A BETTER CITY

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CREATING A SAFER COMMUTE, TOGETHER: BEST PRACTICES FOR ENABLING A SAFE REOPENING OF PUBLIC TRANSIT

ACKNOWLEDGEMENTS

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A Better City recognizes the complexity of providing service and ensuring the safety of workers and riders during COVID-19. The organization is grateful to the MBTA and its entire workforce for their efforts thus far, which have been nothing less than heroic, and appreciates the agency's continued commitment and work ahead to implement stringent mitigation measures.

WRITTEN BY

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A Better City is a diverse group of business leaders united around a common goal—to enhance Boston and the region's economic health, competitiveness, vibrancy, sustainability and quality of life. By amplifying the voice of the business community through collabo-ration and consensus across a broad range of stakeholders, A Better City develops solutions and influences policy in three critical areas central to the Boston region's economic competitiveness and growth: transportation and infrastructure, land use and development, and energy and environment.

NOTE: This comparative analysis provides a snapshot of actions as of June 23, 2020, based on publicly available information. The review looks at seven primary categories of mitigation measures and targeted subcategories therein; therefore, it may not represent the full extent of actions agencies are taking under any given category.

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EXECUTIVE SUMMARY

Public transit agencies in the United States and across the globe continue to face unprecedented challenges as they endeavor to provide safe and reliable transit services during the COVID-19 pandemic. Public transportation has the potential to create transmission hotspots—so the implementation of public health mitigation measures is critical.[i] The mitigation measures required to adequately address the public health risks of the coronavirus, which are both costly and human resource heavy, come at a time of high levels of fear amongst riders.

As transit systems enable the gradual reopening of regional economies, there are best practices emerging across a spectrum of mitigation measures informed by the most up-to-date public health data. This report examines practices currently in place at the MBTA and at five peer transit agencies in the U.S., and also provides some narrative examples from abroad. This analysis culminates in a scorecard, using publicly available data, to capture how the MBTA compares to its peer transit agencies across the following seven categories: comprehensive planning; cleaning and disinfecting; restoration of service; face coverings; physical distancing; hand sanitizer; and workforce management.

Overall, the MBTA ranks fourth when compared to its peer agencies. As demonstrated below, the MBTA currently excels in cleaning and disinfecting protocols, as well as workforce management practices. The agency is making progress with restoration of service, requirement of face coverings, and provision of hand sanitizer, but more is needed on these fronts. Finally, the MBTA is lagging behind other agencies in ensuring physical distancing and issuing a comprehensive reopening plan.

This comparative analysis assesses agency performance using a point system ranging from -1 to 1.5 points, in addition to a weighted color coding (green, yellow, red). Points were allocated based on the perceived scope and efficacy of a measure as derived from publicly available information as of June 23, 2020. The colors were assigned and weighted based on the strength of each mitigation measure: red indicates “below average”; yellow indicates “needs improvement”; light green indicates “above average”; and green indicates “best practice.” See tables 1 and 2 below and page 21 for a more complete description of the scoring methodology.

TABLE 1: SCORECARD RESULTS (AS OF JUNE 23, 2020)

RANK	AGENCY	TOTAL SCORE
1	MTA (New York, NY)	21
2	CTA (Chicago, IL)	20
3	BART (San Francisco Bay Area, CA)	15
3	SEPTA (Philadelphia, PA)	15
4	MBTA (Boston, MA)	14.5
5	WMATA (Washington, D.C.)	9

TABLE 2: SCORECARD

	Mitigation Measures (as at 6/23/2020)	MBTA	MTA	CTA	BART	SEPTA	WMATA
Comprehensive Reopening Plan	Yes	0.5	1	1	1	1	1
Cleaning & Disinfecting	Daily +	1	1	1	1	1	0
	Emphasis on High-Touch Points	1	1	1	1	1	1
	Fogger or Electrostatic Sprayers	1	1	1	1	0	1
	UV Light	0	1	1	0	0	0
	Other	0	1	1	1	1	0
Restoration of Service	Cont. Reduced Service	0	0	0	-1	0	-1
	Resumed Regular Service	0.5	1.5	1.5	0	1.5	0
	Increased Service (> reduced)	1	1	0	0	0	0
	Operational Flexibility for Crowding	1	0	1	0	1	0
	Express Routes	0	1	0	0	0	0
Face Coverings	Distributed, Soft "Enforcement"	0.5	1	0	1	0	0
	Required	1	1	1	1	1	1
Physical Distancing	3 feet + or Distance "Encouraged"	1	0	0	0	1	0
	6 Feet + "Encouraged"	0	1	1	1	0	1
	Markers in Stations	0	1	1	1	1	0
	Markers in Vehicles	0	0	1	0	1	0
Methods of Physical Distancing	Capacity Limits	0	0	1.5	0	1.5	0
	Crowding Information	0.5	0.5	1	0.5	0	0
	Staggered Work Hours	1	1	1	1	1	1
Hand Sanitizer	In Stations	0.5	1	0	1	0	0
Workforce Management	PPE Provided	1	1	1	1	1	1
	Physical Barriers	1	1	1	0	1	1
	Health Checks	1	1	0	1	0	1
	Rear Door Boarding	1	1	1	1	0	1
	Contactless payments	0	1	1	1	0	0

Below average
Needs improvement
Above average
Best practice

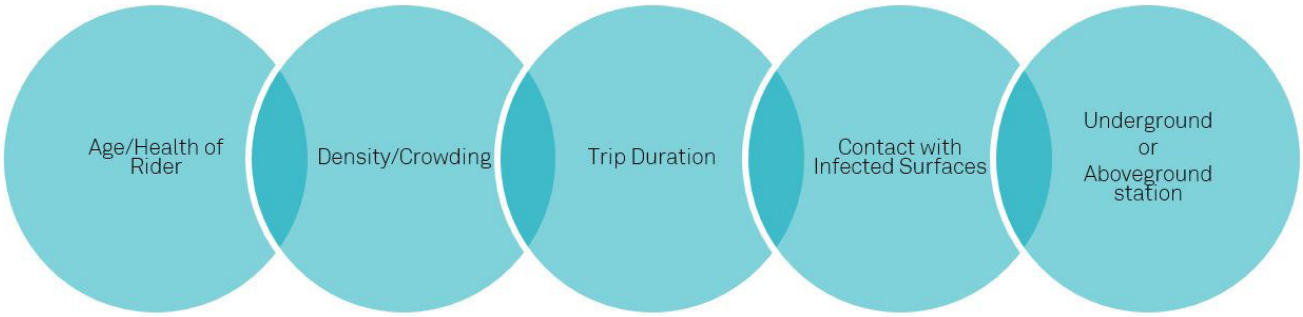
There are many lessons that the MBTA can learn from peer transit agencies and this report recommends that the MBTA take a suite of additional actions, including: developing and communicating a comprehensive reopening plan; enhancing the frequency of disinfection and experimenting with new disinfection technologies; scaling up to full service and expanding “on demand” bus service; widely distributing free face coverings or masks throughout the system; encouraging physical distancing through capacity limits, signage and seat markers, and enhanced crowding information; expanding distribution of hand sanitizer for riders; and continuing its leading workforce management practices.

