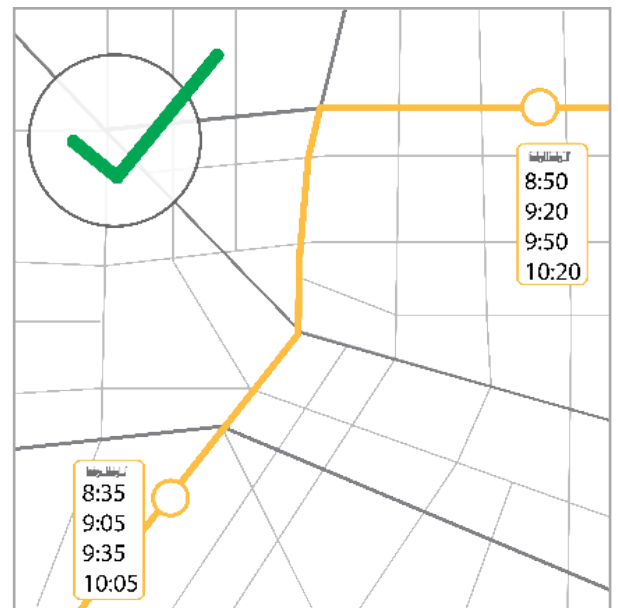




## 3.2 Simple and Consistent Route Design

**MARTA strives to design routes that are simple and consistent.** Routes that are simple and consistent are a key factor in the success of MARTA's overall network. For customers to use MARTA's service, they must be able to understand where it goes and how often it comes.

As much as feasible, bus routes should use major arterial streets with good pedestrian connectivity, and serve major destinations and activity centers.



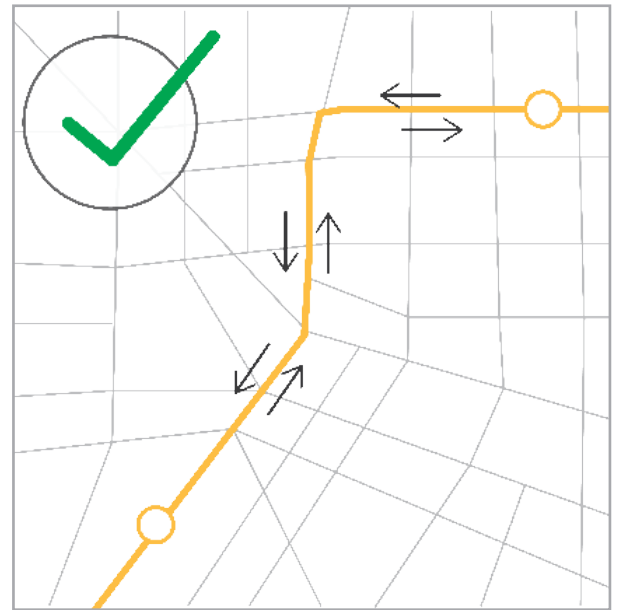


## 3.3 Symmetrical Route Design

**MARTA strives to design routes that are symmetrical and easy to understand.** To ensure that bus routes are predictable and easy to understand, both directions of a bus route should use the same alignment to make it easier for riders to plan return trips.

When routes operate on one-way streets, trips in the opposite direction should operate along a parallel alignment of an adjacent street.

Some routes may feature loops, which are common at the end of the line to provide a convenient turnaround for buses and increase access to neighborhoods at the end of a line. When implementing loops, it is important to consider the land uses and length of the loop to reduce potentially long rides that may warrant additional bi-directional service.

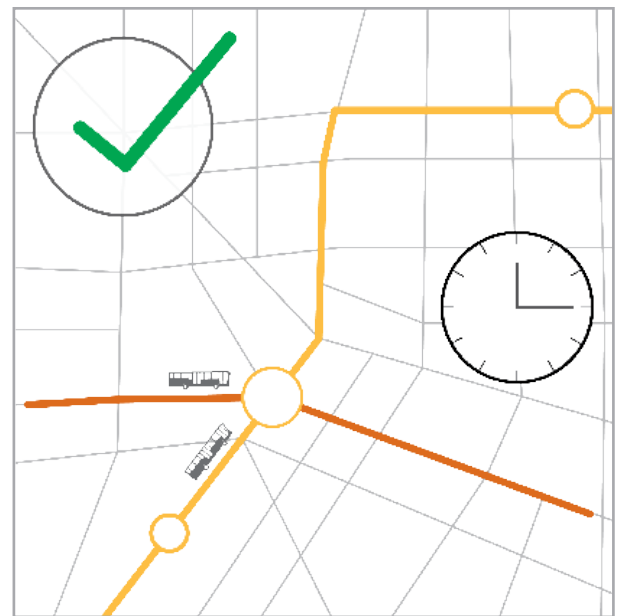




### 3.4 Coordinated Schedules

**MARTA strives to coordinate route schedules to provide convenient, efficient service.** Schedules should be coordinated with other MARTA routes, including train schedules, where possible. In addition to providing connections to MARTA rail stations wherever possible, MARTA strives to coordinate with regional transit service providers like *Xpress*, *CobbLinc*, and *Gwinnett County Transit*. Bus routes should be scheduled to allow for riders to make connections, especially for last trips of the day.

To the extent possible, MARTA will coordinate overlapping routes to create combined, coordinated service.





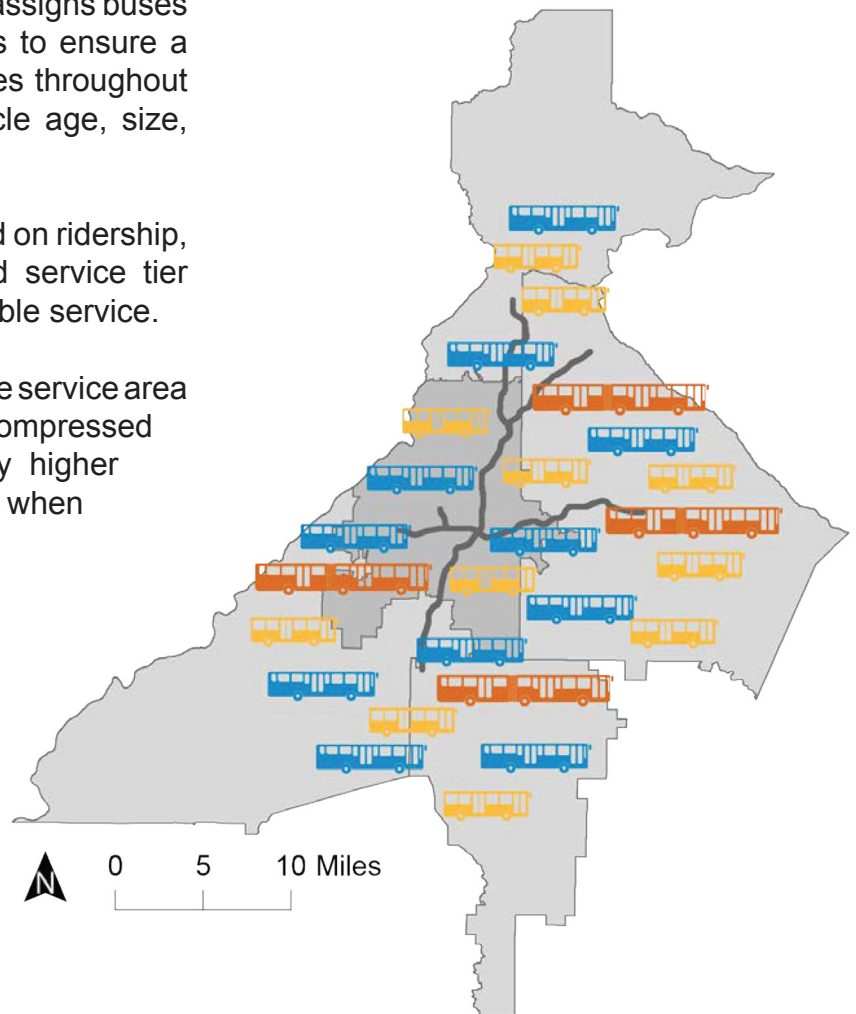


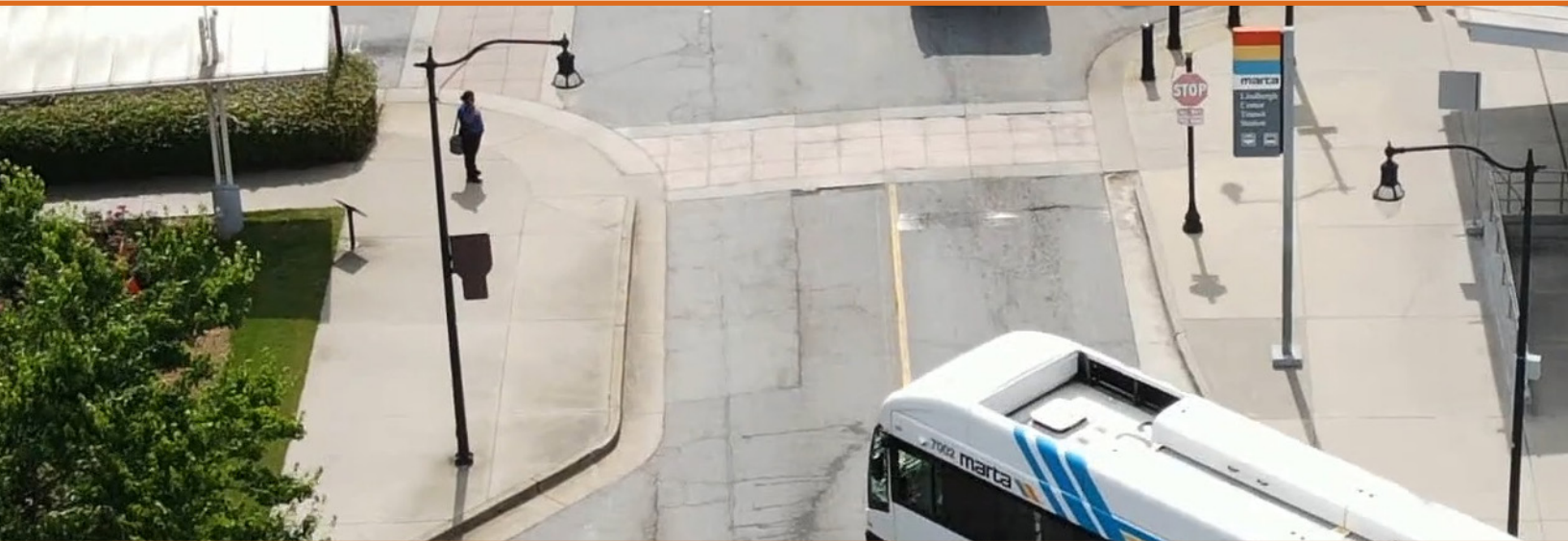
## 3.5 Equitably Distributed Vehicles

**MARTA vehicles shall be distributed equitably throughout the service area.** MARTA assigns buses every day for peak and off-peak hours to ensure a fair and equitable distribution of vehicles throughout the service area with respect to vehicle age, size, amenities, and fuel type.

MARTA assigns vehicles by route based on ridership, demand, road type along routes, and service tier characteristics to provide efficient, reliable service.

Vehicles are distributed evenly across the service area based on age and fuel type (diesel, compressed natural gas). Routes with consistently higher ridership are served by larger vehicles, when available.



