

COVID-19 Recovery Practices in Transit

Version 7

DISCLAIMER: To assist public transportation agencies, FTA has collected information on practices used by transit agencies worldwide. FTA has not assessed the efficacy of any of the practices listed. This list is provided for technical assistance only. Inclusion on this list does not imply endorsement by FTA of any of these practices, tools, or other information. Some transit agency websites may not be up to date. In addition, some transit agency websites may not reflect current CDC guidance or include specific information about their COVID-19 recovery efforts. News articles are used in this document only for informational purposes.

The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies. Grantees and subgrantees should refer to FTA's statutes and regulations for applicable requirements.



Overview

The Coronavirus Disease 2019 (COVID-19) public health emergency has had a significant impact on public transportation operations throughout the Nation. As communities recover from COVID-19, transit agencies are implementing new and enhanced measures to ensure the safety of their employees and passengers, and increase public confidence in transit, including enhanced cleaning and disinfection, personal protective equipment (PPE) and face coverings, and social distancing.

The Federal Transit Administration (FTA) is committed to helping the U.S. public transportation industry recover. This resource provides web links to practices implemented by transit systems worldwide to recover from the COVID-19 public health emergency. This list is non-exhaustive and is provided for technical assistance only. Practices are organized under the following categories:

- Protecting Workers
 - Face Coverings and PPE
 - In-vehicle Protections
 - Infrastructure (Non-vehicle Protections)
 - <u>Return to Work Policies and Health Screening</u>
 - <u>Sick Leave Policies</u>
- Protecting Passengers
 - Face Coverings and PPE
 - In-vehicle Protections
 - Infrastructure (Non-vehicle) Protections
- <u>Cleaning, Disinfecting, and Ventilating Vehicles and</u>
 <u>Infrastructure</u>
 - o <u>Vehicles</u>
 - o <u>Infrastructure</u>

- Operational Considerations
 - o Planning for Recovery
 - <u>Service Changes to Support Opening, Restoration</u> or Expansion of Transit Service
 - o Service Adjustments to Manage Crowding
 - o <u>Building for the Future</u>
- Passenger Communications
- <u>Technology and Innovation</u>
 - o <u>Detecting Crowding</u>
 - o Passenger Monitoring
 - o Passenger Engagement
 - o <u>Cleaning, Sanitizing, and PPE</u>
 - o Payment Options
 - o <u>Micromobility</u>

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Broken Links

The COVID-19 Recovery Practices in Transit tool will be updated monthly. In between updates, links identified in this tool may become inoperative as transit agencies or news organizations update their websites with new information. In the event you find a broken link, please send an email to <u>FTASystemSafety@dot.gov</u>.

To Recommend a Practice

If you are a transit agency or State with a recommended practice you would like added to this tool, please send an email to <u>FTASystemSafety@dot.gov</u>. Be sure to include a brief description of the practice and an active weblink to information on the practice. To the extent feasible, new practices will be included in the next monthly update.

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Acronyms and Abbreviations

Abbreviation	Full Term	
AC Transit	Alameda-Contra Costa Transit District	
AI	Artificial Intelligence	
BART	Bay Area Rapid Transit	
BYD	Build Your Dreams, North America	
САТА	Capital Area Transportation Authority	
CARTA	Charleston Area Regional Transportation Authority	
СНТ	Chapel Hill Transit	
СОТА	Central Ohio Transit Authority	
COVID-19	Coronavirus Disease 2019	

Abbreviation	Full Term	
СТА	Chicago Transit Authority	
DART	Dallas Area Rapid Transit	
FEMA	Federal Emergency Management Agency	
FTA	Federal Transit Administration	
GCRTA	Greater Cleveland Regional Transit Authority	
GDRTA	Greater Dayton Regional Transit Authority	
GETD	Golden Empire Transit District	
Houston Metro	Metropolitan Transit Authority of Harris County	
King County	King County Metro Transit District	

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Abbreviation	Full Term	
LACMTA	Los Angeles County Metropolitan Transportation Authority	
LIRR	Long Island Rail Road	
MARTA	Metropolitan Atlanta Rapid Transit Authority	
MBTA	Massachusetts Bay Transit Authority	
Metro Transit	Metropolitan Transit, Service of Metropolitan Council	
Miami-Dade	Miami-Dade Transit, County of Miami-Dade	
MTA	Metropolitan Transportation Authority	
MTC	Metropolitan Transportation Commission	
MTD	Champaign-Urbana Mass Transit District	
MUNI	San Francisco Municipal Transportation Agency	

COVID-19 Recovery Practices in Transit

Abbreviation	Full Term	
MWRTA	MetroWest Regional Transit Authority	
ΝΑCΤΟ	National Association of City Transportation Officials	
NJT	New Jersey Transit	
NYCT	New York City Transit	
ΝΥΡΤΑ	New York Public Transit Association	
ОСТА	Orange County Transportation Authority	
РААС	Port Authority of Allegheny County	
PPE	Personal Protective Equipment	
PSTA	Pinellas Suncoast Transit Authority	
RTD	Regional Transportation District	

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Abbreviation	Full Term	
RideKC	Kansas City Regional Transit	
SEPTA	Southeastern Pennsylvania Transportation Authority	
TriMet	Tri-County Metropolitan Transportation District of Oregon	
USDOT	United States Department of Transportation	
UTA	Utah Transit Authority	

COVID-19 Recovery Practices in Transit

Abbreviation	Full Term	
Valley Metro	Valley Metro Regional Transportation Authority	
VIA	/ia Metropolitan Transit	
VTA	Santa Clara Valley Transportation Authority	
WMATA	Washington Metropolitan Area Transit Authority	
WTA	Whatcom Transportation Authority	

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Protecting Workers

Face Coverings, PPE, and Vaccinations

Торіс	Description	Examples
1. Face coverings	Recommend or require face coverings for employees and	DART: Face coverings required for employees and passengers
	passengers	MBTA: Face coverings required for employees and passengers
		NYCT: Face coverings required for employees and passengers
		WMATA: Face coverings required for employees and passengers
	Provide face coverings to employees	Jacksonville Transportation Authority: 3D-printed face shields for front-line employees
		MARTA: Provides face masks to employees
		NJT: Provides face masks to employees*
	Provide N95 and surgical masks for employees based on results of safety assessment	NYCT: Distributed N95 and surgical masks to employees and published video on how to use masks appropriately

