



**Massachusetts Bay
Transportation Authority**

Forging Ahead: Scenario and Service Planning

Fiscal and Management Control Board

November 9, 2020

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Agenda

- Forging Ahead
 - Why do we need to make service changes
 - How we are planning for uncertainty
- Preserving Essential Service
 - Base Service and impacts
- The Plan to Build Back
 - Service Packages
- Budget analysis
- Public engagement and next steps

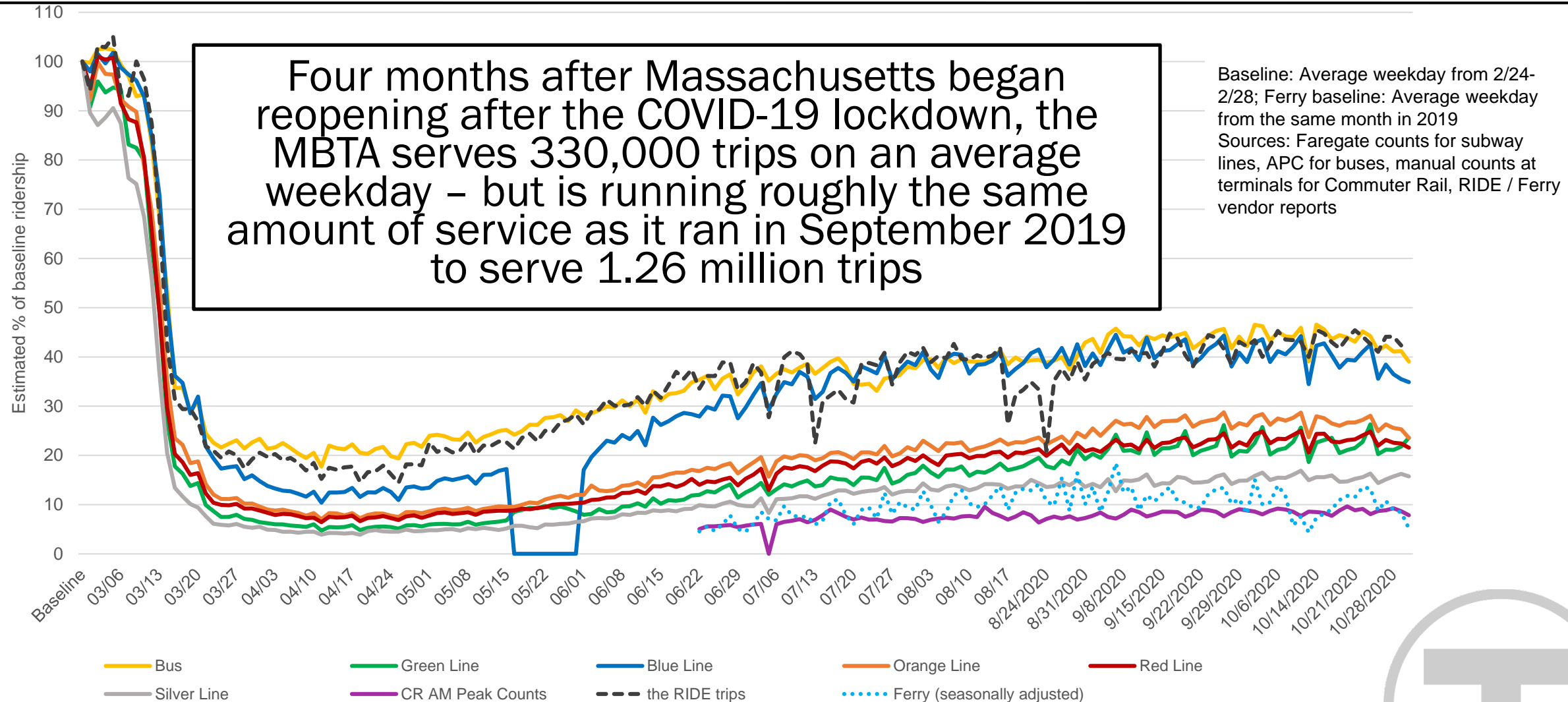


What is Forging Ahead?

- Forging Ahead is the process the MBTA is using to focus our operating and capital resources on the riders who depend most on the MBTA for frequent and reliable service.
- In order to do this we are:
 - Evaluating all internal spending to reduce expenditures
 - Assessing our capital program and reallocating a limited amount of funds from our capital budget to support our operating budget
 - Defining a core of **essential** transit services to prioritize and determining the costs needed to run them
- Out of this difficult situation, we are **forging** a more equitable and efficient transit system to move **ahead** economic recovery for Massachusetts.



Our ridership fell significantly and is slowly recovering



Overview of Service Changes

- The MBTA is providing more service than its revenues can support and its ridership justifies so today staff will propose adjusting service levels to a new, temporary “Base Service” that will gradually be implemented in CY 2021. This Base Service realigns service to match current ridership patterns while also preserving and protecting service for those who depend most critically on the MBTA for frequent and reliable service by reducing primarily non-essential services.
- The vast majority of MBTA service will continue and the service changes are not permanent. The MBTA will periodically realign service to match current and future ridership patterns, when durable revenue is available for pay for such service.
- No increases in fares are being proposed.
- The proposed service adjustments are not final and an extensive public engagement process begins today. On Tuesday the MBTA will hold the first of 11 virtual public meetings, which will continue through December 3, to accept public feedback on the proposed service changes. Online feedback is also being accepted, allowing riders to comment on proposed changes to the services that they use.
- The FMCB is scheduled to vote on the changes on December 7, so that planning can begin for gradually making the changes in 2021.
- While some service changes on Commuter Rail and Ferry could take place as early as January, the changes to Rapid Transit would be made in the spring and to Bus in the summer. This will allow the MBTA to adjust the proposed basic service if warranted by changes in ridership and if additional, durable revenue becomes available.



Why Does the MBTA Need to Change Service?

- Ridership has declined dramatically due to COVID-19. Commuter rail ridership at the end of October was down 87% compared to next year, with the system carrying only 8.5% of its pre-COVID morning peak ridership. Ferry ridership is at 12% of pre- COVID ridership, with the T paying to operate 112 trips daily with an average of 7 riders per trip. In October ridership at gated rapid transit (subway) stations was still at roughly one-quarter of pre-COVID levels
- As a result, the MBTA is operating nearly empty trains, ferries and buses and scenario planning forecasts show that substantially lower ridership levels could well continue into the fiscal year beginning July 1, 2021
- Even accounting for the need to reduce crowding and accommodate social distancing, the MBTA is providing more service than its revenues can support and its ridership justifies
- Given the continuing pandemic and economic dislocation, ridership may not return to pre-COVID levels for some time and, as service is brought back, some schedules and routes may be changed to reflect changes in where and how people work, learn and receive health care
- Social equity demands that the MBTA focus its available resources on those who depend most on the MBTA for frequent and reliable service
- Using limited resources to operate nearly-empty trains, ferries and buses is not a responsible use of the money provided to the MBTA by riders, communities and taxpayers

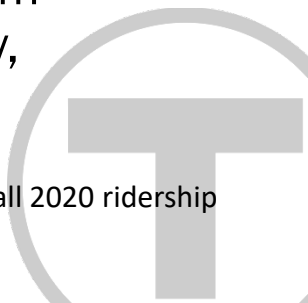
The MBTA is therefore opening up a dialogue with its riders, the businesses and communities it serves and the stakeholders who depend on the MBTA about how best to prioritize the transit services that it provides.

Preserving Essential Services

Mode	Highly Transit Critical	Less Transit Critical
High Ridership Potential FY22	Blue Line, Orange Line, Red Line, Green Line (trunk), Mattapan line, many bus routes, Fairmount CR line	Some bus routes
Low Ridership Potential FY22	Some bus routes, some Commuter Rail service, Charlestown ferry*	Hingham/Hull ferry, some bus routes, some Commuter Rail service

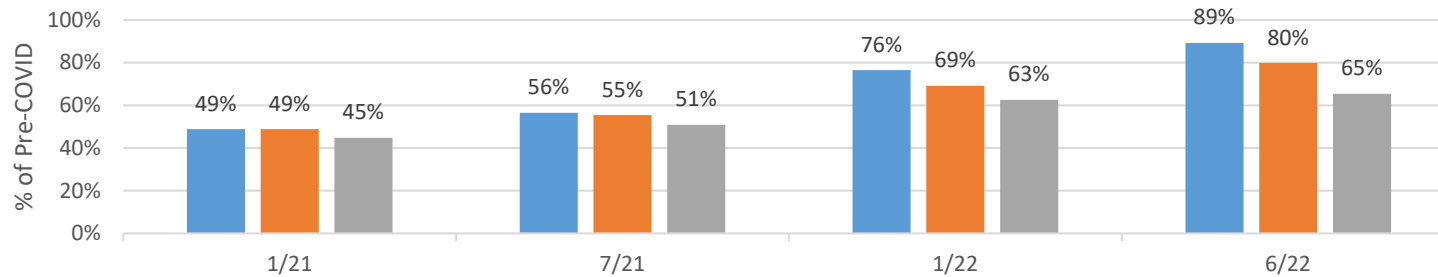
- Goal of this framework is to preserve service at or above Service Delivery Policy levels for all services in the High Ridership and High Transit Critical quadrant
- Service Delivery Policy was approved by FMCB in 2017 and quantifies MBTA's target minimum acceptable service level by mode across multiple metrics (incl. hours of operation, frequency, crowding)

*Charlestown Ferry was initially considered as part of essential service, but after further examination, has been moved to low ridership based on further review of Fall 2020 ridership

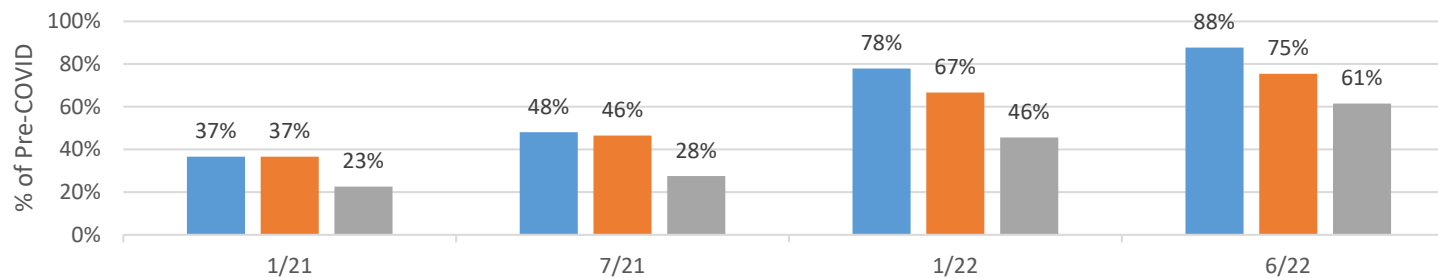


Planning for an uncertain future

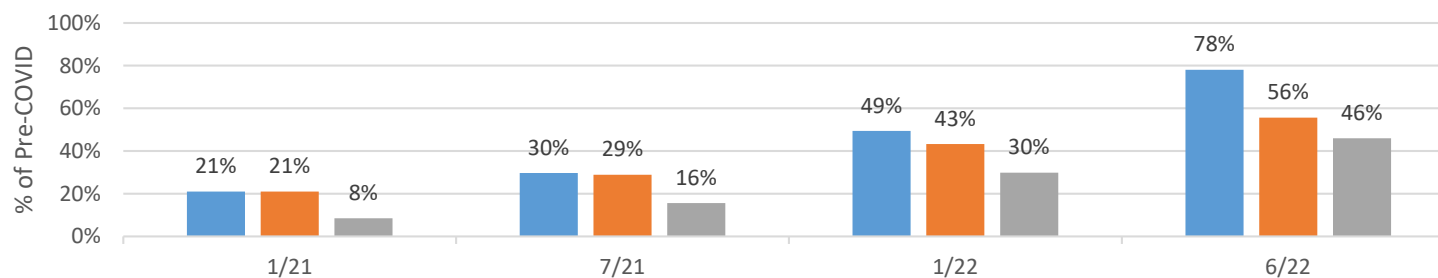
Bus Ridership Scenarios



Rail Ridership Scenarios



Commuter Rail Ridership Scenarios



Scenario 1 Scenario 2 Scenario 3

- MBTA ridership return will vary depending on future of local travel, vaccine timing, and economic recovery
- Ridership did not decrease the same amount across modes, lines, and routes; and will not be uniform in how it returns either
- When we build back, we can use our planning via Bus Network Redesign and RailVision to better serve our riders and communities



Service Change Implementation Timeline

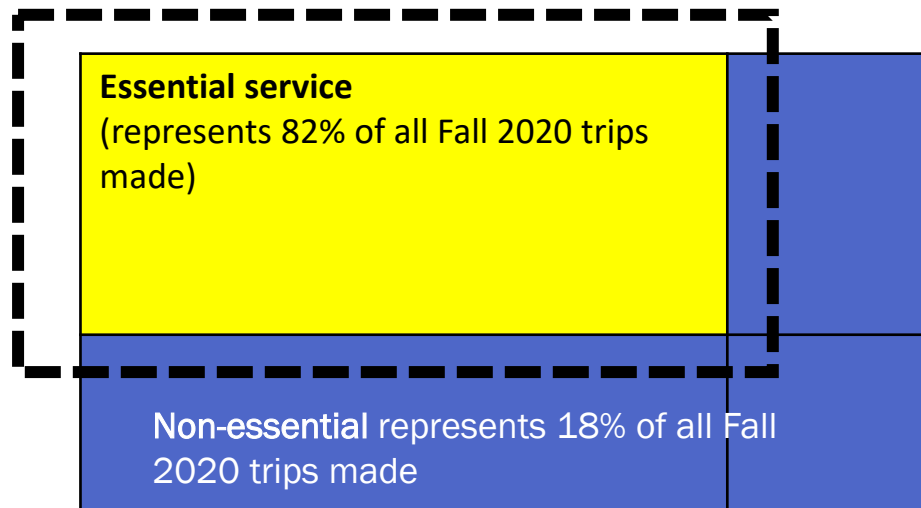
Mode	Presentation of proposed service changes	Public engagement	Contingent vote on service changes	Implementation start	Ability to adjust service as part of Service Planning (new schedules)
Commuter Rail	November 9 th FMCB meeting	November & December 2020	December 7 th FMCB meeting <i>(Contingent on acceptance of Title VI analysis and Environmental Review)</i>	January & May	Twice a year (Oct / May)
Ferry				March	Twice a year
Rapid Transit				March	Four times a year (Mar, Jun, Sep, Dec)
Bus				Late June	Four times a year (Mar, Jun, Sep, Dec)
The RIDE				As impacted by other changes	As impacted by other changes

Base Service Overview



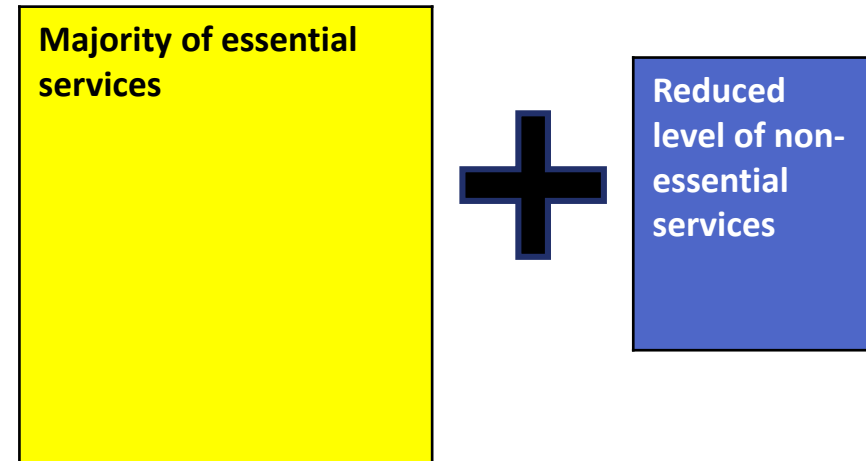
What is base service?