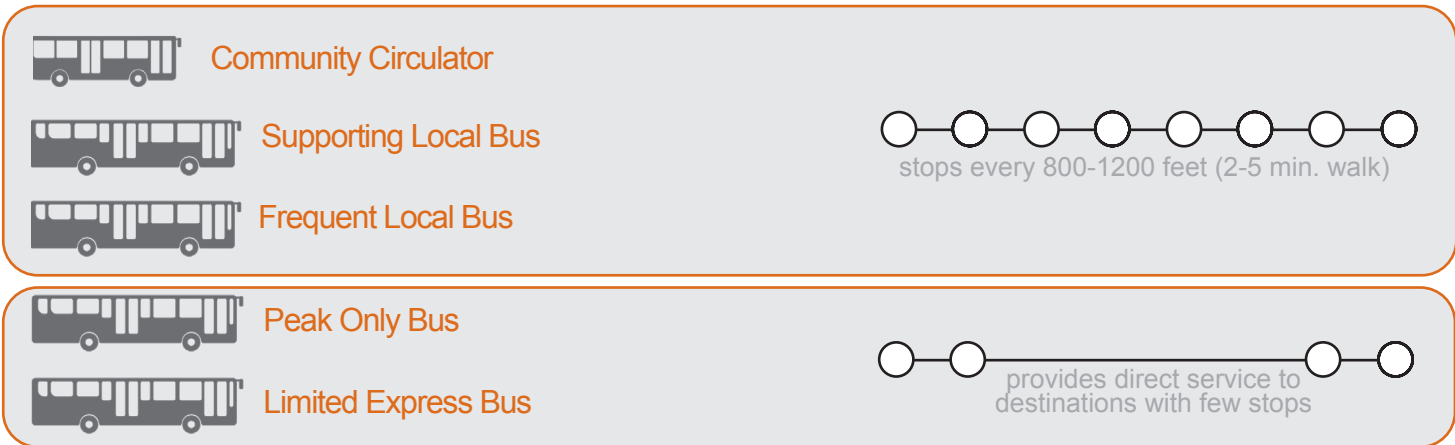


## 3.6 Consistent Stop Spacing

**MARTA strives to provide consistent bus stop spacing.** Stop spacing, the distance between consecutive transit stops, is an important aspect of service. The amount of time buses spend at stops—loading and unloading passengers—can greatly increase passengers’ overall travel time.

While closely spaced bus stops can increase access to bus service, they also require more frequent stopping. In general, the more scheduled stops a bus makes, the lower its operating speed and service reliability.

Stop location also takes into account the level of development along a route’s alignment, and stop spacing may vary between different segments of a single route. Stop spacing is generally closer together in higher density areas and farther apart in lower density areas.





## 3.7 Transit Amenities

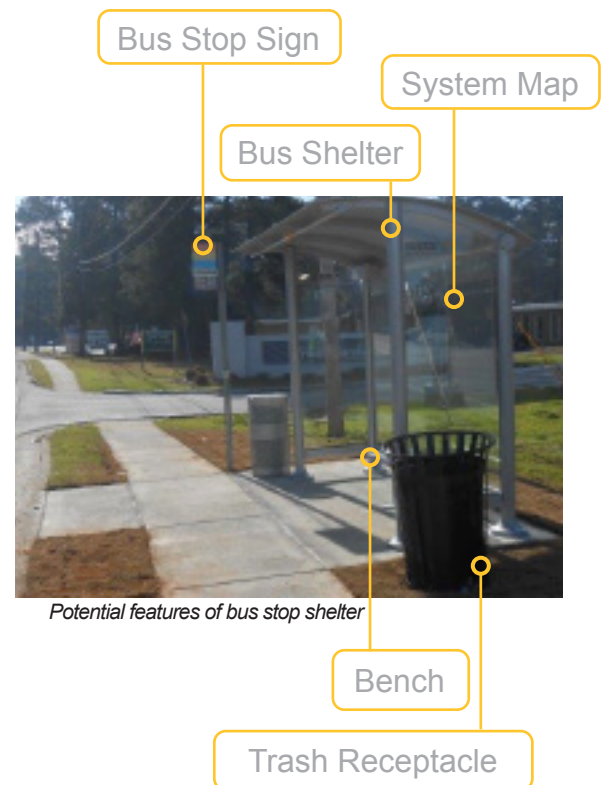
**Transit amenities shall be provided equitably throughout the service area.** Transit amenities are the features available to passengers on MARTA vehicles, and at the Authority's more than 9,000 bus stops, 12 Streetcar stations, and 38 Heavy Rail stations. Amenities vary by station type and vehicle mode, and are described in further detail below.

### Bus Stop Amenities

At minimum, all MARTA bus stops are marked with a MARTA bus stop sign, as well as contact information for customer service and bus schedule information. Bus stop locations that meet specific criteria may be prioritized for installation of amenities such as benches or shelters.

Riders can provide input for shelter placement by contacting Customer Service at [itsmarta.com](https://www.marta.com/itsmarta). MARTA will review shelter placement to ensure equitable distribution throughout the service area. In addition to equity, MARTA prioritizes shelter placement by considering the following factors for urban, suburban and rural areas:

- Ridership
- Title VI Compliance
- Span of Service
- Local land use<sup>1</sup>
- Trip Frequency



*Potential features of bus stop shelter*

<sup>1</sup>Local land use considerations take into account proximity to facilities such as senior centers, hospitals, government offices, etc.

In addition to meeting the prioritization criteria identified above, proposed bench and shelter locations must meet the following conditions determined by site evaluation:

- Be able to accommodate a concrete pad.
- Be ADA-compliant and wheelchair accessible.
- Not be next to a guardrail, barrier or fire hydrant.
- Not block vehicular traffic.
- Comply with all other requirements determined by the local jurisdiction, including local ordinances and design guidelines.

Following a site evaluation, a survey, site drawings and permit applications are completed for each location and submitted to the appropriate jurisdiction for approval.

### Vehicle Amenities

All buses include the following amenities:

- **Bike Racks** – Buses are equipped with fold-down bike racks on the front of the vehicle which can accommodate two bikes.
- **Fareboxes** – Bus fareboxes can process both cash and electronic Breeze Card payments.
- **Automated Announcement System** – All buses announce the route and stop/intersection using on Automated Vehicle Location (AVL) equipment.
- **Wi-Fi** – All vehicles are equipped with free Wi-Fi.
- **Trash receptacles** – Trash receptacles are available on all buses.

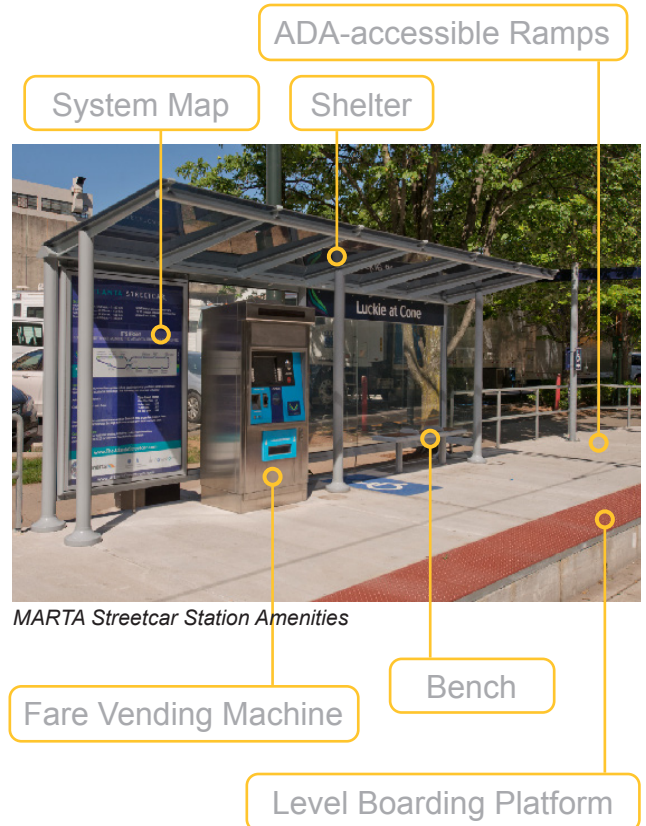


MARTA Bus Amenities

## Streetcar Station Amenities

In addition to shelters and benches, all Streetcar stations include the following amenities:

- **System Map and Passenger Information** – Including information about nearby attractions and connections to Heavy Rail stations.
- **Fare Vending Machine** – Streetcar fares may be paid in advance using credit cards or Breeze Cards with stored value.
- **Level Boarding Platform** – Allowing level access between the Streetcar vehicle and station platforms.
- **ADA-Accessible Ramps and Waiting Area** – All Streetcar stations were constructed with ADA-accessible ramps between the platform and the station.

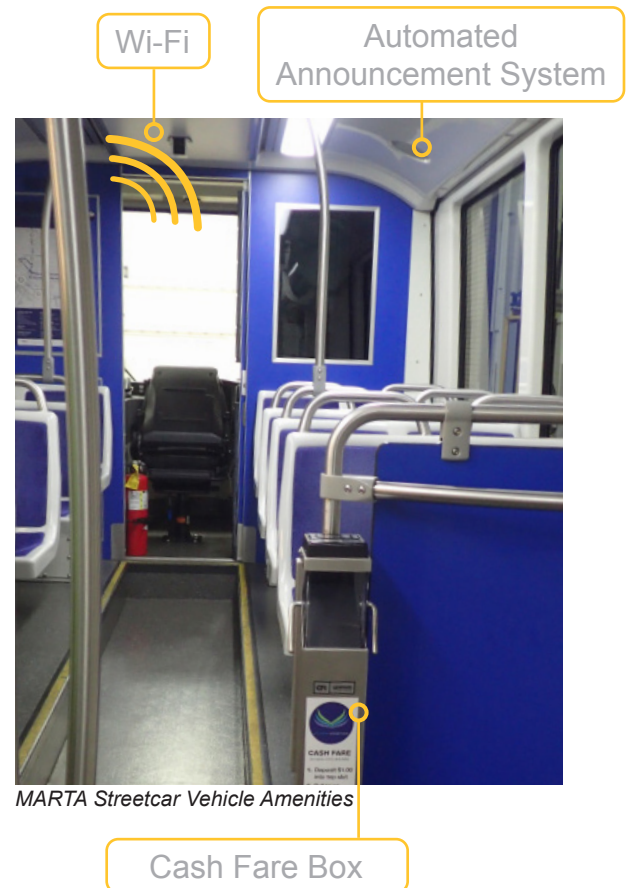


MARTA Streetcar Station Amenities

## Vehicle Amenities

All Streetcar vehicles are equipped with the following:

- **Cash Fare Boxes** – Streetcar vehicles do not currently accept Breeze Cards and have cash fare boxes on board to collect fares.
- **Automated Announcement Systems** – In compliance with ADA, all vehicles are equipped with audio and visual announcements identifying the route and stop/intersection.
- **Wi-Fi** – All vehicles are equipped with free Wi-Fi.