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Тс	ppic	Description	Examples
2.	2. Hand sanitizer, gloves, or other hand	Provide hand hygiene items for employees	CTA: Gloves and hand sanitizer provided to employees
-	-hygiene items		<u>Greater Attleboro Taunton Regional Transit Authority: Hand sanitizer</u> <u>units installed in all vehicles</u>
			NJT: Gloves provided to employees*
			San Diego Trolley: Hand sanitizer and gloves available for employees

In-Vehicle Protections

Торіс	Description	Examples
1. Compartment shields	Install shields around operator compartments, such as rigid plexiglass or polycarbonate structures or flexible vinyl "curtains"	DART: Operator shields installed on all buses Delaware Transit Corporation: Recipient of a competitive grant from the Public Transportation COVID-19 Research Demonstration program to install barrier shields and evaluate the efficacy of the shields*

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Торіс	Description	Examples
		GCRTA: Operator curtains installed on all buses and paratransit vehicles
		Gold Coast Transit: Installed plexiglass shields around bus operator compartments
		MARTA: Outfitted bus fleet with polycarbonate shields
		Metropolitan Transit System: Installed barriers for operators
		Palmetto Breeze Transit: Installed plexiglass operator shields
		Pelivan Transit: Installed protective barriers in vehicles
		Tri-Valley Transit: Installed plastic barriers between operators and passengers
		Valley Transit: Installed protective barriers in vehicles
		NYCT: Installing vinyl shields on buses

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То	pic	Description	Examples
2.	Safe area behind bus operator	Create a driver safe area by removing or taping off rows of	Denver RTD: COVID-19 plan creates driver safe area
	operator	passenger seating behind the driver's operating console or	NJT: Removing rider seats near bus operators
		compartment	Valley Metro: Seats near the operator are blocked off
3.	Safe area behind rail transit operator	Create safe area for rail operators by closing railcar closest to operator compartment	WMATA: Closes first and last rail cars on trains to protect workers
4.	Visual cues for physical distancing	Install visual cues, such as stickers or tape, to remind passengers to distance themselves from the driver	The Bus of the City and County of Honolulu: Installed tape six feet behind the bus operator
5.	Vehicle boarding	Change boarding procedure to reduce contact between operators and riders	ART: Rear-door boarding for all passengers not requiring special assistance
			NJT: Rear-door boarding for all routes where rear-boarding is available

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Infrastructure (Non-vehicle Protections)

Торіс	Description	Examples
 Shields or other physical barriers 	Install shields or other physical barriers around work locations to minimize contact among workers and/or the public	Metropolitan Transit System: Installed barriers at all check-in locations NYCT: Installing plexiglass barriers in subway work locations, bus depots, and central maintenance facilities
2. Visual cues	Install visual cues, such as stickers or tape, to remind workers and/or the public to maintain physical separation	Miami-Dade: Installed floor decals on platforms to encourage physical distancing Transport for London: Instituted one-way pedestrian flow measures in depots and control centers to support physical distancing*
3. Scheduling	Set schedules that reduce the number of workers in a space at one time	MBTA: Divided operating teams in two and rotating staff between its main and backup Rail Operations Control Center to allow each facility to be cleaned and disinfected when not in use* NYCT: Construction crew work is staggered to reduce the number of workers in a specific location at one time*

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Торіс	Description	Examples
 Access to shared spaces 	Reduce or eliminate access to non-critical shared spaces	Regional Transportation Commission Washoe: Construction workers eat meals separately, avoid common-use water coolers, and have access to portable bathroom units with wash basins and soap
	Reduce or eliminate in-person meetings	DART: No longer holding in-person meetings
5. Teleworking	Permit or require workers to work from home as appropriate	Heart of Iowa Regional Transit Agency: All office employees, including dispatch, work remotely
		Metro Bus: All administrative staff work remotely
		Metrolinx: Non-frontline staff work from home policy
		NYCT: Construction crews using an internal phone application to track progress and using a GoPro camera to monitor progress and inspect work remotely*and Non-essential personnel work from home

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Worker Communications, Return to Work Policies, and Health Screening

Торіс	Description	Examples
1. Worker guide	Provide guidance on staying safe for workers that are returning to work	Metrolinx: Safety officers conducting onsite training and support, inspections to ensure staff understand and comply with COVID-19 safety policies
		Santa Clara VTA Return to Work Playbook to help employees stay healthy at work
2. Health screening	Check temperatures of workers as they report to work	COTA: Mandatory temperature checks for all workers entering agency facilities
		NEW Fayetteville Area System of Transit: Daily wellness checks at the start of shifts
		MBTA: Worker temperatures checked before every shift*
		Metropolitan Transit System: Participating in Scripps Health Detect Study
		NYCT: Temperature Brigade testing workers at strategic locations

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Торіс	Description	Examples
		Oahu Transit Services: Testing employee temperatures daily and occasional COVID-19 tests*
		<u>RTC of Southern Nevada: Thermal analysis units installed in</u> <u>employee facilities</u>
		VIA: Daily employee temperature testing
3. COVID-19 testing	Provide free COVID-19 testing for workers	NJT: Testing program for employees
		NYCT: COVID-19 antibody testing for employees
		Oahu Transit Services: Testing employee temperatures daily and occasional COVID-19 tests*
		NEW Rhode Island Public Transit Authority: Free COVID-19 testing for transit drivers, even if they are asymptomatic
		SEPTA: Testing program for employees
		Santa Clara Valley Transportation Authority: Offering COVID-19 testing for employees

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Торіс	Description	Examples
4. COVID-19-related healthcare	Provide access to healthcare	CTA: Expanded access to health care services for employees without CTA healthcare coverage for COVID-19-related illnesses and expanded access to telehealth services
5. Vulnerable workers	Provide protections for vulnerable workers	SunLine Transit: Vulnerable workers may use sick or other available time off and unpaid time off will be approved