I. IMPERATIVE: WHY ARE ROBUST PUBLIC HEALTH MITIGATION MEASURES NECESSARY TO RESTORE PUBLIC TRANSPORTATION?

Public transportation meets the main conditions that scientists believe can serve as hotspots for spreading the coronavirus (SARS-CoV-2); therefore, implementation of public health mitigation measures is critical for workforce and rider safety.[ii]

The five main factors thought to influence transmission (direct or indirect) of the coronavirus (SARS-CoV-2) on public transit: (1) health and age of the passenger; (2) number of passengers on board (density, crowding); (3) amount of time riders are on the system (trip duration), (4) the extent of contact with infected surfaces; (5) type of station (> risk underground and < risk aboveground).[iii]

FIGURE I: KEY FACTORS INFLUENCING SARS-COV-2 TRANSMISSION RISK ON PUBLIC TRANSIT



According to the U.S. Center for Disease Control (CDC), transmission of the SARS-CoV-2 occurs much more commonly through respiratory droplets (direct transmission) than through objects and surfaces (indirect transmission), but current evidence suggests that the virus may remain viable for hours to days on surfaces made from a variety of materials. As a result, public transit riders are susceptible to both direct and indirect transmission while they are commuting. [iv v vi]

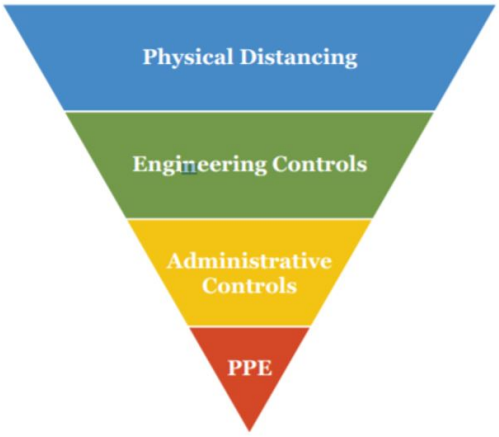
Because there are risks to transit riders and operators, public transit agencies have a responsibility to take adequate steps to ensure public health and safety on the system. Best practices are emerging across the globe and domestically to address the public health risks associated with public transportation, which can help inform MBTA practices as the agency develops its own detailed comprehensive reopening plan.

II. BEST PRACTICES: WHAT ARE THE EMERGING BEST PRACTICES?

Public transit agencies across the globe and domestically are working with local and state governments, as well as relevant stakeholders, to develop plans to support a safe and gradual reopening and enhanced restoration of service. In Asia and Europe where countries have already started reopening, transit agencies have well-articulated plans in place. In the United States, some transit agencies have developed and communicated comprehensive response and reopening plans, while others are still grappling with what measures they will implement to ensure safe passage.

Similar to pandemic response plans, comprehensive reopening plans focus on mitigation measures that prevent the spread of disease, provide service, manage workforce to keep them safe, and communicate protocols. The specifics of what measures transit agencies put in place are influenced by federal, state, and local government guidance, as well as input from other relevant stakeholders; however, there are some commonalities across systems and best practices emerging.

FIGURE 2: MODIFIED HIERARCHY OF CONTROLS



MODIFIED FOR COVID-19 MITIGATION MEASURES

Physical" Distancing: Maintain a space of 3-6 feet between persons to minimize contamination from aerosol and droplets (e.g., sneezing and coughing)

Engineering Controls: Separate people from the contamination (e.g., Plexiglas barriers for drivers and ticket sellers)

Administrative Controls: Training, plans, policies, and procedures that articulate and enforce means to reduce infection

Personal Protective Equipment: Gloves and respiratory protection to reduce contamination; hand washing, waterless hand sanitizer

SOURCES: https://www.centerforhealthsecurity.org/our-work/pubs_archive/pubs-pdfs/2020/200417-reopening-guidance-governors.pdf; https://www.apta.com/wp-content/uploads/APTA-Coronavirus-Brief-03-05-20.pdf; http://www.trb.org/Publications/Blurbs/170529.aspx

This analysis provides a snapshot (as at June 23, 2020) of emerging best practices across seven main intervention areas to restore public transit service, which are evolving here in the United States:

1. Comprehensive Reopening Plan
2. Cleaning and Disinfecting
3. Restoration of Service
4. Face Coverings
5. Physical Distancing
6. Hand Sanitizer
7. Workforce Management

This analysis looks at five U.S. transit agencies (see Table 3), all at essentially the same point of service restoration and reopening, and how their actions compare to the MBTA. A scorecard assesses the agencies and provides a visual across systems and categories. In addition to the five U.S. peer transit agencies, this analysis includes examples from abroad to showcase best practices outside the United States.

TABLE 3: U.S. TRANSIT PEER AGENCIES

AGENCY	SIZE OF TRANSIT AGENCY	REOPENING CITY-WIDE	CURRENT PHASE OF TRANSIT REENTRY
MBTA	- 13 commuter rail routes - 3 heavy rail and 5 light rail - 171 bus routes - 1.33 million daily riders[vii]	Step 2 of Phase 2[viii]	Phase 2 (Cautious)
MTA	- 16 commuter rail routes - 25 subway routes - 325 bus routes - 8.6 million daily riders[ix]	Phase 2 of NYC Reopening[x]	Phase 2[xi]
CTA	- 8 rail routes - 140 bus routes - 1.5 million daily riders[xii]	Phase III[xiii]	Phase 3[xiv]
BART	- 6 rapid transit lines - 1 AGT line - 411,000 daily riders[xv]	Phase 2b of SF Reopening[xvi]	Following city reopening[xvii]
SEPTA	- 3 rapid transit lines - 121 bus routes - 329,200 daily riders on rapid transit -508,400 daily riders on bus[xviii]	Yellow phase[xix]	Yellow phase - Stabilize[xx]
WMATA	- 6 metro lines with 600,000+ daily riders[xxi] - 325 bus routes with 400,000 daily riders[xxii]	Phase 2[xxiii]	Stabilization[xxiv]

I. COMPREHENSIVE REOPENING PLAN

An important starting point to restoring service is the development of a comprehensive plan that maps out mitigation measures by reopening phase. Various frameworks exist to support this exercise, including interim guidance from the U.S. CDC as well as transportation associations like the American Public Transportation Association (APTA).[xxv] These plans are generally informed by national public health guidance, state and local government directives, and input from relevant stakeholders, including the business community.

Comprehensive reopening plans can play a significant role in building rider confidence, which is a key component to bringing people back to public transportation when they return to the workplace. Developing and proactively communicating a comprehensive reopening plan, therefore, is an important step in educating users on what agencies are doing to protect their workforce and their

riders (cleaning and disinfecting), helping riders prepare for their trip (face covering), setting expectations for what riders should expect during their ride (service, hand hygiene, physical distancing), and engaging with riders to encourage them to take on a shared responsibility to provide the safest possible public transit environment (social compact).

The five peer agencies included in this analysis (MTA, CTA, BART, SEPTA, WMATA) have all issued comprehensive reopening plans with varying degrees of detail that explain what the agency will be doing to continue to slow the spread of COVID-19, restore service, and keep employees safe. The plans include information across the seven main intervention areas, which largely build and expand on measures in place, as well as address U.S. CDC recommendations to mass transit administrators.[xxvi] Examples from abroad also provide best practices that could help inform the MBTA. The RATP in Paris, ATM in Milan, and TMB in Barcelona plans, for example, are comprehensive and were made publicly available with graphics for easy comprehension.

TABLE 4: EMERGING BEST PRACTICES - COMPREHENSIVE REOPENING PLANS

MITIGATION MEASURES	PEER AGENCY PLANS
1. Cleaning and Disinfecting	MTA, CTA, BART, SEPTA, WMATA
2. Restoration of Service	MTA, BART, SEPTA, WMATA
3. Face Coverings	MTA, CTA, BART, SEPTA
4. Physical Distancing	MTA, CTA, BART, SEPTA, WMATA
5. Hand Sanitizer	MTA, BART
6. Workforce Management	MTA, CTA, BART, SEPTA, WMATA

Since the onset of the pandemic, the MBTA has provided updates on its website related to COVID-19 (service changes, basic response measures), and as the pandemic persisted, issued weekly videos from General Manager. On May 18, 2020, Governor Baker issued the Commonwealth's Reopening Plan, which provided very limited details on mass transit (four high-level and non-detailed bullets and a schedule for when the MBTA would increase service). On June 9, 2020, the MBTA announced forthcoming increases to service to be effective on June 21st and 22nd. On June 22, 2020, the MBTA launched their *Ride Safer* campaign, which outlines some high-level mitigation measures that the agency is instituting, but does not provide a wide-ranging overview of next steps.