MARTA Streetcar Vehicle Amenities

## Heavy Rail

### Station Amenities

In addition to Breeze Card vending machines, emergency phones, seating areas with benches and trash receptacles, all rail stations are equipped with the following amenities:

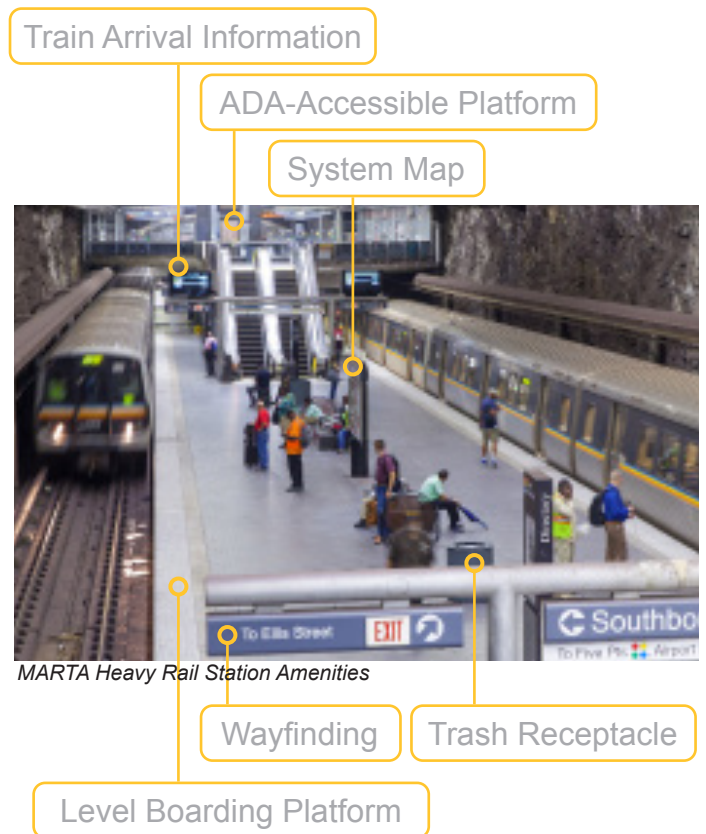
- **Train Arrival Information** – Electronic displays providing estimated train arrival times
- **System Map and Passenger Information** – Along with system maps, Heavy Rail stations include bus schedule information for routes serving the station.
- **Level Boarding Platforms** – Allowing level access between trains and station platforms
- **ADA-Accessible Platforms** – Including elevators and escalators facilitating access for customers using wheelchairs or mobility devices.
- **Wayfinding** – Identifying street-level exits and directions to access nearby destinations.

All other amenities will be distributed equitably throughout the MARTA service area.

### Vehicle Amenities

Heavy Rail vehicles are equipped with the following amenities:

- **Passenger Information** – In addition to announcements made through train audio systems, rail vehicles include displays featuring announcements, marketing information, and advertising.
- **Wi-Fi** – All trains are equipped with free Wi-Fi.





## 3.8 Transit Access

**MARTA strives to provide equitable transit access throughout the service area.** Transit access is the distance a person must travel to access MARTA's fixed-route service. This distance considers a customer's actual path of travel, considering the street network and the built environment, rather than a "straight-line distance."

Though MARTA does not own or maintain the city streets and state routes where vehicles operate, it does coordinate with local jurisdictions to identify needed infrastructure to accommodate MARTA customers. When planning routes, MARTA considers a street or corridor's accessibility when determining its suitability for transit service.

### What is an accessible distance?

**Bus service** is considered accessible within approximately a 1/4-mile pedestrian or wheelchair travel distance. Some geographical barriers may restrict access to MARTA service within a 1/4-mile.

**Streetcar Service** is considered accessible within a 1/2-mile pedestrian or wheelchair travel distance of any given Streetcar station during all hours of service.

**Heavy Rail Service** is considered accessible within a 1/2-mile pedestrian or wheelchair travel distance of any given Heavy Rail station during all hours of service.



## 3.9 Clean Stations and Vehicles

**MARTA strives to provide comfortable service by providing clean and well maintained stations and vehicles.** To ensure that MARTA customers have a safe and comfortable experience, MARTA cleans its 38 rail stations, 300-plus train cars, and more than 550 buses on a daily basis. Additionally, MARTA performs major (detailed) cleaning on buses every 4,500 miles (about every 3 weeks), and spot cleans buses involved in service incidents that soil or contaminates equipment. All buses and rail stations are equipped with trash receptacles which are cleaned daily.

Some MARTA bus stops also include trash receptacles though trash collection and maintenance are typically the responsibility of MARTA's jurisdictional partners and local municipalities.

MARTA cleans and maintains its facilities on a nightly basis:

**38 stations**



**550+ buses**



**330+ train cars**





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AIRPORT

638

403

marta.

To Ellis Street

Destination  
Platform  
Arrival  
Departure  
Transfer

No Smoking  
No Vaping

To Five Pk + Airport 4  
To Doraville or North Springs

Directory

ATTENTION  
PLATFORM  
CLOSED

# 4. Service Standards

4.1 Service Hours

4.2 Service Frequency

4.3 Service Capacity

4.4 On-Time Performance

4.5 Bus Productivity





## What are Service Standards?

MARTA uses Service Standards as its targets for evaluating service. For each standard below, MARTA uses relevant data to evaluate the different routes and service tiers:

- Service Hours
- Service Frequency
- Service Capacity
- On-Time Performance
- Bus Productivity

The Service Standards provide customers with clear targets for what to expect from MARTA service. They also provide information on how routes are assessed and analyzed for potential changes in service.

The Service Standards are examined in holistic manner that considers the relationship between the different Service Standards. For example, changes to service hours or service frequency can have an impact on service capacity. MARTA seeks to consider the entirety of a route's performance when considering potential changes in service.

Additionally, by evaluating all standards regularly over months of service, the analysis provides a more accurate picture of how a route or line is operating. Particularly with bus service, factors outside of MARTA's control such as congestion, construction, or road closures affect performance on individual days. Evaluation of service over time can provide a more complete and informed assessment of performance.

## How are they different from Service Design Guidelines?

As described in [Chapter 3: Service Design Guidelines](#) describe general principles the agency uses to inform service planning. As principles, the Service Design Guidelines include some degree of flexibility as funding and context allow. Unlike the Service Design Guidelines, MARTA's Service Standards include specific targets for service that MARTA strives to deliver. Standards are monitored and if unmet over a period of time, may indicate potential service changes.

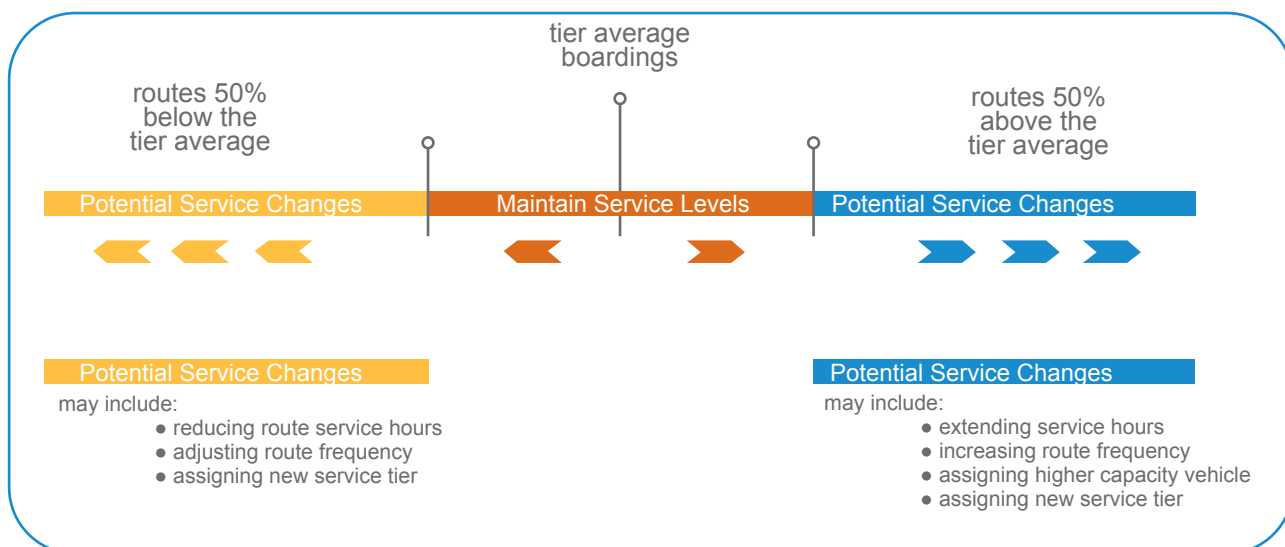
## How does MARTA evaluate service?

Within the service change process, MARTA evaluates service up to three times per year based on data relevant to each specific standard. Data for each route are compared with both the service tier route averages and the adopted service standard for each tier.

For each standard, if a route meets the following conditions its overall performance will be considered before any service changes are recommended:










- a. route performance falls below the adopted service tier standard
- b. route performance is 50% below or 50% above service tier average

The diagram below provides an illustration of possible outcomes for routes as they compare to the service tier average. Those performing 50% below the tier average are first evaluated with respect to the other Service Standards and then considered for service changes. Routes performing between 50% and 150% of the tier average typically see service levels maintained. Routes performing at 50% above the tier average are evaluated with respect to the other standards and considered for possible service changes.













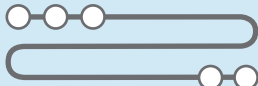





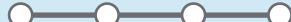







# MARTA Service Standards Table

This table provides an overview of the Service Standards and Service Design Guidelines for each of MARTA's service tiers. The table describes typical characteristics of each service tier which may vary from route to route.

 <b>Transit Service Tiers</b>		Typical Frequency (time between buses/trains)		On-Time Performance Target
		Peak	Off-Peak	% departures 0 min. early to 5 min. late
Paratransit Service	 <b>MARTA Mobility</b>	scheduled trips for eligible riders		30-minute pick-up window
	 <b>Community Circulator</b>	<b>30-60 min.</b> all day		<b>78.5%</b>
Bus Service	 <b>Supporting Local</b>	<b>30-60 min.</b> all day		<b>78.5%</b>
	 <b>Frequent Local</b>	every <b>10-15</b> minutes	every <b>15-20</b> minutes	<b>78.5%</b>
	 <b>Peak Only</b>	every <b>30-60</b> minutes	—	<b>78.5%</b>
	 <b>Limited Express</b>	every <b>30-40</b> minutes	every <b>40-60</b> minutes	<b>78.5%</b>
	 <b>Streetcar</b>	<b>15 min.</b> all day		Maintain <b>10-15</b> Headways
Rail Service	 <b>Heavy Rail</b>	every <b>15</b> minutes	every <b>20</b> minutes	<b>95%</b>

The above characteristics of each service tier reflect a snapshot of typical MARTA service at the time of MARTA Board adoption. Characteristics are subject to change based on MARTA's budget, available resources, and passenger demand.

Typical Hours of Service	Typical Distance Between Stops	Seated Capacity  = 10 passengers	Standing Capacity  = 10 passengers
20 hours	origin-to-destination service	 (15)	—
19 hours	800-1200 feet  2-5 min. walk	 (25)	 (13)
20 hours	800-1200 feet  2-5 min. walk	 (37)	 (19)
20 hours	800-1200 feet  2-5 min. walk	 (37)	 (19)
12 hours (weekdays only)	 limited stops between endpoints	 (37)	 (19)
19 hours	 limited stops between endpoints	 (37)	 (19)
18 hours	900 feet  < 5 min. walk	 (60)	 (30)
21 hours	1 mile  20 min. walk	 (64)* *per car – most trains feature 6 cars	 (32)* *per car – most trains feature 6 cars



## 4.1 Service Hours

### What is it?

**Service Hours** – the number of hours per day that MARTA operates transit service.

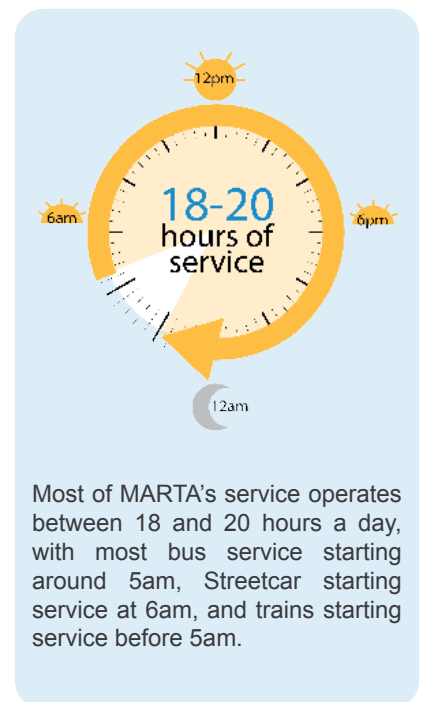
### Why is it important?