Sick Leave Policies

Торіс	Description	Examples
1. Sick leave		SunLine Transit: Workers do not need to provide a doctor's note before or during an illness
2. Quarantine protocols	responding to COVID-19 cases	CTA: Workers testing positive and any other workers who came into close contact with the patient directed to remain at home with pay for 14 days since their last contact

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Recruiting and Training

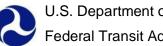
Торіс	Description	Examples
noi	Work with community colleges, non-profit agencies, and technical education to develop	LACMTA: Partnering with community colleges to establish a transit workforce development program
	and recruit employees	Denver RTD: Partnering with local community colleges and non- profits to recruit and train transit employees
2. Testing and training	Establish a process for conducting pre-employment testing virtually	WMATA: Register and conduct testing for job applicants virtually
	Provide online resources to support employees preparing for transit careers	UTA: Offer pre-test study guides and resources online to support employees in preparing for tests
	Provide online training	DART: Creating virtual training opportunities
		RideKC: Employee training provided using an e-learning platform
3. COVID-19 safety training	Develop online training to support employee awareness	New Mexico DOT: Developing and streaming COVID-19 safety training

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Торіс	Description	Examples
	they return to work	Transit Authority of River City: Operators will undergo training on safety protocols, CDC guidelines, and measures to protect themselves and their passengers

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Protecting Passengers

Face Coverings and PPE

Торіс	Description	Examples
1. Face coverings	Recommend or require face coverings for passengers	Green Mountain Transit: All passengers above the age of two must wear a face covering
		NYCT: Face coverings required
		Shoshone-Bannock Tribes Public Transit: Face coverings required
	Distribute face coverings to passengers	CARTA: Distributing masks to passengers without them
		CTA: Piloting mask dispensers on buses
		King County: Installing mask dispensers
		MARTA: Installed onboard mask dispensers
		NJT: Mask Force deployed throughout the system to provide masks and personal protection items to customers
		NYCT: Installation of mask dispensers on buses

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Торіс	Description	Examples
		TriMet: Mask dispensers on vehicles
		UTA: Providing free face masks to returning college students*
	Sell face coverings to passengers	CTA: PPE vending machines installed in select stations
		NJT: PPE vending machines installed in select stations and terminals
		NYCT: Deploying vending machines with face masks, gloves, hand sanitizer, and sanitizing wipes at 10 subway stations
2. Hand sanitizer, gloves, or other	Provide hand hygiene items	AC Transit: Installed hand sanitizer dispensers on fleet
protection		Athens Transit: Installed hand sanitizer dispensers on fleet
		BART: Giving out and selling personal hand straps to riders
		Kigali Bus: Passengers required to wash hands before boarding*
		NEW Mason Transit: Hand sanitizer stations located by the front and rear doors of all buses

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Торіс	Description	Examples
		Monterey-Salinas Transit: Installed hand sanitizer dispensers on fleet
		Nashua Public Transit: Hand sanitizer available on all vehicles for passenger use
		San Diego Metropolitan Transit System: Handwashing stations available at all trolley stops
		Société de Transport de Montréal: Installing touch-free hand sanitizers at station entrances*
		The Comet: Hand sanitizer available on all vehicles for passenger use
		Tri-Valley Transit: Hand sanitizer available on vehicles
3. COVID-19 testing for passengers	Offer COVID-19 testing to passengers	The COMET: Partnership with the Department of Health and Environmental Control to offer testing at the transit hub
		MARTA: Partnership with COVID Care Georgia, LabCorp, and the city of Brookhaven to make COVID-19 testing available via transit

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In-Vehicle Protections

Торіс	Description	Examples
1. Vehicle occupancy	Establish policies or procedures to limit the number of	CATA: No standing passengers permitted
passengers on any one transit vehicle	CTA: Bus operators authorized to bypass certain bus stops or only permit passengers to exit the vehicle depending on the number of passengers onboard and the size of the vehicle	
		Govia Thameslink Railway: Using train weight to determine whether a train has sufficient space to let on additional passengers*
		King County: Creates passenger limits to support social distancing
		MARTA: Bus capacity limited to seated loads only and buses on standby to respond to increased demand
		Pelivan Transit: One passenger or party per paratransit vehicle
		The Rapid: Limit of 15 passengers on 40' buses and four passengers on paratransit vehicles
		VIA: Link vans limited to two passengers

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Торіс	Description	Examples
		City of Harrisonburg Public Transportation: No more than 18 passengers on each vehicle
	Increase vehicles in service to decrease the number of	BART: Running long trains throughout hours of service
	passengers per vehicle	King County: Adding additional buses to high-demand routes
		MBTA: Increasing frequency on bus routes with high ridership
		MUNI: Adding more frequent service to lines that service neighborhoods that rely on transit service the most
2. Passenger boarding	Rear door boarding and exiting	Lawrence Transit: Rear door boarding for all passengers not needing mobility assistance
		SunLine Transit: Rear door boarding for all passengers not needing mobility assistance
	Mobility devices boarding and securement	GoRaleigh: Installed fully automatic securement system that allows mobility passengers to secure themselves without direct physical assistance

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Торіс	Description	Examples
		TransLink: Some buses will not pick up passengers using mobility devices, but will call taxis to provide service*
	Test passenger temperatures prior to boarding	Beijing: Rider temperatures screened prior to boarding*
		Guam Regional Transit Authority: Passenger temperatures tested prior to boarding
		Rapid Kuala Lumpur: Rider temperatures screened prior to boarding*
		Singapore Land Transit Authority: Thermal cameras screen passengers in select stations*
	Reduce touch points	TriMet: Installed sensor-operated rear doors on vehicles
3. Quiet transit service	Ask passengers to refrain from talking on vehicles	East Japan Railway: Asking passengers to refrain from talking while onboard
4. Payment options	Encourage alternate methods of payment or suspend fares	CATA: Suspending fares
		CTA: Passengers must use farecard readers when boarding from the rear doors and buses not equipped with rear door farecard readers do not collect fares

