

COVID-19 RECOVERY OUTLOOK: PUBLIC TRANSIT

May 26, 2020

By Victoria (Tori) H. Hall

Coronavirus disease 2019 (COVID-19) caused by the virus SARS-CoV-2 has led to a worldwide pandemic. In response, on March 5, 2020, Governor Hogan declared a state of emergency for Maryland. On March 23, the Governor asked residents to use transit and travel only for essential purposes; the next day, Montgomery County began limiting Ride On bus services and modifying operations to avoid disease transmission. On March 30, the Governor issued a statewide stay-at-home executive order.

This report reviews the immediate, near-term, and long-term impacts of COVID-19 on public transit. While the outbreak persists, most communities in the United States are maintaining some level of transit services to support essential community needs, but disease containment strategies pose significant challenges for transit agencies. Operating at any level unavoidably puts riders and transit workers at some risk of infection. As the outbreak subsides over the longer term, COVID-19 will have continuing repercussions for social interactions and economic activity, directly impacting transit ridership and travel generally. Consistent with the Council's Economic Development Platform – Transportation Pillar,¹ this report aims to assist County policy makers by discussing COVID-19's implications for transit, identifying those who use transit services most in this County, and offering examples of how some jurisdictions are responding.

Additional OLO research on COVID-19 recovery is available here: www.montgomerycountymd.gov/olo

IMMEDIATE EFFECTS ON PUBLIC TRANSIT SERVICES

Demand for public transit in the Washington metro area (including Ride On) is currently down 75-80 percent compared to normal, based on TransitApp real-time demand data.² This regional drop parallels the experience of other metropolitan areas across North America. Variations among jurisdictions reflect both customer demand and transit agency supply; transit agencies have responded to COVID-19 with varying reductions to routes, stops, frequency, span of service, and passenger capacity per vehicle.³

Because public transit entails close social proximity and frequently touched surfaces, maintaining transit service has created controversy in some cities.⁴ Research suggests that in early 2020, the subway system seeded the novel coronavirus across New York City, which later became a hotspot for COVID-19. As of late April 2020, more than 2,400 New York City transit workers had tested positive for COVID-19, and 83 have died.^{5,6} The Transport Workers Union of America and the Amalgamated Transit Union have urged transit agencies to take more protective measures to safeguard transit workers.⁷

To operate during an outbreak while also preventing contagion, transit agencies can adopt many strategies, as outlined in Table 1 (on p. 2).^{8,9} Risk cannot be fully eliminated, however. Pandemic guidance for transit agencies from the National Academy of Sciences advises that when making operational decisions and designing safety protocols, officials must acknowledge that people who may be contagious may use transit to travel to medical appointments or other locations, and some rider and staff noncompliance with safety protocols is likely.¹⁰

Table 1. Disease Containment Strategies and Tools: Options for Public Transit

Disease Containment Strategy	Specific Tools
Social distancing of at least 6 feet	<ul style="list-style-type: none"> • Use no-touch fare payment (or waive fares). • Board riders at rear doors, to distance riders and operators. • Install physical barriers between transit workers and riders. • Mark vehicle floors and cordon off queueing areas at stations. • Block seats or rows to distance riders from each other. • Use the largest vehicles available to enable social distancing. • Reduce vehicle capacity to enable social distancing. • Increase route frequency to reduce riders per vehicle.¹¹
Personal Protective Equipment (PPE)	<ul style="list-style-type: none"> • Require workers to wear face coverings, gloves, and/or other PPE. • Require riders to wear face coverings, gloves, and/or other PPE. • Distribute PPE free-of-charge to all workers and riders. • Instruct about safe PPE removal and provide for safe disposal.
Clean and disinfect	<ul style="list-style-type: none"> • Define areas to be cleaned: vehicles, stations, stops, work areas, and high-touch non-porous surfaces such as handrails, elevator buttons, touchscreens, turnstiles, poles, hard seats, etc. • Establish a cleaning schedule, such as between every shift. • Acquire enough disinfectants and PPE for short and long term. • Train workers how to safely use disinfectant and to avoid virus aerosolization during cleaning.
Ensure workers frequently disinfect their hands	<ul style="list-style-type: none"> • Establish protocols for workers to wash or sanitize their hands: before and after work shifts and breaks, after touching high-touch surfaces, and after touching or removing face coverings. • Make hand sanitizer available to all workers.
Testing	<ul style="list-style-type: none"> • Prioritize transit workers for COVID-19 testing.¹²
Quarantine	<ul style="list-style-type: none"> • Ensure workers may self-quarantine using administrative leave.

