



**Massachusetts Bay
Transportation Authority**

Service Delivery Policy Update

Fiscal and Management Control Board

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What is the MBTA Service Delivery Policy?

- *“The Service Delivery Policy sets how the MBTA evaluates service quality and allocates transit service to meet the needs of the Massachusetts Bay region.”*
 - Establishes objectives for quality transit services
 - Identifies quantifiable standards used to measure whether MBTA transit services achieve their objectives
 - Sets standards used for evaluation in Title VI and Triennial Reviews



2017 MBTA Service Delivery Policy cover page

Current Standards in the Service Delivery Policy

- *Scheduled Service Measures:*

- *Coverage*
- *Accessibility*
- *Span*
- *Frequency*

- *Delivered Service Measures:*

- *Reliability*
- *Comfort (Crowding)*
- *Service Operated*

- Measures are reported by mode
- There are targets for each measure by mode
- Results are weighted by ridership so we understand what percent of passengers experience service that meets the standards



Overview of 2021 Service Delivery Policy Updates

- *Align SDP with Bus Network Redesign and building back a better, more equitable network*
 - Incorporate Equity as an MBTA Core Value
 - Introduce equity checks for Service Delivery Policy measures
 - Update Coverage and Accessibility measures to align with above priorities
 - Incorporate measures from Bus Network Redesign process, which will be used to evaluate and select new bus network
- *Make technical and general content updates to keep policy current*
 - Technical updates to Frequency and Span to align with industry best practices and Bus Network Redesign
 - Update The RIDE contract and content
 - Other general updates as needed



Overview of 2021 Service Delivery Policy Updates

- *Scheduled Service Measures:*
 - Coverage *
 - Accessibility *
 - Span *
 - Frequency *
- *Delivered Service Measures:*
 - Reliability
 - Comfort (Crowding)
 - Service Operated
- *Network Quality Measures:*
 - Competitive Trip Coverage
 - Regional Access
- Of the existing measures, 4 are getting updates
- Addition of Equity as a core value and a metric component to all measures
- Additional information on what metrics will be included on Network Quality, aligned with Bus Network Redesign



Equity in the Service Delivery Policy

- **New Service Objective – Equity:**
 - *The MBTA strives to improve access to opportunities and service quality for transit-critical populations, including low-income populations, people of color, seniors, people with disabilities, and those in low or no-vehicle households.*
 - Aligns with MBTA Strategic Planning Core Value
- **New SDP Performance Measure Component – Equity Checks:**
 - What level of service are we providing to riders overall? What level of service are low-income riders and riders of color experiencing?
 - For each SDP measure, results will be reported for all riders, low-income riders, and riders of color
 - Demographic data comes from the MBTA Rider Census
 - Except coverage, which is a residential measure (U.S. Census data is used)



Coverage Measures

- Updates required to align these measures with the Equity Checks and Bus Network Redesign
- Updated Frequent Service Coverage now considers combined population and employment density and % of low-vehicle and low-income households
- *2017 version*
 - Base Coverage
 - Low-Income Coverage
 - Frequent Service in Dense Areas Coverage
- *2021 version*
 - Base Coverage
 - Low-Income Coverage
 - People of Color Coverage
 - Frequent Service in Dense Areas Coverage
 - Low-Income Coverage
 - People of Color Coverage



Coverage Measure Results

2017 Coverage Measure Fall 2019 Results

1. Base Coverage - 83%
2. Low-Income Coverage - 89%
3. Frequent Service in Dense Areas
Coverage - 61%

2021 Coverage Measure Fall 2019 Results

1. Base Coverage - 82%
 - Low-Income Check - 88%
 - People of Color Check - 91%
2. Frequent Service in Dense Areas
Coverage - 64%
 - Low-Income Check - 64%
 - People of Color Check - 67%



Accessibility Measures

- Updates required to align these measures with the Equity Checks
- Working in conjunction with Systemwide Accessibility to make these measures more straight-forward
 - 2017 version
 - Platform Accessibility (combined measure of station accessibility and elevator uptime)
 - Vehicle Accessibility
 - 2021 version
 - Station Accessibility
 - Ridership Weighted, with Equity Checks
 - Unweighted
 - Elevator Uptime
 - Platform Accessibility (the % of platform service hours that were accessible)
 - Vehicle Accessibility