ESSENTIAL SERVICE



Essential services are the services that serve high transit critical populations AND have high ridership potential

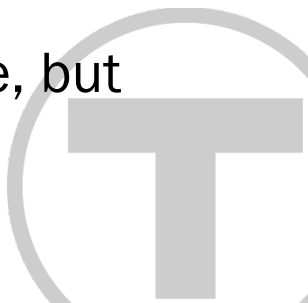
BASE SERVICE



Base service is the proposed new service level, which is the majority of essential service and a reduced level of non-essential services

Base Service proposal - considerations

- “**Base Service**” represents quality service for all essential services, as well as a reduced amount of non-essential service that is still viable for many of those who depend on it. **For many using essential services, service will continue to look very similar to Pre-COVID.**
- Non-essential services will generally see less frequent service or elimination, but this **allows MBTA to prioritize and preserve essential services**
- Due to lower ridership, **service reductions are not expected to significantly increase crowding.** And we will adjust service quarterly or semi-annually (based on mode) to continue to match resources with where/when there is ridership or need
- Additional caveats on base service proposal:
 - All cost savings are gross savings (do not account for lost fare revenues)
 - As ridership returns, service can be added back based on demand, but ridership return may outpace ability to re-add service
 - Ridership scenarios developed presuppose 100% of pre-COVID service available, but service reductions will impact ridership return



Definition of Base Service

- **All essential services at or above Service Delivery Policy (SDP) for frequency, span and crowding**
 - Fairmount Line
 - All Rapid Transit
 - Bus Routes (~80 routes)
 - RIDE with policy changes (e.g. scheduling window)
- **Reduced level of non-essential services based on demand and alternatives**
 - Reduced peak service on all other Commuter Rail lines (no weekend or evening service, reduced midday service)
 - Reduced frequency on remaining Bus Routes, including smaller service area and consolidated routes
- **Note: These are only proposals and to be discussed and reviewed via public engagement over next month**

Future SDP crowding standards estimated based on ridership scenarios –
service will be adjusted based on actual ridership



Most Service Is Preserved

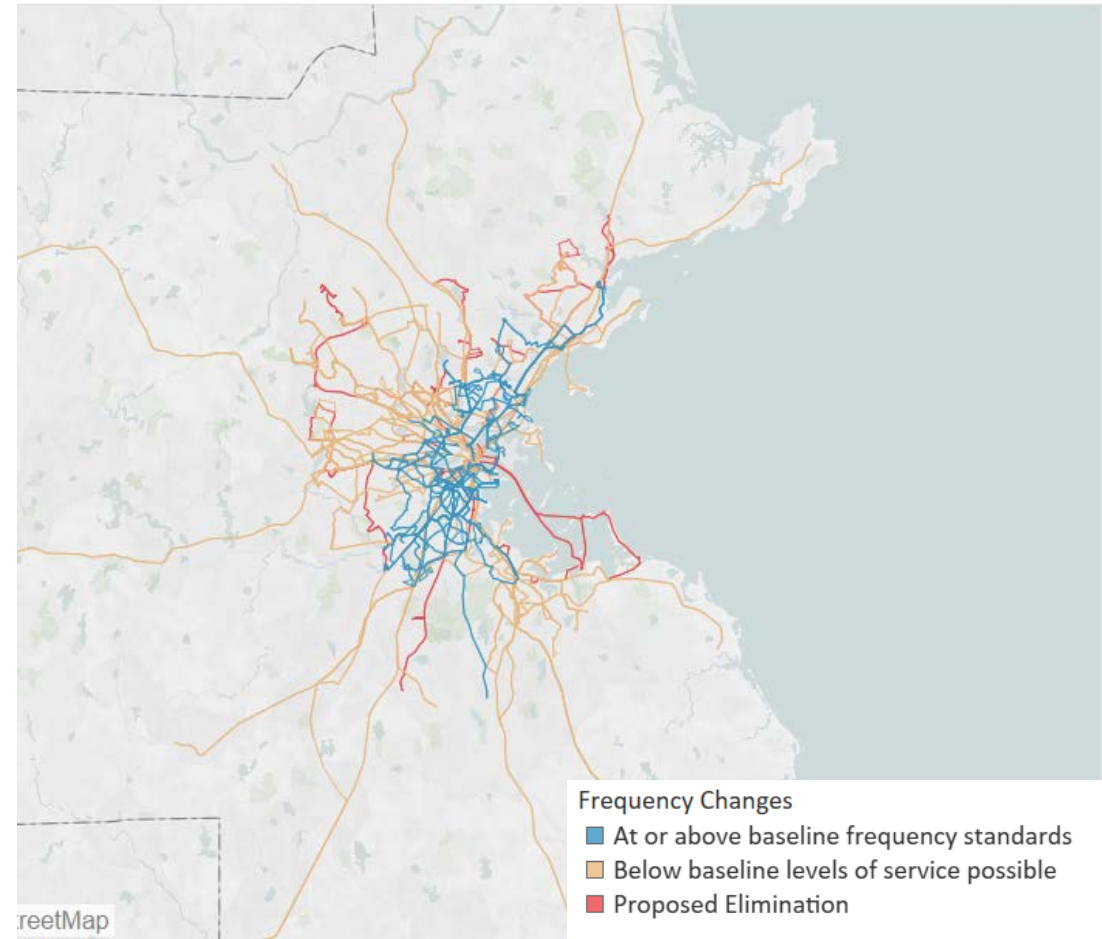
Current Weekday trips (Sept. 2020):

- 82% of weekday trips on essential services
- 18% of weekday trips on non-essential services
- 3% of current weekday trips will lack access or have to divert due to proposed changes (span, eliminations, station closures, short-turns)

Base service represents (weekly service hours vs. pre-COVID):

- 85% of Bus
- 70% of Rapid Transit
- 65% of Commuter Rail
- 0% of Ferry

Under this proposal 78.5% of households in the MBTA service area have MBTA service within ½ mile compared to 82% previously



Types of Ridership Impacts

- Lack of Access
 - Due to span changes so no longer service at the hour a passenger wishes to travel or on that day of the week
 - Due to elimination of all service within $\frac{1}{2}$ mile
- Divert to Alternative Service
 - Need to use alternative service within $\frac{1}{2}$ mile
- Less Frequent service
 - Less frequent service still within Service Delivery Policy
 - Less frequent service that could be below Service Delivery Policy



Commuter Rail

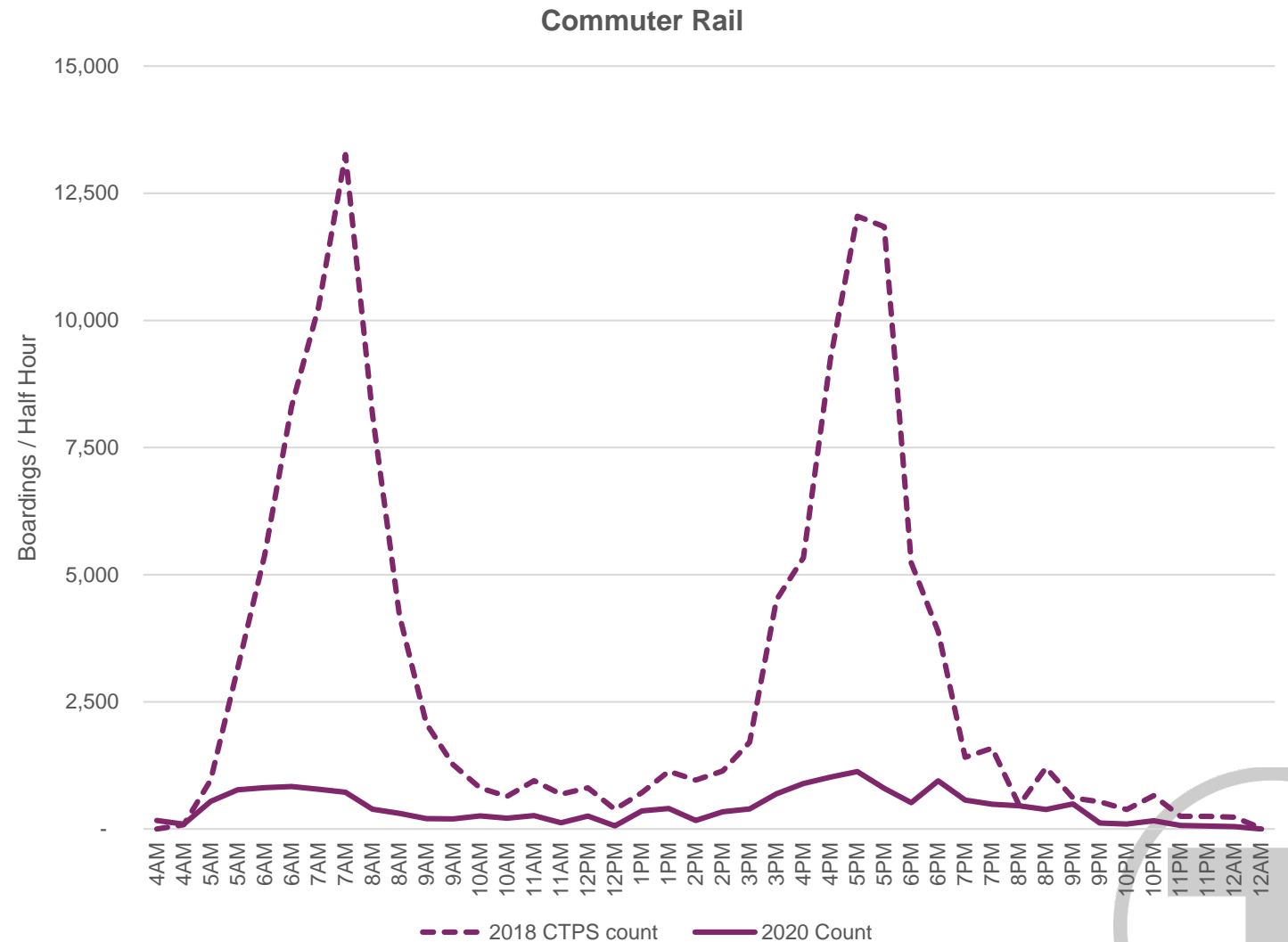


Commuter Rail Ridership

- Approximately 13% of normal ridership, or ~16,000 daily riders (but during AM Peak, ridership is only 8.5% of normal)
 - Running ~85% of regular service in Sept/Oct 2020 (435 trains vs. 505)
 - Starting Nov 2, 2020, “smoothing” service throughout day and running 544 trains
- Weekend Boardings:**
~14K (vs. 31K in 2019)

Weekday Boardings after 9pm

	2019	2020
Boardings	2929	939
Percent	2.3%	5.9%



Changes at a glance – Commuter Rail

- Stop all service after 9 PM (Fairmount closer to 10 PM)
- Stop all weekend service (Fairmount replaced by bus)
- Decrease weekday peak service and some midday service, reducing from 505 trains (Fall 2019) to 430 trains
- Close 6 (out of 141) stops based on low ridership, operational impacts, and availability of alternatives
- Specific service levels by line to take into account ridership patterns from adjusted Fall 2020 schedules (more balanced service throughout day)



Commuter Rail Base Service

Base service at a glance:

Sept. 2020 ridership: 12% of pre-COVID rider.
65% of pre-COVID service hours
\$45M annual savings vs. FY21 budget

	FY21 Budgeted service	FY22 Base Service	2017 Service Delivery Policy (only applicable for essential service)
Hours of operations (varies by line)	<ul style="list-style-type: none"> 5/6:00 AM until 1:00 AM (weekdays) – all lines in operation 	<ul style="list-style-type: none"> 5/6:00 AM until 9:00 PM (weekdays only) – all lines in operation 	<ul style="list-style-type: none"> 7:00 AM – 10:00 PM (weekdays) 8:00 AM – 6:30 PM (Saturdays)
Frequency of trains	<ul style="list-style-type: none"> 505 trains (Fall 2019); 544 trains (Fall 2020) 	<ul style="list-style-type: none"> 430 trains, rebalanced across lines 	<ul style="list-style-type: none"> 3-4 trips in peak direction Every 3 hours in each direction all other times
Weekend service	<ul style="list-style-type: none"> Saturday & Sunday service 	<ul style="list-style-type: none"> No weekend service (Fairmount Line replaced by bus) 	<ul style="list-style-type: none"> Saturday service only
Additional customer impacts		<ul style="list-style-type: none"> ~6 station closures (low foot traffic, operational time savings) Shorter trainsets 	

Commuter Rail details

Ridership impacts (based Sept. 2020 ridership):

- Lack of Access (loss of weekend and post-9PM service): ~15,000 weekend riders
- Divert/Lack of Access: <50 riders
- Less frequency service: ~16,000 daily riders

Consequences/impacts from reducing service to base service level:

- Will take at least 1-2 years to re-hire and re-train workforce when returning service, potentially longer to expand locomotive and coach fleet size
- Savings do not include additional cost to mothball assets (up to 100 coaches and 8 locomotives)
- Closure of Needham Facility

Total gross savings:

- Up to \$8M in FY21
- \$45M in FY22



Potential Station Closures

Station	Line	City/Town	2018 Boardings (inbound)	2020 Boardings (inbound)	Reason	Closest alternative (all the same Commuter Rail zone)
Plimptonville	Franklin	Walpole	12	<5	Low ridership, not accessible	Walpole, 1.8mi – 345 parking spaces (only ~15 cars/day)
Prides Crossing	Rockport	Beverly	12	<5	Low ridership, not accessible	Beverly Farms, 1mi – 25 parking spaces*
Silver Hill	Fitchburg	Weston	11	<5	Low ridership, not accessible	Kendal Green, 2.1mi – 57 parking spaces*
Hastings	Fitchburg	Weston	18	<5	Low ridership, not accessible	Kendal Green, .8mi - 57 parking spaces*
Plymouth	Plymouth	Plymouth	21	<10	Operational improvements	Kingston, 2.4 mi – 1,030 parking spaces (very low utilization)
Cedar Park	Haverhill	Melrose	98	~20	Low ridership, not accessible	Wyoming Hills, .6 mi – ~30 parking spaces*

Stations selected due to low ridership, operational impacts, and availability of alternatives

* Parking lots operated by non-MBTA affiliates or local authorities, so utilization data unavailable

Ferry



Ferry Ridership

- Ridership is approximately 12% of pre-COVID ridership (803 riders)
- Ferry is currently running 112 trips a day (approximately 75% of pre-COVID service)
- This is equivalent to 7 riders per trip

Ferry	September average weekday ridership		%
	2019	2020	
Hingham (F1)	4,183	279	7%
Hingham/Hull (F2H)	1,350	314	23%
Charlestown (F4)	1,230	210	17%
Total	6,763	803	12%

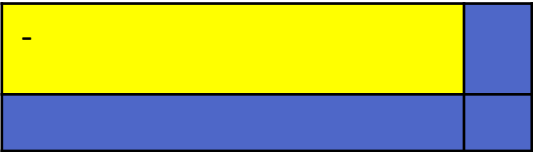
Changes at a glance – Ferry

- Stop all Ferry service (F1, F2H, F4)
- Charlestown/Boston service (F4) flagged as potentially essential service, but due to very low COVID ridership, and highly redundant service on Bus Route 93 (an essential Bus route), propose stopping F4 service
- Bus Route 93 currently has minimal crowding and can support the diverted riders (will review as part of quarterly Service Planning process)



Base service at a glance:
 Sept. 2020 ridership: 12% of pre-COVID rider.
 0% of pre-COVID one-way trips
 \$13M annual savings vs. FY21 budget

Ferry Base Service



	FY21 Budgeted service	FY22 Base Service	2017 Service Delivery Policy (only applicable for essential service)
Services	<ul style="list-style-type: none"> Charlestown/Boston (F4) Hingham/Hull Local (F2H) Hingham/ Boston direct (F1) 	<ul style="list-style-type: none"> No ferry service 	
Hours of operations	<ul style="list-style-type: none"> 5:40 AM until 9:33 PM (weekdays) 5:40 AM until 10:48 PM (Friday only) 	<ul style="list-style-type: none"> No ferry service 	<ul style="list-style-type: none"> 7:00 AM – 10:00 PM (weekdays) 8:00 AM – 6:30 PM (Saturdays – seasonally)
Frequency of trains	<ul style="list-style-type: none"> F1: 36 trips F4: 78 trips F2H: 38 trips, +2 Friday only 	<ul style="list-style-type: none"> No ferry service 	<ul style="list-style-type: none"> 3 trips in peak direction Every 3 hours all other times
Weekend service	<ul style="list-style-type: none"> F2H: 32 trips Saturday, 28 trips Sunday (seasonal) F4: 34 trips Sat/Sun (annual) 	<ul style="list-style-type: none"> No ferry service 	<ul style="list-style-type: none"> Saturday seasonally

Ferry details

Ridership impacts (based Sept. 2020 ridership):

- Lack of Access: 593 riders (though within 5-15 minute drive of Commuter Rail Greenbush stations)
- Divert: 210 riders

Consequences/impacts from reducing service to base service level:

- Loss of skilled labor
- Savings do not include additional cost to maintain MBTA assets (4 ferry boats and Hingham facility)
- May take significant time to re-procure new ferry contracts when re-starting service, and may be more costly due to perceived additional risk by market

Total gross savings:

- Up to \$3.5M in FY21
- \$13M in FY22



Rapid Transit



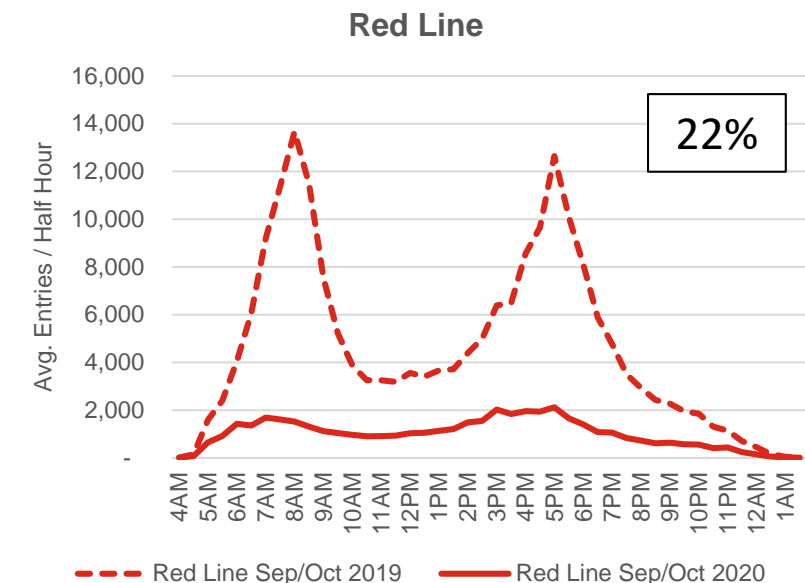
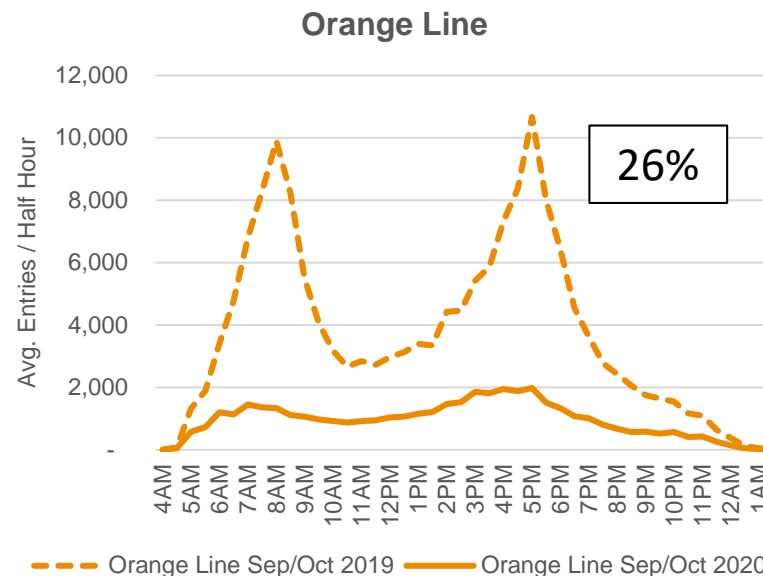
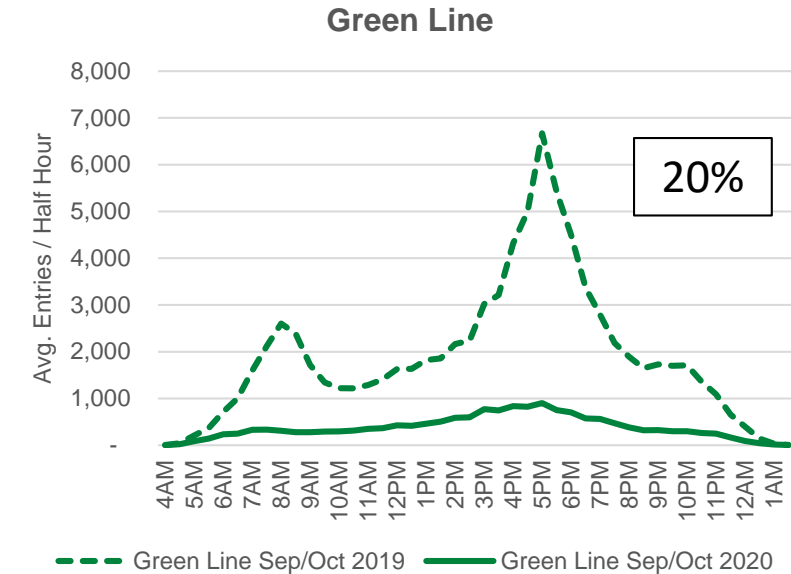
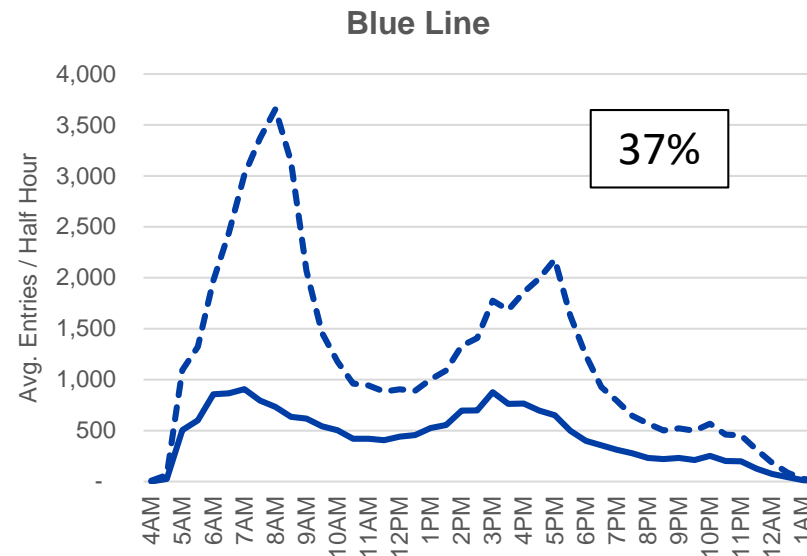
Rapid Transit Ridership

- Heavy Rail and Green Line trunk: ~120,000 gate entries on weekdays, 24% pre-COVID
- Running close to 100% of pre-COVID service & frequencies

Sept/Oct 2020 Boardings after midnight

Blue: 134
Green: 155
Red: 247
Orange: 237

(On average, <20 riders per trip that starts after midnight)



Changes at a glance – Rapid Transit

- Stop all service after midnight (versus 1 AM currently), but no changes to start of service
- Reduce frequency by 20% across all lines, though may vary line by line and by time of day based on ridership patterns
 - Will be reviewed and adjusted as part of quarterly Service Planning process
 - Implementation timeline may be adjusted based on state and federal guidelines for social distancing
- Stop E Line Service at Brigham Circle, diverting E Line riders (at 5 stops along 0.8 miles) to Route 39
 - Route 39 service would be increased and crowding will be reviewed as part of quarterly Service Planning process



Orange, Blue, Red, Green Line (trunk), Mattapan	

Base service at a glance:
 Sept. 2020 ridership: 24% of pre-COVID rider.
 70% of pre-COVID service hours
 \$32M annual savings vs. FY21 budget

Rapid Transit Base Service

		FY21 Budgeted service	FY22 Base Service (may adjust based on ridership)	2017 Service Delivery Policy (only applicable for essential service)
Services		<ul style="list-style-type: none"> All Rapid Transit Lines (7 days / week) 	<ul style="list-style-type: none"> All Rapid Transit Lines (7 days / week) 	
Hours of operations (varies by line)		<ul style="list-style-type: none"> 5:00 AM to 1:00 AM (weekdays & Saturdays) 6:00 AM to 1:00AM (Sundays) 	<ul style="list-style-type: none"> 5:00 AM to midnight (weekdays & Saturdays) 6:00 AM to midnight (Sundays) 	<ul style="list-style-type: none"> 6:00 AM to midnight (weekdays & Saturdays) 7:00 AM to midnight (Sundays)
Frequency of trains	Red (trunk)	<ul style="list-style-type: none"> 4 ½ min. peak / 7 min. off-peak 	<ul style="list-style-type: none"> 5 ½ min. peak / 8 ½ min. off-peak 	<ul style="list-style-type: none"> Every 10 minutes at peak Every 15 minutes all other times
	Orange	<ul style="list-style-type: none"> 6 ½ min. peak / 10 min. off-peak 	<ul style="list-style-type: none"> 8 min. peak / 12 ½ min. off-peak 	
	Blue	<ul style="list-style-type: none"> 4 ½ min. peak / 9 ½ min. off-peak 	<ul style="list-style-type: none"> 6 min. peak / 12 ½ min. off-peak 	
	Green (branches, once GLX opens)	<ul style="list-style-type: none"> 6 min. peak (7 ½ with GLX) / 9 min. off-peak (10 min. with GLX) 	<ul style="list-style-type: none"> 9 ½ min. peak / 13 min. off-peak (assumes GLX open) 	
	Mattapan	<ul style="list-style-type: none"> 5 min. peak / 7 ½ min. off-peak 	<ul style="list-style-type: none"> 6 min. peak / 7 ½ min. off-peak 	
Additional customer impacts			<ul style="list-style-type: none"> E Line service terminate at Brigham Circle (transfer to Route 39) 	

Note: All off-peak frequencies shown are weekday and Saturday

Rapid Transit details

Ridership impacts (based Sept. 2020 ridership):

- Lack of Access: 733 riders (due to loss of post-midnight service)
- Divert: <1,000 riders (E Line riders to Route 39 after Brigham Circle towards Heath Street, expected to add Route 39 service to support)
- Frequency: ~120K riders, but will still be within Service Delivery Policy standards

Consequences/impacts from reducing service to base service level:

- Loss of skilled labor
- Will take more than a year to re-hire and re-train labor when returning service levels

Total gross savings:

- Up to \$3M in FY21
- \$32M in FY22 (pending adjustment to implementation timeline based on state and federal social distancing guidelines)