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Торіс	Description	Examples
		Metrolinx: Passengers may tap on and off of the system with their credit card or smartphone or smartwatch for a contactless way to pay without needing to load funds on a transit card or purchase a ticket ahead of time
		Sound Transit: Suspending fares
		Sunline Transit: Bus and paratransit service provided free of charge
		TriMet: Encouraging passengers to use contactless payment options and providing contactless cards via mail
		VIA: Providing Workforce Assistance Passes to provide free rides for unemployed passengers
5. Visual cues for physical distancing	Install visual cues, such as stickers or tape, to remind passengers to distance	City of Harrisonburg Public Transportation: Passengers corded off from operator and seats marked to space passengers appropriately
	themselves from the driver and other passengers	NEW Freedom Transit: Seats closed off to help riders maintain social distancing
		MARTA: Installed seat markers

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Торіс	Description	Examples
		NEW Mason Transit: Bus rows and seats blocked off to ensure appropriate distancing
		New Orleans Regional Transit Authority: Seats blocked off to space passengers appropriately
		Tri-Valley Transit: Posted signs blocking off aisle seats
6. Vehicle configuration	Change the physical layout of the vehicle to promote physical distancing	BART: Piloting new configurations for some trains to create additional space between riders
		Tri-Valley Transit: Installed plastic barriers between rows of seats
7. Vehicle materials	Change materials within the vehicle to improve cleaning	NEW CapMetro: Retrofitted vehicles with vinyl seats
		Maryland Transit Authority: Retrofitting buses with plastic seats*
		Metro Transit Authority of Harris County: Installing fiberglass seat inserts on light rail vehicles
	Install antimicrobial materials	Edmonton Transit Service: Installing anti-microbial push-plates on swing doors in transit centers and stations

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Торіс	Description	Examples
		TransLink BC: Piloting copper-plated surfaces on buses and trains

Infrastructure (Non-vehicle) Protections

Торіс	Description	Examples
 Visual cues for physical distancing 	Install visual cues, such as stickers or tape, to remind riders to distance themselves from each other	TransLink BC: Installed stickers at stations to show passengers where to stand to remain six feet apartSacramento Regional Transit: Spray painted sidewalks to remind passengers to remain six feet apart
2. Reduce exposure	Implement policies to reduce exposure in transit infrastructure	Denver Regional Transportation District: Bus concourse prohibits eating and limits the number of people in restroom facilities at one time Everett Transit: Limit of one customer permitted in Customer Service Center lobby at a time

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Торіс	Description	Examples
		Regional Transportation Commission of Southern Nevada: Maximum of 10 passengers permitted in transit centers for a maximum of 10 minutes each
		Regional Transportation Commission Washoe: Customer Service center permits no more than six visitors at a time
3. Sanitation technology	Provide access to sanitization technology	Metrolinx: Installed UV sanitizers in select stations for customer use to sanitize electronic items and other small, non-porous surfaces

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Cleaning, Disinfecting, and Ventilating Vehicles and Infrastructure

Vehicles

Торіс	Description	Examples
1. In-service cleaning	Clean vehicles in service	CATS: Buses and light rail vehicles cleaned during layovers
		CTA: Workers disinfect rail car high-touch surfaces at all terminals and workers disinfect bus high-touch surfaces at four bus terminals serving 30 routes
		DART: Light rail vehicles cleaned at least every 90 minutes at terminal stations
		NEW Lawrence Transit: Buses receive midday cleaning while on route and buses with high ridership are switched out during the day for deeper cleaning
		Metropolitan Transit System: Trolley doors and buttons cleaned at four stations*
		Milwaukee County Transit Systems: Bus operators given disinfectants to use throughout service*

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Торіс	Description	Examples
		Sacramento Regional Transit Authority: Light rail fare inspectors sanitize tap payment device after each use
		NYCT: Testing new air filters on several car classes to determine whether they effectively kill microbes
		The Rapid: Periodic disinfection of fixed-route and bus rapid transit buses throughout the day
2. Cleaning technologies	Use coatings or other mechanisms to decrease the likelihood of fomite transmission	CTA: Testing products on vehicle interiors to prevent pathogens from "sticking" to treated surfaces
		NJT: Contracted with Rutgers to study the effectiveness of UVC wavelength in killing viruses and mapping the interior of different bus models to identify the best placement for the UVC source*
		NYCT: Piloting antimicrobial biostats, materials that create a protective layer on surfaces and prevent microbes from growing, on surfaces in train cars and buses, stations, and crew quarters
		<u>St. Louis Metro Transit: Using sanitizing products that inhibit growth</u> of microbes for up to 30 days

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Торіс	Description	Examples
		Valley Metro: Trains fogged with a "barrier" solution
	Use UV lights to disinfect vehicles	DART: UV system sanitizes air as it recirculates through buses
		NYCT: Using UV lights in break rooms and operations centers, and working with university and startup to develop portable lights
		Vermont Agency of Transportation: Received funding from the Public Transportation COVID-19 Research Grant program to test the efficacy of two UV-C light products*
		Yanggao: Using UV light chambers to disinfect buses in five to seven minutes*
	Use foggers, misters, or sprayers to disinfect vehicles	ABQ RIDE: Using electrostatic foggers on fleet
		DART: Light rail vehicles sanitized with foggers
		Hong Kong Mass Transit Railway: Deployed vaporized hydrogen peroxide robot to clean and decontaminate trains and stations*

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Торіс	Description	Examples
		MARTA: Delta Airlines provided MARTA with 50 electrostatic sprayers to help clean MARTA buses, trains, and rail stations
		NYCT: Testing electrostatic sprayers that positively charge a disinfecting solution, atomizes it, and disperses it, in subways and buses
		Valley Metro: Fogging buses three times per week and trains once per month
3. Daily cleaning	Clean vehicles prior to or after service	Long Beach Transit: Each bus is cleaned with freshly laundered towels and towels are not used on multiple buses before laundering
		RideKC: Buses sanitized nightly
		Sunline Transit Agency: Buses fogged with disinfectant with the HVAC running
		Valley Regional Transit: Every in-service bus cleaned and disinfected each night
4. Ventilation	Use special air filters and purifiers	BART: Installing MERV14 filters in vehicle HVAC systems and continuing testing ultraviolet bulbs in HVAC system

