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MTF BULLETIN

April 3, 2023

LABOR SHORTAGES RAISE DOUBTS ABOUT MBTA'S CAPABILITIES

When he met with the press on March 10th to explain the T's decision to implement system-wide speed restrictions, Interim General Manager Jeff Gonneville was asked about what kind of an MBTA the next general manager would inherit.

He responded in stark terms, saying: "We're an organization right now that's at a generational moment and I feel very strongly about that." He added:

We're an organization right now that has to continue to focus on our infrastructure and updating our infrastructure.

We're an organization right now that has to focus on hiring and making sure we have the right staff in the field, so that we have the right number of people in our system.

We're an organization right now that also has to pivot within its culture.

As the new General Manager assumes control next week, Phillip Eng and the MBTA confront fundamental problems beyond a fiscal cliff or persistent service disruptions. They face a cascading series of issues, exacerbated by labor shortages, that raise questions about the MBTA's capabilities going forward – none of which have short-term solutions.

AN EXISTENTIAL QUESTION – WILL MBTA LABOR SHORTAGES IMPEDE ITS FUTURE?

Like transit agencies across the nation, the MBTA is struggling to find the talent it needs to deliver full bus and rapid transit services today, let alone the expanded services being planned or proposed. The severity of the MBTA's staffing issues force two critical questions:

- Is the MBTA mired in a new labor market reality, unable to recruit, hire and train the 2,800 workers the MBTA estimates it needs in the next 12 months to safely and reliably operate and maintain its core system?
- If so, what steps should lawmakers take to help the MBTA rebuild its workforce and fix its infrastructure? And should those efforts fail, what do lawmakers propose for the MBTA's future?

These are not hypothetical questions.

One of the Federal Transit Administration's (FTA) key directives requires the MBTA "*to conduct a workforce analysis to determine the level of operations, maintenance, and capital project delivery that its workforce can sustain, particularly in key technical, supervisory, and engineering positions.*"¹

¹ FTA Final Report, p. 36.



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The FTA concluded that the MBTA may be 1,500 to 2,000 short of the personnel needed to manage its current level of activity. The MBTA received Board support to increase personnel by 2,000 in its FY 2024 budget, but it will likely begin the new fiscal year with staffing levels approximately 20 to 25 percent below what's required to maintain and operate the core system (Appendix A).

Consider the Consequences

Suppose MBTA labor shortages endure; the implications are considerable.

Reduced and Disrupted Services: The MBTA has initiated a series of line closures and reduced speed limits throughout its rail system. It cannot return to full service until it hires and trains a sufficient number of dispatchers and supervisors, adds dozens more motor persons, and resolves the myriad of problems causing slow zones across the rail system. Similarly, the shortage of bus operators, made worse by the number of departures outpacing hiring and training, continues to restrict services.

Underinvestment in the MBTA's Infrastructure: Capital investments, essential to a system with a \$12 billion backlog of deferred maintenance and estimated 10-year capital needs of \$27 billion², have been slowed below spending targets due in part to maintenance repairs that require electricians, flaggers, engineers, and safety workers to be shifted away from capital project delivery.

New Initiatives Delayed: There are a number of bus and rail initiatives with wide support that simply cannot be provided without increased staffing levels. Workforce shortages pose obstacles to their development and operation if the MBTA cannot hire sufficient staff to resolve FTA safety directives.

Safety Issues Persist; FTA Oversight Continues: Absent sufficient staffing, safety related repairs and maintenance issues will take longer than anticipated and full compliance with FTA directives could stretch out for years. That would delay the MBTA's recovery, exacerbating long-term fiscal problems and ongoing commuting struggles for those who most rely on the T.

In sum, elected leaders and policymakers may have to rethink MBTA service levels should labor shortages persist; while at the same time confronting inadequate operating and capital resources and an aging and rapidly deteriorating infrastructure.

Staffing Plan Details

The MBTA released staffing plans for FY 2023 in July 2022 and headcount options for its FY 2024 operating budget this March.

The FY 2023 operating budget staffing plan called for hiring 1,759 new staff, which is comprised of 761 vacancies, 330 positions added to the FY 2022 budget, and replacements for a projected 668 departing workers. This plan would increase the MBTA's operations headcount by 1,091 from 5,588 to 6,679. As of March 2023, the MBTA headcount stood at 5,756, an increase of about 170.