TABLE 5: GLOBAL & DOMESTIC BEST PRACTICES IN COMPREHENSIVE REOPENING PLANS

RATP (PARIS) released a plan prior to the country's reopening on May 11, 2020, for the new normal on public transportation in the Paris region (Ile de France) outlining cleaning and disinfecting protocols, preliminary service levels, station closures, crowd control, PPE (masks and hand sanitizer), physical distancing requirements for riders and implications in stations and on vehicles, mode shift options and touchless online/app pass purchasing options, and a pact between the RATP and riders "Mobilises Ensemble" that promotes shared responsibility to uphold their part to keeping the system as clean and safe as possible.

SOURCE: https://www.ratp.fr/sites/default/files/inline-files/Présentation_RATP_08052020.pdf

PHOTO CREDIT: RATP

BART (SAN FRANCISCO) released at 15-Step plan, "BART's 15-Step Plan to Welcome Back Riders Back" on May 27, 2020, outlining what mitigation measures the agency will put in place to ensure workforce and passenger safety as the economy reopens, including on elements of great interest to riders, such as cleaning and disinfecting protocols, restoration of service (timing and length of vehicles), face covering requirements and enforcement rules, physical distancing guidance, crowding information, availability of hand sanitizer, contactless payment, and others.

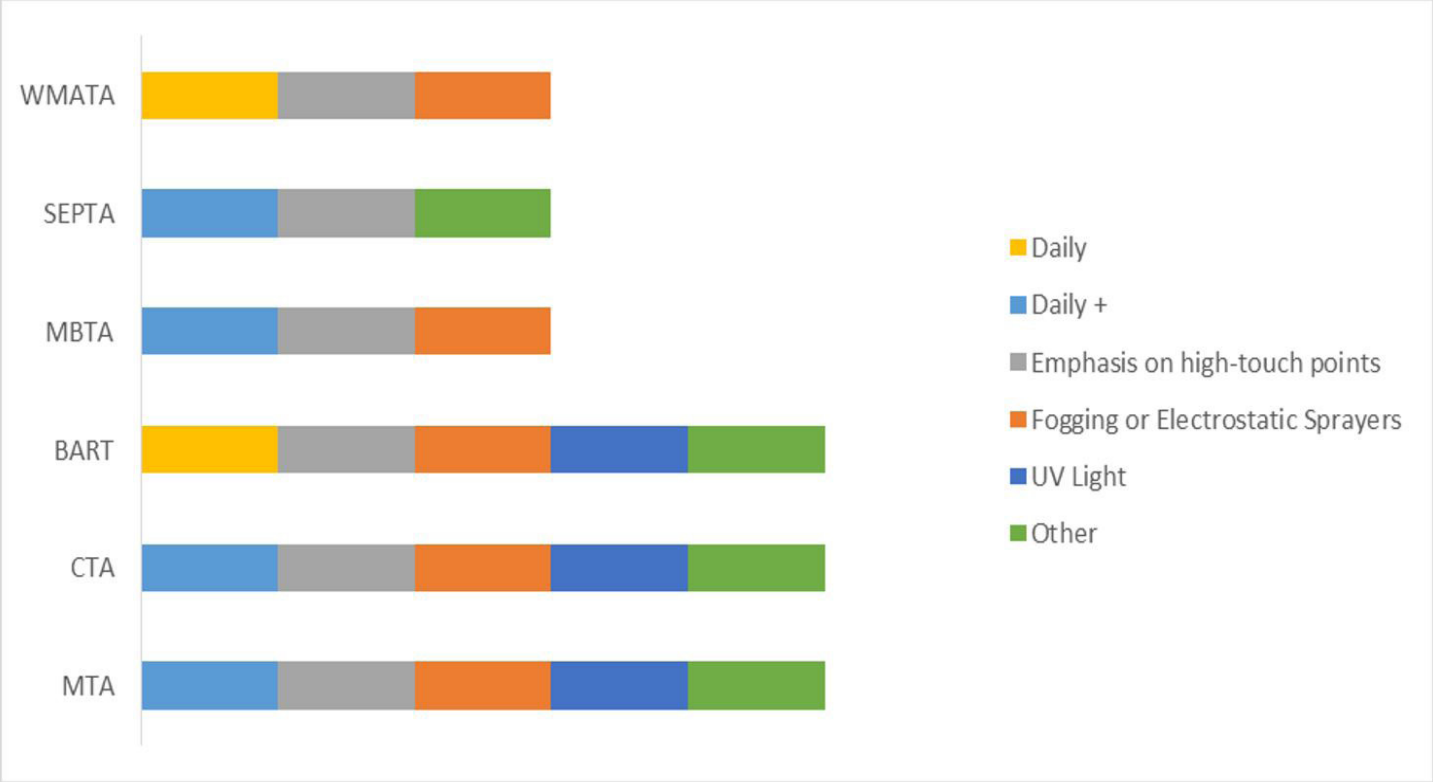
SOURCE: https://www.bart.gov/news/articles/2020/news20200526

2. CLEANING & DISINFECTING

The U.S. CDC interim guidelines for mass transit administrators on cleaning and disinfecting for restoration of service recommend intensifying cleaning, disinfection, and ventilation throughout all the stages of reopening, with emphasis on cleaning and disinfecting of frequently touched surfaces (at least daily or between use), ensuring ventilation systems are working and outdoor air circulation is maximized, and isolating and disinfecting any vehicle that carried a known infected individual.

Cleaning and disinfecting protocols were an essential component of response measures at the onset of the pandemic, and they will continue to play an important role as agencies look to restore service. While research suggests that indirect transmission (on surfaces) of the disease is less prevalent than direct transmission (person-to-person), stringent actions are necessary to ensure the safety of workers and riders and to build rider confidence.

FIGURE 3: CLEANING & DISINFECTING



Best practices emerging across the peer agencies include frequent cleaning and disinfecting of vehicles (more than once daily), recurrent cleaning and disinfecting of high touchpoint surfaces, and use of new technologies such as UV light and electrostatic sprayers. The MTA, CTA, and BART are leading the charge on this front with the use of these innovative cleaning and more than daily cleaning protocols. MTA, CTA, and SEPTA are also experimenting with different other new types of cleaning and disinfection methods, such as anti-microbial surface coating on vehicle interiors that may prevent bacteria, viruses, liquids, etc. from sticking to treated surfaces for an extended period of time.[xxvii] These protocols are costly but are a necessary routine as part of a comprehensive suite of actions by transit agencies.

The MBTA scores relatively well in this category; however, it is lagging behind other agencies with respect to testing more innovative methods such as UV light and antimicrobial surface coating.

TABLE 6: GLOBAL & DOMESTIC BEST PRACTICES FOR CLEANING & DISINFECTING

In Seoul, South Korea, the **SEOUL METRO** has been able to clean and sanitize subway cars daily with special attention to passenger cars or stations that an infected individual has travelled through. This is possible through South Korea's extensive contact tracing capabilities. Photos show they are also using modern cleaning technologies like electrostatic sprayers to quickly clean the system thoroughly and experimenting with antiseptic solutions that limit the virus's ability to exist on surfaces for long periods of time.

PHOTO CREDIT: SeongJoon Cho/Bloomberg

SOURCE: https://www.washingtonpost.com/world/2020/05/08/subways-trains-buses-are-sitting-empty-around-world-its-not-clear-whether-riders-will-return/

PHOTO CREDIT: MTA

As New York City, one of the hardest hit cities globally, continues along its reopening plan, the **MTA (NEW YORK)** is continuing rigorous cleaning and disinfection procedures in response to COVID-19. First, crews remove trash, clean spills, and spot clean surfaces before applying EPA-registered disinfectants to all surfaces and high touch points (handrails, fare gates, and fare vending machines). These high touch points are disinfected multiple times daily, stations are reported to be disinfected twice daily, subway cars are said to be cleaned up to seven times a day while in service, and for the first time in the history of the MTA, subway service is halted overnight for extensive disinfection of the entire fleet.[xxviii] At the same time, the MTA is exploring new cleaning technologies including the use of antimicrobial solutions, UV light cleaning, and electrostatic sprayers.