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Торіс	Description	Examples
		Capital Metro: Installing air purification devices on bus fleet
		DART: Ultraviolet germicidal irradiation in bus air-conditioning ducts that clean the air automatically as it recirculates
		Go Transit and Valley Transit: Installed air and surface purification system
		<u>Green Bay Metro: Used CARES Act funding to fund air purification</u> <u>technology installation on bus fleet</u> *
		King County: MERV8 HVAC filters used on Metro's buses
		Metrolink: Installed new filters on rail cars
		MTA: Understanding subway ventilation and testing ultraviolet technology in railcar ventilation systems*
		NJT: Partnering with Knorr Merak to test three-stage air filtration and purification
		Oahu Transit Services: Piloting air purification technology*

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Торіс	Description	Examples
		Plymouth Metrolink: Installed air cleaning devices that filter more than 95-percent of airborne viruses*
		Turlock Transit: Installed air filtration devices in driver compartments
	Open windows or use other means to draw outside air through vehicles	East Japan Railway: Automatic ventilation systems exchange air in six to eight minutes per vehicle and all windows open six to eight inches
		Monterey-Salinas Transit: Leaving bus windows open to draw air through the vehicle
		NYCT: Bus windows and roof hatches opened to draw outside air into the vehicle*
	Sanitize HVAC elements	Rossiyskie Zheleznye Dorogi: Installed UV lamps in the duct works of trains*
		Shanghai Keolis: Adjusted streetcar HVAC to use all fresh air and equipped air conditioning units with UV lights*
		<u>Translink: Piloting photocatalytic oxidation technology on transit</u> <u>vehicles</u> *

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Infrastructure

Торіс		Description	Examples
1.	Stations, terminals, and other revenue facilities	Clean, disinfect, and ventilate revenue facilities	Athens Transit: Pressure washing bus stops daily
			The Comet: Cleaning bus stop shelters, benches, and wall panels
			Transit Windsor: All hard surfaces in transit terminals sanitized daily
2.	Cleaning technologies	Install air purifiers at transit facilities	MARTA: Implements project to install 209 air purifiers in air conditioning units found at 18 MARTA facilities
		Use coatings or other mechanisms to decrease the likelihood of fomite transmission	SMART: Terminals, transit center, and downtown offices sprayed with electrostatic microbial spray treatments
		Use UV lights to disinfect infrastructure	NYCT: Using UV lights on vehicles and working with university and startup to develop portable lights
		Use robots to clean	Hong Kong Mass Transit Railway: Deployed vaporized hydrogen peroxide robot to clean and decontaminate trains and stations*
3.	Non-revenue facilities	Clean spaces as they are used	Long Beach Transit: Custodians service administrative buildings three times daily

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Торіс	Description	Examples
		SMART: Employees who use conference rooms are required to wipe down all shared equipment, furniture, and high-touch surfaces after use
	Clean and disinfect tools or shared use items	NYCT: Construction tools disinfected daily*
4. Post-exposure	Clean or disinfect spaces after exposure	Transdev (transit contractor): Deep cleaning vehicles, offices, maintenance shops, and facilities after exposure

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Planning for Recovery

Торіс	Description	Examples
1. Recovery task force	Establish a work group or task force to guide public transit recovery from the COVID-19 pandemic	LACMTA: Recovery Task Force releases recommendations to improve mobility
		WMATA: Pandemic Task Force issues recommendations
2. Recovery plan	Establish a decision support system and playbook of recommended operations options for various service scenarios	East Texas Council of Governments: GoBus Pandemic Response Plan
		Laredo Transit: Pandemic Response Plan
		Monterey-Salinas Transit: COVID-19 Recovery Plan
		NACTO: Playbook guidance for managing street design and movement, including transit lanes
		NYPTA: COVID-19 Recovery & Restoration Plan
		SMART: COVID-19 Safety Playbook

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	South Plans Community Action Association: SPARTAN Public Transportation Pandemic Response Plan
	WMATA: COVID-19 Recovery Plan

Service Changes to Support Opening, Restoration or Expansion of Transit Service

Торіс	Description	Examples
 Transit services for essential workers 	When opening, restoring, or expanding transit service, focus service on key routes for essential workers	Houston Metro: Adding a Texas Medical Center shuttle to move essential employees to the medical center
	Provide essential employees with rides to or from work	Maryland Transit Administration: Cooperative agreement to provide "park-and-ride" service for essential hospital workers
		NEW Pace Suburban Bus: Medical personnel ride fare-free
 Adjusting transit service to support schedules of essential services 	Adjust schedules and add trips to address essential workers' schedules	NYCT: Adjusts service to meet needs of essential workers

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То	pic	Description	Examples
	pic Supporting transit- reliant communities	Description When opening, restoring, or expanding transit service, focus on those in the community that need it the most	ExamplesCATA: Announces Diversity, Equity, and Inclusion Task ForceGreensboro Transit Agency: Providing service to city's free shelter-in- place option for residents experiencing homelessnessJacksonville Transit: Launching new line to improve connectivity to critical resources for areas with known mobility challenges*LACMTA: Recovery Task Force uses an equity framework to prioritize better mobility for those who rely on transit and Published Rapid Equity Assessment tool used by LACMTA staff to identify and prioritize equity opportunities post-COVIDMontgomery County Transit: Service focuses on Equity Emphasis AreasNew Orleans Regional Transit Authority: Prioritizes life-sustaining reservations for paratransit service
			TriMet: Focus on minority and low-income riders



Торі	ic	Description	Examples
		Provide alternate service in areas where regular service is not yet restored	Denton County Transportation Authority: Replacing evening fixed- route bus service with on-demand transit
			Monterey-Salinas Transit: Developed routes to replace temporarily suspended volunteer driver routes to veteran medical facilities
			The Comet: Provides on-demand service for riders on routes that are not currently running*
			NEW Transfort: On-demand service available for suspended routes
t c	Expanding support for passengers with disabilities impacted by service cuts	Expand paratransit service to customers with disabilities who can no longer reach their essential destinations through traditional service	King County: Expands eligibility for paratransit services to those impacted by COVID-19 service cuts
	Off-peak transit service	Incentivize passengers to travel during off-peak times	Sydney Public Transit Systems: Fares halved for off-peak travel*
		Expand off-peak service	MBTA: Increases service for off-peak hours*