Accessibility Measure Results*

Measure	Minimum	Target	Performance	Data Period
Station Accessibility (Unweighted)	76%	100%	76%	Fall 2019
Station Accessibility (Ridership Weighted)	94%	100%	94% 94% low-income 95% riders of color	Fall 2019
Elevator Uptime	99.4%	100%	99.5%	Jul 2019 – Jun 2020
Platform Accessibility	99.4%	100%	99.4%	Jul 2019 – Jun 2020
Vehicle Accessibility (Green Line)	100%	100%	100%	Oct 2020 – Mar 2021

*Results are reported for Fall 2019 as it was the most recent time period unaffected by pandemic fluctuations in service and ridership



Span Measure

- Span measures whether scheduled service runs early enough and for long enough by checking the first trip's arrival and last trip's departure against the standard for this service.
- We are updating one of our span standards, moving Local Bus from 7am-7pm to 7am-8pm.
 - This standard change helps to align the SDP with the Bus Network Redesign project
 - Updating this standard brings the Local Bus passing results down 5% however this still meets the minimum for Span



Results: Span*

2017 SDP Standards

Route Type	Minimum	Target	Weekday Overall	Weekday Minority	Weekday Low-Income
Bus	90%	95%	97%	98%	97%
Key Bus			100%	100%	100%
Local Bus			96%	96%	96%
Commuter Bus			85%	80%	73%
Rapid Transit		100%	100%	100%	100%
Commuter Rail		100%	100%	100%	100%
Ferry		100%	100%	100%	100%

*Results are reported for Fall 2019 as it was the most recent time period unaffected by pandemic fluctuations in service and ridership



2021 Standards: Span

Route Type	Weekday	Saturday	Sunday
Bus			
Key Bus	6am-midnight	6am-midnight	7am-midnight
Local Bus	7am-8pm	8am-6:30pm	10am-6:30pm
Commuter Bus	7am-6:30pm	-	-
Community Bus	10am-4pm	-	-
Rapid Transit	6am-midnight	6am-midnight	7am-midnight
Commuter Rail	7am-10pm	8am-6:30pm	-
Ferry	7am-6:30pm	8am-6:30pm	-



Results: Span*

2021 Span Standards

Route Type	Minimum	Target	Weekday Overall	Weekday Riders of Color	Weekday Low-Income
Bus	90%	95%	95%	94%	94%
Key Bus			100%	100%	100%
Local Bus			91%	90%	90%
Commuter Bus			85%	80%	73%
Rapid Transit		100%	100%	100%	100%
Commuter Rail		100%	100%	100%	100%
Ferry		100%	100%	100%	100%

*Results are reported for Fall 2019 as it was the most recent time period unaffected by pandemic fluctuations in service and ridership



Frequency Measure

- Frequency is a measure of convenience (or inconvenience) of scheduled service on Bus, Rapid Transit, Commuter Rail, and Ferry routes.
- We are making technical updates to the metric calculation methodology that bring the calculation in line with industry best practices.
 - Updated methodology aligns to rider experience and is more sensitive to changes so improvements are better reflected in evaluation



2021 Standards: Frequency (unchanged from 2017)

Route Type	Weekday Time Period	Standard
Key Bus	AM & PM Peak	10 minutes
	Early AM & Midday Base/School	15 minutes
	Evening & Late Evening	20 minutes
Local Bus	AM & PM Peak	30 minutes
	Other periods	60 minutes
Commuter Bus	AM & PM Peak	3 trips in peak direction
Community Bus	Midday Base & School	60 minutes
Rapid Transit	AM & PM Peak	10 minutes
	Other periods	15 minutes
Commuter Rail	AM Peak	3 trips in peak direction
	PM Peak	4 trips in peak direction
	Midday & Evening	3 hours
Ferry	AM & PM Peak	3 trips in peak direction
	Midday	3 hours

Results: Frequency*

Route Type	Minimum	Target	Weekday Overall	Weekday People of Color	Weekday Low Income
Bus	90%	95%	92%	91%	91%
Key Bus			95%	94%	94%
Local Bus			88%	88%	87%
Commuter Bus			98%	98%	96%
Rapid Transit		100%	100%	100%	100%
Commuter Rail		100%	95%	89%	93%
Ferry		100%	100%	100%	100%