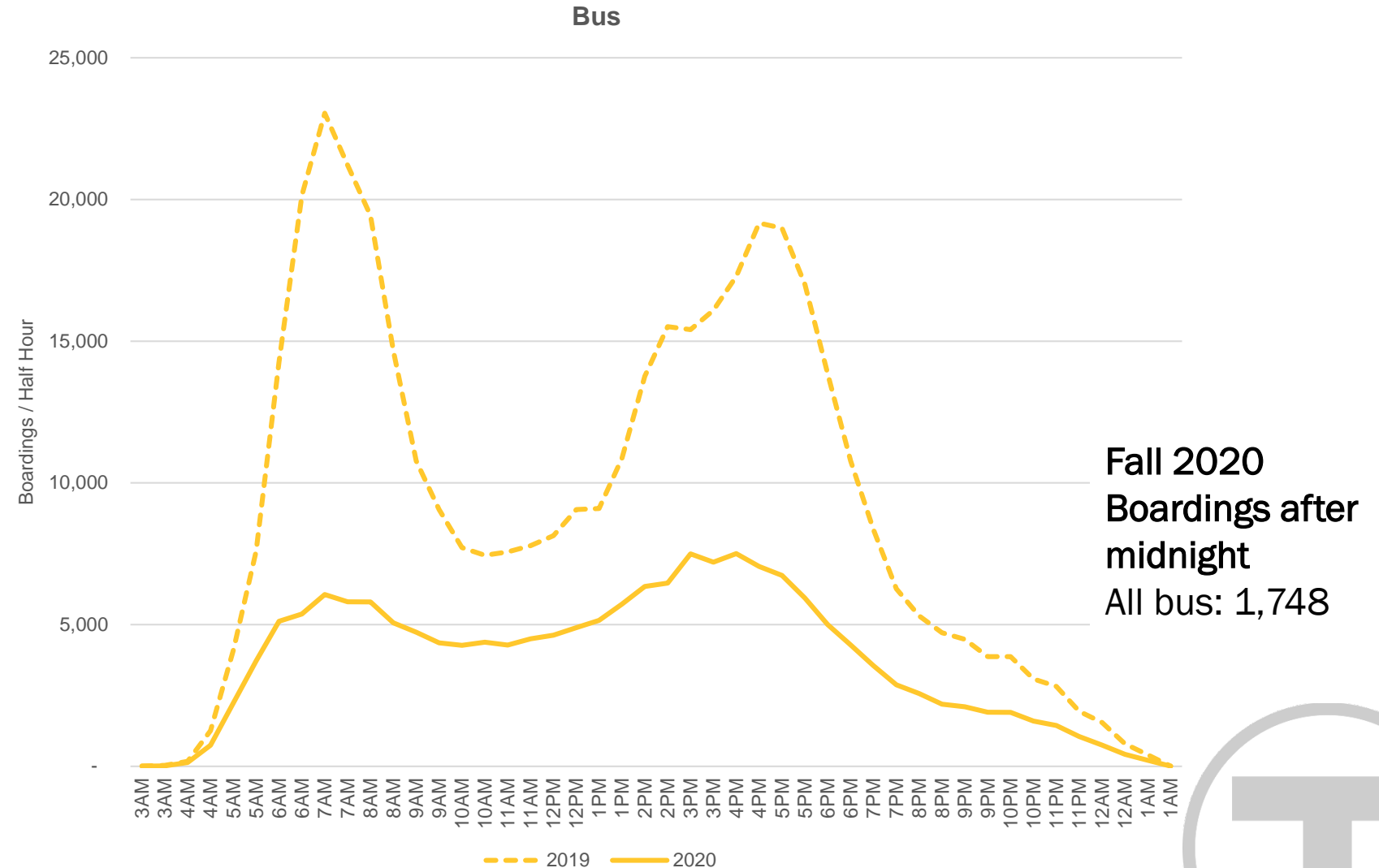


Bus



Bus Ridership

- 171,000 boardings on weekdays, which is 41% pre-COVID
- Significant variation on route by route basis, e.g. Route 111 at >60% and SL2 at 20%
- Close to pre-COVID service levels system-wide, but distributed differently to account for different ridership patterns and support social distancing
- 21 Routes have more significantly more service than pre-COVID to help prevent crowding (e.g. Routes 22, 23, 66, 111, 116/117, 109)



Changes at a glance – Bus

- Stop all service after midnight, but no changes to start of service or days of operation
- Reduce frequency on essential and non-essential routes:
 - **Reduce frequency on essential routes by 5% on average system-wide.** Reduction will vary route by route and by time of day (in some cases likely no change vs. pre-COVID service levels for routes like 111, 116/117, 109, etc.; for others potentially 20-30%), **all based on ridership**
 - **Reduce frequency on non-essential routes by 20% on average system-wide.** Reduction will also vary route by route and by time of day
- Out of 169 MBTA routes, consolidate 14 routes, shorten 5 routes, and eliminate 25 routes. Of those eliminated:
 - 7 routes within $\frac{1}{4}$ mile of alternative bus or rapid transit, so no riders are stranded
 - 12 routes serve non-transit critical, low ridership trips (“bottom right box”)
 - 6 routes serve high transit critical riders, but have very low ridership and have significant, but not fully alternative options
- Eliminate suburban subsidy program which partially funds 5 additional services (Bedford, Beverly, Burlington, Lexington, and Mission Hill), but fewer than 200 avg. weekday riders
- About 1.1% of pre-COVID RIDE trips would be shifted from ADA to Premium; no changes to overall geographic coverage area, though hours of operation may change based on changes to other modes. Lengthen scheduling window from 30 to 40 minutes.
- **All operating routes will continue to be reviewed for crowding and adjusted as part of quarterly Service Planning process, including social distancing guidelines**

65% of Pre-COVID service hours

Bus overview

FY21 Budgeted service

FY22 Base Service

2017 Service Delivery Policy*

(only applicable for essential service)

	FY21 Budgeted service	FY22 Base Service	2017 Service Delivery Policy*
Services	<ul style="list-style-type: none">169 routes	<ul style="list-style-type: none">~140 routes	
Hours of operations (varies by line)	<ul style="list-style-type: none">Varies significantly by route	<ul style="list-style-type: none">All bus service stops at midnight, but early bird service will continue on essential routes	<ul style="list-style-type: none">Weekdays & Saturdays: 6:00 AM to midnight for Key Bus Routes (KBR); 7/8:00 to 6:30/7:00 PM for Local RoutesSundays: 7:00 AM to midnight for KBR; 10:00 AM to 6:30 PM for Local
Frequency	<ul style="list-style-type: none">Varies significantly by route	<ul style="list-style-type: none">~80 essential routes operate within existing Service Delivery Policy, including crowding standards~60 non-essential routes that come 20-30% less frequently than pre-COVID	<ul style="list-style-type: none">Peak: Every 10 min. for KBR, every 30 min. for LocalOff-Peak weekday: Every 15-20 for KBR, every 60 min for LocalWeekends: Every 20 min for KBR, every 60 min for Local
Additional customer impacts		<ul style="list-style-type: none">19 routes consolidated or restructured25 routes eliminated, but only <1,700 pre-COVID riders stranded (<0.5% of Pre-COVID ridership)	

*Commuter or Community Route Standard not shown; Minimum span only standard for high-density areas. There is no span standard for low-density areas on weekend

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Bus details

Ridership impacts (based Sept. 2020 ridership):

- Lack of Access:
 - 1,697 riders (Sept. 2019 ridership), less than 0.5% of all bus ridership, due to greater than ½ mile from alternatives, **likely closer to fewer than 700 riders (conservatively)**
 - 1,748 riders due to service stopping at midnight
- Divert: <6,000 riders
- Frequency:
 - ~31K riders, likely not within SDP (non-essential routes)
 - ~130K riders, service still within SDP (essential routes)

Consequences/impacts from reducing service to base service level:

- Loss of skilled labor
- Will take more than a year to re-hire and re-train labor when returning service levels

Total gross savings:

- No savings in FY21
- \$38M in FY22



Additional Analysis

For all proposed changes that would reduce access or divert passengers for other modes we conducted additional analysis.

- Fare impact analysis on bus routes eliminated/consolidated
- Secondary analysis on Senior/TAP ridership
- Secondary analysis on key locations impacted by route elimination/consolidations (hospitals, senior housing, etc.)
- Developments coming online



Service Packages



Prioritizing How We Build Back

- Service Packages are thematic groupings of service additions to “base service”, meant to enable policy-level discussion on returning service
- Public process and Board input provide prioritization and highlight if any other packages should be considered
- If more funding is available in December (based on other trade-offs made or external events), can add service packages to base services
- Understanding preferences and prioritization of Board and Public will also be useful if additional funding available in Spring 2021 to make service decisions faster



Service Packages to add back to Base Service

RAPID TRANSIT

A1

Restore frequency to
Rapid Transit (\$14M)

A2

Restore evening service on Rapid Transit
(\$3M)

COMMUTER RAIL

B1

Restore weekend service on Commuter Rail
(\$7M for partial - \$15M for full)

B2

Restore evening service on Commuter Rail
(\$7M)

B3

Invest in new connections & service based on
RailVision (\$10-15+ M)

BUS

C1

Restore frequency to
Essential Bus Routes (\$7M)

C2

Restore frequency on
non-essential Bus routes (\$7M)

C3

Restore evening service on Bus (\$3M)

C4

Invest in new connections & service based on
Bus Network Redesign (\$10-15+ M)

FERRY

D1

Restore partial Ferry Service to Charlestown/
Boston (\$1.5M)

D2

Restore partial Ferry Service to Hingham/Hull
(\$2M)

Base Service (~\$1B)

Represents ~\$128M in savings in FY22 and up to \$14M in FY21

Note: All costs shown are estimated annual FY22 expenses

Proposed service packages

Exact service patterns may change as part of normal service planning cycles to reflect changing ridership patterns

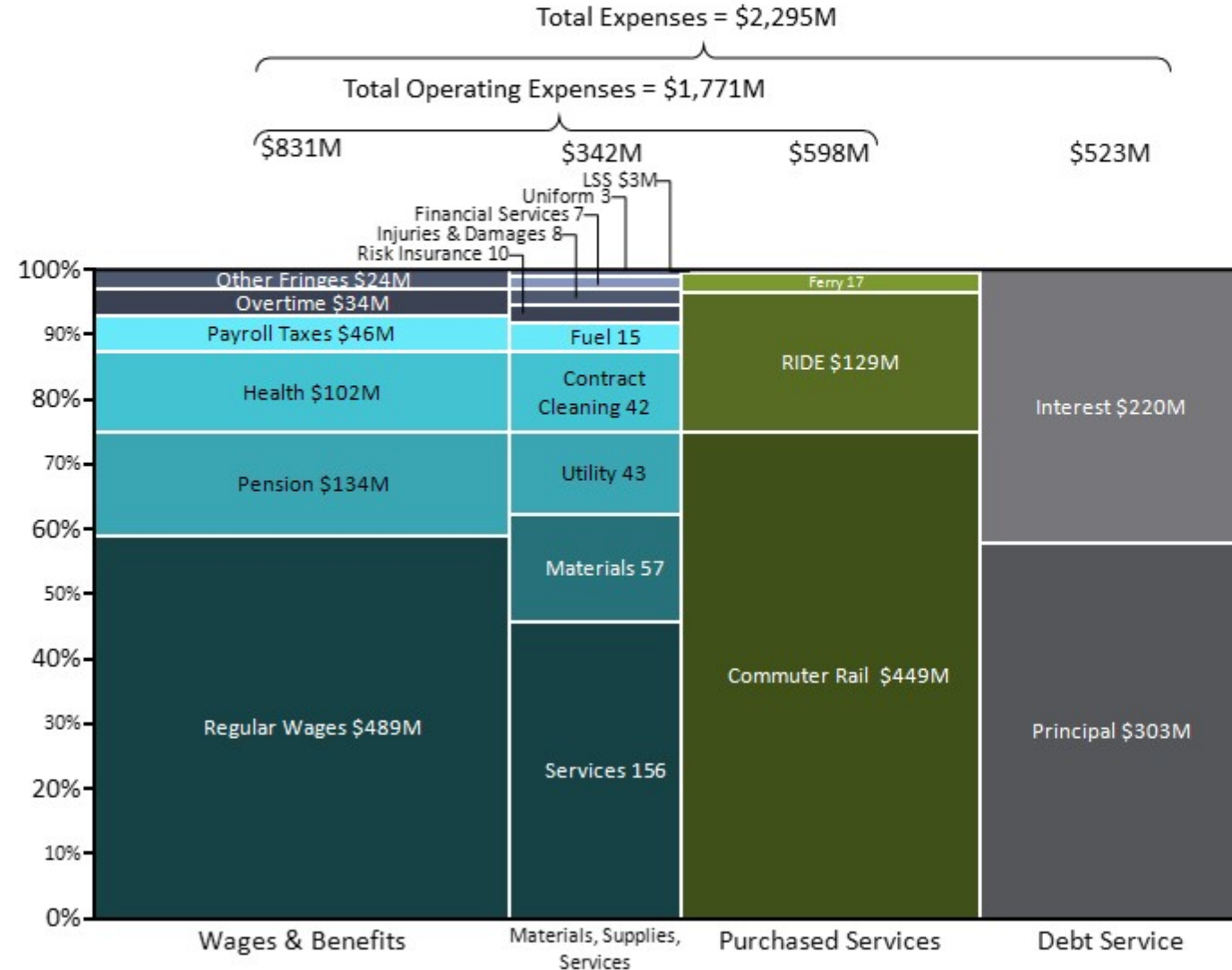
Service Package		Daily Riders impacted (Sept. 2020)	Annual cost	Additional details
A1	Restore frequency to Rapid Transit	~120,000 Frequency	\$14M	• Rapid Transit to 90% of pre-COVID frequency
A2	Restore evening service on Rapid Transit	733 Lack of Access	\$3M	• Rapid Transit operates past midnight
B1	Restore weekend service on Commuter Rail	~14,000 (weekend) Lack of Access	\$7-15M	• Partial (\$7M) on some lines or full weekend service on all lines (\$15M)
B2	Restore evening service on Commuter Rail	939 Lack of Access	\$7M	• Commuter Rail operates past 9 PM
B3	Invest in new connections & service based on RailVision for Commuter Rail	N/A	\$10-15+M	• New Commuter Rail Service patterns (e.g. midday service)
C1	Restore frequency to essential Bus routes	~130,000 Frequency	\$7M	• Essential bus frequency to 100% of pre-COVID, and potentially restore RIDE scheduling window to 30 minutes <i>(bus service may still be adjusted based on crowding)</i>
C2	Restore frequency on non-essential Bus routes	~31,000 Frequency	\$7M	• Non-Essential bus frequency to 90% of pre-COVID <i>(service may still be adjusted based on crowding)</i>
C3	Restore evening service on Bus	1,748 Lack of Access	\$3M	• Bus routes operate past midnight <i>(not all routes, but those that operate past midnight pre-COVID)</i>
C4	Invest in new connections & service based on Bus Network Redesign	N/A	\$10-15+M	• New bus routes to provide better access and/or service for transit critical riders. May partially address eliminated or consolidated routes <i>(may need to be paired with bus priority investments)</i>
D1	Restore partial Ferry to Charlestown/Boston	210 Divert	\$1.5M	• Restore partial Ferry service to Charlestown/Boston (no weekend service)
D2	Restore partial Ferry to Hingham/Hull	593 Lack of Access	\$2M	• Restore partial Ferry service to Hingham/Hull (local only, may not serve all Boston stops, no weekend service)