SOURCE: https://new.mta.info/coronavirus/reopening-plan

3. RESTORATION OF SERVICE

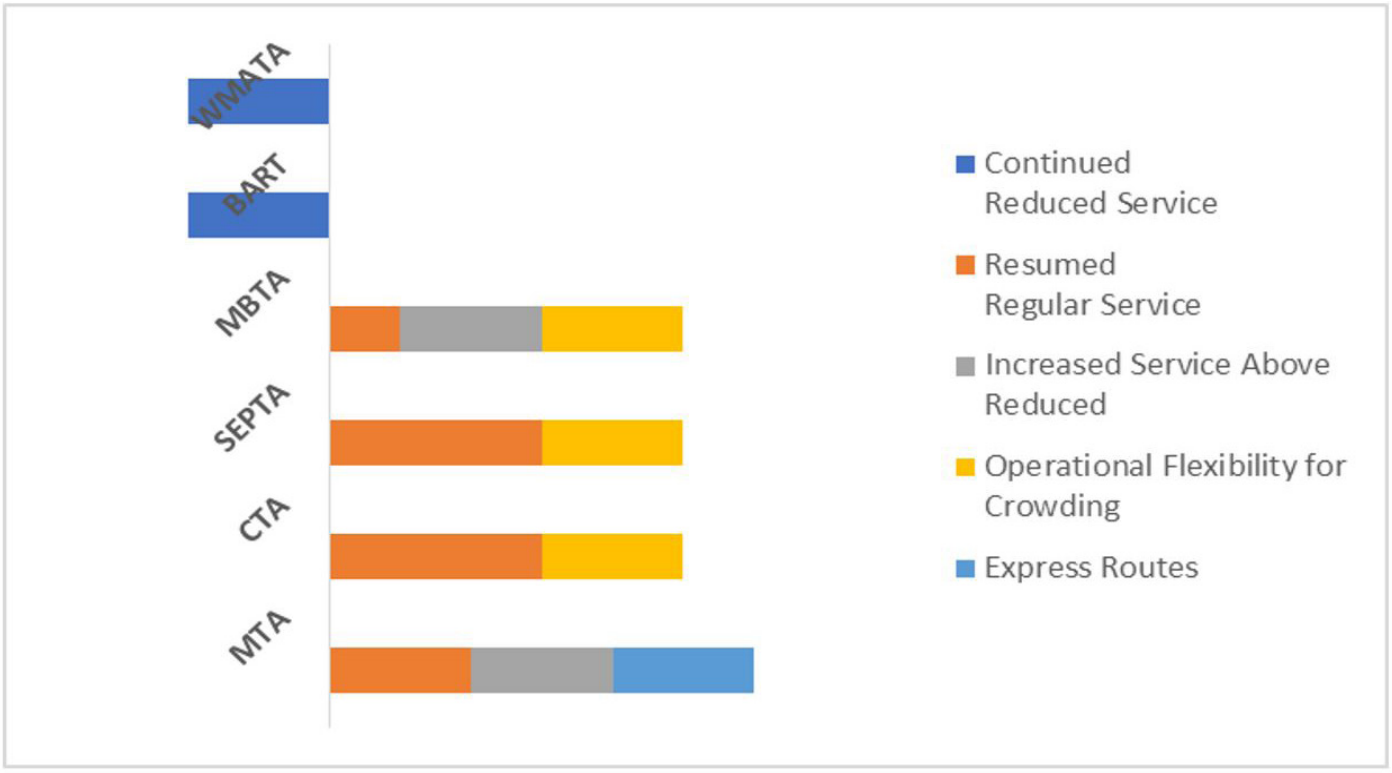
The U.S. CDC recommends a three-step approach to service restoration. Transit agencies are recommended "to coordinate with State and local health department officials about transmission in the area as frequently as possible and adjust operations accordingly, be prepared to consider adjusting services as appropriate if the community mitigation level increases in the local area, continue communication with staff and the public about decision-making."" [xxix] In Step 1, the U.S. CDC suggests that service continue to be restricted to essential critical infrastructure workers in areas needing significant mitigation and to maintain strict physical distancing as much as possible. In Step 2, it recommends maintaining physical distancing between transit riders and employees as much as possible, and in Step 3 it encourages physical distancing as much as possible.

FIGURE 4: U.S. CDC PUBLIC HEALTH CONSIDERATIONS FOR REOPENING MASS TRANSIT DURING THE COVID-19 PANDEMIC[xxx]

SOURCE: https://www.cdc.gov/coronavirus/2019-ncov/community/pdf/MassTransit-DecisionTree.pdf

Ridership during the onset of the pandemic plummeted across the United States and the globe. Some countries closed down public transportation systems, while others reduced service and amended peak hours and frequency to cater to essential frontline workers. As countries, states, and local municipalities move to reopen their economies, transit agencies must prepare to accommodate current ridership and welcome back additional riders to their systems. This action crosses over intervention areas, because it serves multiple purposes, namely to provide enough frequency to meet demand and to address physical distancing concerns by running more service to create additional space.

FIGURE 5: RESTORATION OF SERVICE MEASURES



Best practices are emerging that include running regular service with continued low ridership, altering service along high ridership routes, providing operational flexibility to address crowding (e.g. fleet of deployable buses if crowding), and express bus rapid transit (BRT) routes. Across the peer agencies reviewed, three have gone back to regular service across some modes while continuing to prioritize essential workers (MTA, CTA, SEPTA), and two continue to run reduced service (BART, WMATA). The MTA, CTA, SEPTA, and BART are monitoring demand as a data point to measure crowding and adjusting service accordingly ensure adequate physical distancing.

While initially lagging behind on restoration of service, the MBTA is moving into alignment with peer agencies thanks to the recently-announced decision to provide regular service (as of June 21st) on the Blue Line, which has seen more regular ridership throughout the pandemic. The MBTA is also set to initiate "on demand" service for targeted bus routes by maintaining a reservoir of buses to deploy to routes with crowding, and by allowing bus drivers to pick flexible routes. In addition, the agency announced that it will increase weekday service on the Red, Orange, Green, and Mattapan Lines, beginning on June 21st, and on the Commuter Rail beginning on June 22nd. The Commuter Rail will offer reduced fare rates on three lines (Fairmount, Lynn, Brockton) to encourage mode shifting riders from buses to commuter rail coaches, and ferry service will resume on weekdays. The MBTA is providing full service on the RIDE with booking 1-3 days in advance.

TABLE 7: GLOBAL & DOMESTIC BEST PRACTICES FOR RESTORATION OF SERVICE

An early example of a successful reopening, the **BVG (BERLIN)** restored regular service on buses and trains as well as ferries beginning May 4, 2020, and those returning to work were encouraged to use the system for regular journeys. Despite policies like mandatory face coverings, physical distancing, and rear door boarding, operations on the system are reported to have returned to normal. With these protections in place, it is reported that about 35% of pre- pandemic ridership has returned to transit.

SOURCE: https://www.dailymail.co.uk/news/article-8310465/France-Germany-got-public-transport-running-TfL.html

PHOTO CREDIT: @AP

During the Yellow Phase, or Stabilizing Phase, of their reopening plan, **SEPTA (PHILADELPHIA)** announced a return to regular schedules for all transit with an enhanced Saturday schedule to Regional Rail, which is an increase from the Lifeline service during the peak of the outbreak. This allows for ridership outside of essential workers to increase and as ridership changes, SEPTA plans to modify schedules to meet ridership demands that would allow for proper physical distancing.