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Тс	ppic	Description	Examples
6.	coordinated services	Bring on-demand services back to support enhanced transit service in a coordinated approach	King County: Resumes Via to Transit

Service Adjustments to Manage Crowding

Торіс	Description	Examples
1. Staying ahead of demand	Restore more frequent transit service to stay ahead of demand	Colorado Association of Transit Agencies: White paper on Considerations for the Safe Lifting of Transit Capacity Restrictions out of Operational Necessity in the Times of the 2020 COVID-19 Pandemic MARTA: Restoring suspended bus routes and implementing service frequency adjustments to match demand and address capacity limits Miami-Dade: Increases frequency of service on key routes to reduce crowding Pasadena Transit: Increasing buses on its busiest route*

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Торіс	Description	Examples
		WMATA: Outlines phased approach for restoring service
		NEW Santa Clara Valley Transportation Authority: Light rail return to service plan
 Changing vehicle type to address 	Place larger transit vehicles on agency's most crowded routes	NJT: Use articulated buses to support social distancing*
service needs		Port Authority: Move largest buses to new routes*
	Preferentially use vehicles that allow for social distancing	Regional Transportation Commission of Southern Nevada: Using double-decker buses or other high-capacity buses as available to increase space available for social distancing
	Use vehicles that do not require a commercial driver's license (CDL) to address driver shortage	NEW Albuquerque Transit Department: Using Sun Vans on some routes to address a shortage of drivers with CDLs*
3. Ridesharing	Use ridesharing to supplement fixed route transit service and reduce crowding	Miami-Dade and other transit agencies: Ridesharing to supplement service*
		Cities across US: Supplementing service with rideshare*



То	pic	Description	Examples
4.	Monitoring and changing service requirements with expanded service	Reevaluate COVID-19 service levels and safety precautions as demand increases	WMATA: Surveying employers on their plans to bring their employees back into offices
5.	All-door boarding	Use all-door boarding as a strategy to reduce crowding at bus stops	WMATA: Evaluating accelerated installation of SmarTrip targets on rear doors to enable smooth transition to all-door boarding
6.	Expanding existing service zones	Use additional service capacity to support essential workers and those with special needs	Charlevoix County Transit: Providing grocery delivery service Pasadena Dial-a-Ride: Delivering food from the food bank to its members*



Building for the Future

То	pic	Description	Examples
1.	New bus lanes, traffic signal priority and other measures	Partner with local jurisdictions to accelerate implementation of bus-only lanes and other speed and reliability measures	LACMTA: Announces new bus lanes* MBTA: Partners with four cities to rapidly construct 14 miles of bus lanes
2.	Accelerating maintenance, rehabilitation or expansion programs	Take advantage of lower ridership and less service to accelerate or expand maintenance and construction projects	NEW CTA: Refresh & Renew program expanded and accelerated LACMTA: Using reduced traffic to close Wilshire Boulevard to fast- track Purple Line construction* WMATA: Using upcoming low-ridership summer to maximum effect, expands Orange and Silver line shutdown
3.	Prioritizing projects based on post- COVID-19 criteria	Prioritize and re-examine major capital projects during recovery	LACMTA: Considering re-prioritizing capital projects Paris: Creating 650 kilometers of post-lockdown cycleways*

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Торіс	Description	Examples
4. Working groups	Form working groups to explore ways the transit agency can expand mobility within their service area	LACMTA: Created the Office of Extraordinary Innovation to discover and develop ways to provide high quality mobility options



Passenger Communications

Торіс	Description	Examples			
1. Welcome back campaign	To welcome riders back and restore confidence in the safety	AC Transit: ReNEW plan			
	of transit service, post plans on agency websites that outline	BART: 15-step plan to welcome back riders			
	steps the agency will take to ensure the safe restoration of service, often focusing on	NEW CTA: When You're Ready, We're Ready campaign			
	cleaning and disinfecting, the use of face coverings, how social	DATTCO: Clean Care Certified initiative			
	distance will be maintained, service changes, and the	service changes, and the	service changes, and the	service changes, and the	Denver RTD: Published report on air flow through its transit buses
	exploration of new measures and technologies	King County: COVID-19 Response and Recovery Report			
		NEW <u>Metrolinx: Introducing weekend passes to encourage leisure</u> travel using public transit			
		NJT: Your Ride to Recovery			
		NEW <u>NY MTA: #TakeTheTrain, #TakeTheBus Campaign to</u> <u>encourage riders to return to transit</u>			

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Торіс	Description	Examples
		Ohio Public Transit Association: Ride Easy Ohio campaign
		NEW Port Authority: Safe To Go campaign
		NEW Ride On: Ride On COVID-19 Safety Guide
		NEW San Francisco Bay Ferry: The Best Way Back campaign
		SEPTA: Reopening Guide
		VTA: VTA's 10-Point Plan to Strengthen Trust in Transit
		TriMet: Here's what you need to know when you return
		UTA: COVID-19 Recovery plan and Recovery Plan Summary
2. Welcome back kits	Provide riders with what they need to safely use the system, including reusable face mask, hand sanitizer and safety guide	CTA: Giving away "Travel Healthy" kits

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То	pic	Description	Examples
3.	Keeping riders informed in real-time	Use website banner, push e notifications on transit app, text and email alerts and updates, social media, and other means to keep riders informed	DART: Coronavirus communication
			Valley Regional Transit: Weekly newsletter
		Provide real-time cleaning information	Ontario Northland: Web application allows passengers to enter a vehicle identifier and see the cleaning history for the vehicle*
4.	Collecting information from riders on new travel	Survey customers on their current transportation patterns and modes, future	Anchorage People Mover: People Mover and AnchorRIDES passenger survey
	patterns and needs	transportation plans, COVID-19 concerns, and customer experience	Denton County Transportation Authority: Survey of passenger experience during COVID-19 public health emergency
			NEW Dutchess County Public Transit: Online survey of residents' past, present, and anticipated transit service needs
			LACMTA: Agency research efforts and LACMTA: Promotes a rider-led recovery
			NEW Metrolinx: Surveyed riders on anticipated trips using transit