Service Hours are a fundamental part of making service available to customers. The longer service operates each day, the more options riders have to use MARTA. The Authority must balance service availability with travel demand, while managing costs and maintaining vehicles and facilities.

### What can riders expect?

MARTA operates service seven days a week and, for many routes, up to 20 hours a day. As shown in the graphic on the following page, some service tiers operate longer hours than others. For example, most Heavy Rail service operates from 4:30AM to 2:00AM during the week, while the Streetcar operates from 6:00AM to 11:00PM on weekdays. Service hours vary slightly from route to route within each service tier.

It is important to note that bus and train frequency varies throughout the day (see Service Frequency, Section 4.2 for more information). MARTA operates more frequent service during peak periods, and less frequent service late at night. MARTA provides extended service into late night or early morning periods where demand exists. Given funding constraints, MARTA must balance providing service to meet high-demand periods with making service available at other times of day.



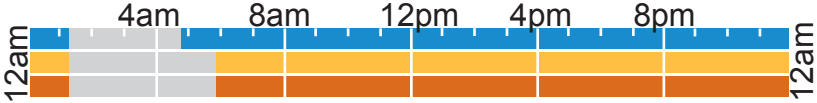
Customers should check individual route schedules for route-specific arrival and departure times, or use MARTA's On-the-Go app for real-time information and service alerts.



The graphic below shows MARTA’s typical service hours. Many service tiers operate up to 20 hours a day on weekdays. Because service hours vary slightly between routes within the same service tier, customers should check route-specific timetables for scheduled arrival and departure times at [itsmarta.com/bus-routes.aspx](https://itsmarta.com/bus-routes.aspx) or by using MARTA’s On-the-Go app.



MARTA Mobility



Community Circulator



Supporting Local



Frequent Local



Peak Only



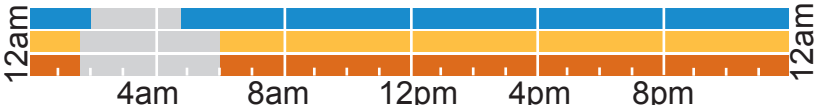
Limited Express



Streetcar



Heavy Rail



The graphic above illustrates when MARTA customers can expect service to be available. The following section, Service Frequency, illustrates how often MARTA operates buses and trains throughout the day. Along with Service Hours, these standards provide MARTA customers with a clear indication of when to expect transit service.

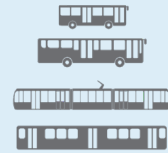
## How are Service Hours evaluated?

In the service planning process, MARTA evaluates the number of hours per day service is available. By analyzing the number of boardings for each route’s first and last few trips, MARTA can assess the potential for service hours to be extended or shortened.

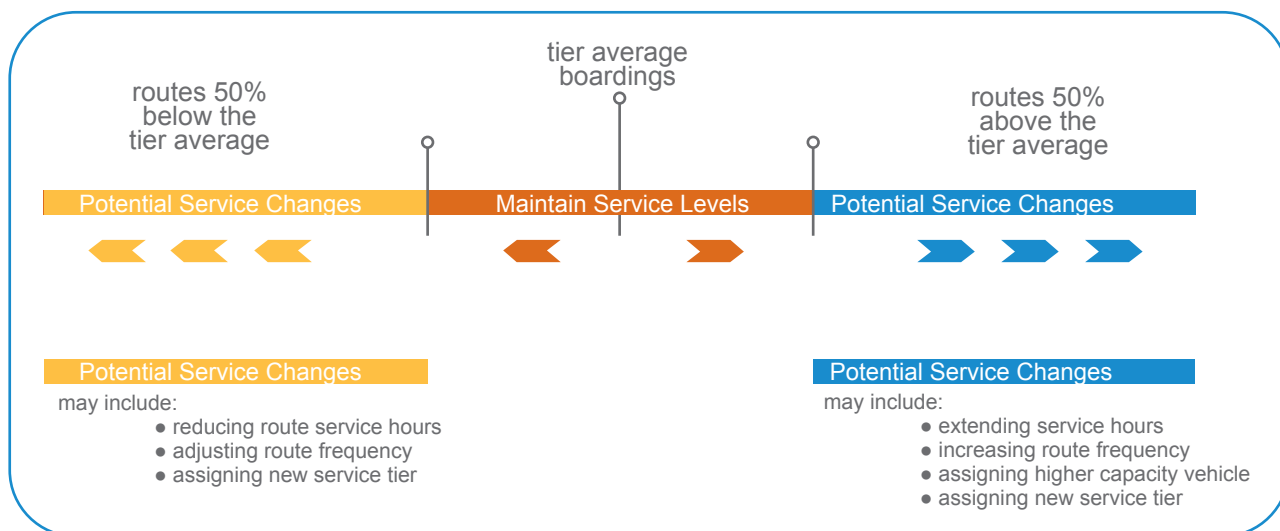
### Evaluation Process

1. Determine average number of boardings for first/last three trips for each route.
2. Determine tier average number boardings for first/last trips.
3. Compare individual route average for first/last trips with service tier average.
4. Consider the route’s performance with respect to other Service Standards and tier averages. Consider possible service changes, if warranted.
5. MARTA implements major service changes after public outreach, public hearings, budget considerations, and Board adoption within the service change process (as described in [Chapter 2: Service Change Process](#)). Service changes may be recommended after a route performs outside the service tier standard for two consecutive service change periods (eight months).

### Service Tier Comparison



In the service change process, MARTA evaluates service by comparing routes with others in the same service tier so that similar types of service are compared with one another. Community Circulator routes are compared to other Community Circulator routes; Frequent Local Bus routes compared to other Frequent Local Bus routes.





## 4.2 Service Frequency

### What is it?

**Service Frequency** – the number of transit vehicles on a given route passing a stop or a station within a period of time. A related measure, **headway**, is the amount of time between vehicles on a given route in the same direction.

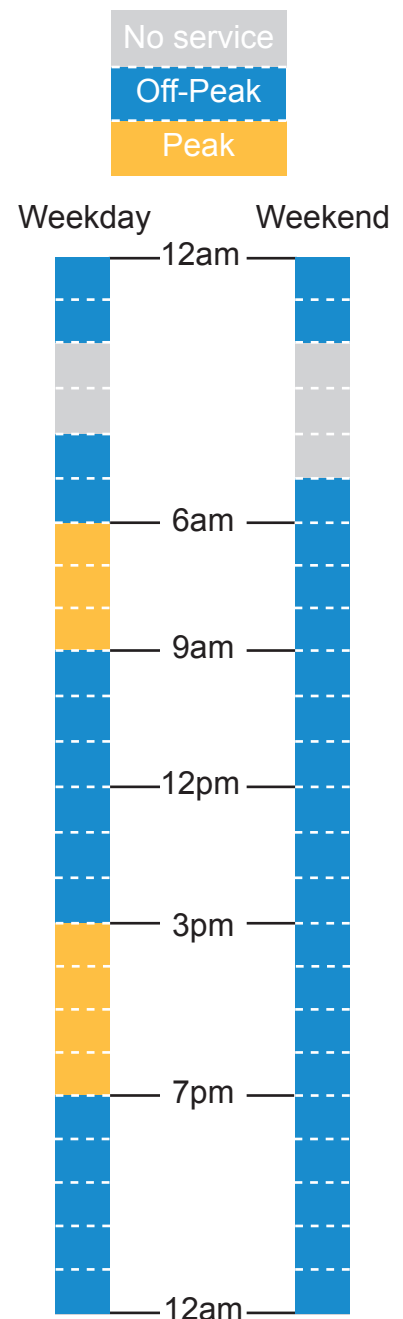
### Why is it important?

Service frequency can determine how MARTA customers use transit service and how long they have to wait at stops and stations. Frequent routes allow riders to access transit without checking schedules. Less frequent routes may require customers to check schedules ahead of time.

### What can riders expect?









MARTA provides transit service that balances frequent, high-ridership service with routes designed to provide access to activity and job centers, medical services, and other key destinations throughout the service area. For many routes, higher frequencies are offered during peak times to accommodate periods of high ridership, compared to nights and weekends.

**Peak hours** are the hours when MARTA experiences the highest demand for service and ridership (6:00 AM to 9:00 AM in the morning and 3:00 PM to 7:00 PM in the afternoon, on weekdays). During these times, MARTA provides its most frequent service to meet passenger demand. **Off-Peak hours** are the hours outside of the designated peak hours where MARTA continues to provide service, but buses may come less frequently due to lower ridership and demand at those times. The graphic to the right shows how MARTA service is structured by peak and off-peak periods.



The graphic below shows service frequency standards for each of MARTA's service tiers. Community Circulator routes feature frequencies of 30 to 60 minutes. High-ridership tiers like Heavy Rail and Frequent Local Bus feature headways of 10 to 15 minutes during peak periods.

It is important to note that because MARTA operates two lines on the trunks of its Heavy Rail network, between Airport and Lindbergh Center as well as between Ashby and Edgewood/Candler Park stations, trains may arrive more frequently than shown below.

	Peak	Off-Peak
 MARTA Mobility	Available for eligible riders, during MARTA service hours	
 Community Circulator	ALL DAY	Every 30-60 minutes
 Supporting Local	ALL DAY	Every 30-60 minutes
 Frequent Local	Every 10-15 minutes	Every 15-20 minutes
 Peak Only	Every 30-60 minutes	No Service
 Limited Express	Every 30-40 minutes	Every 40-60 minutes
 Streetcar	ALL DAY	Every 15 minutes
 Heavy Rail	Every 15 minutes	Every 20 minutes

## How is Service Frequency evaluated?

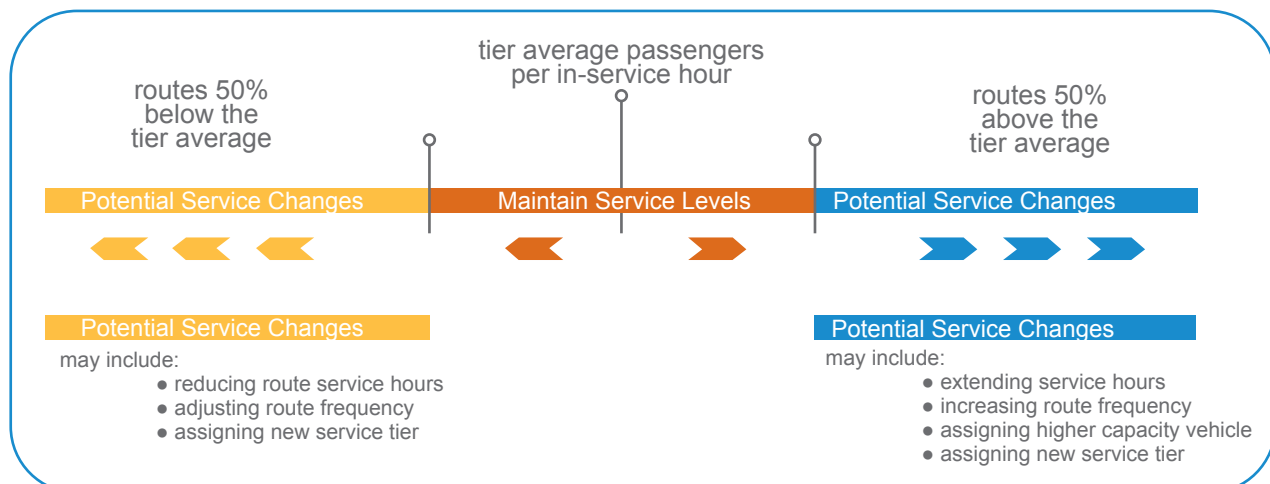
Ridership is a major factor in determining frequency for a particular route and service. High-ridership routes, like Heavy Rail and Frequent Local Bus routes see some of the most frequent service in MARTA's network. Service Frequency is also critical to the Service Hours (4.1), Service Capacity (4.3), and On-Time Performance (4.4) Service Standards and therefore is considered in conjunction with these standards.