SOURCE: http://septa.org/covid-19/SEPTA%20Reopening%20Guide-June4.pdf

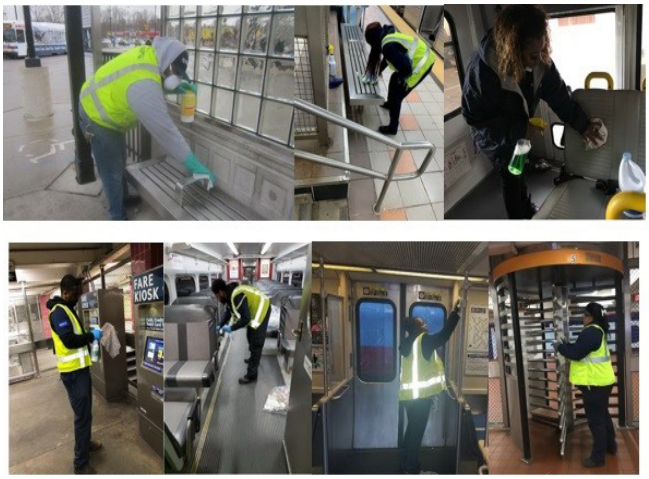


PHOTO CREDIT: SEPTA

4. FACE COVERINGS

The U.S. CDC issued guidance on how to protect yourself on public transportation. [xxxi] Hand hygiene, physical distancing (at least 6 feet from people not in your household), and face coverings are their primary recommendations across all modes. This combination makes up the necessary "trio" of measures that reinforce each other and go a long way toward creating a safer trip, together.

Face coverings are one of the most critical measures to protect riders from spreading the disease because they prevent droplets from being released into the air and decrease the risk of person-to-person transmission. The distribution of face coverings free of charge helps to level the playing field and ensures that the majority of people on public transit are using this essential personal protective equipment (PPE) item.

All of the five U.S. peer transit agencies reviewed require face coverings, with two agencies (MTA, BART) that require, distribute, and softly enforce (by giving out masks). As of June 22, 2020, as part of the *Ride Safer* campaign, the MBTA has committed to distributing face masks for a limited time

(June 22-July 6) at four transit-heavy stations (Maverick, Forest Hills, Ashmont, and Haymarket) during peak service hours (6 AM – 8 AM, 4 PM – 6 PM).

Since face coverings are one of the most important mitigation measures that riders can take, U.S. transit agencies, including the MBTA, must do a better job to ensure widespread, free distribution and easy access to face coverings across transit systems. There are several delivery methods that the MBTA can employ to expand and improve mask distribution across the system and that international agencies have found success in using. The U-Bahn system in Vienna and the GVB in Amsterdam both installed vending machines across their stations that sell disposable masks. The RATP in France chose to employ station agents to distribute masks for those entering the system without one and has made them available for sale in stations.

TABLE 8: GLOBAL & DOMESTIC BEST PRACTICES FOR FACE COVERINGS

In the initial reopening stages, **TMB (BARCELONA)** set out a new government measure "new sustainable mobility in a new public space" to make public transportation a safe place and to preserve the health of riders. In order to achieve this, in early May, face masks were made compulsory for all commuters on public transportation throughout Spain, including the TMB system, and 96% of users that entered the system were wearing a face mask. Despite high levels of compliance, local officials and the Red Cross distributed 225,000 masks with the support of TMB security staff to ensure every rider is following the law. [xxxii] Barcelona is also installing vending machines that sell face masks and hand sanitizer throughout the metro network to strengthen passenger safety.[xxxiii]

PHOTO CREDIT: Robert Cadanet

SOURCE: https://www.barcelona.cat/infobarcelona/en/measures-to-make-the-metro-and-buses-safe-places_948273.html

In their 15-Step Reopening Plan, BART **(SAN FRANCISCO)** announced that the agency would continue to require face coverings even if local counties ease any face covering mandates in public spaces. The Downtown San Francisco station agent booths are stocked with extra masks for those in need and officers are stocked with extra masks to distribute if necessary. BART is also working on installing vending machines with face masks for purchase inside stations.

PHOTO CREDIT: @SFBART

SOURCE: https://www.bart.gov/news/articles/2020/news20200526

5. PHYSICAL DISTANCING

The U.S. CDC guidance for mass transit operators recommends a range of measures to support physical distancing of at least six feet on public transit, including instituting measures to physically separate or create distance between riders, including the following:

- Rear-door entry
- Closing every other row of seats
- Capacity limits
- Increasing service on crowded routes as appropriate
- Provide physical guides on vehicles and in stations and stops (floor decals, colored tape, or signs to indicate where passengers should not sit or stand can be used to guide passengers)
- Install physical barriers, such as sneeze guards and partitions at staffed kiosks and on tran sit vehicles to the extent practicable
- Train employees on physical distancing protocols

For the purposes of this analysis, two sets of categories were used to compare U.S. transit agencies: (1) physical distancing and (2) methods of physical distancing. For physical distancing, the sub-categories include 3 feet encourage and encouraged distancing; 6 feet encouraged distancing; and markers (in station and on vehicles). The subcategories for methods of physical distancing include capacity limits, crowding information, and staggered work hours. The best practices emerging across the U.S. transit agencies include distancing of 6 feet with markers on vehicles and in stations, the provision of crowding information, and the implementation of capacity limits. Together, these mitigation measures provide the rider with information and space to ride with more confidence.

CTA and SEPTA are emerging as leaders on the physical distancing front amongst the U.S. transit agencies reviewed, requiring 6 feet of distance, placing decals in stations and on vehicles, and instituting capacity limits (3 feet on SEPTA vehicles). They are followed by the MTA and BART, which have instituted distance requirements of 6 feet, placed markers in stations and on vehicles (BART only in stations), and provide some crowding information. WMATA has not yet made a strong commitment to physical distancing other than stating that 6 feet of separation is required. All agencies promote staggered work hours to reduce riders during traditional peak hours.

FIGURE 6: PHYSICAL DISTANCING MEASURES (I)

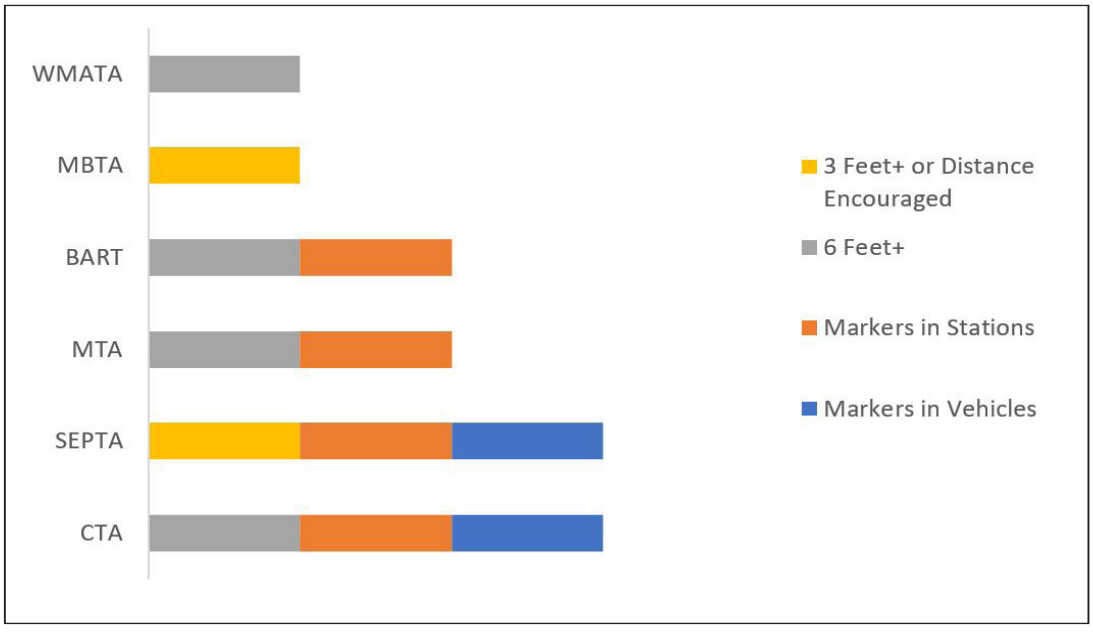
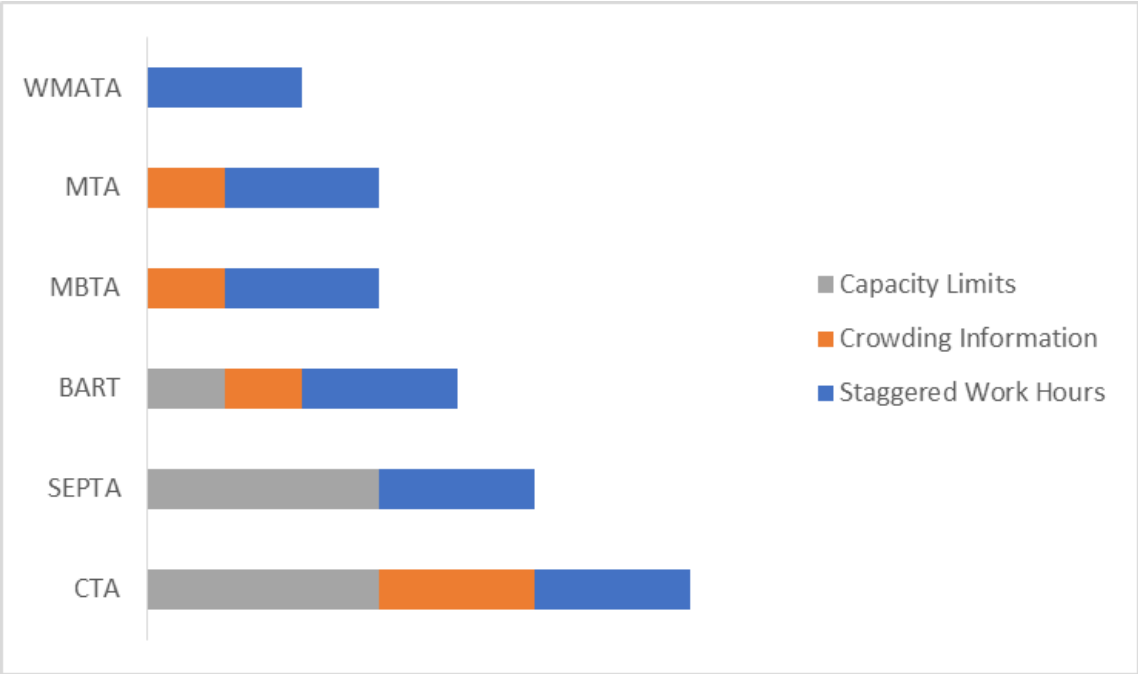