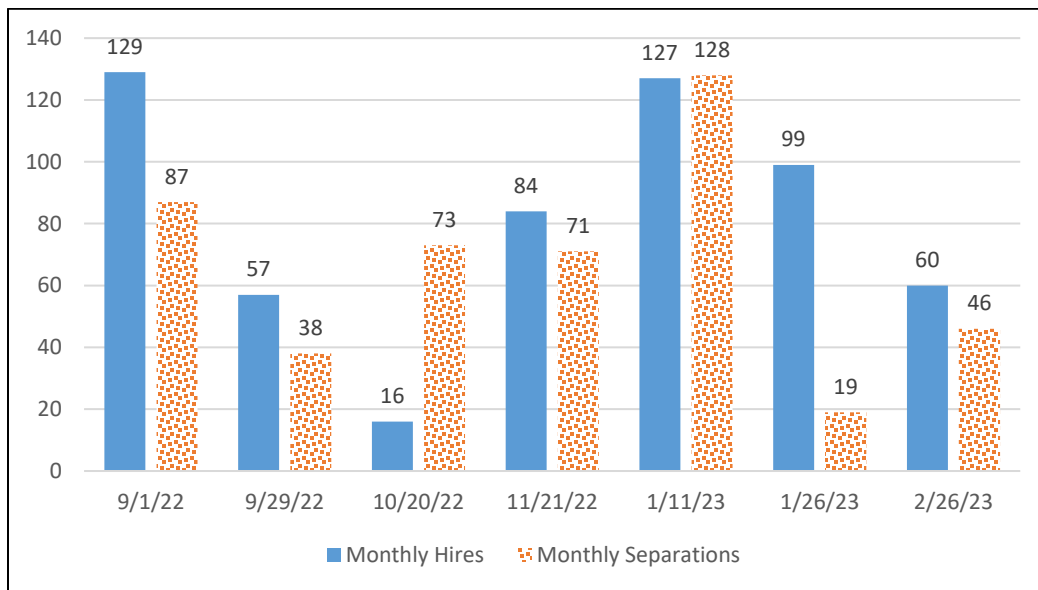
² Latest estimates from 2019 and 2021 respectively.

For its FY 2024 operating budget, the MBTA proposes funding for approximately 7,600 personnel in order to backfill 1,088 current vacancies, address safety matters, add staffing for bus network design, operate the green line extension (GLX), and implement its fare transformation program (Appendix A³); which represents a 30 percent increase over current staffing. To staff these needs, the MBTA must add 1,800 to its current headcount for FY 2024. Factoring in 1,000 expected departures for the remainder of FY 2023 and FY 2024, the MBTA has to hire 2,800 workers within the next 12 months.

Is this achievable in the current labor market?

To put the 2,800 hires and 1,800 increased headcount in perspective, for fiscal years 2019 – 2022, the MBTA hired approximately 2,400 personnel while increasing headcount by just 450 due to offsetting departures. Through the first 9 months of FY 2023, the MBTA has shown notable progress reporting 690 hires with 522 departures, generating a headcount gain of 168. The FY 2023 results are shown in Figure 1.

Figure 1 – FY 2023 Reported Hires and Separations (through February 23, 2023)



A Pattern of Safety Events, Faulty Maintenance, and Disrupted Services

The MBTA and its riders have suffered through a series of unrivaled events over the past few years⁴ including derailments, grade crossing fatalities, train collisions, runaway trains, escalator breakdowns, cars on fire, and much more. The severity of these safety incidents, the FTA noted, has increased “...from minor property damage, brief service disruptions, and minor injuries in 2019 and 2020, to more significant

³ See [FY 24 Operating Budget Preview](#), MBTA Board of Directors, March 23, 2023, slides: 15 – 22.

⁴ “Safety data show that, from January 1, 2019, through April 2022, MBTA experienced a higher overall rate of reportable safety events, particularly on its heavy rail mode, and a higher rate of derailments on both heavy and light rail modes, than its peers and the total rail transit industry average.”, FTA Final Report, p. 4.



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property damage, extended service disruptions, and more serious passenger injuries requiring hospitalization in 2021.”⁵

In addition to and partly because of these safety events, T riders have endured reduced service frequencies on rail and bus, slowed travel times through a reported 200 speed-restricted areas, and disrupted service from widespread and prolonged shutdowns of the MBTA’s rail transit system.