Торіс	Description	Examples
		Miami-Dade: Issues survey as part of 10-year planning goal
		Minnesota Valley Transit Authority and SouthWest Transit: Joint customer survey
		MTA: Conducting Customer Satisfaction and COVID-19 Travel Survey
		NEW Pace Suburban Bus: Inviting feedback on strategic vision plan
		RideKC: Customer survey on ridership during COVID-19 public health emergency
		Sound Transit: Seeking public input on managing COVID-19-related financial pressures
		TriMet: Agency research efforts
		UTA: COVID-19 General Rider Survey Report
		Valley Metro: Customer survey on ridership during COVID-19 public health emergency

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То	pic	Description	Examples
5.	Shifting from print resources	Encourage customers to shift from print media to online	NYPTA: Recommends shifting to online media sources
		sources	RideKC: Printed materials available by request only
6.	Behavioral science tools	Approaches to communicating with passengers based in behavioral science	MTA: Enlisting the help of behavioral psychologists and crowding experts to plan for New York's reopening*
			Transit agencies: Use behavioral science techniques to attract riders and design passenger communication* and How behavioral science can help with 'normal' after coronavirus
7.	Notifying passengers of potential exposure	Implement a process to notify passengers of potential exposure to workers or other passengers	NEW Go Metro: Publishing routes, days, and times operators who test positive worked
		who test positive for COVID-19	Houston Metro: Publishing routes, days, and times operators who test positive worked*
			Jacksonville Transportation Authority: Publishing routes, days and times operators who test positive worked and posting information on those routes*
8.	In- or on-vehicle messaging	Display safety tips in or on vehicles	Tri-Valley Transit: COVID-19 information posted in three languages on buses and at shelters



То	pic	Description	Examples
9.	Video campaigns and promotions	Encouraging mask wearing	Multiple agencies: Video encouraging riders to #MaskUpForTransit*
	promotions	Demonstration of cleaning process	Denver RTD: Videos of bus and light rail maintenance and cleaning procedures
			NYCT: A spot-check of the New York subway system by the television program Inside Edition revealed no trace of COVID-19 on any of the 32 surfaces swabbed and tested*
10.	Access to vaccination sites	Provide access to vaccination sites via transit	AC Transit: Running a free shuttle to vaccination site
			BARTA: Providing free rides to vaccination sites
			NEW Butler County Regional Transit Authority: Operating shuttle service to vaccine clinic
			<u>Capital District Transportation Authority: Running free trolley service</u> <u>to vaccination site</u>
			Capital Metro: Offering free rides to COVID-19 vaccination appointments



Торіс	Description	Examples
		Charlottesville Area Transit System and JAUNT: Providing free rides to vaccination center
		<u>Cheyenne Transit Program: Offering free curb-to-curb service to</u> <u>vaccination sites</u>
		NEW City of Galesburg Transit: Providing free rides to vaccine clinic
		NEW Dubuque County Regional Transit Authority: Providing free rides to vaccination appointments
		Jacksonville Transportation Authority: Providing vaccination transportation
		Lebanon Transit: Offering free transporation to COVID-19 vaccination site
		MUNI: Offering free transportation to COVID-19 vaccination sites
		NJT: Offering free transportation to COVID-19 vaccination sites*

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Торіс	Description	Examples
		North Carolina: Departments of Health and Human Services and Transportation funding rides to vaccination sites
		NYCT: Helping passengers access vaccination sites
		Ohio Department of Transportation: Rides for Community Immunity Program funds free rides to COVID-19 vaccination appointments through local transit agencies
		Operating Above the Standard Transit: Providing free transportation to vaccination sites
		Pueblo Transit: Offering free shuttle service to vaccination sites*
		Rabbittransit: Partnering with Agency on Aging Offices in south- central Pennsylvania region to provide free transportation to COVID- 19 vaccination sites
		NEW Rhode Island Public Transit Authority: Free transportation for people traveling to and from vaccination appointments
		Regional Transportation Commission of Southern Nevada: Offering free transit passes to COVID-19 vaccination sites

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Topic I	Description	Examples
		San Diego Metropolitan Transit System: Providing free transit rides to COVID-19 vaccination appointments
		SamTrans: Providing free rides to COVID-19 vaccination sites
		NEW South Central Regional Transit District: Providing free rides to vaccination appointments
		NEW Spokane Transit: Providing free rides to vaccination appointments
		The COMET: Launched "Don't Miss Your Shot" campaign to inform residents of and transport them to major vaccination sites
		NEW Via Transit: Free rides to and from vaccination appointments
		NEW Westmoreland Transit: Providing free rides to and from vaccination appointments

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Торіс	Description	Examples
	Leverage transit assets to improve vaccination access	Augusta Transit: Hosting vaccination clinic at transit transfer center
		NEW <u>Central Area Transit System: Hosting vaccination clinic at</u> <u>downtown transit hub</u>
		CTA: Partnering with public schools and the health department to bring mobile CTA bus vaccination clinic to high schools* and hosting onsite vaccination clinics for frontline workers
		Denver Regional Transit District: Using buses as shuttles to move people between parking area and vaccination site
		<u>Greater Dayton Regional Transit Authority: Using buses as mobile</u> vaccination clinics
		NEW Green Bay Metro Public Transportation: Using bus as mobile vaccination clinic
		Jacksonville Transportation Authority: Using buses as mobile vaccine clinics
		Kitsap Transit: Partnering with community health organization to use transit center as a vaccination site

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Торіс	Description	Examples
		NEW LACMTA: Transit stations hosting vaccine clinics
		NEW Metrolinx: Hosting vaccination clinic at station and partnering with local eateries to offer free food with proof of vaccination
		SPARTAN Public Transit: Trip schedulers help the public find the nearest vaccination site and schedule transportation; retrofitted transit facility to become a mass vaccination site
		Twin Transit: Working with Department of Health and Human Services to manage a hotline for residents to schedule vaccination appointments, coordinate mobile clinics, and identify and address transportation needs
		Washington State Ferries: Hosting vaccination clinics onboard ferry line
		WMATA: Hosting vaccination clinic at transit station
11. Federal mask requirement	Publicize information about the Federal mask requirement and	MARTA: Passengers must wear masks on transit and in transportation hubs and passengers who refuse to wear a mask may be issued a 12- hour suspension from the system