Transit Workforce Impacts. Montgomery County currently employs approximately 750 transit operators. Data from the Office of Human Resources indicate about 70 percent of the operators are Black or African American. During any outbreak, normal staff routines will change and necessary absenteeism may limit transit services. Factors affecting the transit workforce are as follows¹³:

- Staff may be at home ill with COVID-19, caring for an ill family member, or quarantined.
- More staff will be needed to clean vehicles, stations, stops, and work areas.
- Work schedules will change due to route and schedule changes and staff reassignments.
- Staff may be forced to use all their leave as a result of childcare, school, and eldercare closures.
- Staff may choose to use all their leave to avoid exposure, especially those in riskier categories.
- High levels of stress and anxiety may occur among workers.
- Workers' compensation claims may increase as a result of illness and stress.
- Fatalities in the workforce may result from COVID-19.

Current Status of Ride On. Since late March, the County Department of Transportation (MCDOT) has operated Ride On under an Essential Service Plan.^{14,15} Under this plan, which MCDOT continues to update¹⁶, fewer than

half of all routes are operating. MCDOT increased service on four routes servicing area hospitals. MCDOT selected routes for continued operation based on: the heaviest ridership patterns; the Metrobus routes in service; maintaining access on primary corridors; maintaining access to medical facilities, grocery stores, pharmacies, and transportation nodes; and maintaining equitable access using a framework defined by the Metropolitan Washington Council of Governments.¹⁷ Additionally, Ride On has adopted significant disease prevention strategies. All Ride On services are temporarily free. Riders must board at rear doors, except to accommodate a disability or stroller. If a vehicle reaches social distancing capacity, the operator may display a “Full” sign and request another vehicle from dispatch for customers left waiting at a stop. Each night, the County’s Department of General Services (DGS) cleans bus interiors using a hospital grade disinfectant. DGS also disinfects the bus filter and ventilation systems. A State Executive Order requires all public transit riders to wear face coverings¹⁸, and Ride On offers face coverings (as supplies are available) to riders who do not have their own. The County has distributed face coverings and provides hazard pay to all Ride On operators.

Current Status of Metro. Metrobus is operating on a reduced schedule, with no service after 11 p.m., and bus routes are significantly reduced on weekends. Metrorail closes at 9:00 p.m. daily, with 19 stations closed altogether. The first and last cars of each train are closed to protect train operators. MetroAccess is operating, but for the safety of workers and other passengers, symptomatic customers may not use it.

NEAR-TERM INDUSTRY-WIDE IMPLICATIONS

Viral epidemics can last months, and are likely to have multiple waves of infection.¹⁹ This section discusses the continued effects of COVID-19 on public transit services for the near term, defined here to be as long as COVID-19 continues to spread through the community with little public immunity and no vaccine. In the near term, transit agencies must continue the disease containment strategies described in the previous section, as well as address other changes to funding and operations.

Federal Aid for Transit. In early April, the Federal Transit Administration (FTA) announced²⁰ \$25 billion in federal allocations under the CARES Act to help public transportation systems that receive Urbanized Area Formula Grants (Sec. 5307) respond to COVID-19. In mid-May, FTA designated MCDOT to receive \$30 million in CARES Act funding to support Ride On bus operations.²¹ CARES Act funds can support capital, operating, and other expenses incurred after January 20, 2020, to prevent, prepare for, and respond to COVID-19. The FTA also will allow more flexibility in how transit agencies use funds. For example, grantees may use funds to clean stations, bus shelters, and rolling stock, normally considered preventive maintenance and a capital expense.²²

Maintenance and Construction Schedules. In mid-April, the Washington Metropolitan Area Transit Authority (WMATA) announced plans to take advantage of reduced highway traffic and lower ridership to combine schedules on some large Metro capital projects over the summer and into the fall. The resulting shutdown will close nine Metro stations in Virginia through the fall. WMATA General Manager Paul J. Wiedefeld said, “Closing the stations to get the work done while ridership is historically low allows us to limit the exposure of our frontline staff and contractors, mitigate delays to our capital program, and minimize inconvenience to the public.”²³ At the same time, new worker safety measures can make maintenance and construction more time consuming.²⁴

Redeploying Transit Vehicles. While transit service is curtailed, unused vehicles offer opportunities for other needs arising during the COVID-19 outbreak and recovery. For example, in San Antonio, Texas, the VIA transit system has partnered with food banks to repurpose underused vehicles for home deliveries of groceries. VIA is also partnering with the housing authority and school districts to use vehicles as mobile WiFi hotspots.