WHY MBTA LABOR SHORTAGES MATTER

The MBTA has confronted a talent and succession problem for years as operating budget gaps and retirement lowered staffing levels. In 2019, the Safety Review Panel linked these labor shortages to inadequate safety controls and operational performance, noting:

*In the case of the MBTA, the hiring freeze and reduction in headcount, was exacerbated by the most seasoned and knowledgeable employees accepting management sponsored “buy outs” that resulted in significant brain drain. With no clear succession planning or employee development processes in place, the organization finds itself limited in its ability to effectively run the system. Without even realizing it, a safety culture gets formed; unfortunately, it is one of poor operational performance and neglect of infrastructure assets.*⁶

Two and one-half years later following a series of safety incidents, the FTA intervened and conducted a safety management inspection concluding that the MBTA operated “a level of service that is not adequately staffed, trained, supervised, or maintained.”⁷

More specifically, the FTA noted shortages in key positions in rail transit systems with vacancy rates of 20 to 35 percent of budgeted positions over the past two years, including:

- Operation Control Center dispatchers and supervisors
- Signal technicians
- Vehicle repairers
- Heavy and light rail repairers
- Traction power technicians

MBTA payroll data ([CTHRU](#)) allows a deeper analysis into MBTA labor challenges. These data list the number of employees by job title who received a paycheck for fiscal years 2017 – 2023. By comparing the average number of workers in each job title⁸ in FY 2023 with the four-year average of the same title for fiscal years 2019 – 2022, one can estimate the number of new hires needed to reach previous operational levels (Appendix B).

⁵ Ibid.

⁶ Safety Review Panel Final Report, October 2019, p. 34.

⁷ FTA Final Report, p. 32.

⁸ Not to be confused with headcount. The number of employees receiving a paycheck incorporates hirings and separations - the churn. The gap in FY 2023, as of March 3, 2023 payment records, reflects the amount of additional hiring to meet the average number of employees for various job titles the previous four fiscal years.

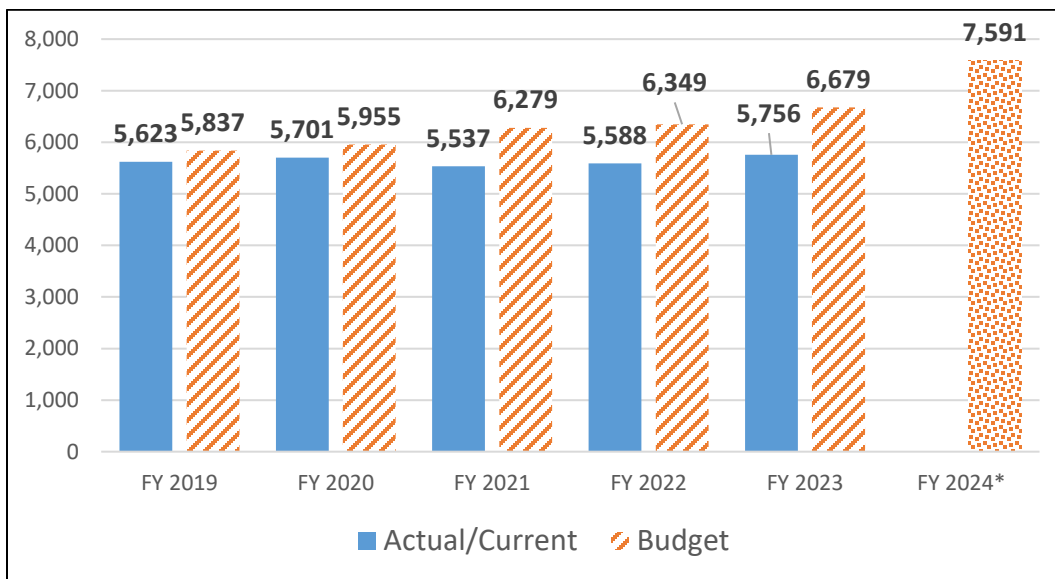
These data suggest that the MBTA faces workforce shortfalls of about 785 workers in critical job titles that include repairer rail, bus inspector, track laborer, engineer, fueler, and repairer line 1st class along with bus operators and motor persons. There are also approximately 55 fewer transit police halfway through FY 2023 than in years 2019 – 2022, as the MBTA deals with growing concerns of assaults on its operators.

The MBTA Has Been Understaffed for Several Years Causing Safety and Service Problems

The MBTA and FTA each reported that since FY 2020, the MBTA has operated with vacancy rates in excess of 10 percent of budgeted positions. These vacancies expanded from less than 5 percent in FY 2019 and FY 2020 to a high of 13 percent in FY 2021.

While many factors are at play, budgeted staff increased due to \$2 billion in federal relief funds and a push to increase safety-related hiring in response to findings of the Safety Review Panel. In FY 2021, however, hiring and headcount fell largely due to COVID closures.