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Торіс	Description	Examples
	your agency's process for adherence	RTC Washoe: Public-facing website describes agency's process to comply with the Federal mask requirement
	Develop policies to carry out the Federal mask requirement	BARTA: Passengers who have a medical condition that prevents them from wearing a mask to have proof of the condition and obtain an exemption card from the transit agency prior to boarding



Detecting Crowding

То	pic	Description	Examples
1.	Real-time tools to track crowding on transit vehicles	crowding on occupancy information to help	<u>Alameda-Contra Costa Transit District: Automated Passenger</u> <u>Counters update crowding information on transit website</u>
			Auckland Transit: Passengers "tap" fare media when boarding and alighting to convey real-time passenger loads*
			NEW Community Transit: Online bus seat availability tool allows potential passengers to assess crowding prior to boarding
			CTA: Bus crowding report for passengers
			Danske Statsbaner (Danish State Railways): Advanced booking, including information on which services and vehicles are the least crowded*
			East Japan Railway: Rail-time information on vehicle occupancy and the availability of space for "reduced mobility passengers"
			LIRR: Real-time crowding information available to the public

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То	pic	Description	Examples
			MBTA: Real-time crowding information on nine bus routes displayed on bus stop digital signs and in the MTBA transit phone application
			NEW Park City Transit: Real-time crowding information available via app
			NEW Port Authority: Room2Ride online tool helps passengers to estimate bus crowding
			RTC Southern Nevada: Transit app provides real-time crowding information
2.	Monitoring crowding in transit service	Use artificial intelligence (AI) and CCTV to monitor crowding on transit platforms and vehicles	India: AI helps cities monitor and manage crowding*
3.	Apps to help riders make appointments for transit service	Provide apps that lets riders make appointments to enter subway stations during rush hours. Riders are given a QR code on their phones that will be valid for a half-hour window to better stagger ridership	Beijing Transit: Uses "subway by appointment" to reduce crowding*



Торіс	Description	Examples
4. Vaccination site mapping	Integrate vaccination sites into transit maps	LACMTA: Updated transit app to include vaccination sites on transit map

Passenger Monitoring

То	pic	Description	Examples
1.	Monitoring passenger	Use thermal cameras to take riders' temperatures	Beijing Transit: Uses temperature monitoring in subway*
t	temperatures in transit stations		MTA: Recommends the use of thermal cameras to monitor riders' temperatures in subway stations*
2.	Monitoring passenger temperatures prior to boarding vehicles	Test passenger temperatures prior to boarding	Rapid Kuala Lumpur: Rider temperatures screened prior to boarding*
3.	Monitoring transit stations and vehicles for face mask use	Use AI technology and CCTV cameras to monitor face mask use	France: Uses AI technology to monitor whether passengers are wearing face masks*
			NJT: Testing cameras for face mask detection, heat mapping*

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	NYCT: Recommends use of AI to assess mask wearing*
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Passenger Engagement

Торіс	Description	Examples
 Passenger reporting of unclean surfaces 		DART: Say Something App for reporting surfaces that need to be cleaned

Cleaning, Sanitizing, and PPE

Торіс	Description	Examples
1. UV robots	UV-cleaning robots to disinfect trains and stations	Pittsburgh: Airport is the first in the US to use UV-cleaning robots*
 Chemical-dispensing robots 	Robot technology to conduct deep cleaning and decontamination	Hong Kong Mass Transit Railways: Using an automated robot to clean hard to reach areas*

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Торіс	Description	Examples
 Partnering wi companies to PPE 	Work with vendors to re-tool or expand their capabilities to provide products and supplies	BYD for Toronto Transit Commission: Manufactures face masks for transit systems*

Payment Options

То	pic	Description	Examples
1.	Phone and watch app to support contactless payment	Launch phone and watch app to support contactless fare payment	WMATA: Launches iPhone and Apple Watch app to allow riders to use their phone or watch to pay fare at smart card readers
2.	Contactless fare payment and mobile ticketing	Accelerate or start the process of introducing contactless fare payment in response to COVID- 19	NEW <u>Gary Public Transportation Corporation: Launching mobile</u> ticketing compatibile with ticketing options for neighboring transit properties
			<u>Gwinnett County Transit: Launching Token Transit app for contactless</u> <u>payment</u>
			NEW Jacksonville Transit: Launching Token Transit app for contactless payment

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То	pic	Description	Examples
			LACMTA: Recommends rapid introduction of contactless, visual ticket purchase and payment option in Metro's new "Transit" app
			MetroLink: Launched mobile fare option
			NEW Rhode Island Public Transit Authority: Launched new contactless smart fare system
3.	Providing unbanked or underbanked transit riders with access to TouchPass system	Supplement Title VI inclusivity programs with broad, local, and convenient access for passengers to add value using cash to TouchPass accounts	COTA: Working with state government to load fares onto magnetic- strip EBT cards used for food benefits*
4.	Virtual enrollment in fare programs	Allow passengers to sign up for reduced fare programs online	Pasadena Transit: Dial-A-Ride applications accepted online
			NEW Rhode Island Public Transit Authority: Passengers can apply for renewed reduced fare or no fare bus passes online
			TriMet: Temporarily opening a virtual application site



Micromobility

То	pic	Description	Examples
1.	Expanding microtransit partnerships through	Pilot and expand alternative services following new models, such as MicroTransit and	Arlington RAPID: Fleet of five autonomous vehicles available through the local transit app
	contracts	Denton County Transportation Authority: Using the Spare Platform to replace fixed-route service with on-demand transit to manage the number of riders on a vehicle and trace riders	
		LAMCTA: On-demand services adapted to accommodate essential trips to grocery stores, pharmacies, and medical centers	
			SunLine Transit Agency: Offering a SunRide microtransit service

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