Financial Implications of Base Service



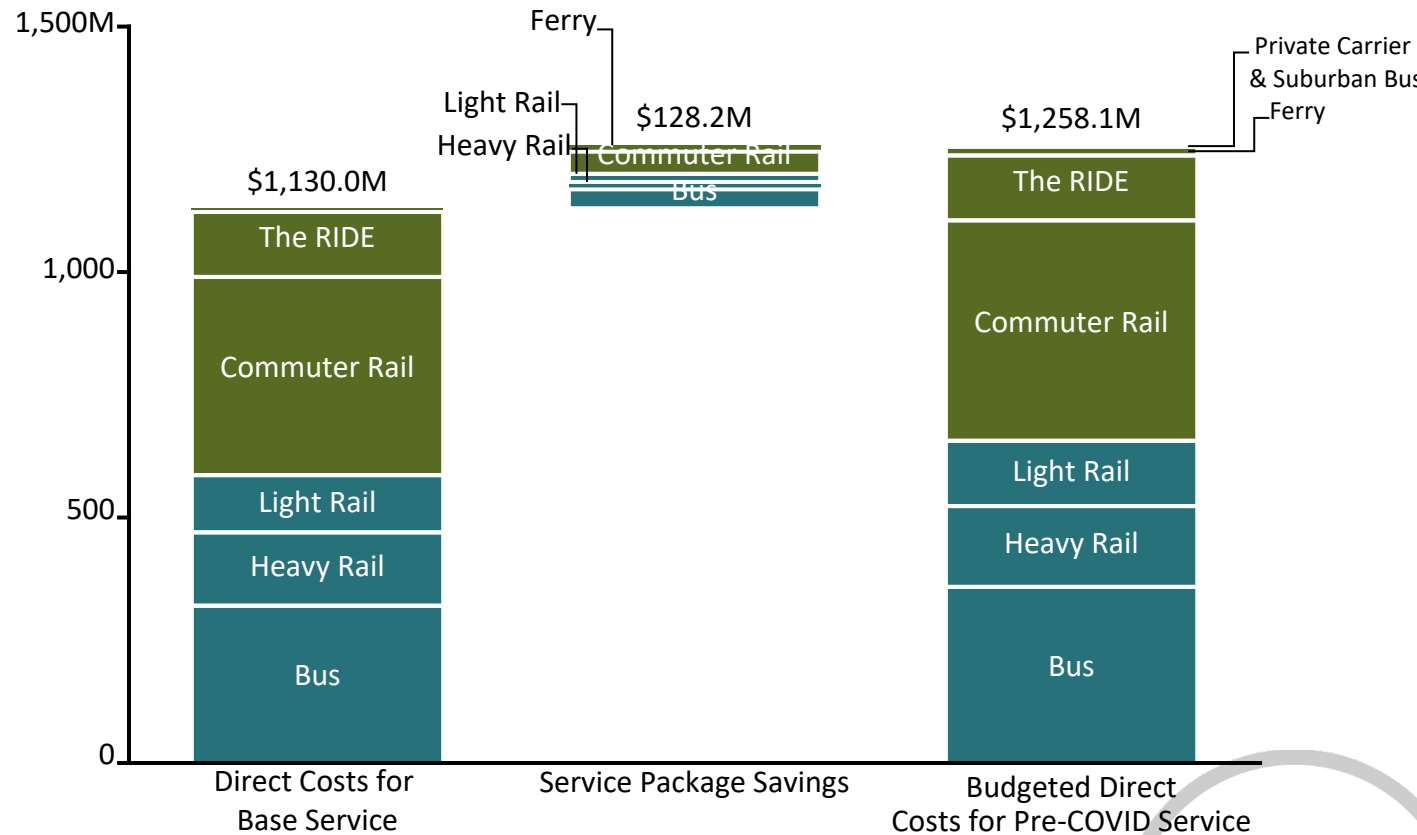
Overview of FY21 Total Budgeted Spending by Category

- Total FY21 budgeted spending is \$2,295M and can be categorized into four broad categories
- 36% for wages and benefits, including pension payments
- 15% for materials, supplies, and services
- 26% for contracted purchased transit services like commuter rail, ferry, and the RIDE
- 23% for debt service payments, a non-operating expense



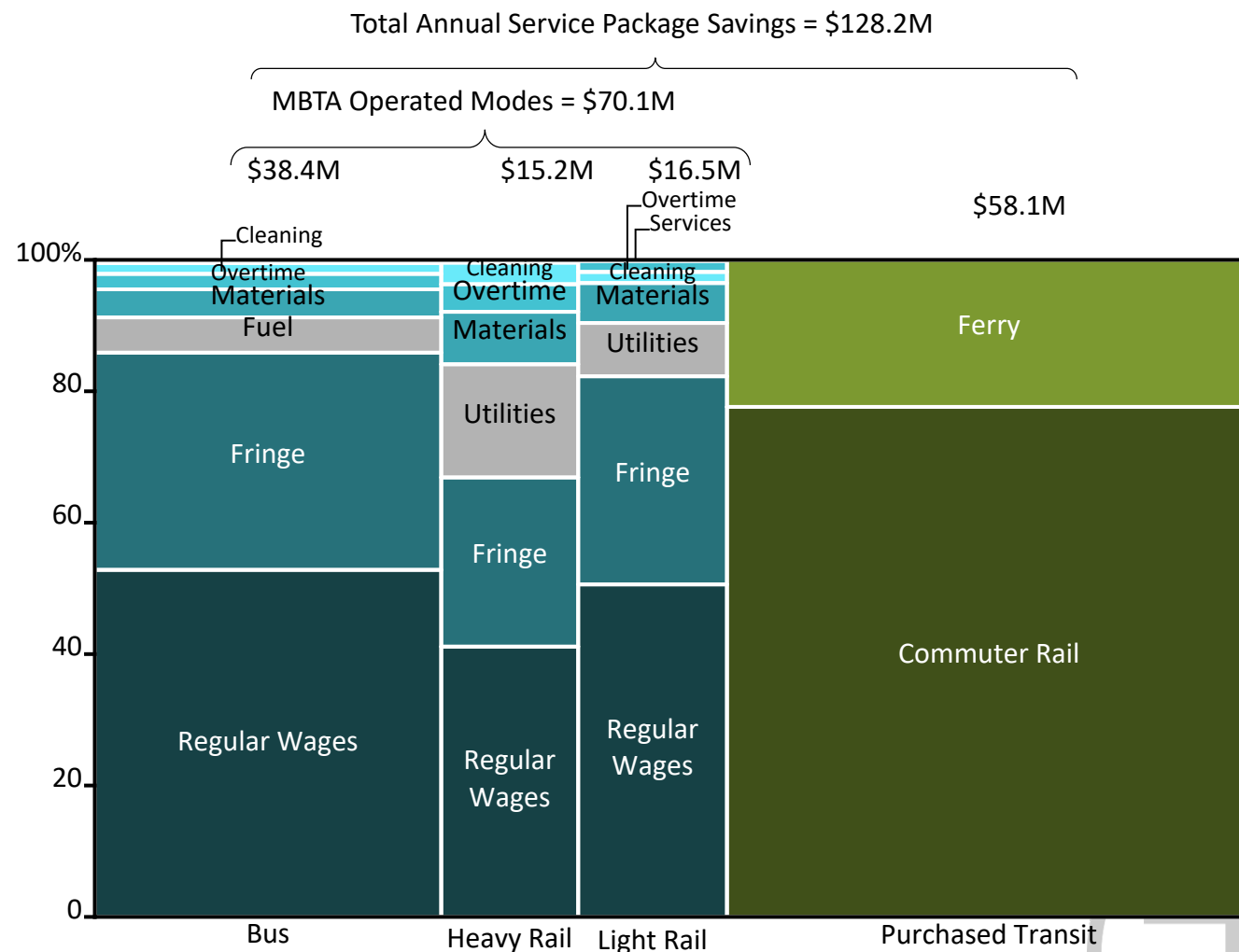
Overview of Budgeted Direct Service Costs

- Budgeted direct service costs for pre-COVID service represent \$1,258M (71%) of the \$1,771M of total MBTA operating expenses across all modes
- Direct service costs include transportation, vehicle maintenance and purchased transit (incl. fuel and utilities), but excludes infrastructure maintenance and other operations
- Purchased services include total annual contract value
- Not all direct service costs are variable with service levels



Potential Gross Annual Savings from Service Packages

- Identified \$128M in potential gross annual savings from service reductions
- Additional \$14M in gross savings possible through enacting some service changes prior to the start of FY22
- \$70.1M (55%) of savings come from MBTA operated modes
- Savings are gross of fare revenue impacts and do not include additional measures being evaluated outside of direct service operations departments
- Savings are based off of current FY21 budgeted levels, which will be adjusted for expected growth rates for FY22



Next Steps



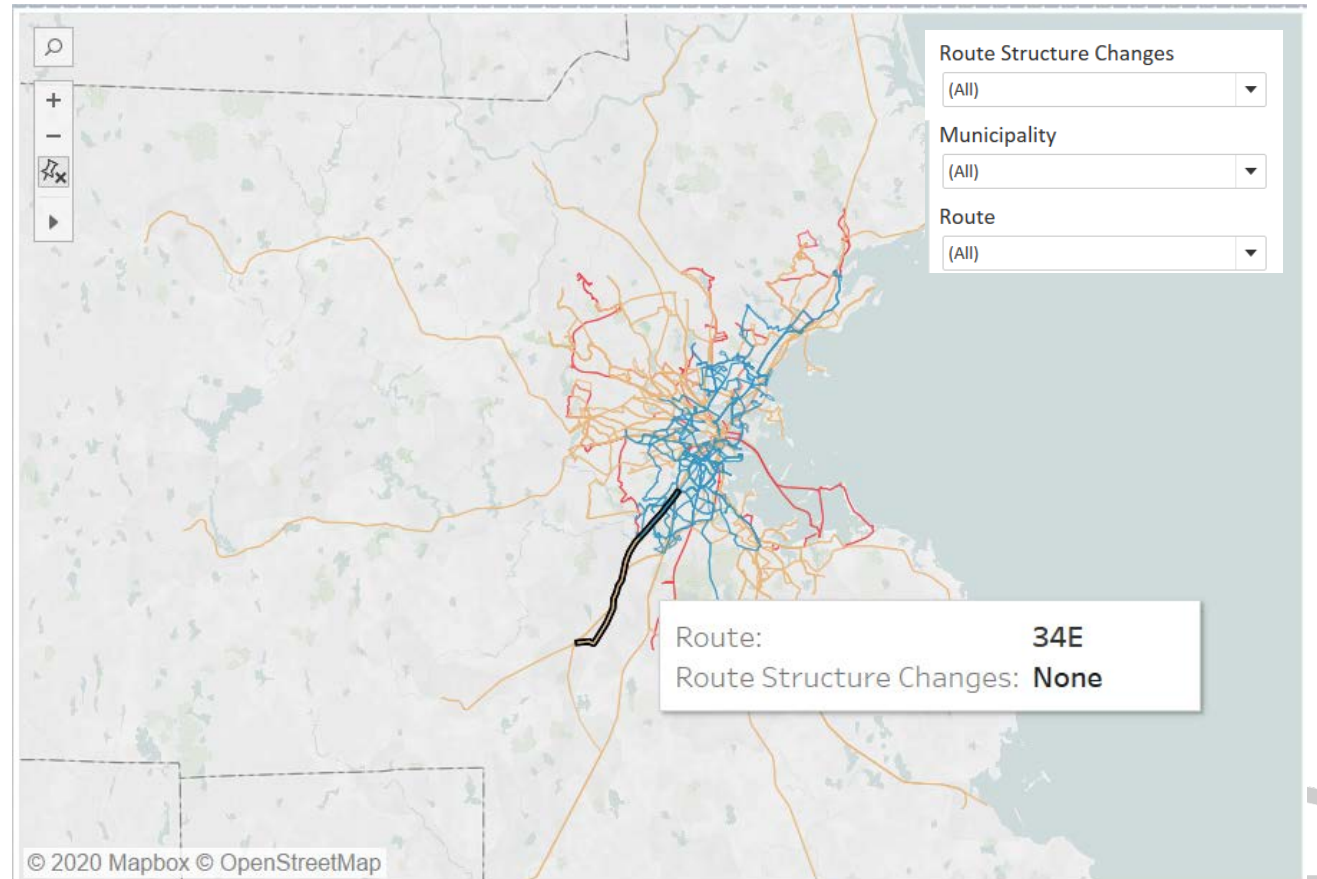
Summary of Public Engagement so far

- Outreach so far
 - 24 additional meetings with community organizations and neighborhood associations confirmed
 - 196 emails and phone calls to organizations in Boston, inner core, and Metrowest regions
- Feedback so far
 - The majority of commenters have urged us to reconsider making drastic cuts and have put forth questions/ concerns about how we prioritize services
 - Concerns about Hingham/Hull ferry service