Figure 2 – MBTA Headcount – Budget vs. Actual, FY 2020 – FY 2023; FY 2024 Proposed



Dispatcher, Bus Operator and Motor Person Shortages Trigger Cuts in Services

The FTA issued a special directive in June 2022 regarding fatigue management and lapsed certifications of rail dispatchers causing the MBTA to reduce weekday service to a weekend schedule, a 20 percent reduction across the Red, Orange and Green Lines.

Despite reaching the numeric goal of rail dispatchers, heavy rail service limits remain in place due to a continued shortage of motor persons and 200 slow zones across its rail system, according to the MBTA.



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Additionally, the MBTA acknowledged a shortage of 353 bus operators this past February, slightly more than the September figure leading to reduced bus services. This reaffirms the challenge of adding headcount in a tight labor market while facing an aging workforce and growing competition.

Again, using state payment records by job title to compare FY 2023⁹ with the average number over the previous four fiscal years, the T has approximately:

- 320 fewer full and part-time bus operators
- 120 fewer bus operators in training
- 125 fewer streetcar and rapid transit motor persons
- 90 fewer streetcar and rapid transit motor persons in training

Factoring in the length of time to qualify, hire and train new employees, these shortages are likely to persist, causing services to run less frequently than a year ago.

Neglected Maintenance Created Slow Zones and Service Shut Downs

The FTA noted that the MBTA's focus on capital project spending, at the expense of maintenance of way (MOW) repairs and upgrades, caused deteriorating rail transit conditions that triggered slow zones across the system.

The FTA issued a special directive in June 2022 requiring immediate attention to MOW concerns which prompted the MBTA to close the entire Orange Line and parts of the Green Line for 30 days last year. With a reported 200 slow zones to fix, line closures and disrupted service could continue throughout 2023.

Infrastructure Backlog Persists as Capital Spending Lags Target – Again

The MBTA has a capital spending target of \$2 billion in FY 2022 and FY 2023. In FY 2022, actual spending came in at \$1.6 billion or nearly \$400 million below target. In FY 2023, the MBTA estimates that it could fall short by \$250 million.

These figures are indicators that the MBTA may be unable to complete its repairs and upgrades to the current system by 2032. While there are several reasons for falling short of the \$2 billion target, workforce shortages are a factor as some workers are required for both MOW repairs and capital projects. As the MBTA shifts its focus and personnel to MOW repairs, capital spending targets are likely to struggle to reach or exceed \$2 billion annually.

Since the MBTA estimates that it will need to spend \$27 billion or more over the next 10 years (last updated in 2021) to maintain and modernize the core system, annual capital spending will have to approach \$3 billion – substantially higher than the MBTA's current capacity.

⁹ As of 2/27/2023 employment payroll data

HOW THE MBTA GOT HERE

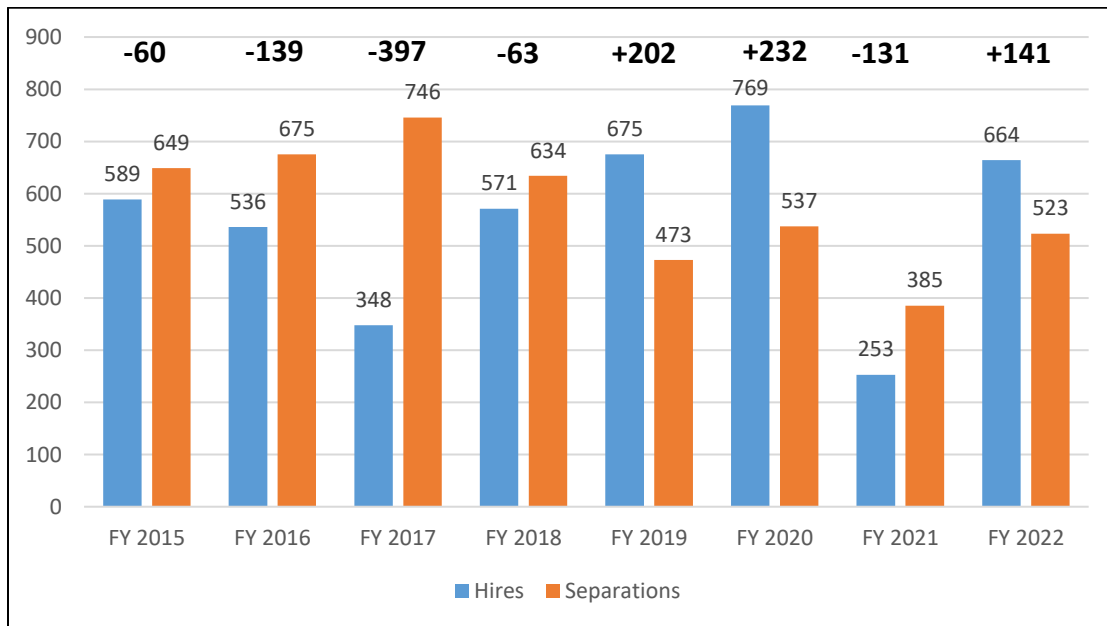
One of the FTA’s key findings stated: “*MBTA has not demonstrated the organizational capacity to recruit and hire personnel to meet authorized staffing levels.*”