### Evaluation Process

1. Determine average number of passengers per in-service hour for each route.
2. Determine average number of passengers per in-service hour for each service tier.
3. Compare individual route average for passengers per in-service hour with service tier average.
4. Consider the route's performance with respect to other Service Standards and tier averages. Consider possible service changes, if warranted.
5. MARTA implements major service changes after public outreach, public hearings, budget considerations, and Board adoption within the service change process (as described in [Chapter 4: Service Change Process](#)). Service changes may be recommended after a route performs outside the service tier standard for two consecutive service change periods (eight months).

### Example Service Frequency Evaluation

A typical high-ridership route has approximately 3,700 weekday passengers and operates a total of 110 weekday hours, resulting in 33.6 passengers per in-service hour. If the route's service tier average is 25 passengers per in-service hour, it would perform 34% above average and be considered for possible service changes like increased frequency or higher-capacity vehicles.





## 4.3 Service Capacity

### What is it?

**Service Capacity** is the number of passengers that can be safely accommodated on MARTA vehicles. The capacity of each type of vehicle is different and depends on the number of seats and available room for standing. To evaluate service capacity, MARTA measures each vehicle’s **load factor**—the ratio of the number of passengers onboard compared to the number of seats. A load factor of 100% (or 1.0) indicates that the number of passengers aboard equals the number of seats available.

### Why is it important?

Service capacity directly impacts passenger comfort and safety. Load factors between 100% and 150% can be considered acceptable because MARTA’s vehicles were designed to accommodate standing passengers. In general, load factors above 150% indicate overcrowding and could indicate the need for service changes.

### What can riders expect?

Capacity of MARTA vehicles varies by service tier and corresponds to route ridership. While the majority of bus routes use traditional 40-foot buses, MARTA routes with higher ridership are assigned vehicles with higher capacity; routes with lower ridership are assigned smaller, more efficient vehicles.

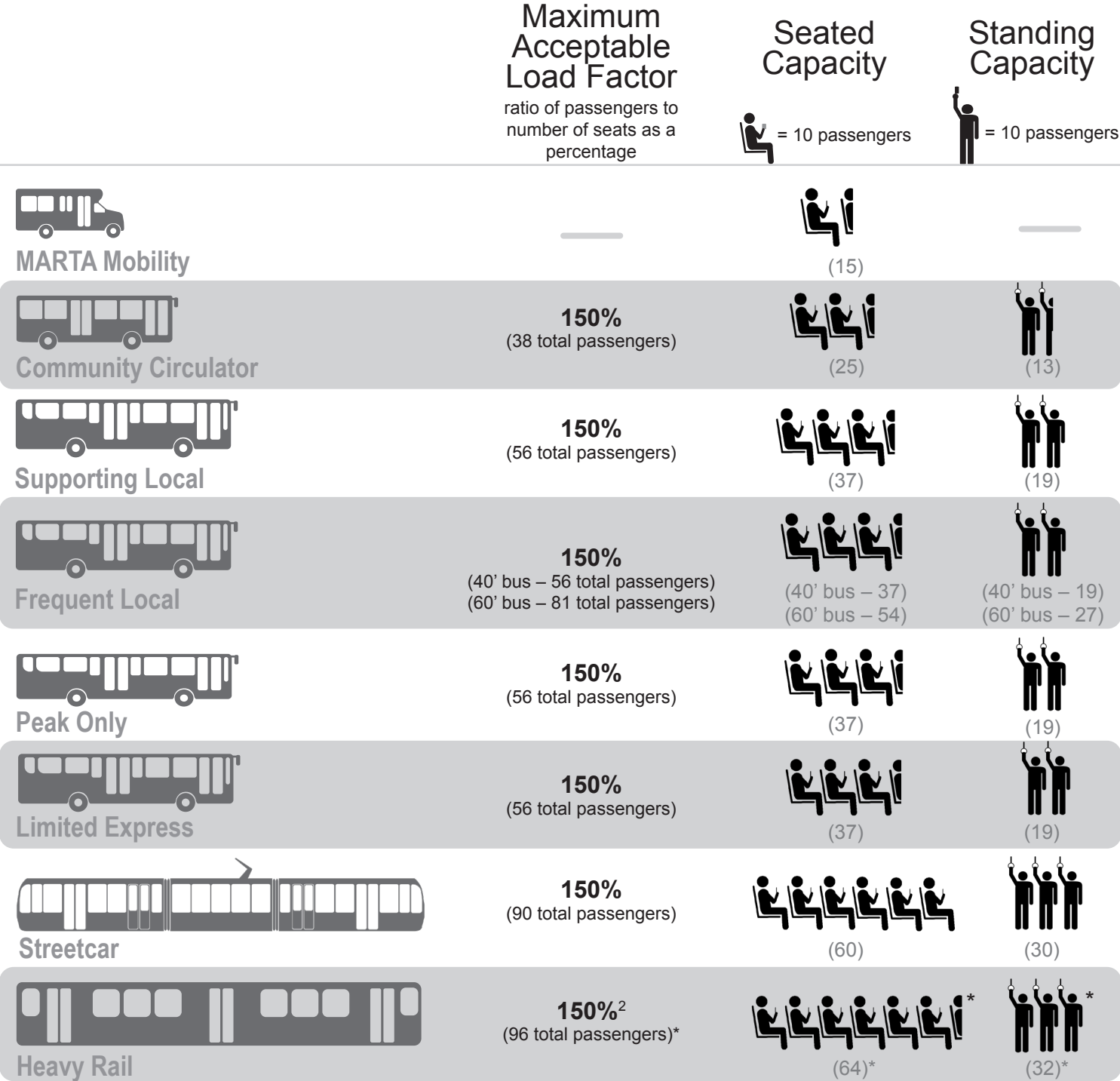
- 30-foot Community Circular buses are designed to provide local circulation and connections to the regional rail and bus transit network at major stations and hubs while using vehicles with less impact on local, neighborhood streets.
- Higher-demand routes typically feature more frequent service and use larger, higher-capacity vehicles (like 60-foot articulated buses) on high-ridership corridors.

### Load Factor Example

A typical 40-foot MARTA bus can accommodate 37 seated passengers. With 25 passengers on board during peak capacity the resulting load factor would equal 68% (or .68).

$$\begin{array}{r}
 \text{Person icon} \times 25 \\
 \text{passengers} \\
 \hline
 \text{Chair icon} \times 37 \\
 \text{seats} \\
 \\
 = 68\% \\
 \text{Load Factor}
 \end{array}$$

The graphic below shows the load factor for each tier of MARTA service by seated capacity and number of standees. MARTA’s standard for load factor across all service tiers is 150%<sup>1</sup>.



<sup>1,2</sup> Load Factor between Peachtree Center Station and Five Points Station = 175%

\*per train car – MARTA trains typically consist of 6 cars

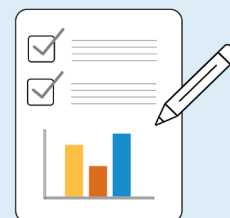
## How is Service Capacity evaluated?

In the service planning process, MARTA compares existing service capacity with observed ridership and passenger load data. By analyzing the load factors of each route, MARTA can assess the potential for service increases or decreases. Service Capacity is also critical to the Service Hours (4.1), Service Frequency (4.2), and On-Time Performance (4.4) Service Standards and therefore is considered in conjunction with these standards.

### Evaluation Process

1. MARTA regularly collects data on route/vehicle passenger loads.
2. Determine average load for each route by weekday and weekend service.
3. Determine variation in average load for each route.
4. Compare individual route load plus variation with service tier average load plus variation.
5. Consider the route's performance with respect to other Service Standards and tier averages. Consider possible service changes, if warranted.
6. MARTA implements major service changes after public outreach, public hearings, budget considerations, and Board approval within the service change process (as described in [Chapter 2: Service Change Process](#)). Service changes may be recommended after a route performs outside the service tier standard for two consecutive service change periods (eight months).

### How does MARTA collect passenger load data?

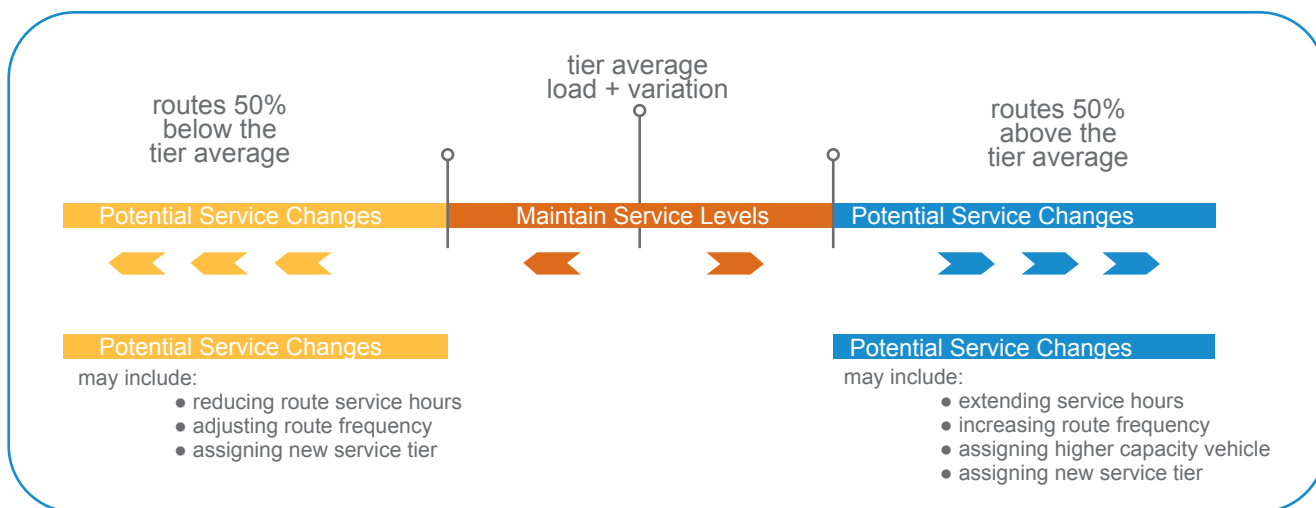


For Heavy Rail service, MARTA uses manual check points at eight stations throughout the system:

- Bankhead
- Buckhead
- GWCC/State Farm Arena
- Garnett
- Georgia State
- Lenox
- Lindbergh Center
- Peachtree Center

Entry and exit data from station faregates are also used to complement manual counts and evaluate passenger loads.

For bus service tiers, all vehicles are equipped with Automated Passenger Counters (APCs) which collect data on passenger boarding and exiting.







## 4.4 On-Time Performance

### What is it?

**On-Time Performance** measures how closely to schedule the service operates, as experienced by the customer. Any service which departs within five minutes after its scheduled departure time is considered “on time.” MARTA service that departs before its scheduled departure time, or more than five minutes after, is not considered “on time.”

### Why is it important?

On-time performance can be an important indicator of service reliability, particularly for less frequent service. Passengers always expect arrivals/departures to occur as scheduled but, when the service is less frequent, lower on-time performance can have a significant impact on the amount of time spent waiting for service. MARTA strives to provide quality service, and working towards on-time performance is an important aspect of that.

### What can riders expect?

On a given day, MARTA’s on-time performance can be impacted by many variables including traffic congestion, passenger loads, inclement weather, road conditions, special events, and road maintenance or construction. For service that consistently does not meet standards, MARTA will determine the cause and take action to address the issue. Possible improvements for such routes include adjusting running times, changing headways, or providing additional service.

To be in compliance with MARTA’s Service Standards, **95% of trains** must depart terminal stations within 5 minutes of the scheduled departure time. For bus tiers **78.5% of all buses** must depart a time point within five minutes of the scheduled departure time.