FIGURE 7: PHYSICAL DISTANCING MEASURES (2)



To date, the MBTA has been unclear about its measures on physical distancing other than high-level details included in the Governor's reopening plan that provided no concrete information on distance requirements. However, as part of the *Ride Safer* campaign launched on June 22, 2020, the agency announced a real-time crowding app pilot that will provide information to riders along nine routes that have had high ridership during the pandemic (Routes 1, 15, 16, 22, 23, 31, 32, 109 and 110). Riders can find out if buses are "Crowded," "Some Crowding" and "Not Crowded" via the MBTA website or on Transit App. According to the MBTA, the crowding threshold accommodates for 3 feet of physical distancing (a bus is considered crowded if there are 20 passengers on board).[xxxiv xxxv]

There are a number of transit agencies abroad that have instituted rigorous physical distancing protocols, including Italy (Milan and Rome), Paris (RATP), Berlin (BVG), and China (Shanghai) that are all utilizing physical markers as well as capacity limits in stations and on vehicles to ensure proper distancing and urging businesses to adopt staggered work start times to limit the existence of a rush hour.

TABLE 9: GLOBAL & DOMESTIC BEST PRACTICES FOR PHYSICAL DISTANCING

ATM (MILAN) ATM has strict capacity limits in stations and on vehicles to maintain physical distancing (3 feet) at all times. There are 36 stations across the system that automatically count passengers via fare box swipes to ensure physical distancing can be maintained. In addition, ATM has deployed makers across the system and launched an extensive public outreach campaign to reinforce this measure.

SOURCE: https://newseu.cgtn.com/news/2020-05-19/How-are-Europe-s-metros-coping-as-lockdowns-ease--QBhYZih0UU/index.html

PHOTO CREDIT: Miguel Medina/AFP

The **CTA (CHICAGO)** encourages physical distancing of 6 feet on vehicles and platforms and has set capacity limits, in conjunction with the Chicago Department of Public Health, on buses and trains (CTA established 15 passenger limit on 40 foot buses, 22 passenger limit on 60 foot buses, and 22 passenger limit on each train car). In addition, bus drivers have the authority to run as drop-off only and bypass certain bus stops if their bus is becoming overcrowded. To further enhance these measures, safe distance markers have been posted in stations and on vehicles, and real time camera crowd monitoring is taking place at high traffic stations, triggering announcements to request riders to spread out or wait for another train.

SOURCE: https://www.transitchicago.com/coronavirus/#tips

PHOTO CREDIT: CTA

6. HAND SANITIZER

Hand hygiene is one of a rider's primary defense measures when on public transit. It is part of the "trio" of measures, including face coverings and physical distancing, which are critical personal actions that public transit users can take to ensure their safety and the safety of other riders. The U.S. CDC recommends washing your hands for at least 20 seconds or using hand sanitizer with at least 60% alcohol before and after using public transit.[xxxvii] In addition to posting signs and communicating to the public the importance of hand hygiene, the U.S. CDC also recommends that mass transit administrators provide hand sanitizer to passengers in stations. Currently only two (MTA and BART) of the five U.S. transit agencies provide hand sanitizer in stations. On June 22, 2020, the MBTA announced that it would begin installing hand sanitizer dispensers in stations, giving priority to high-volume stations.

TABLE 10: GLOBAL & DOMESTIC BEST PRACTICES FOR HAND SANITIZER

Starting on May 11, 2020, the Paris public transit agency, **RATP (PARIS),** placed 50 hand sanitizer dispensers in high-density transit stations with the goal of placing 1,000 dispensers in total throughout the system by June. In addition, the RATP will deploy 30 agents during peak hours and high-density stations to distribute hand sanitizer to riders. Further, hand sanitizer and masks are available for purchase through vending machines and commerce located in stations. To expand availability of hand sanitizer more widely across Paris, the City partnered with advertising company JCDecaux to add hand sanitizer dispensers to the walls at 1,500 bus stations and 435 public restrooms—or three-quarters of bus shelters and all public toilets.

PHOTO CREDIT: @EPA

SOURCE: https://www.ratp.fr/mobilisesensemble/informations
https://www.fastcompany.com/90509402/paris-installs-hundreds-of-free-hand-sanitizer-stations-around-the-city

As of June 8, 2020, service on the **ZVV (ZURICH)** has returned to their regular time table and services including rail catering are resuming. The ZVV system also continues to expand methods to deliver riders adequate hand hygiene materials. This includes opening up restrooms in train stations free of charge so riders can properly wash their hands and installing disinfectant dispensers at the entrances of the 34 largest stations and travel centers.

PHOTO CREDIT: PNGWing

SOURCE: https://news.sbb.ch/artikel/95750/coronavirus-die-sbb-unterstuetzt-die-empfehlungen-des-bundes

As the **MTA (NEW YORK)** enters phase 2 of its reopening plan, it is continuing to impose measures that will further slow the spread of COVID-19 in the city, including making proper hand hygiene more accessible through the system. The MTA is handing out mini-hand sanitizer bottles and installing hand sanitizer dispensers in stations. In order to ensure functionality, technicians will be employed to monitor and refill dispensers throughout reopening.

PHOTO CREDIT: Clayton Guse/New York Daily News

SOURCE: https://new.mta.info/coronavirus/reopening-plan

7. WORKFORCE MANAGEMENT

The health of transit operators is a priority for all transit agencies. Workforce management is at the core of any comprehensive reopening plan to ensure the safety and availability of workers. The U.S. CDC guidance for mass transit administrators recommends doing daily health checks, providing employees with PPE, and communicating with passengers the proper hygiene and behavior (face coverings, physical distancing) in stations and vehicles. It also suggests disinfecting operator spaces between shifts. In addition, the guidance provides recommendations for use and disinfection of close communal spaces.