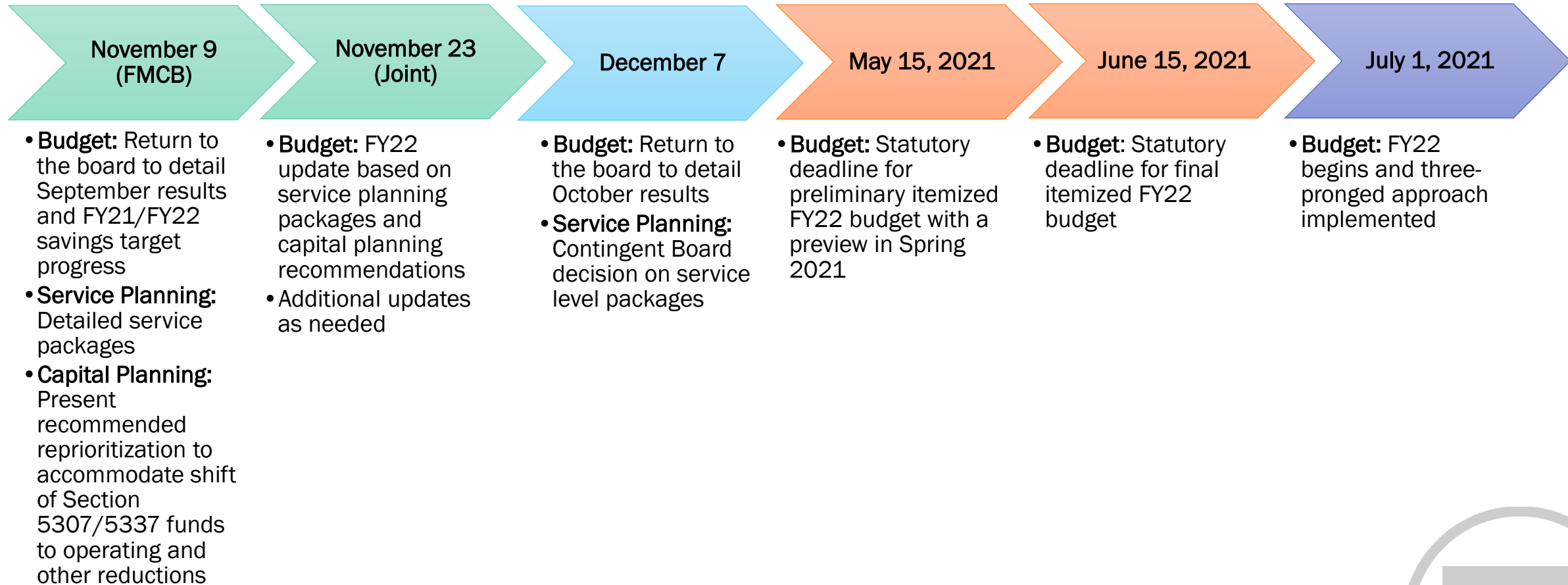


Public Engagement Online Tools

- Interactive map to look up proposed changes by route or town
- Look-up tool by mode or route
- Comment form to provide feedback on proposed changes and prioritization of service return
- Public comment period closes December 4, 2020



Timeline for Service, Budget, and Capital Decisions



Appendix



Blue = will take significant amount of time to re-add service after reductions
All levers shown are additive and do not overlap

Fairmount Line

Appendix: Commuter Rail

Lever	% of service hours represented	Pre-COVID weekly riders impacted	Sept. 2020 riders impacted	Gross Savings (\$M)		Risks / Consequences
				FY21	FY22	
• End Foxboro Pilot & Old Colony Late Night	1%	2K	N/A Lack of Access	\$1 (Nov 2020)	\$2	
• Eliminate all weekend service (Fairmount via bus)	12%	31K	~14K Lack of Access	\$4 (Jan)	\$17	
• Eliminate weekday service after 9 PM	13%	11.7K	939 Lack of Access	\$0.5 (May)	\$7	
• Reduce midday trains	2%	5.7K	~16K Frequency	\$0.3 (Jan)	\$1	
• Reduce peak service by 18%, incl. reduction of locomotives (8) and coaches (50)	7%	97.9K		\$1.8 (May)	\$14	<ul style="list-style-type: none"> Station Closures (see below) Closure of Needham Facility Loss of skilled labor Additional cost to mothball assets
• Additional reduction in coaches (50)	-	-		n/a	\$4 (Nov 2021)	
• Station Closures	-	<200 Lack of Access (likely Divert)	<50 Lack of Access (likely Divert)	-	minimal	<ul style="list-style-type: none"> Supports operationalization of peak service reduction
TOTAL	35%			\$8	\$45	

Appendix: Ferry

-	

Lever	% of trips represented	Pre-COVID riders impacted	Sept. 2020 riders impacted	Gross Savings (\$M)		Risks / Consequences
				FY21	FY21	
<ul style="list-style-type: none"> Eliminate Direct Hingham service (F1) Eliminate Hingham/Hull local (F2H) Eliminate weekend Charlestown/Boston (F4) 	100%	F1: 4,183 F2H: 1,350 Lack of Access F4: 1,230 Divert	F1: 279 F2H: 314 Lack of Access F4: 210 Divert	\$3.5 <i>(Mar)</i>	\$13	<ul style="list-style-type: none"> Maintain MBTA ferries and other assets Bus Route 93 provides alternative service to the F4 Greenbush stations within 5-15 minute drive of Hull & Hingham
Total	100%	5,533 Lack of Access 1,230 Divert	593 Lack of Access 210 Divert	\$3.5	\$13	

Blue = will take significant amount of time to re-add service after reductions

All levers shown are additive and do not overlap



Appendix: Rapid Transit

Lever	% of service hours represented	Riders impacted (avg. wkdy)		Gross Savings (\$M)		Risks / Consequences
		Pre-COVID	Sept. 2020	FY21	FY22	
• Short-turn E Line at Brigham Circle, no Green Line service to Heath Street	3%	4,057 Divert	<1,000 (est.) Divert	\$0.5 <i>(March)</i>	\$2.0	• Route 39 replacement service (assuming some increase in Rt. 39 frequency); ~1,000 riders equivalent to ~25% of current Rt. 39 Ridership
• End service at midnight on all lines	2%	2,785 Lack of Access	733 Lack of Access	\$0.6 <i>(March)</i>	\$2.8	• Increase window of work available for maintenance and construction
• Reduce peak frequency by 20% on all lines*	10%	~497K SDP Frequency	~120K SDP Frequency	\$0.8 <i>(partially in March)</i>	\$12.1	• Green Line operations will not receive additional resources when GLX opens
• Reduce off-peak frequency by an additional 20% on all lines*	15%			\$0.9 <i>(partially in March)</i>	\$14.9	• Green Line operations will not receive additional resources when GLX opens
Total	30%			\$2.8	\$32	

Blue = will take significant amount of time to re-add service after reductions

All levers shown are additive and do not overlap

*Implementation timing for lever on Blue Line may need to be adjusted based on state and federal guidelines in regards to social distancing

Appendix: Bus (1/2)

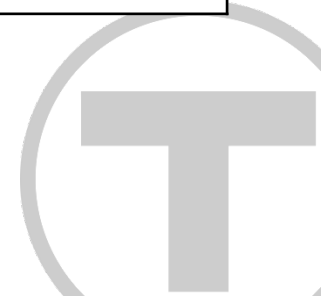
Lever	% of service hours represented	Riders impacted (avg. wkdy)		Gross Savings (\$M)		Notes
		Pre-COVID	Sept. 2020	FY21	FY22	
<ul style="list-style-type: none"> 5% frequency reduction on essential (top left box) routes* 	3%	~308K Freq, within SDP	~130K Freq, within SDP	-	\$6.0	<ul style="list-style-type: none"> 5% on average system-wide, impact may vary significantly route by route based on ridership (e.g. Routes 111, 116, 117, 104 and similar routes unlikely to reduced due to ridership)
<ul style="list-style-type: none"> 10% reduction on all non-essential routes 	3%	~100K Freq, not SDP	~31K Freq, not SDP	-	\$7.2	<ul style="list-style-type: none"> 10% on average system-wide, impact may vary route by route based on ridership
<ul style="list-style-type: none"> 10% additional reduction on all non-essential routes 	3%			-	\$5.5	<ul style="list-style-type: none"> 10% on average system-wide, impact may vary route by route based on ridership
<ul style="list-style-type: none"> Eliminate or restructure bottom-right box routes, including Suburban Program subsidy 	3%	6,794 Divert/ 1,444 Lack of Access + suburban subsidy	1,058** Divert/ 386** Lack of Access + suburban subsidy	-	\$7.6	<ul style="list-style-type: none"> Shorten route: 553, 554, 556, 558, 230 Eliminate: 52, 72, 79, 131, 136, 212, 351, 451, 465, 505, 710, 714 Eliminate Suburban Subsidy Program

Blue = will take significant amount of time to re-add service after reductions

All levers shown are additive and do not overlap

*Implementation timing for lever on essential routes may need to be adjusted based on state and federal guidelines in regards to social distancing

**Some routes have been consolidated/restructured/suspended as part of COVID-19 response and unable to count all impacted riders



Appendix: Bus (2/2)

Lever	% of service hours represented	Riders impacted (avg. wkdy)		Gross Savings (\$M)		Notes
		Pre-COVID	Sept. 2020	FY21	FY21	
<ul style="list-style-type: none"> Eliminate redundant routes that are within 1/4 mile of bus or rapid transit 	2%	8,601 Divert	2,283** Divert	-	\$4.8	<ul style="list-style-type: none"> Fully redundant: 325, 326, 456 Within ¼ mile of alt.: 43, 55, 68 Within ¼ mile of alt. (post-GLX): 80, 88 (consolidate 88 & 90, extend to Clarendon Hill)
<ul style="list-style-type: none"> Consolidate routes 	1%	68 Lack of Access	N/A** Lack of Access	-	\$2.1	<ul style="list-style-type: none"> 62/76, 84/78, 214/216, 352/354, 501/503, 502/504
<ul style="list-style-type: none"> Stop service at midnight 	1%	4,212 Lack of Access	1,748 Lack of Access	-	\$2.5	
<ul style="list-style-type: none"> Eliminate very low ridership bottom-left routes, redundant options on portion of most routes 	<1%	914 Divert/ 170 Lack of Access	134** Divert/ 54** Lack of Access		\$0.9	<ul style="list-style-type: none"> Eliminate: 18 (w/in ½ mile of Red Line), 170, 221, 428, 434, 716
Total	16%				\$38M	

Blue = will take significant amount of time to re-add service after reductions

All levers shown are additive and do not overlap

**Some routes have been consolidated/restructured/suspended as part of COVID-19 response and unable to count all impacted riders

Nearly 99% of pre-COVID trips are unaffected

Appendix: The RIDE



Lever	Pre-COVID trips impacted		Gross Savings (\$M) FY22	Risks / Consequences
	Annual	Avg. daily		
<ul style="list-style-type: none"> Increase scheduling window from 30 to 40 minutes 	All riders		\$0.4 - \$1.2	<ul style="list-style-type: none"> Some trips may be booked 40 minutes from request time instead of current 30 minutes
<ul style="list-style-type: none"> Changes to ADA/Premium service area based on fixed route eliminations/restructuring 	~18,000 impacted (assume of that, ~4,000 trips no longer made)	~50 trips impacted (assume of that, ~11 trips no longer made)	\$0.3 - \$0.5	<ul style="list-style-type: none"> Of 1.5M pre-COVID weekday trips, approx. 18,000 would shift from ADA to premium service Of these, it's estimated customers would avoid taking 4,000 trips due to the higher premium fare, leaving 14,000 trips shifted to premium service Dependent on final package of service changes for fixed route
<ul style="list-style-type: none"> Changes to ADA/Premium service to fully adhere fixed route times of service 	Under review			<ul style="list-style-type: none"> Start/stop of RIDE service adjusted to fully match times of service of other MBTA modes (e.g. Bus/Rapid transit stopping at midnight, Commuter Rail at 9 PM)

RIDE fares per trip:

- Premium - \$5.60
- ADA - \$3.35

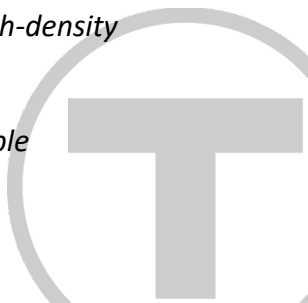
Appendix: List of all essential bus routes

High Transit Priority & High Ridership Potential (Key Bus Routes and Silver Line Routes in gray)							
1	21	32	42	69	105	120	504
8	22	33	44	83	106	121	CT2
9	23	34	45	85	108	202	CT3
10	24	35	47	86	109	210	SLW
11	26	36	50	89	110	215	SL1
14	27	37	51	91	111	240	SL2
15	28	38	57	93	114	411	SL3
16	29	39	64	97	116	424	SL4
17	30	40	65	99	117	429	SL5
19	31	41	66	104	119	455	

	2017 Service Delivery Policy* (only applicable for essential service)
Hours of operations	<ul style="list-style-type: none"> Weekdays & Saturdays: 6:00 AM to midnight for Key Bus Routes (KBR); 7/8:00 to 6:30/7:00 PM for Local Routes Sundays: 7:00 AM to midnight for KBR; 10:00 AM to 6:30 PM for Local
Frequency	<ul style="list-style-type: none"> Peak: Every 10 min. for KBR, every 30 min. for Local Off-Peak weekday: Every 15-20 for KBR, every 60 min for Local Weekends: Every 20 min for KBR, every 60 min for Local

**Commuter or Community Route Standard not shown; Minimum span only standard for high-density areas. There is no span standard for low-density areas on weekend*

Note: Route 68 initially included in essential services (as serves essential trips), but as multiple alternatives exist with ¼ mile, proposed eliminating route



Appendix: List of all non-essential bus routes (without major structural changes)

Non-essential bus routes w/o major structural changes (Key Bus Routes in gray)					
4	74	101	195	238	450
7	75	112	201	245	712
34E	77	132	211	350	713
59	87	134	216	426	
60	90	137	217	430	
61	92	171	220	435	
67	94	191	222	436	
70	95	192	225	439	
71	96	193	226	441	
73	100	194	236	442	

- All routes listed here will continue to operate
- All routes will stop service at midnight
- Frequency may be significantly reduced throughout the day