Flattening the Curve -- of Hourly Transit Ridership.²⁵ Milan, Italy was hit hard by COVID-19 and now plans to restore its metro system’s daily rider capacity to only a fraction of pre-pandemic levels to allow for more social distancing. Vehicle floors will be marked for minimum social distance. If the system exceeds ridership that makes social distancing possible, station entrances will close until congestion eases.²⁶ But city officials also recognize that limiting transit capacity could drive people to use their cars more. To address this, they hope to encourage changes in the city’s patterns of daily life in order to flatten peaks in hourly transit use. To reduce overall commuting, Milan plans to encourage working from home. The City will encourage stores to stay open later to create more flexibility for shoppers. School start times will be staggered. If successful, such measures could even out transit ridership per hour over the course of a day while simultaneously avoiding more cars on the roads.

LONG-TERM INDUSTRY-WIDE IMPLICATIONS

Declining Transit Ridership. During the pandemic, transit ridership has plummeted, but even as the outbreak subsides, a net drop in transit ridership is likely compared to pre-COVID-19.^{27,28} Table 2 (below) lists specific factors that could lead ridership to decrease or increase.

Table 2. Factors that could affect long term transit ridership patterns post-COVID-19.

Ridership could <i>decline</i> because:	Ridership could <i>grow</i> because:
<ul style="list-style-type: none"> • Transit agencies limit vehicle and station capacity to allow for new social distancing norms. • Working from home could reduce commuters. • Unemployment could reduce # of commuters. • Public anxiety may linger, leading those who can to choose non-group modes of travel. • A recession could reduce shopping, dining out, and other commerce, reducing travel demand. • Internet shopping may grow as people develop new habits during the stay-at-home period, reducing travel to brick-and-mortar stores. 	<ul style="list-style-type: none"> • A recession could increase the number of households without a car, resulting in more people reliant on public transit. • A quick economic rebound could lead to a spike in pent up demand for shopping, dining out, and other activity outside the home.

Working from Home. Of the factors in Table 2, increased teleworking (i.e., working from home, WFH) may be most significant for general rates of commuting over the long term. As compared to the pre-pandemic period, even moderately increased WFH -- especially if staggered across the work week -- could substantially reduce road congestion and improve traffic flow.

Specific types of employees are likely to have widely different ability to WFH. Workers able to WFH tend to be higher-paid professionals; thus, lower-paid workers and those with less educational attainment are more likely to have to continue commuting to work.²⁹ Table 3 (below) shows that prior to the pandemic a disproportionate percentage of Ride On passengers had a household income of less than \$50,000 a year as compared to the County average. Similarly, a disproportionate percentage of Ride On customers had less than a bachelor’s degree as compared to the County average. The data suggests that trends toward working from home may be less of a factor for Ride On commuters than for commuters in general.

Table 3. Pre-COVID-19 Demographics of Ride On Passengers Compared to County Population.

Category:	Ride On Passengers ³⁰	Montgomery County MD Population Average ³¹
Black or African American	36%	18%
White	20%	45%
Hispanic or Latinx	18%	19%
Asian	9%	15%
Education level less than a bachelor's degree	62%	41%
Household income <\$50,000/year	66%	24%

Higher net operating costs, declining efficiency, and tighter budgets. Once the outbreak subsides, jurisdictions may restore transit services and fares to pre-COVID-19 levels, but if ridership and fare revenues decline, the net cost of pre-pandemic service levels would rise.³² A transit agency may use its largest vehicles and/or increase vehicle frequency to enable social distancing and restore rider confidence, but more empty seats will hurt efficiency metrics. If social distancing is a new norm, jurisdictions may want to revise performance standards.

The confluence of higher net operating costs, declining efficiency, and lower tax revenues from a COVID-19-induced recession may pressure jurisdictions to cut transit services. Transit riders who cannot work from home would be most affected by such cuts. As discussed above, lower-income transit riders tend to have fewer commuting options, making any transit service cuts a greater burden for these customers. In addition, transit service cuts would disproportionately affect minority riders. Prior to the pandemic, African Americans were twice as likely as their share of the population to be Ride On passengers and, overall, non-whites have comprised almost 80 percent of Ride On passengers.³³

Alternative Modes of Travel. Some jurisdictions are concerned that, even if they quickly restore transit capacity to pre-pandemic levels, lingering fears of COVID-19 may lead people to rely more on cars. To counter this, some cities are taking steps to discourage cars and promote biking and walking. In Italy, for example, Milan officials plan to impose lower speed limits in the city center and to dedicate 22 miles of city roadways exclusively to cyclists and pedestrians. In the Paris region, officials are accelerating the opening of the first stretches of an already-planned network of nine long-distance cycleways linking the city with the suburbs.