There are a myriad of factors contributing to staffing shortfalls at the MBTA, some of which are outside of its control. However, several matters are worth noting as they may be relevant going forward. Three major factors driving MBTA headcount are:

- Operating budget shortfalls,
- An aging workforce, and
- A cumbersome and antiquated hiring process.

From FY 2015 to FY 2018, the MBTA reduced its headcount by 659, representing 10 percent of its workforce, in order to balance its budget. In FY 2017, for example, the MBTA initiated an early retirement program to lower headcount by 300 to help close an \$80 million budget gap (Figure 3). As the Safety Review Panel concluded in 2019, “...the hiring freeze and reduction in headcount, was exacerbated by the most seasoned and knowledgeable employees accepting management sponsored “buy outs” that resulted in significant brain drain.”

Figure 3 – Net Changes in MBTA Headcount, FY 2015 – FY 2022



These labor shortages are aggravated by an aging workforce where 45 percent of MBTA employees were eligible to retire by 2020 as highlighted by the Special Panel in 2015. And, as covered later, approximately 40 percent of MBTA departures are due to retirement which is significantly higher than the national average.



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Finally, problems with the MBTA's hiring process caught the attention of several oversight reports long before the FTA in 2022. In April 2015, the Special Panel found that 10 percent of senior positions were either vacant or filled with interim employees.

In its First Annual report (December 2015) the Fiscal and Management Control Board (FMCB) addressed the MBTA's need to fill vacancies and improve upon the time it takes to hire, writing:

Plans are being implemented to accelerate hiring processes, with a goal to reduce "time to hire" from the current range of 108 to 284 days to approximately 100 days... for the four slowest of its six hiring methods (lottery, union referral, seniority, and selection process), which accounted for the majority of FY 2015 hiring.

Re-hiring personnel when budgets loosen – especially those with extensive experience and expertise – was always going to be problematic, exacerbated by a protracted hiring process.

The MBTA Streamlines and Scales its Hiring Process

In response to the many admonitions and in recognition of its critical labor requirements, the MBTA has made rigorous efforts to accelerate its hiring processes, scale its outreach, and add benefits to retain its current workforce as demonstrated in a recent presentation to the Board (Appendix C).

In the past year, the MBTA set out to increase its hiring capacity to 174 hires each month in order to reach its targets. The MBTA has doubled its HR recruiting team, increased its contract with 7Step to 600 recruits from 350, and made other notable changes to its hiring process and employment offers. The MBTA has begun to:

- Collaborate with the Registry of Motor Vehicles
- Conduct bulk interviews to increase throughput
- Ramp up MBTA outreach through advertisements and job fairs
- Broaden search for eligible dispatchers
- Offer \$10,000 bonuses for dispatchers and \$5,000 for bus operators
- Offer free commercial driver's license (CDL) training for bus operator applicants
- Conduct a marketing campaign to attract applicants for MBTA positions

In addition, the MBTA has the requisite short-term resources to significantly increase headcount. Resources include unspent budgeted funds from the past few years, a one-time infusion of \$378 million from the Legislature, and a proposed \$20 million in a supplemental budget recently filed by Governor Healey.

An increased number of hires, 690 through March 2023, has helped push the current headcount to 5,756 from the start of the current fiscal year. These hires, however, are offset by 522 separations from retirements, competitors, and the effects of COVID.

PUBLIC TRANSIT LABOR SHORTAGES ARE NOT UNIQUE TO MASSACHUSETTS

National data indicate the context of the MBTA’s workforce challenge as public transit workers increasingly opt to retire or seek alternative work options. These trends put transit agencies in competition for talent from private carriers including FedEx, UPS, and Amazon that are recruiting operators with higher pay in more affordable locations.