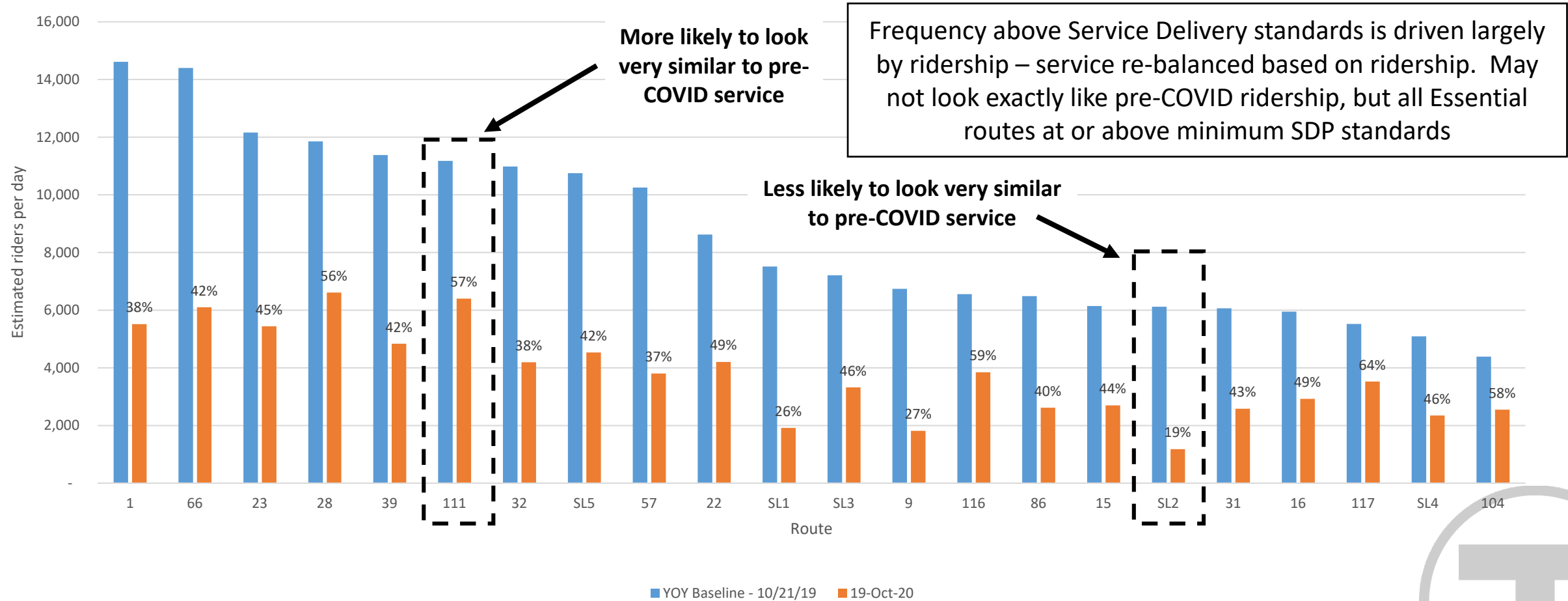
Appendix: All bus routes with major structural changes or eliminations

Consolidated Routes	Restructured routes (shortened)
62 & 76	553
84 & 78	554
88 & 90 (w/ GLX)	556
214 & 216	558
352 & 354	230
501 & 503	
502 & 504	
Restructured & consolidated routes will continue to operate, but stop at midnight and with lower frequency	

Eliminated routes			
Within ¼ mile of bus or rapid transit	High transit critical, very low ridership, redundant options available on portion of most routes	Low transit critical, low ridership)	
43	18	52	505
55	170	72	710
68	221	79	714
80 (w/ GLX)	428	131	Suburban subsidies
325	434	136	
326	716	212	
456		351	
		451	
		465	

Appendix: What 5% frequency reduction looks like on Essential Services

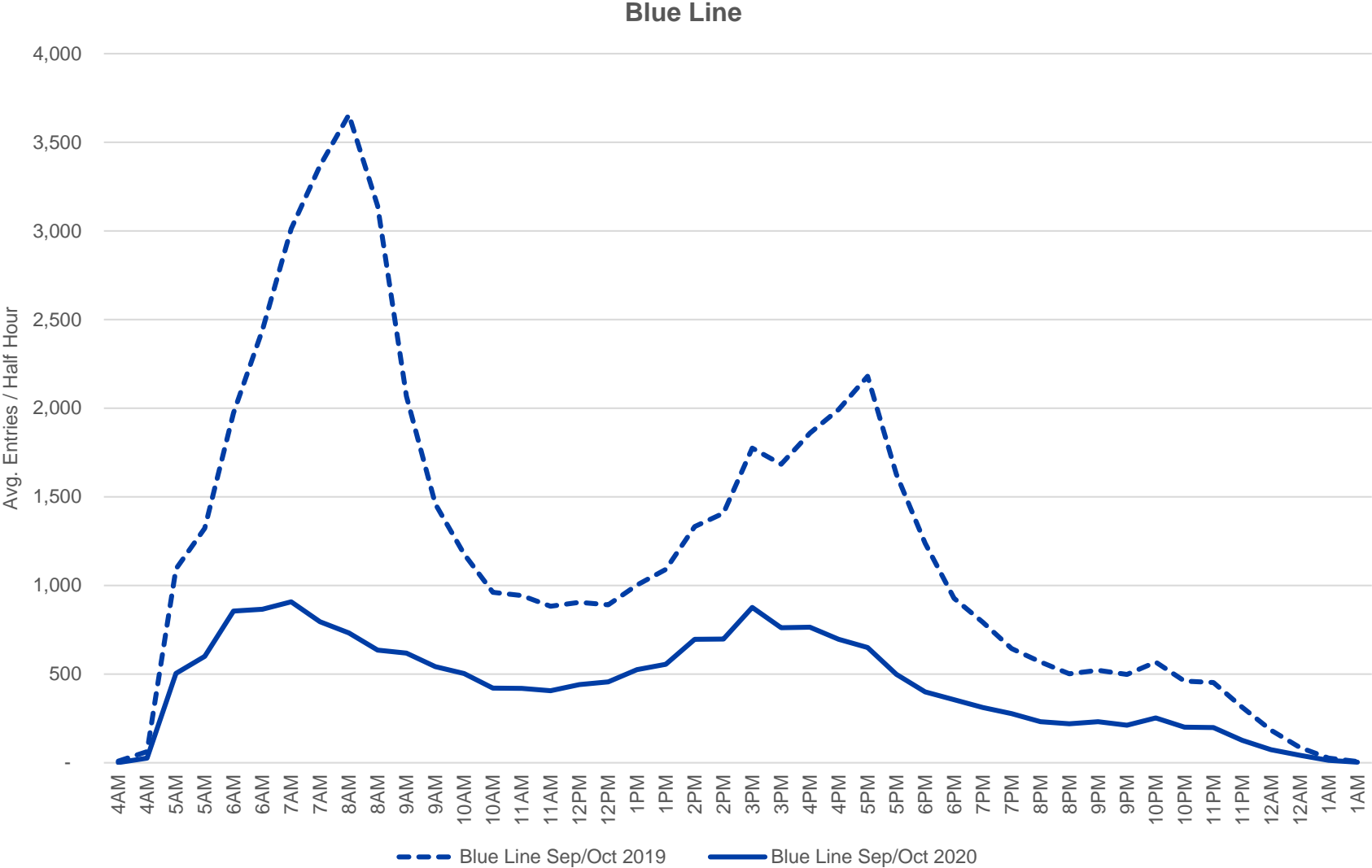
Daily Bus Ridership YOY, 10/21/19 vs. 10/19/20, Example Essential Routes by Ridership



Rapid Transit Ridership: Blue Line

~19,700 gate entries on weekdays, 37% pre-COVID

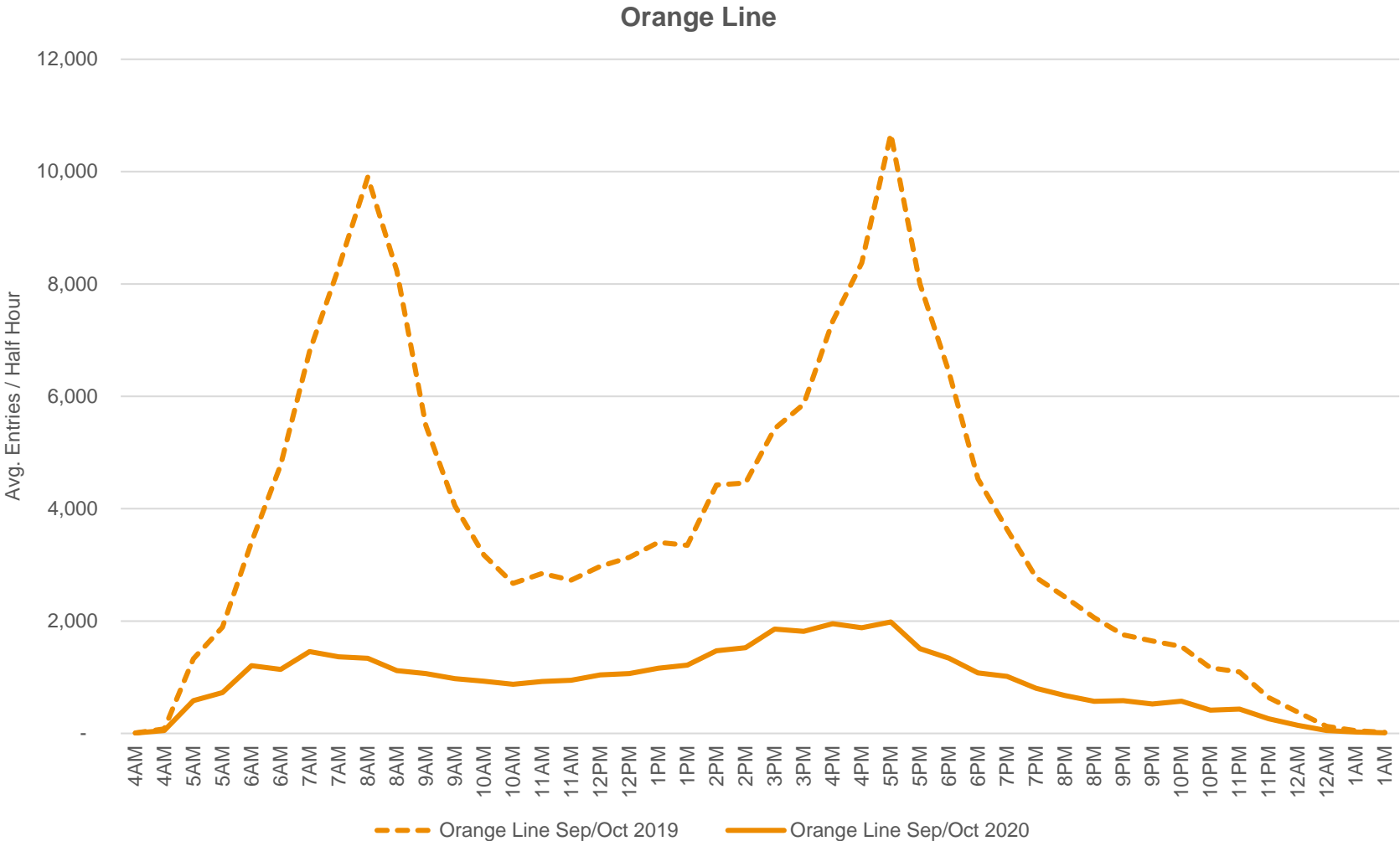
Sept/Oct 2020 Boardings after midnight
Blue: 134



Rapid Transit Ridership: Orange Line

~41,700 gate entries on weekdays, 26% pre-COVID

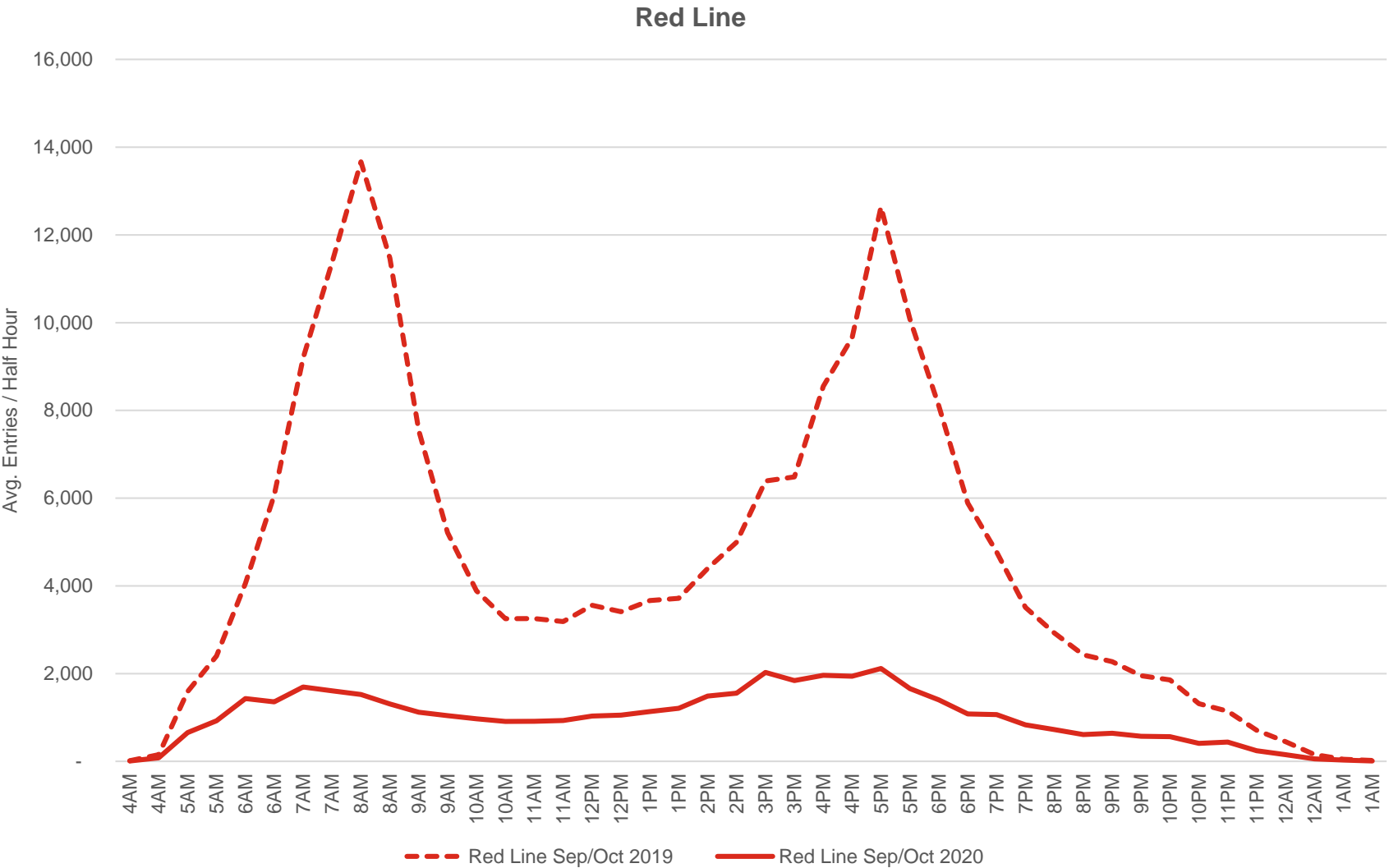
Sept/Oct 2020 Boardings after midnight
Orange: 237