Overall, the U.S. transit agencies reviewed take workforce management seriously. Three of the five U.S. transit agencies provide some degree of health checks, all five provide PPE, and four have installed physical barriers when needed on vehicles to create a protective barrier between operators and riders. In contrast to some of the other intervention areas, the MBTA performs well on this front.

FIGURE 8: WORKFORCE MANAGEMENT MEASURES

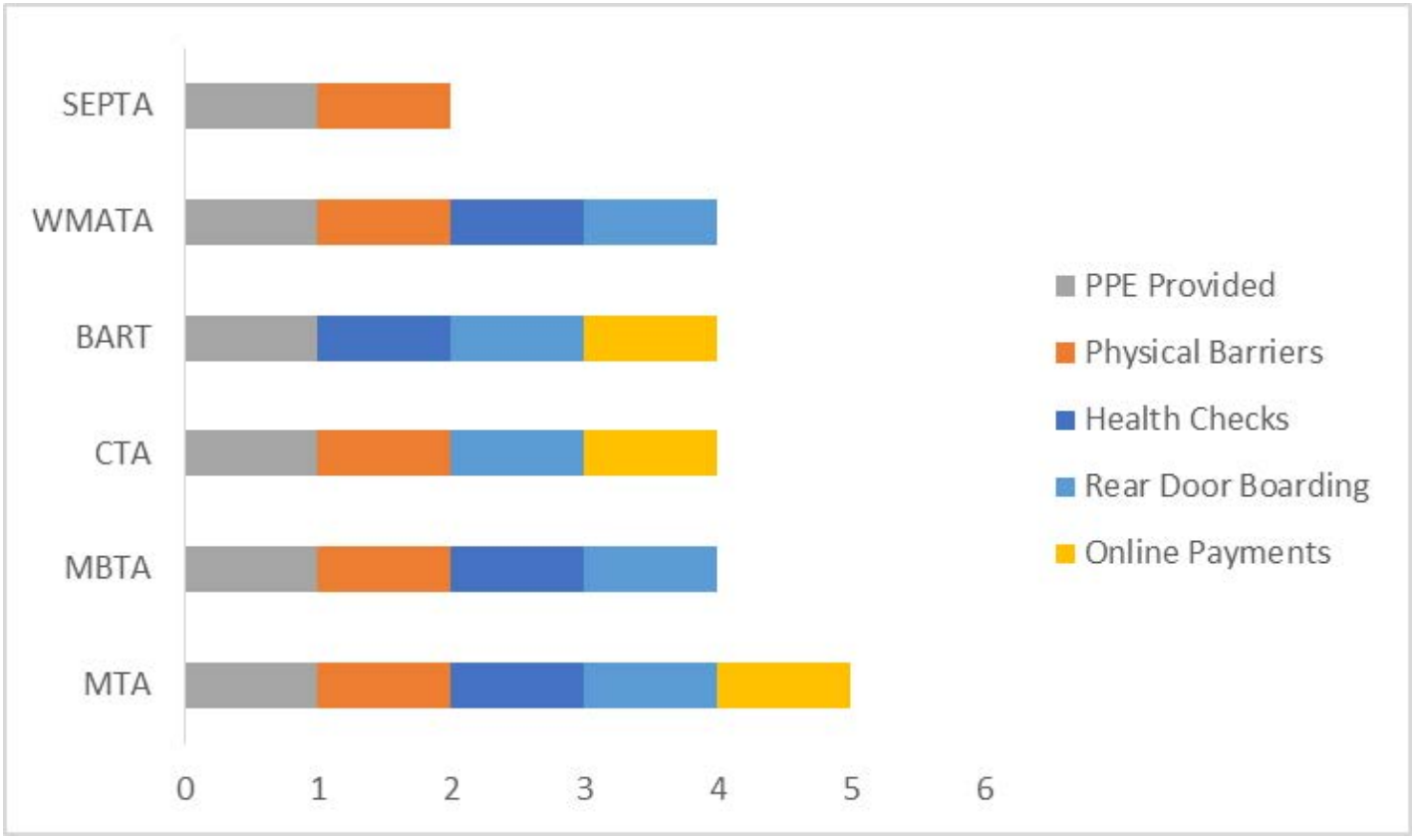


TABLE II: BEST PRACTICES FOR WORKFORCE MANAGEMENT

The **ATAC (ROME)** has taken the proper measures to ensure that their public transit drivers are properly protected. Riders must wear face coverings during their entire time in the system and have temperature checks conducted at entrances to limit those exhibiting symptoms from riding and coming in close contact with operators.[xxxviii] Front door boarding is currently suspended so passengers are further separated from operators and to ensure proper distancing on vehicles, drivers are allowed to switch to unloading only once they've hit a capacity limit.

SOURCE: https://www.euronews.com/2020/05/04/coronavirus-face-masks-to-the-fore-as-rome-s-transport-network-stirs-into-life

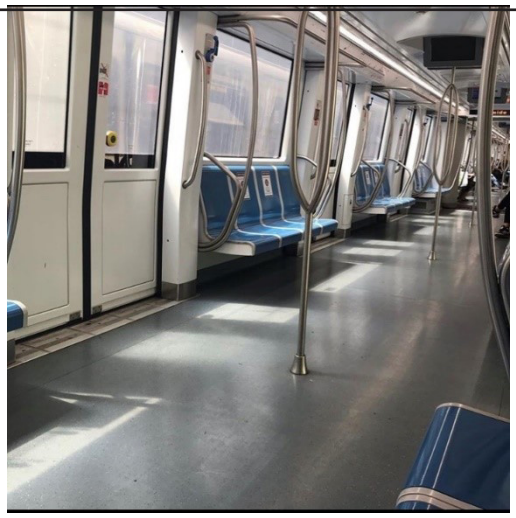


PHOTO CREDIT: Nilar Andrea Chit Tun

CTA (CHICAGO) has also been aggressive in pursuing proper protections for their employees, including requiring face coverings for both passengers and operators and allowing operators to skip stops and make vehicles "drop-off only" when the bus has hit a maximum occupancy where physical distancing can no longer be respected. To allow for further separation between drivers and passengers, their vehicles have been operating on a rear door boarding policy since the beginning of the pandemic and are continuing with this practice throughout reopening phases. The CTA has provided operators with masks, gloves, hand sanitizer, and extensive information on COVID-19.

SOURCE: https://www.transitchicago.com/coronavirus/#employeeprotections

PHOTO CREDIT: CTA

III. SCORECARD: HOW DOES THE MBTA COMPARE TO OTHER TRANSIT AGENCIES?

This comparative analysis assesses agency performance using a point system ranging from -1 to 1.5 points, in addition to a weighted color coding (green, yellow, red). Points were allocated based on the perceived scope and efficacy of a measure as derived from publicly available information as of June 23, 2020. The colors were assigned and weighted based on the strength of each mitigation measure: red indicates "below average"; yellow indicates "needs improvement"; light green indicates "above average"; and green indicates "best practice."

TABLE 12: HOW DOES THE MBTA COMPARE TO OTHER TRANSIT AGENCIES?