National data show public transit agencies find it increasingly difficult to recruit and maintain workers:

- U.S. employment in urban transit systems fell to 229,000 in 2022, down 18,000 or 7.2 percent since 2019, reaching the lowest figure in a decade (Appendix D)
- In Massachusetts, employment in transit and ground passenger transportation fell by 4,300 or 17 percent to 21,800 in 2022 from 26,100 in 2019
- U.S. job openings in trade, transportation and utilities jumped to 1.8 million in 2022, up 35 percent or 475,000 from 2019
- U.S. employment in transit and ground passenger transportation declined by 90,000 in 2022 to 404,500 from 494,000, representing an 18 percent drop

As Retirements and Competition Rise, Service Suffers

Urban transit employees are disproportionately older than most sectors of the economy; driving up retirements while younger workers increasingly seek alternative careers. Transit agencies nationwide are finding recruitment a growing challenge.¹⁰

- U.S. bus service and urban transit workers rank third among all industry sectors with 67 percent of workers aged 45 or higher trailing only ‘not specified utilities’ and ‘sewing, needlework, and piece goods stores’ (Appendix E).
- Ninety-six percent of transit agencies surveyed reported experiencing a workforce shortage, 84 percent of which said the shortage is affecting their ability to provide service.
- 71% of agencies have canceled or delayed service due to labor shortages, even more than in 2021.
- Appendix F lists a dozen recent news stories about transit agencies across the country challenged by workforce shortages.

Barriers Are Stubbornly High

The MBTA now finds itself with separate challenges that each worsen the workforce pinch: first, people are less attracted to public transit employment when presented with options and second, its aging workforce and generous pension benefits lead to a growing number of retirements. According to the American Public Transit Association’s (APTA) national survey:

- 45 percent of departing employees left to take jobs outside the transit industry.
- Transit agencies’ offers of employment are rejected 35 percent of the time, more than twice the rate for jobs across all industries.

¹⁰ See: [Transit Workforce Shortage](#), American Public Transit Association, October 2022.



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- Retirees make up 24 percent of all quitting workers; that segment will continue to grow.

An aging workforce, noted by the Special Panel in 2015, appears to be a major contributor to departures at the MBTA where 43 percent of those leaving from FY 2016 to FY 2019 were retirements. Similarly, through the first 8 months of FY 2023, over 40 percent (199 of 462) of all departures were retirements.

MBTA AS MICROCOSM OF MASSACHUSETTS WORKFORCE CHALLENGES

What's clear is that a failure to attract and maintain a sufficient number of MBTA workers has direct impacts on the service levels it can provide and on those who rely on it the most. As the Boston Globe explained in *[Boston doesn't work if the T doesn't work](#)*: "With the MBTA engulfed by delays, staffing shortages, and service interruptions, a city recovering from a pandemic struggles to bounce back. And everyday riders are feeling the pain."

However, it is important to point out that labor shortages pose a statewide challenge that is getting worse. The impacts of workforce gaps extend beyond public transit to hospitals, pharmacies, manufacturers, nursing homes, schools, restaurants, and many more that must cope with staffing shortages, reduced hours, and lower capacities.

For example, in 2022 Massachusetts averaged 290,000 job openings and 140,000 unemployed people meaning that there was a shortfall of approximately 150,000 workers in the state. Worse, the state's shrinking population of people aged 20 to 64 and increasing number of those 65+ shows that labor shortfalls are likely to worsen.

Increased compensation can help attract and maintain workers. But employment options appear omnipresent when you adjust for remote work or the ability to relocate to more affordable locations with an equally compelling quality of life. Consider that 110,000 Massachusetts residents have left the state since the start of COVID.

Although all the standard recommendations are worth repeating – develop partnerships with community colleges and other workforce training systems, improve coordination between varied state and local programs, connect jobs with those on the margins of the economy, and entice people to stay or move here – those suggestions apply equally well to every other industry sector seeking a larger pipeline of talent.

Unfortunately, these recommendations have had limited application to date and have not yet made a dent in addressing the problem. The state's approach to workforce challenges has been underwhelming, lacking coordination and scale. The task to attract talent has historically been left to the premier financial, academic and health institutions in the state. Given the changing geographical relationship between employers and employees and reduced college enrollments, leaving these institutions on their own to promote the state will no longer suffice.