SUMMARY OF KEY TAKEAWAYS

In the near term, transit agencies (including Ride On) may:

- Sustain disease prevention measures, as relaxing them could spread a future outbreak via public transit;
- Identify disease prevention strategies that may become long term operating requirements;
- Temporarily redeploy unused vehicles for other COVID-19 response needs; and
- Revise maintenance protocols and modify capital construction schedules.

In the long term, governments may need to:

- Plan for persistent lower transit ridership for an extended period.
- Contend with reduced fare revenue and increased net operating costs.
- Develop strategies to encourage working from home with the understanding that transit riders with lower-income and less educational attainment are less likely to have the option to work from home.
- Promote alternative modes of travel such as cycling and walking and the dispersal of transit ridership throughout the day.

Endnotes

¹ *Economic Development Platform for Montgomery County* (Resolution 19-300, adopted 11/19/2019); retrievable from <https://apps.montgomerycountymd.gov/ccllims/Default>.

² *How coronavirus is disrupting public transit* (TransitApp real-time demand data); retrieved on 5/18/2020 from <https://transitapp.com/coronavirus>

³ *How to adapt public transit to COVID-19 contingencies: Cities and transit agencies are currently in a bind*, by A. Haggiag (SmartCities, 3/24/2020); retrieved from www.smartcitiesdive.com/news/how-to-adapt-public-transit-to-covid-19-contingencies/574711/

⁴ *Hit Hard by Covid-19, Transit Workers Call for Shutdowns*, by L. Bliss (CityLab, April 13, 2020); retrieved from www.citylab.com/transportation/2020/04/coronavirus-transit-workers-strike-risk-subway-bus-drivers/609328/

⁵ *The Subways Seeded the Massive Coronavirus Epidemic in New York City*, by J.E. Harris, NBER Working Paper No. 27021, Issued in April 2020, National Bureau of Economic Research; retrieved from www.nber.org/papers/w27021.

⁶ *With death toll hitting 83, the MTA contemplates a memorial for its Covid fallen*, by D. Rubinstein (Politico, 04/22/2020); retrieved from <https://www.politico.com/states/new-york/albany/story/2020/04/22/with-death-toll-hitting-83-the-mta-contemplates-a-memorial-for-its-covid-fallen-1279032>.

⁷ Press release from Transport Workers Union of America (TWU): *America's Largest Transit Worker Unions Vow "Aggressive Action" If Transit Systems Don't Protect Frontline Workers* (April 3, 2020); retrieved from www.twu.org/press-release-americas-largest-transit-worker-unions-vow-aggressive-action-if-transit-systems-dont-protect-frontline-workers/.

⁸ What Transit Workers Need to Know about COVID-19: BUS TRANSIT OPERATORS and What Transit Workers Need to Know about COVID-19: TRANSIT MAINTENANCE WORKERS (U.S. Centers for Disease Control, April 23, 2020).

⁹ In 2014, the National Academy of Sciences published extensive guidance to transit agencies on how to prepare and respond to a pandemic. *NCHRP Report 769: A Guide for Public Transportation Pandemic Planning and Response*, K. Fletcher et al, National Cooperative Highway Research Program Transportation Research Board (National Academy of Sciences, Washington, D.C., 2014).

¹⁰ *NCHRP Report 769: A Guide for Public Transportation Pandemic Planning and Response*, K. Fletcher et al, National Cooperative Highway Research Program Transportation Research Board (National Academy of Sciences, Washington, D.C., 2014).

¹¹ *The Subways Seeded the Massive Coronavirus Epidemic in New York City*, by J.E. Harris, NBER Working Paper No. 27021, Issued in April 2020, National Bureau of Economic Research; retrieved from www.nber.org/papers/w27021.

¹² Press release: *NJ TRANSIT Introduces Access to COVID-19 Testing for Employees* (4/30/2020); retrieved from www.insidernj.com/press-release/nj-transit-introduces-access-covid-19-testing-employees/.

¹³ *Summary: A Guide for Public Transportation Pandemic Planning and Response* (NCHRP Report 769), APTA.

¹⁴ *Ride On Essential Service Plan*; retrieved from www.montgomerycountymd.gov/DOT-Transit/essential-plan.html.

¹⁵ Press Release: *Montgomery County to Further Reduce Ride On Bus Service on Weekdays and Weekends Beginning Sunday, March 29*, For Immediate Release: March 27, 2020, Release ID: 20-135; retrieved from https://www2.montgomerycountymd.gov/mcgportalapps/Press_Detail.aspx?Item_ID=25068.