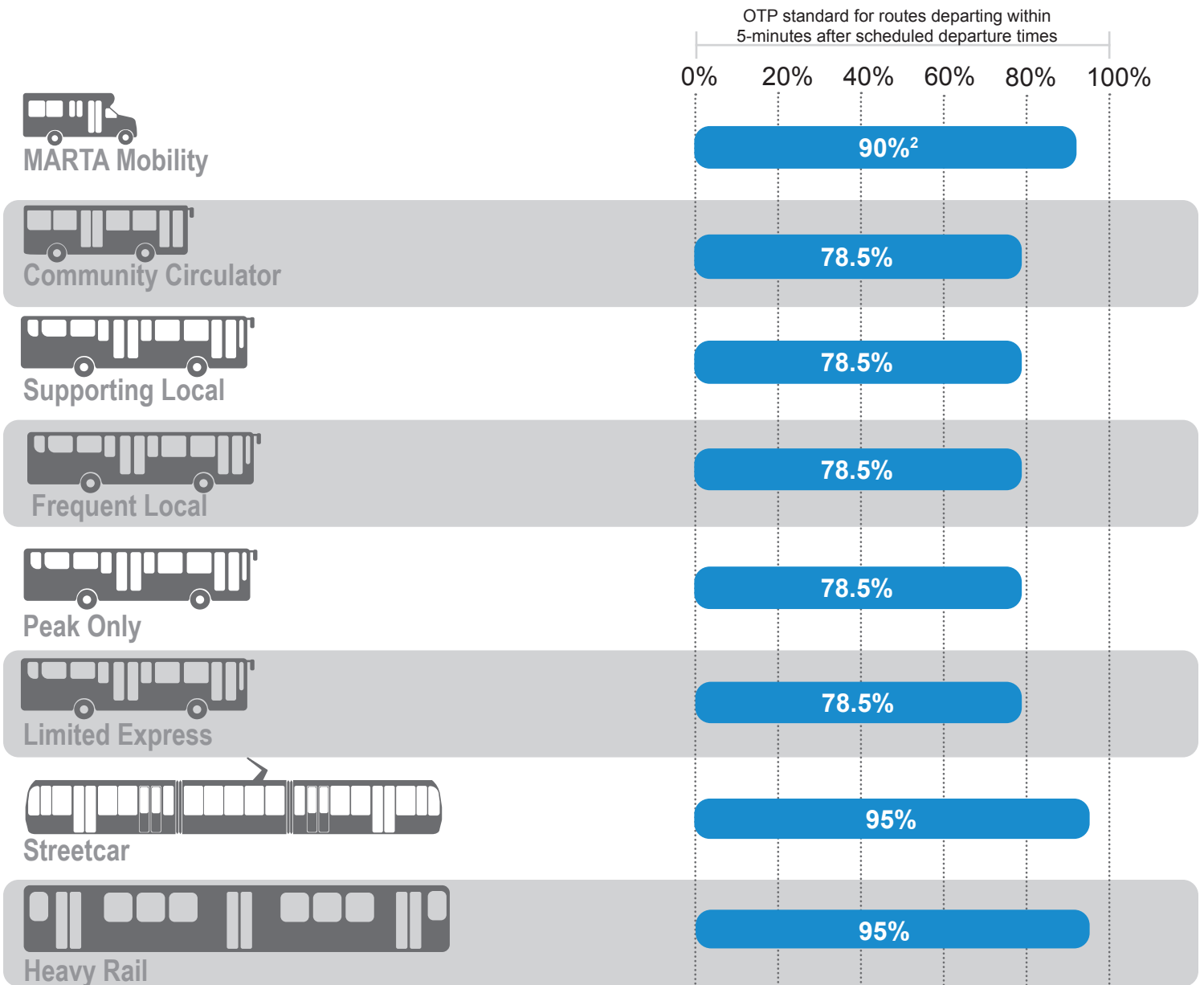
What does MARTA consider “on time”?



Customers may think of on-time performance by when transit vehicles arrive, but transit agencies typically measure when vehicles depart time points along a route. For a bus scheduled to depart at 8:15, any departure time before 8:20 meets the “on-time” standard.

Early departures are not considered “on time” because customers may expect routes to operate as scheduled, and plan their trips accordingly. If a passenger arrives on-time, but the bus has departed early, the passenger will miss the bus. For that reason, early departures are not considered “on time.”

The table below shows MARTA’s standard for on-time performance by service tier. For each service tier<sup>1</sup>, MARTA defines on-time performance as between zero minutes early and no more than five minutes after scheduled departure times. For most bus tiers, MARTA uses a 78.5% standard for on-time performance. For Heavy Rail service, MARTA’s on-time performance standard is 95%.



<sup>1,2</sup>MARTA Mobility Service is considered “on time” for arrivals occurring within the 30-minute “Ready Window” (see [Chapter 5: MARTA Mobility Service Delivery Standards](#) for more information).

## How is On-Time Performance evaluated?

MARTA collects data for each route based on individual trip data. By analyzing the on-time performance of each route and determining the potential causes of performance that falls outside the standard, MARTA can assess the potential for service changes. On-Time Performance is also critical to the Service Hours (4.1), Service Frequency (4.2), and Service Capacity (4.3) Service Standards and therefore is considered in conjunction with these standards.

### Evaluation Process

1. Determine on-time performance of each route and potential external impacting factors.
2. Compare individual route on-time performance with the service tier target on-time performance.
3. For routes performing below the service tier target, determine the cause of sub-standard performance.
4. Consider route performance with respect to other Service Standards and consider service changes, if warranted.

How does MARTA calculate On-Time Performance?



For trains, MARTA calculates on-time performance by comparing recorded departure time with scheduled departure time at terminal stations.

For bus tiers, each route has assigned time points along its route. Automatic Vehicle Location (AVL) data is used to determine a bus's departure time at each point throughout the day.

For each route, vehicles departing a time point or terminal station within the 5-minute on-time window are divided by the total number of departures throughout the day. Multiplying the result by 100 produces the route's on-time performance as a percentage.



## 4.5 Bus Productivity

### What is it?

**Bus Productivity** – a measurement of bus route efficiency that takes into account a route’s costs and its revenues. The measurement is based on three factors to ensure that MARTA service is appropriate for existing passenger demand:

- passengers per in-service hour
- average load (occupancy rate)
- total costs per passenger

This standard is only applicable to bus services.

### Why is it important?

Efficient use of limited resources is an important consideration for MARTA in providing service and maintaining financial stability. MARTA must balance delivering fast, frequent service on high ridership routes with providing needed access to important destinations like schools, hospitals, government offices and commercial areas.

### What can riders expect?

Compared to other standards, bus productivity is not immediately visible to riders. It is, however, an important factor in determining service potential service changes. Consideration of passengers, costs, and how many riders are on the bus at once are important to understand how the route is performing. While this is an important assessment, ridership and costs are not the only consideration for potential service changes. This standard, along with the others, will be used to identify potential changes to improve efficiency.

### What is MARTA’s Bus Productivity Index (BPI)?

In 2018, the MARTA Board adopted a new Route Productivity and Ranking Process that calculates an indexed score for three performance measures: passengers per in-service hour, total costs per passenger, and average load. An indexed score compares routes of each service tier with the tier average. An example calculation of bus productivity is included in [Appendix C](#).

**passengers per in-service hour** – for each route, the total number of passengers per day, divided by the total number of revenue hours per day.

**average load** – average load factor for all bus trips of a single route.

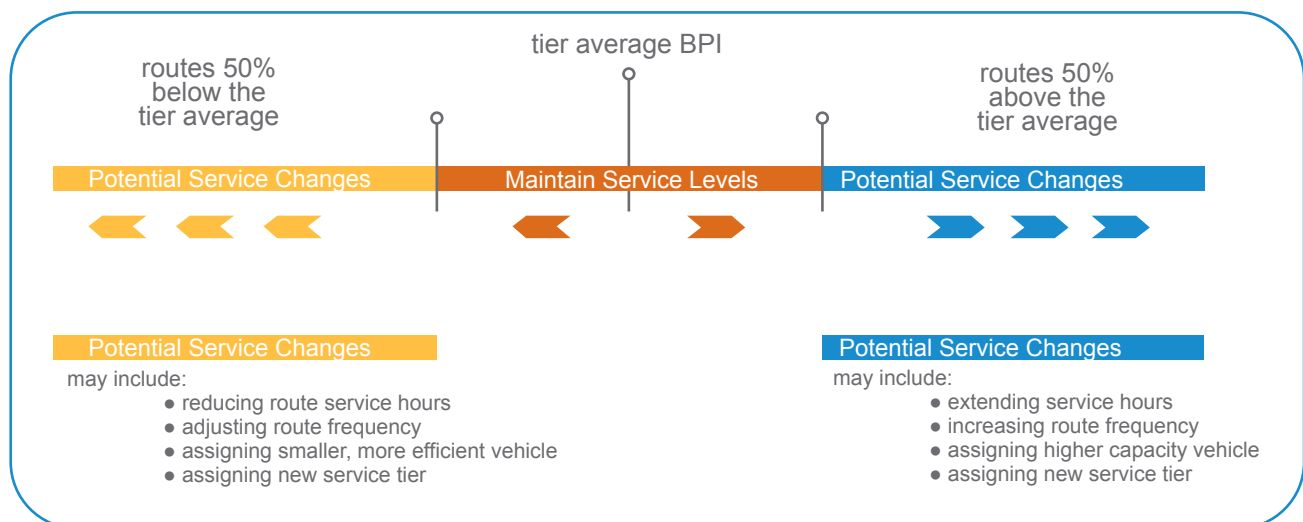
**total costs per passenger** – annual operating costs include fuel, maintenance, and operator salaries divided by total number of passengers served.

## How is Bus Productivity evaluated?

To evaluate bus productivity, MARTA considers the total ridership, average occupancy, and overall costs associated with each route. By assessing bus productivity, MARTA can deliver service that is both efficient and appropriate to the existing demand of a route.

### Evaluation Process

1. Determine the bus productivity index for each route, considering passengers per in-service hour, total costs per passenger, and average load.
2. Compare individual route bus productivity indices (BPIs) with the service tier BPI.
3. For routes that perform more than 50% above or below the tier average, consider route performance with respect to other Service Standards and consider possible service changes, if warranted.
4. MARTA implements major service changes after public outreach, public hearings, budget considerations, and Board approval within the service change process (as described in [Chapter 2: Service Change Process](#)). Service changes may be recommended after a route performs outside the service tier standard for two consecutive service change periods (eight months).





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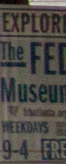
# 5. MARTA Mobility Service Delivery Standards

5.1 Categories of Eligibility

5.2 Eligibility Requirements

5.3 Categories of Service

5.4 Performance Standards



## What is MARTA Mobility Service?

MARTA provides its complementary paratransit service in compliance with the Americans with Disabilities Act (ADA) for riders with disabilities who are unable to utilize MARTA's fixed-route system for some or all of their travel.

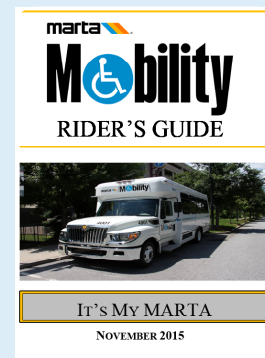
## How does MARTA Mobility Service work?

MARTA Mobility is an advanced reservation mode of transit that operates on an origin-to-destination basis. The service may also provide customers with transportation to MARTA's fixed-route services, creating connections for MARTA Mobility passengers to bus, Streetcar, or Heavy Rail service. MARTA Mobility operates with the same schedule as MARTA's fixed-route services and provides service in the same areas of Fulton, Clayton, DeKalb Counties, and the City of Atlanta where fixed-route service is available.