The MBTA's labor challenges bring two important considerations to mind:

- Even with a larger pipeline, sufficient resources, and faster hiring processes – solving labor force challenges are likely beyond the MBTA's or any other single institution's abilities, and

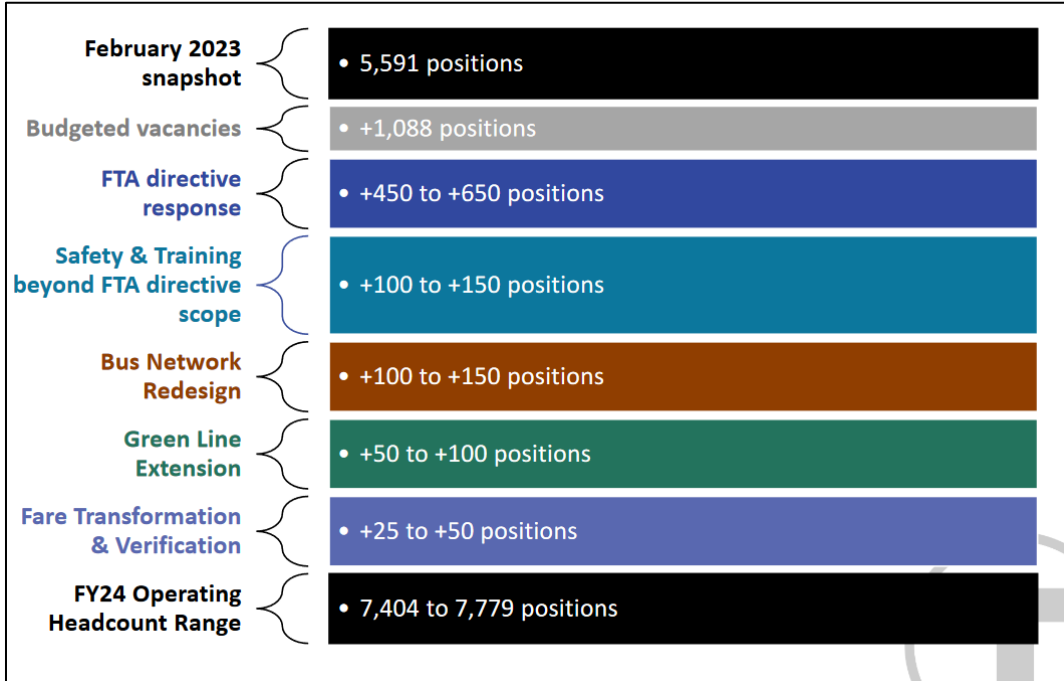


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- Ensuring that the MBTA can safely and effectively operate its current system must be the top priority of lawmakers. What preparations and plans are under discussion to assist the MBTA's recovery? Given how much is at stake for so many people, those conversations should begin in earnest and include the public.

As noted above, these workforce shortages will worsen, rippling through many vital sectors. How the state steps up to address this growing threat and their impacts on state residents will, in all likelihood, determine Massachusetts' future.

APPENDIX A – MBTA FY 2024 Programmatic Investments – Headcount (see slide 19)








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APPENDIX B – MBTA EMPLOYEE PAYROLL COUNTS BY JOB TITLE, 2019 – 2023 (through March 3)

Job Title	2019	2020	2021	2022	Avg 2019-2022	2023	2023 vs Avg 2019-2022
Operators/Motorpersons	3,410	3,180	3,036	3,447	3,268	2,628	-640
Operator Surface	1,555	1,518	1,524	1,695	1,573	1,467	-106
Operator P-T Surface	507	455	421	262	411	216	-195
Operator P-T Surface TRG	252	189	112	228	195	80	-115
Motorperson Streetcar	434	421	419	502	444	457	13
Motorperson P-T Streetcar	127	111	119	178	134	86	-48
Motorperson P-T Streetcar TRG	55	49	56	129	72	8	-64
Motorperson P-T RTL Yard	74	69	65	97	76	65	-11
Motorperson Rapid Transit	258	240	236	262	249	204	-45
Motorperson P-T TRG	62	54	40	60	54	21	-33
Motorperson PT	86	74	44	34	60	24	-36
Dispatcher RTL	16	17	16	40	22	30	8
Dispatcher Light Rail	7	8	8	15	10	15	6
Repairer Rail	328	319	312	325	321	302	-19
Wireperson	174	172	169	208	181	169	-12
Inspector	153	151	155	205	166	163	-3
Inspector Bus	142	147	146	162	149	121	-28
Inspector Construction	67	81	84	80	78	75	-3
Laborer Track	119	113	106	92	108	67	-41
Trackperson	90	82	81	87	85	82	-3
Instructor	58	60	71	83	68	71	3
Engineer	79	80	78	77	79	66	-13
Fueler	89	65	68	74	74	44	-30
Machinist	64	62	59	69	64	62	-2
Repairer Line - 1st Class	67	61	67	63	65	57	-8
Officer Police	288	204	191	203	222	166	-56
Subtotal							-840