	Mitigation Measures (as at 6/23/2020)	MBTA	MTA	CTA	BART	SEPTA	WMATA
Comprehensive Reopening Plan	Yes	0.5	1	1	1	1	1
Cleaning & Disinfecting	Daily +	1	1	1	1	1	0
	Emphasis on High-Touch Points	1	1	1	1	1	1
	Fogger or Electrostatic Sprayers	1	1	1	1	0	1
	UV Light	0	1	1	0	0	0
	Other	0	1	1	1	1	0
Restoration of Service	Cont. Reduced Service	0	0	0	-1	0	-1
	Resumed Regular Service	0.5	1.5	1.5	0	1.5	0
	Increased Service (> reduced)	1	1	0	0	0	0
	Operational Flexibility for Crowding	1	0	1	0	1	0
	Express Routes	0	1	0	0	0	0
Face Coverings	Distributed, Soft "Enforcement"	0.5	1	0	1	0	0
	Required	1	1	1	1	1	1
Physical Distancing	3 feet + or Distance "Encouraged"	1	0	0	0	1	0
	6 Feet + "Encouraged"	0	1	1	1	0	1
	Markers in Stations	0	1	1	1	1	0
	Markers in Vehicles	0	0	1	0	1	0
Methods of Physical Distancing	Capacity Limits	0	0	1.5	0	1.5	0
	Crowding Information	0.5	0.5	1	0.5	0	0
	Staggered Work Hours	1	1	1	1	1	1
Hand Sanitizer	In Stations	0.5	1	0	1	0	0
Workforce Management	PPE Provided	1	1	1	1	1	1
	Physical Barriers	1	1	1	0	1	1
	Health Checks	1	1	0	1	0	1
	Rear Door Boarding	1	1	1	1	0	1
	Contactless payments	0	1	1	1	0	0

	Below average
	Needs improvement
	Above average
	Best practice

SCORECARD CATEGORIES

COMPREHENSIVE REOPENING PLAN: Most agencies have developed a comprehensive, agency-specific plan to clearly outline and communicate the mitigation measures implemented to provide safe and reliable transit service as regional economies reopen. The MBTA ranked below average in this category because it has not issued a comprehensive reopening plan; however the agency was allocated a half point to recognize its online communications throughout the pandemic, the Governor's reopening plan, and the recent launch of the MBTA *Ride Safer* campaign.

CLEANING & DISINFECTING: Rigorous cleaning and disinfection is needed to mitigate the risk of indirect transmission on public transportation, as evidence suggests that the virus can survive for several days on hard surfaces. [xxxix] This category includes the frequency of cleaning and disinfecting vehicles, stations, and high touch points therein (e.g. once daily or more than once daily (Daily+), as well as technology being used for these purposes, including foggers or electrostatic sprayers, UV light, or innovative technologies (e.g. antimicrobial surface coatings). The MBTA ranked above average in this category, earning three points for the rigorous practices it has in place.

RESTORATION OF SERVICE: Agencies have altered service levels across their systems in response to the changing ridership patterns, but must move toward full service to accommodate more riders and physical distancing. This category includes continued reduced service; resumption of regular service; increased service (>reduced); operational flexibility for crowding; and express routes. The MBTA needs improvement in this category, but earned 2.5 points for its ongoing efforts to assess demand and adjust service.

FACE COVERINGS: The U.S. CDC recommends wearing cloth face coverings in public settings where other physical distancing measures are difficult to maintain.[xl] The category includes agency policies on whether to require or encourage the use of face coverings, as well as methods for ensuring compliance and the distribution of free face coverings or masks. The MBTA needs improvement in this category, but earned a half point in recognition on the recent limited distribution effort announced as part of the *Ride Safer* campaign.

PHYSICAL DISTANCING: COVID-19 can spread from infected individuals through respiratory droplets that can travel anywhere from three to twenty feet to healthy individuals.[xli] The U.S. CDC recommends maintaining at least six feet of distance while the World Health Organization suggests staying three feet apart. This category includes measures to ensure physical distancing in stations, at bus stops, and on vehicles like distance requirements (3 or 6 feet) and signage and decals in stations and on vehicles, as well as capacity limits, crowding information and encouraging of staggered work hours to reduce demand during traditional peak hours. The MBTA ranked below average and needs improvement in this category because of the lack of clarity around amount of distance and how it is applied across modes. The agency earned 2.5 points to recognize the recent crowding app and reference to encouraging distance in the *Ride Safer* campaign.

HAND SANITIZER: The U.S. CDC recommends using hand sanitizers with at least 60% ethanol when soap and water are not readily available before and after using public transport to help prevent the spread of the virus through indirect transmission. This category includes the distribution of hand sanitizer in stations for rider use. The MBTA needs improvement in this category, but was allocated a half point to recognize its recent effort to make hand sanitizer available in limited locations.

WORKFORCE MANAGEMENT: Transit agencies are taking various actions agencies to protect vehicle operators and station workers from exposure to COVID-19. This category includes providing workers with adequate PPE; installing physical barriers; conducting health checks; implementing rear door boarding; and allowing for online payment to preserve physical distance between workers and riders. The MBTA is excelling in this category, earning a rank of best practice.

IV. RECOMMENDATIONS: WHAT CAN THE MBTA DO BETTER?

The MBTA is excelling with cleaning and disinfecting protocols as well as workforce management, is making progress with restoration of service, face coverings, and hand sanitizer, but is still lagging behind other agencies regarding the specifics of physical distancing and the issuance of a comprehensive reopening plan. Based on this analysis, A Better City recommends that the MBTA adopt some of the best practices being implemented by peer agencies here in the U.S. and transit agencies across the globe and incorporate these best practices into a widely distributed comprehensive reopening plan.

Prior to the pandemic, Boston was the third most transit dependent city in the nation with almost one quarter of the workforce in the Greater Boston area using public transit to get to work.[xliii] A percent-age of this workforce continues to use the MBTA today—and surveys suggest that many of these riders are essential workers who tend to be low-income, transit dependent, and women of color.[xliv] Additionally, there are many employees who have been able to telework and are undecided about their return to the workplace and public transportation.

In the absence of a clear, effective plan, many of the MBTA's previous riders may not return to public transportation as they return to the workplace—recent MassInc polling found that 28% of past users said they would be more likely to use a personal car as their primary commuting mode.[xlv] This anticipated mode shift to single occupancy vehicles will lead to crippling roadway congestion, as well as increased greenhouse gas emissions that will disproportionate-ly impact underserved communities and communities of color. In terms of equity and economic vitality, the stakes for the Commonwealth have never been higher—and the MBTA must do everything in its power to ensure the health and safety of its operators and passengers and to facilitate the return of riders to the system.

To safely bring riders back to the MBTA, A Better City recommends that the MBTA adopt a series of proven best practices across the categories analyzed, including the following:

To safely bring riders back to the MBTA, A Better City recommends that the MBTA adopt a series of proven best practices across the categories analyzed, including the following:

1. COMPREHENSIVE REOPENING PLAN: The MBTA should develop and communicate a thorough reopening plan to ensure that the MBTA is doing its part to create a safe commuting environment, while em-powering riders to be part of the solution. The detailed reopening plan should be complemented by an enhanced Ride Safer campaign that is multi-lingual, multi-media, rider-friendly and leverages the MBTA website, social media, traditional media, MBTA property frontage, and private sector partnerships.

2. CLEANING & DISINFECTING: The MBTA should continue its robust cleaning and disinfecting regimen and also experiment with new technologies like UV lights and antimicrobial surface coatings. Additionally, the MBTA should consider more frequent deep cleaning of vehicles (with electrostatic sprayers), as feasible.

3. RESTORATION OF SERVICE: The MBTA should scale up to full service across the system as quickly as possible and also expand the deployment of the creative "on demand" bus service to prevent and alleviate crowding, particularly along high-traffic routes serving transit-depended communities and frontline workers.

4. FACE COVERINGS: The MBTA should distribute free face coverings or masks across the system and throughout all phases of the reopening, included in transit-dense stations. Additionally, the MBTA should work with private sector partners to make face coverings or masks available at low cost in stations and in neighboring retail stores.

5. PHYSICAL DISTANCING: The MBTA should implement a suite of actions to encourage physical distancing throughout the system, including: (1) running the system at full service; (2) limiting the number of passengers on vehicles; and (3) spreading riders out on vehicles and in stations using signage and seat markers. Additionally, the MBTA should expand its current crowding pilot to serve the entire system and empower riders to better manage their commutes.

6. HAND SANITIZER: Hand hygiene is an essential component of preventing indirect transmission of the disease. The MBTA should install touchless hand sanitizer dispensers across the system, prioritizing high-traffic stations, bus stops, and vehicles, especially in or serving transit-dependent communities.

7. WORKFORCE MANAGEMENT: The MBTA should continue its leading workforce management practices and also consider enhancing components such as health checks and testing.

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