Customers can apply for MARTA Mobility services by contacting the MARTA Mobility Eligibility Department at (404) 848-5389, Monday through Friday, from 8:30AM to 5:00PM. More information can also be obtained online at [itsmarta.com](http://itsmarta.com) or in person at the Mobility office at MARTA Headquarters: **2424 Piedmont Rd NE, Atlanta, GA 30324-3330.**

MARTA adheres to the U.S. Department of Transportation (DOT) Transportation for Individuals with Disabilities Reasonable Modification Policies as amended in 49 CFR Parts 27 and 37.

### MARTA Mobility Rider's Guide



MARTA Mobility guidelines are described fully in MARTA's Mobility Rider's Guide. Customers can find a copy of the full guide on MARTA's website: [itsmarta.com/marta-mobility-guide.aspx](http://itsmarta.com/marta-mobility-guide.aspx)

### Mobility Statistics



MARTA operates more than **200** Mobility vehicles and provides nearly **700,000** rides to MARTA Mobility passengers each year.



## 5.1 Eligibility for MARTA Mobility Service

Eligibility considerations for MARTA Mobility service are based on categories of eligibility established by the Americans with Disabilities Act.

**Category I** – individuals who cannot independently navigate the fixed-route system.

**Category II** – individuals who would be able to use the fixed-route system if it were accessible (e.g., when a low-floor or ramp-equipped bus is not available). This category is not required once a transit system is 100% accessible.

**Category III** – individuals who, because of their functional ability, cannot access a bus stop or a train station to board the fixed-route system and cannot access their final destination after disembarking from a fixed-route bus or train.

Two important qualifiers to this category are included in the regulations:

- Environmental conditions
- Architectural barriers (environmental conditions and architectural barriers not under the control of the public entity do not, when considered alone, confer eligibility.)

**NOTE:** Inconvenience in using the fixed-route system is not a basis for eligibility.

### Types of Eligibility

Based on the categories of eligibility identified above, MARTA has established three types of eligibility that an applicant might qualify for:

- **Unconditional Eligibility** – This is a person’s eligibility category when the individual’s functional ability prevents them from using the fixed-route service under any circumstances, regardless of weather, distance to the stop, and so on.
- **Conditional Eligibility** – In this type of eligibility, the person’s functional ability allows them to make some trips



on fixed-route services as trip distance, weather, and health conditions allow. For these passengers, some days, and for certain trips, fixed-route use is possible and on other days, it is not. In addition, an individual's abilities may not allow them to get to and from fixed-route services independently, using Mobility as a feeder service.

- **Temporary Eligibility** – The ADA also includes temporary eligibility for people with disabilities that prevent them from using the fixed-route system for a limited period of time. If customers have a temporary disability, they may obtain MARTA Mobility eligibility for the expected duration of the disability. If the disability continues beyond the certified time, MARTA will require a revised certification from the customer's health care professional.

Eligibility conditions are assigned at the time of certification and applied each time the eligible customer calls to schedule service.

## 5.2 Eligibility Requirements


Eligibility for MARTA Mobility services requires customers to complete a two-part application.


Individuals who believe they are eligible must complete Part A of the application; Part B should be completed by a licensed rehabilitation or medical professional affiliated with an accredited service center working with disabilities. An in-person functional assessment must be completed after Part A and Part B of the application is received by MARTA.


For eligible customers, trip origin and destination must be within 3/4-mile of a MARTA fixed-route service operating in Fulton, DeKalb, and Clayton Counties. Service hours will match the nearest fixed route within the 3/4-mile radius.


### Mobility Application Requests

Customers can apply for MARTA Mobility eligibility by requesting an application in the following ways:

 Call the MARTA Mobility Eligibility Department, (404) 848-5389, Monday through Friday, 8:30am to 5:00pm.

 By mail: MARTA Mobility, 2424 Piedmont Road NE, Atlanta, GA 30324-3330

 In person: MARTA Reduced Fare Office, 2424 Piedmont Road NE, Atlanta, GA 30324-3330

 Via fax, 404-848-6900

## 5.3 Categories of Service

MARTA Mobility includes two categories of service for customers depending upon the requested frequency of trips:

1. **Subscription** – customers who have travel patterns to and from the same destination(s), at the same time, at least one (1) day per week, for at least six (6) consecutive months.
2. **Advance Reservation** – customers can make reservations between one and seven days in advance.

Neither type of service has reservation priority.

Subject to certification criteria, complementary paratransit service for ADA-eligible persons shall be origin-to-destination service, or feeder service (passenger transported to a MARTA fixed-route service instead of a final destination) may be provided to conditionally eligible passengers who can navigate the fixed-route system.

Mobility services outside of the MARTA service area will be governed by intergovernmental agreement and adhere to federal guidelines. Since January 2006, persons eligible for MARTA Mobility service have been offered the option of transitioning from MARTA Mobility service to “fare free” travel on the regular fixed-route service.

### MARTA Mobility Reservation Process



#### 1. Call

Reservations for Mobility services can be scheduled by contacting the MARTA Mobility Call Center, (404)-848-5826, from 8:30am to 5:00pm, seven days a week.



#### 2. Schedule

Customers can schedule reservations up to seven days in advance.



#### 3. Provide Information

Customers need to provide to following information to schedule a reservation:

- Name or customer ID number
- Exact address of trip origin and destination
- The type of mobility aid used and if lift is required.
- Use of service animal, if applicable.
- Pick-up or drop-off time – customers must prioritize either pick-up or drop-off time when making reservations to determine the “Ready Time” and 30-minute “Ready Window.”

## 5.4 Mobility Performance Standards

MARTA uses the following performance standards to evaluate and ensure the quality of MARTA Mobility service. The performance measures listed below are calculated monthly and displayed as Key Performance Indicators (KPIs) on MARTA’s website: [www.itsmarta.com/kpishome.aspx](http://www.itsmarta.com/kpishome.aspx)



### On-Time Performance

**Target:** 90%  
**Definition:** Percentage of Mobility customer pick-ups made within 30 minutes from the scheduled pick-up times.



### Customer Complaints per 1,000 Unlinked Trips

**Target:** no more than 4.0 complaints  
**Definition:** Customer complaints about Mobility service (for example: on-time performance, operator courtesy, etc.) per 1,000 MARTA Mobility boardings.



### Collision Rate

**Target:** no more than 2.5 collisions  
**Definition:** Collisions involving Mobility vehicles not to exceed 2.5 collisions per 100,000 miles.



### Bus Mean Distance Between Failures

**Target:** 7,500 Miles  
**Definition:** Measures the mean distance (actual vehicle miles) between mechanical failures reportable to National Transit Database.



### Reservation Call Abandonment Rate

**Target:** no more than 5.5%  
**Definition:** Measures the percentage of customers who terminate a call while waiting in queue to make a MARTA Mobility reservation.



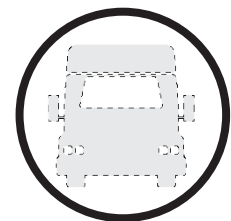
### Adherence to 0% Trip Denial Requirement

**Target:** 0%  
**Definition:** Eligible MARTA Mobility passengers will not be denied service for trips that meet eligibility requirements.



### Reservation Call Average Wait Time

**Target:** no more than 120 seconds (2 minutes)  
**Definition:** Measures the average time a customer waits in queue while making a Mobility reservation.



### Missed Trips

**Target:** not to exceed 0.5% of total trips  
**Definition:** A trip in which a vehicle arrives outside the 30-minute window (early or late) and the passenger does not ride.

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# 6. Other Service Considerations

6.1 Emergency Events

6.2 Large Scale or Special Events

6.3 Contracted Services



Safety is MARTA's top priority. For this reason, circumstances beyond MARTA's control at times prevent service from operating as advertised. This includes major emergencies, large scale events, and other special events. This chapter describes the unique ways MARTA may adapt in these instances. This includes contracting private-sector transportation as appropriate.

## 6.1 Emergency Events

In the event of civil unrest, terrorist attack, cyber attack, health emergency, or extreme weather that may pose a risk to staff or customers, or as otherwise necessitated by fuel, labor, or other shortage, MARTA may be required to implement service changes, reductions, or suspension.

MARTA will respond appropriately as conditions allow but customers may experience the following necessary service changes:

- service reductions
- service cancellations
- other changes as needed

### Notification of Service Changes

In the event of severe weather conditions, MARTA will notify customers of service changes in coordination with media outlets and by posting updates at [itsmarta.com](https://itsmarta.com), on MARTA's Facebook page, and [@MARTAService](https://twitter.com/MARTAService) on Twitter.

## 6.2 Large Scale or Special Events and Detours

Large scale or special events may require special service considerations on the part of MARTA staff to accommodate additional passengers or re-route service in response to street closures or other impacts to regularly scheduled service.

- **Special Events** – MARTA defines special events as major conventions, national celebrations, sports championships, demonstrations, ethnic celebrations, religious convocations, foot and motorized races, or any event that would or have a significant impact, through the system or at a given station(s).
- **Large Scale Events** – MARTA defines large scale events as any event that requires an Authority-Wide Operations and Staffing Plan.

### Special Events



DragonCon Parade – [itsmarta.com](https://itsmarta.com)

MARTA is proud to connect customers with the many events that make Atlanta a vibrant, exciting place to live:

- Major sporting events
- DragonCon
- Atlanta Streets Alive
- Peachtree Road Race
- Atlanta Pride Festival



### Possible Service Changes

When large scale or special events occur, MARTA responds with appropriate service changes that may include the following:

- Re-routing – When street closures are planned, MARTA may re-route service on adjacent or nearby streets to provide access for customers impacted by the closure.
- Bus Bridge – Bus service connects between rail stations when that portion of the rail line is not operating. Ex: TR-IV rail replacement.
- Shuttle service – Shuttle service may be used to supplement Heavy Rail, Streetcar, or to provide access to destinations off of the rail network. Ex: Shuttle to mass-vaccination site near the airport.
- Plug service – Extra service along an existing route is used to alleviate anticipated overcrowding or increased demand.

### Bus Detours and Notifications

Bus detours result from circumstances that prevent a bus from operating on its regular route. Examples of circumstances which may cause a detour include street or bridge repairs, fires, traffic accidents, weather conditions, closures for parades or events, utility work or other construction projects.

The duration of a detour may range from a few minutes to years depending on the size and scope of the disruption.

Anytime a service is detoured, passengers should assume it to be temporary and that MARTA will make best efforts to resume service along the regular routing when the disruption is resolved.

MARTA will notify the public of both implementation of detours and resumption of regular service through its regular communication channels with as much advanced notice and in as much detail as time allows.

To make a detour routing permanent, the regular service change process outlined in Section 2 is to be followed. For example, if the routing of a detour proposed to be made permanent is a substantial geographical alteration (as defined on Page 7 of this document), a public hearing would be required. If not, no hearing would be required, but sufficient notice should be given.

Notifications are provided online and through MARTA's On-the-Go app.

#### Follow MARTA for Service Notifications

Severe weather and special event notifications are provided on MARTA's website and social media accounts along with service alerts, parking updates and elevator notifications.



@MARTASERVICE



@MARTAt transit



[itsmarta.com](http://itsmarta.com)

## Evaluation of Event Coordination

As directed by MARTA's Large Scale or Special Events Policy, an area that participated in the event will submit a post-event report to the Assistant General Manager of Operations who will provide a summary report to MARTA's General Manager.