*Results are reported for Fall 2019 as it was the most recent time period unaffected by pandemic fluctuations in service and ridership



Network Quality Measures

- These proposed measures incorporate the ongoing work from Bus Network Redesign
 - These measures will be used as part of selecting a new Bus Network as presented on 5/10
 - Incorporated into SDP with targets to be added at next SDP update
- Help to answer the question: Where and when is planned transit service good compared to other options?
 - Competitive Trip Coverage: Percent of trips covered by a competitive transit option
 - Competitive Regional Access: Percent of residents able to reach regional destinations with a competitive transit option



Benefit-Cost Ratio Service Planning Tool

- Evaluates the cost-effectiveness of bus routes to identify potential service changes
- Improves on “efficiency” measure of bus routes (used to be cost per rider)
- 2021 Update aligns with Bus Network Redesign changes; incorporates new data sources
- Benefits now take into consideration
 - Ridership (70%): Now considers boardings, transfers, transit critical riders
 - Seniors and Reduced Fare Users (15%)
 - Access to the Network (15%): Now uses trip coverage for all riders and transit critical riders
- Cost: Revenue hours to operate route



Request of the Fiscal Management Control Board

VOTED:

To approve the 2021 update to the Service Delivery Policy as presented at the June 7, 2021 meeting of the Fiscal and Management Control Board and as set out in Appendix A, hereto.



Appendix



Bus Route Classifications

Route Type	Description	Weekday Span Standard	Weekday Frequency Standard
Key Bus	High frequency service in high-density corridors	6:00AM – Midnight	10 min peak; 15-20 min off-peak
Local	Full weekday service that extends beyond the morning and afternoon peak travel hours. Not necessarily designed to target any specific trip purpose	7:00AM – 8:00PM	30 min peak 60 min off-peak
Community	Weekday service between the morning and afternoon peak hours primarily for non-work travel.	10:00AM – 4:00PM	30 min peak 60 min off-peak
Commuter	Limited number of peak-direction trips during periods, including express bus routes	7:00AM – 9:00AM 4:00PM – 6:30PM	3 trips in peak direction
Supplemental	Limited service early in the morning or are designed to support other bus routes. Not evaluated for SDP standards	N/A	N/A

Bus Route Classifications Changes in Appendix A of the Service Delivery Policy

Route Type	Description	Changes in 2021 SDP
Key Bus	High frequency service in high-density corridors	N/A
Local	Full weekday service that extends beyond the morning and afternoon peak travel hours. Not necessarily designed to target any specific trip purpose	18, 55, 67, 85 moved to Community or Commuter
Community	Weekday service between the morning and afternoon peak hours primarily for non-work travel.	18, 55 now classified as Community (previously Local)
Commuter	Limited number of peak-direction trips during periods, including express bus routes	67, 85 now classified as Commuter (previously Local)
Supplemental	Limited service early in the morning or are designed to support other bus routes. Not evaluated for SDP standards	170, 212, 217, 221, 434, 439 now classified as Supplemental (previously Commuter)

Routes no longer in service as of 2019: 5, 448, 449, 459, 9701, 9702, 9703

Routes no longer listed in Appendix A, part of other routes: 191, 192, 193, 194

Frequency Methodology Changes

2017 Methodology	2021 Methodology	Note
Stop-based measure rolled up to the route/direction/time period level.		Frequency fluctuates over the course of the day and can vary by stop.
Based on best timepoint.	Based on all typical timepoints.	Considers headways on variants and short-turns, rather than just the trunk.
Based on worst/max headway.	Based on average of effective scheduled wait times across timepoints.	Forgives one-off breaks in service while still weighing the inconvenience of long headways.
Headways can span time periods.	Headways are evaluated within self-contained time periods, but gaps from beginning/end of service to period boundaries are considered.	Pinpoints problem time periods and assumes alignment between service promised in SDP and passenger expectations. Considers all time in a period as potential demand.

Results Comparison: Frequency

Route Type	Fall 2017 (2017 Methodology)	Fall 2018 (2021 Methodology)	Fall 2019 (2021 Methodology)
Bus	84%	90%	92%
Key Bus	83%	92%	95%
Local Bus	85%	88%	88%
Commuter Bus	94%	98%	98%
Rapid Transit¹	98%	100%	100%
Commuter Rail	100%	100%	100%
Ferry	100%	100%	100%