¹⁶ Press Release: *Montgomery County Ride On Bus Service Hours to End at Midnight Each Night Beginning Sunday, April 26*, April 23, 2020, Release ID 20-210; retrieved from https://www2.montgomerycountymd.gov/mcgportalapps/Press_Detail.aspx?Item_ID=25208.

¹⁷ *Equity Emphasis Areas for TPB's Enhanced Environmental Justice Analysis*, Metropolitan Washington Council of Governments, approved 2017; www.mwcog.org/transportation/planning-areas/fairness-and-accessibility/environmental-justice/equity-emphasis-areas/.

¹⁸ Maryland Executive Order No. 20-04-15-01, Requiring Use of Face Coverings Under Certain Circumstances and Requiring Implementation of Certain Physical Distancing Measures (effective April 18, 2020); retrieved from <https://governor.maryland.gov/wp-content/uploads/2020/04/Masks-and-Physical-Distancing-4.15.20.pdf>

¹⁹ NCHRP Report 69, p. 10.

²⁰ U.S. Transportation Secretary Elaine L. Chao Announces \$25 Billion to Help Nation's Public Transportation Systems Respond to COVID-19 (Press Release 4/2/2020, Federal Transit Administration); retrieved from <https://cms7.fta.dot.gov/about/news/us-transportation-secretary-elaine-l-chao-announces-25-billion-help-nations-public>.

²¹ Press Release: MCDOT to Receive More Than \$30 million in Federal Funding from the CARES Act to Support Public Transit Operations in Response to the COVID-19 Health Crisis (May 11, 2020); retrieved from https://www2.montgomerycountymd.gov/mcgportalapps/Press_Detail.aspx?Item_ID=25293&Dept=50.

²² *Frequently Asked Questions from FTA Grantees Regarding Coronavirus Disease 2019 (COVID-19)*, Federal Transit Administration, USDOT, e.g., FAQ: How can FTA funding support transit agency response measures?; retrieved from <https://cms7.fta.dot.gov/frequently-asked-questions-fta-grantees-regarding-coronavirus-disease-2019-covid-19#CARES>.

²³ Press release 4/23/2020: *Metro to use upcoming low-ridership summer to maximum effect, expands Orange, Silver line shutdown* (Washington Metropolitan Area Transit Authority); retrieved from www.wmata.com/about/news/Orange-Silver-Summer-2020.cfm.

²⁴ *How Metro plans to gradually return to full service*, by Paul J. Wiedefeld, (Washington Post, May 10, 2020).

²⁵ *Europe's Cities Are Making Less Room for Cars After Coronavirus*, by F. O'Sullivan (CityLab, April 22, 2020); retrieved from www.citylab.com/transportation/2020/04/coronavirus-reopen-cities-public-transit-car-free-bike-milan/610360/.

²⁶ *Ibid*, F. O'Sullivan (CityLab, April 22, 2020).

²⁷ *The Impact of the COVID-19 Pandemic on Public Transit Funding Needs in the U.S.*, by EBP US, Inc. for the American Public Transportation Association (APTA) May 5, 2020; retrieved from www.apta.com/wp-content/uploads/APTA-COVID-19-Funding-Impact-2020-05-05.pdf.

²⁸ *The impact of COVID-19 on future mobility solutions* (McKinsey, May 4, 2020); retrieved from www.mckinsey.com/industries/automotive-and-assembly/our-insights/the-impact-of-covid-19-on-future-mobility-solutions.

²⁹ *Class and COVID: How the less affluent face double risks*, by R. Reeves and J. Rothwell (Brookings, March 27, 2020); retrieved from www.brookings.edu/blog/up-front/2020/03/27/class-and-covid-how-the-less-affluent-face-double-risks/.

³⁰ *Ride On Title VI Data Report* (Whitman, Requardt, and Assoc., LLP, Baltimore MD; May 2019).

³¹ *Montgomery County Trends: A Look at People, Housing and Jobs Since 1990* (Montgomery Planning, Jan. 2019).

³² *The Impact of the COVID-19 Pandemic on Public Transit Funding Needs in the U.S.*, by EBP US, Inc. for the American Public Transportation Association (APTA) May 5, 2020; retrieved from www.apta.com/wp-content/uploads/APTA-COVID-19-Funding-Impact-2020-05-05.pdf.

³³ *Ride On Title VI Data Report* (Whitman, Requardt, and Assoc., LLP, Baltimore MD; May 2019), Table 24 Level of Minority Ridership, p. 38.