## 6.3 Contracted Services

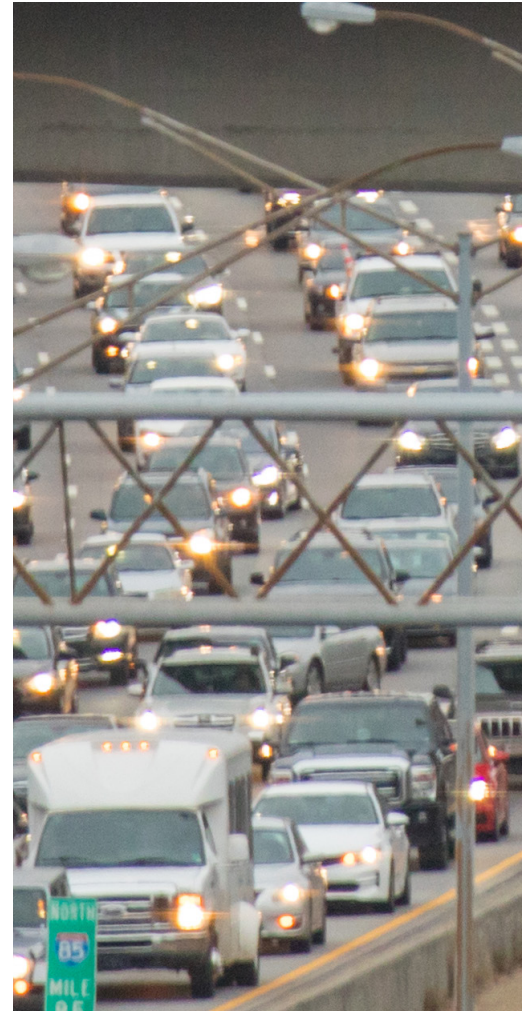
In the interest of leveraging its resources, MARTA will seek to provide contracted services where beneficial. This interest will apply to alternative and innovative forms of transit, such as demand-response operations, as well as to more traditional fixed-route transit.

Certain parameters will be applied when making decisions to pursue contracted services:

- Consistent with MARTA Act Section 24A Transportation Services Contract, all costs, both direct and indirect, shall be borne by one or more of the following:
  - a) fares
  - b) other revenues generated
  - c) subsidies
- Proposed service will directly benefit patrons residing in MARTA's legislated service district, currently the counties of Fulton, DeKalb and Clayton and the City of Atlanta. Such benefit will be designated as increasing mobility and access to employment or social opportunities throughout the metro Atlanta region.
- Any reciprocal transfer agreement that results will take into consideration increased operational costs stemming from linkages to the MARTA system.
- All of the Civil Rights requirements in the Annual FTA Master Agreement signed by the Authority will be applicable. All contractors will be required to assist MARTA in ensuring that compliance with all prevailing Civil Rights requirements are met on an on-going basis.

## MARTA Mobility

Except for Reservations, a portion of Eligibility, and oversight personnel, the entire Mobility operations (operations, maintenance, scheduling, and dispatch) is provided through contracted services.



# 7. Summary



MARTA's Board-adopted Service Standards support its mission of providing safe, multimodal transit to achieve a more prosperous, connected and equitable future for the Atlanta region. To meet the needs of a growing population, MARTA's Service Standards guide the evaluation of transit service, ensuring that MARTA customers are provided with service that is **equitable, accountable and transparent**, both today and in the future.

***MARTA's Service Standards guide the evaluation of transit service, ensuring that MARTA customers are provided with service that is equitable, accountable and transparent, both today and in the future.***

In order to provide transit service that meets both ridership and equity goals, MARTA's Service Standards offer guidance that targets clear goals for quality and productivity of transit service. Guided by state and federal legislation, MARTA's



Service Standards provide a set of evaluation tools for MARTA staff to assess the performance of transit service and determine how to allocate resources efficiently.

In addition, the Standards describe MARTA's process for planning and implementing service changes and new service. This process identifies how MARTA engages community members and how customers can inform service changes to ensure that proposed changes are responsive to the feedback and opinions of MARTA riders and community members.

MARTA's Service Standards are designed to ensure that its service planning processes are transparent and accountable to riders and community members. MARTA's Service Standards reflect a continuous process to respond to community input and provide effective transit service so that as the region grows, MARTA will continue to provide safe, reliable, and efficient service.

*Customers can provide input regarding service changes any time at [itsmarta.com](https://www.itsmarta.com) or by contacting the MARTA comment line at (404) 848-5299.*

# Appendix A. Glossary

## A

**Accessibility** – the extent to which facilities are barrier free and usable by persons with disabilities, including those who use wheelchairs.

## C

**Community Circulator Bus** – a tier of bus service with routes that provide local circulation and connections to the regional rail and bus transit network at major stations and hubs.

**Comprehensive Operations Analysis (COA)** – an analysis of existing transportation services and recommended service changes based on analysis of existing ridership, service performance, and market conditions supported by public outreach.

## F

**Fixed Route** – routes that follows the same alignment and schedule. It is different from such modes of transportation as taxicabs or demand-responsive transportation, where each trip may vary in its origin, destination, or schedule.

**Frequency** – a standard for transit service that measures how many vehicles stop within a period of time.

**Frequent Local Bus** – a tier of bus service that operates with consistent, high-frequency service throughout the peak and midday periods.

## H

**Headway** – the amount of time between vehicles on a given route in the same direction.

**Heavy Rail** – consists of four routes using fully separated right-of-way, providing access to MARTA's 38 rail stations, throughout the service day.

## K

**Key Performance Indicators (KPIs)** – metrics MARTA uses for transit service, customer service, facilities, safety, and finance, publicly displayed on its information dashboard: [itsmarta.com/kpihome.aspx](https://itsmarta.com/kpihome.aspx).

## L

**Load Factor** – the ratio of the number of passengers onboard compared to the number of seats, used to measure service capacity on vehicles

**Limited Express Bus** – a tier of bus service that operates all day from major transit stations or park-and-ride facilities, with limited stops, and may operate on limited-access highways.

## M

**MARTA Mobility** – MARTA's complementary paratransit service, providing origin-to-destination shuttle service for eligible customers.

## P

**Peak Hours** – weekday periods when MARTA provides additional service to meet increased demand (from 6am to 9am in the morning, and from 3pm to 7pm in the afternoon).

**Peak Only Bus** – a tier of bus service that provides longer-distance rapid transit service, with limited stops, that operates only during peak periods.

**Plug Service** – extra service used to alleviate anticipated overcrowding or increased demand, especially for large scale or special events.

**Productivity** – for bus service, a measurement of bus route efficiency that takes into account a route's costs and its revenues.

## S

**Segments** – sections of routes delineated from others on the basis of collection or delivery points, or the section(s) between these points.

**Service Tier** – MARTA's categories of transit service with distinct Service Standards that include MARTA Mobility, Supporting Local Bus, Frequent Local Bus, Peak Only, Limited Express, Streetcar, and Heavy Rail.

**Stop Spacing** – the distance between consecutive transit stops.

**Streetcar** – a tier of on-street rail service that provides frequent service on the downtown loop route.

**Supporting Local Bus** – a tier of bus service providing access to residential and commercial areas with levels of transit of demand that warrant regular fixed-route service but cannot support frequent service levels.

## T

**Title VI** – Title VI of the 1964 Civil Rights Act prohibits discriminatory action on the grounds of race, color or national origin. Title VI established protections for minority and low-income populations relating to programs that receive federal financial assistance.

**Transfer** – a rider's change from one transit route to another.

**Travel Time** – the duration of transit trip from the point of origin to the final destination, including walking time at transfer points and trip ends.



# Appendix B. Summary of Changes to FY 2023 Service Standards

Last year's FY 2022 update to MARTA's Service Standards included the addition of subsections in the Table of Contents, removing duplicative language, rearranging chapters for an easier read, and adding language addressing changes in service due to health emergencies and/or fuel and labor shortages. This FY 2023 update encompasses an even more concise delivery, as it is more inclusive to changes in service and how performance is measured.

Changes to the MARTA FY 2023 Service Standards as compared to the MARTA FY 2022 Service Standards are as follows:

- Updated cover and graphics throughout document
- Changed “passengers per hour “ to “passengers per in-service hour” throughout the document
- Chapter 4 - Changed “Supporting Local” typical frequency to 30-60 minutes all-day on page 43
- Section 4.3 - Changed language from “Maximum Standees” to “Standing Capacity” and “Maximum Load Factor” to “Maximum Acceptable Load Factor” in chart on page 52
- Section 4.2 - Changed “Peak Only” peak to every 30-60 minutes and changed “Heavy Rail” peak to every 15 minutes
- Section 5.4 - Added Mean Distance Between Failures (MDBF) performance measurement
- Section 6.2 - Changed title “Large Scale and Special Events” to Large Scale and Special Events and Detours” and reflected the change in the table of contents section of the document
- Section 6.2 - Changed title of “Notification of Detours” to “Bus Detours and Notifications” and added description of detour service change procedures
- Section 6.3 - The section was moved to page 71
- Section 6.3 - Added MARTA mobility description of contracted services

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# Appendix C. Bus Productivity Standard Calculation Example

Chapter 3 of the FY 2020 Service Standards describes how MARTA evaluates service within the service change process. This appendix provides further detail about the calculation involved in the Bus Productivity Standard (Section 3.5). The Bus Productivity Standard uses three factors to evaluate bus route efficiency by taking into account a route's costs and its revenues:

- passengers per in-service hour
- total cost per passenger
- average load (occupancy rate)

Using the three factors above, MARTA calculates the following to compare route efficiencies with one another:

1. a **normalized value** takes into account the maximum and minimum values of other bus routes in the same service tier. Factors are normalized on a scale of 0 to 1.0, where 1.0 is the highest possible score. Normalizing values allows MARTA to combine the three separate factors (pax per hour, total cost per pax, average load) into a single, composite score.
2. a route **composite score** combines the normalized values for each of the three factors (passengers per in-service hour, cost per passenger, and average load), creating a single, combined metric from three separate values for each route.
3. an **indexed value** compares a route's composite score with the tier average composite. By comparing the route's composite score with the tier average, this value provides MARTA with a single number it can use to compare different bus routes within the same tier. Routes that score greater than 1.0 perform above the tier average. Routes that score below 1.0 perform below the tier average.

## Example Calculation

Normalized values are calculated for each of the three factors used in the Bus Productivity Calculation (passengers per in-service hour, total cost per passenger, average load).

$$\textcircled{1} \quad \text{Normalized Value} = \frac{\text{route value} - \text{tier minimum}}{\text{tier maximum} - \text{tier minimum}}$$

$$\text{Normalized Value}_{\text{(passengers per in-service hour)}} = \frac{100 \text{ (route pax per hour)} - 20 \text{ (tier minimum pax per hour)}}{200 \text{ (tier maximum pax per hour)} - 20 \text{ (tier min. pax per hour)}} = \frac{80}{180} = 0.43$$

Normalized values are calculated for each of the three factors (passengers per in-service hour, costs per passenger, and average load). A normalized value for costs per passenger calculates the value using 1-cost per passenger where higher scoring values are more productive, as with the other two variables: passengers per in-service hour and average load.



② **Composite Score** – normalized values for each route are averaged to calculate a composite score for each route (\* indicates calculation not shown).

$$\text{Route Composite Score} = \frac{\text{Normalized Value pax per hour} + \text{Normalized Value (1-total cost per pax)} + \text{Normalized Value average load}}{3}$$

$$\text{Route Composite Score} = \frac{\text{pax per hr } 0.43 + \text{(1-cost per pax) } 0.46^* + \text{avg. load } 0.30^*}{3} = \frac{1.19}{3} = 0.40$$

③ **Indexed value** =  $\frac{\text{Route Composite Score}}{\text{Tier Composite Score Average}}$

$$\text{Indexed value} = \frac{0.40}{0.36^*} = 1.1$$

An indexed value greater than 1.0 indicates that the route performs higher than average in bus productivity. Creating indexed values for each route allows MARTA to rank and compare routes using a single metric for bus productivity. The higher the indexed value, the better the ranking.

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