Rapid Transit Ridership: Red Line

~44,400 gate entries on weekdays, 22% pre-COVID

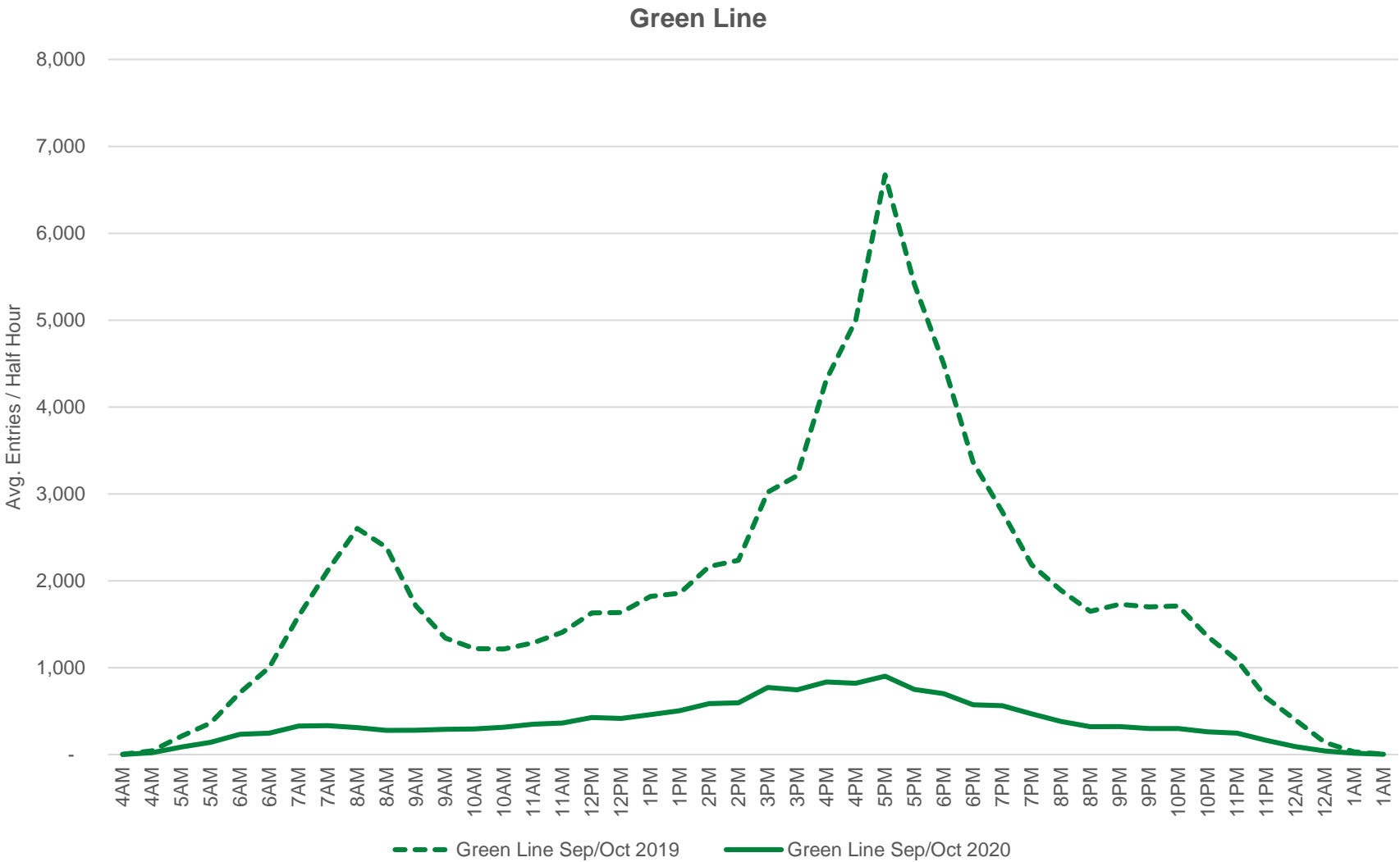
Sept/Oct 2020 Boardings after midnight
Red: 247



Rapid Transit Ridership: Green Line (gated stations)

~16,500 gate entries on weekdays, 20% pre-COVID

Sept/Oct 2020 Boardings after midnight
Green: 155



Appendix: Service Delivery Policy - Frequency & Span

		Commuter Rail	Ferry	Rapid Transit	Bus – Key Bus Routes	Bus – Local Routes*
Frequency	AM & PM Peak	3-4 trips in peak direction	3 trips in peak direction	Every 10 minutes	Every 10 minutes	Every 30 minutes
	All other weekday periods	Every 3 hours in each direction	Every 3 hours	Every 15 minutes	Every 15-20 minutes	Every 60 minutes
	Saturday	Every 3 hours in each direction	-	Every 15 minutes	Every 20 minutes	Every 60 minutes
	Sunday	-	-	Every 15 minutes	Every 20 minutes	Every 60 minutes
Span of Service	Weekday	7:00 AM – 10:00 PM	7:00 AM – 6:30 PM	6:00 AM - midnight	6:00 AM - midnight	7:00 AM – 7:00 PM
	Saturday	8:00 AM – 6:30 PM	8:00 AM – 6:30 PM (seasonal)	6:00 AM – midnight	6:00 AM – midnight	8:00 AM – 6:30 PM*
	Sunday	-	-	7:00 AM – midnight	7:00 AM – midnight	10:00 AM – 6:30 PM*

*Commuter or Community Route Standard not shown; Minimum span only standard for high-density areas. There is no span standard for low-density areas on weekend

Appendix: Major Service Change Requirements

Statutory and regulatory requirements for a service reduction of more than 10% of revenue vehicle hours

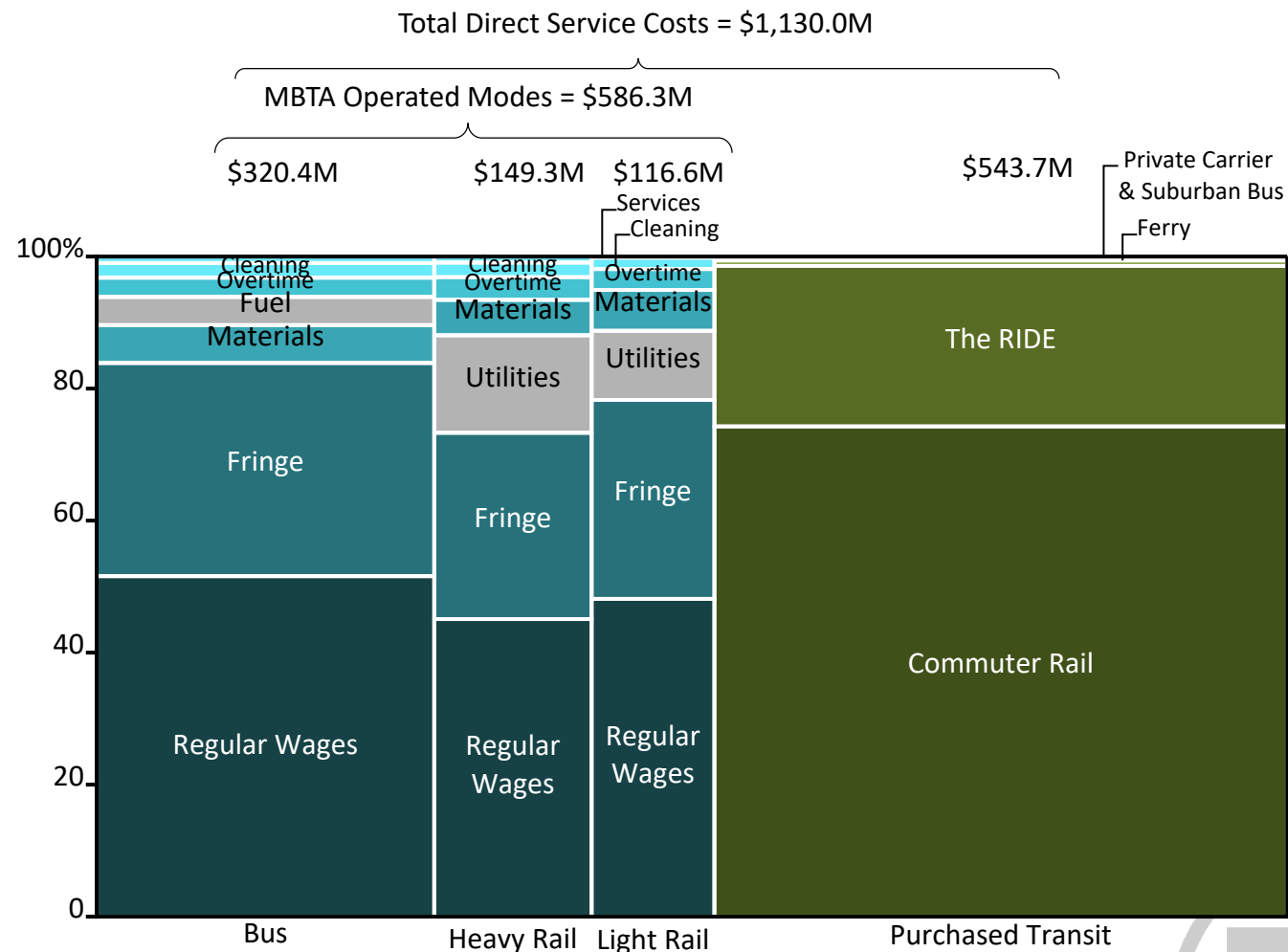
- Title VI service equity analysis for all concurrently proposed changes in the aggregate (implementation dates can vary)
- One or more public hearings
- Review by MBTA Advisory Board
- Decrease shall be the subject of an environmental notification form initiating review pursuant to MEPA

Title VI and MEPA analysis will be done after Board decides on preferred package and will come back to the Board for final approval in February



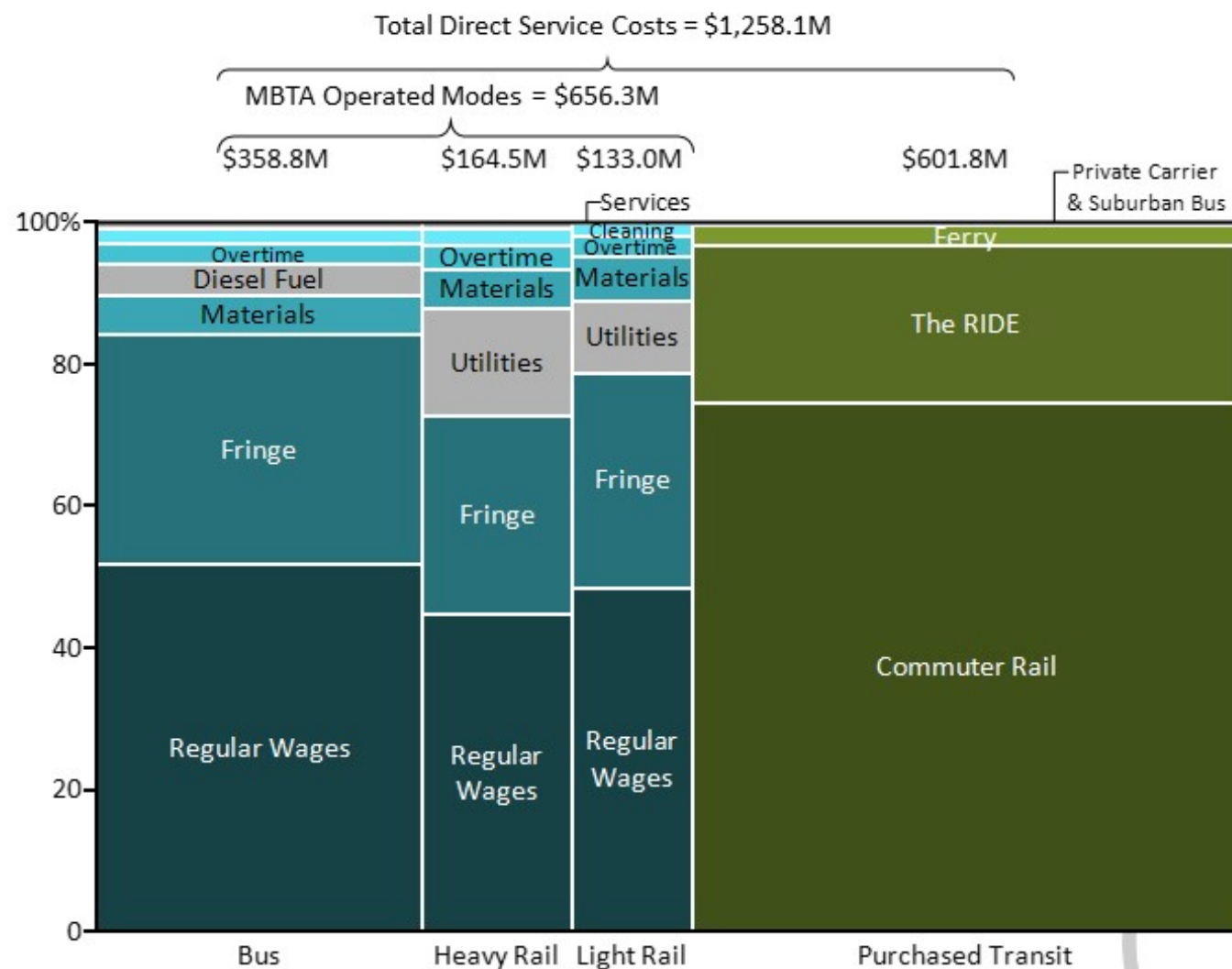
Direct Cost of providing Base Service Levels

- Direct service costs after savings from service packages is \$1,130M
- \$586M (52%) is for MBTA operated services
 - Of this, \$488M (83%) is regular wages, overtime and fringe
- \$544M (48%) is for purchased transit services
- Infrastructure Maintenance, and Other Operations are not included in these costs as their costs are assumed to be fixed with service levels



Direct Cost of providing Pre-COVID Service Levels

- Direct service costs for Pre-COVID service levels is budgeted for \$1,258M
- \$656M (52%) is for MBTA-operated services
 - Of this, \$546M (83%) is regular wages, overtime and fringe
- \$602M (48%) is for purchased transit services
- Infrastructure Maintenance, and Other Operations are not included in these costs as their costs are assumed to be fixed with service levels



Resolving the Budget Gap Summary

- Incorporating Scenario 3 Fare Revenue projection (as presented October 19th) FY22 budget gap projection at \$579M.
- Taking steps now in FY21 to build reserves and reduce the level of spending cuts next year
- With the FY22 budget gap estimate at the upper bound of the initially projected range, altering recommendations results in direct trade-offs among the approaches
- Lowering recommendations in any one of the approaches would mean raising recommendations among the other approaches in order to achieve budget balance
- All cost saving actions are estimates and likely upon implementation will not reach full amounts listed