APPENDIX C – MBTA HR ACTIONS (see slide 28)

HR Actions to Support Priorities					
 Improve Efficiency of Hiring Cycle Times		 Expand Candidate Pool		 Retention & Utilization of Workforce	
Action	Outcome	Action	Outcome	Action	Outcome
Doubled size of recruiting team, dedicated verticals	2.4x increase in hiring capacity	One-Stop Bus Operator Hiring Event	Increased bus operator class #'s	PFML Policy Update	Re-certification to reduce misuse
Developed and implemented recruiting metrics	Identified and eliminated upstream process bottlenecks	MBTA Employment Fair at City Hall Plaza	Community outreach event	FMLA Policy Update	Re-certification to reduce misuse
Documented SOP for recruiters	Faster training and onboarding of new staff	Bus Operator Marketing Campaign	On-going	Increased education reimbursement to \$10,000	1.8x increase in usage
Pulled driving records on behalf of applicants	Eliminated ~50% drop off in bus operator applicants	\$4500 Hiring Bonus for Bus Operators	On-going	Attendance Policy Update	Improves job condition, target Q1 CY23 (technology upgrade underway)
Eliminated randomization process for Bus Operators	Initiating for October class, eliminates avg. 3 weeks	\$1000 Referral Bonus for Bus Operator positions	On-going, increase and expansion of positions under review	Increased Bus Operator Training Salary	Raised trainee salary up to starting pay
Streamlined requisition creation process	Decreased unnecessary fields by 56%	Driving Record Policy Update	Increased eligible applicants by ~20%	Increasing Starting Pay	Eliminations of first pay step under review
Digitized position control request process	Eliminates ~2-6 weeks in hiring process	Text Message Reminders	Helps ensure candidates stay aware of next steps	Split Shift for Operators	Currently Under Review
Reduced process approvals	Eliminates ~2 weeks	Standardized Programmed Hiring applicant communications	Reduced inefficiency improved outreach		
Standardizing pre-boarding process	Eliminates ~1-3 weeks in hiring process	FY23 Marketing Campaign	On-going		
		Initiating Commercial Driver's Permit Training	First class October 2022, second class January 2023		

APPENDIX D - U.S. EMPLOYMENT IN URBAN TRANSIT SYSTEMS

	State Govt	Loal Govt	Private	Total
2012	25,796	157,657	42,246	225.7
2013	25,428	160,536	43,439	229.4
2014	25,789	163,729	44,397	233.9
2015	26,228	166,618	45,158	238.0
2016	26,558	168,084	47,077	241.7
2017	25,431	169,768	48,449	243.6
2018	24,952	171,657	48,937	245.5
2019	25,426	172,190	48,841	246.5
2020	25,319	173,961	40,091	239.4
2021	21,979	168,672	38,425	229.1
2022	21,864	167,369	39,541	228.8



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APPENDIX E – U.S. EMPLOYED PERSONS BY DETAILED INDUSTRY AND AGE – PERCENT OVER 45 YEARS OF AGE

Not specified utilities	72.7%
Sewing, needlework, and piece goods stores	68.3%
Bus service and urban transit	66.8%
Metals and minerals, except petroleum, merchant wholesalers	66.7%
Wholesale electronic markets and agents and brokers	66.2%
Miscellaneous paper and pulp products	65.7%
Forestry, except logging	64.7%
Metal forgings and stampings	63.2%
Carpet and rug mills	63.0%
Coating, engraving, heat treating, and allied activities	62.5%
Paper and paper products merchant wholesalers	62.5%
Fabric mills, except knitting mills	62.1%
Administration of economic programs and space research	61.7%
Drycleaning and laundry services	61.3%
Religious organizations	60.5%

APPENDIX F – NEWS COVERAGE OF WORK SHORTAGES AND CURTAILED SERVICE

- [Labor shortages hinder public transit rebound: APTA report](#)
- [Bus operators are in high demand to fill openings with Miami-Dade County](#)
- [L.A. City Council looks into bus driver shortage](#)
- [Bay Area facing bus driver shortage as transit agencies look for solutions](#)
- [Unreliable bus service is a ‘broken promise’ to communities. CTA is working on a plan to fix it.](#)
- [Chicagoland agencies ramp up hiring efforts amid nationwide transit workforce shortage](#)
- [Charlotte Area Transit System executives react to Management Partners report of system challenges](#)
- [COTA trying to lure more drivers to restore service frequency on routes](#)
- [KATS reducing service due to driver shortage](#)
- [Big Blue Bus suffers from shortage of drivers resulting in a reduced service for 2023](#)