



# On-Demand Transit & COVID-19

Pantonium is keeping communities safe and connected

# A Safe Restart Opportunity

## SAFE RESTART FUNDING

The Federal and Provincial governments, have made a total of \$2 billion available to municipalities in 2021 through the Safe Restart Agreement to make it more accessible and convenient for people to use public transit. Public transit systems across the country have been particularly hard hit with a loss of between 60-80% of their ridership during the pandemic. Safe Restart funds will be available through provincial governments across the country to fund 50% of the cost of approved new initiatives that make it easier and more affordable to travel using public transit. These funds are aimed to help cities meet the changing transit needs of a post-pandemic world with less predictable demand and changing commuting patterns, as workforces become more distributed and we continue to work more from home.

Pantonium's macrotransit is an approved new initiative that can be obtained with funds from the Safe Restart program. It allows cities to address these unique challenges such that they can use their existing fleets more effectively and provide transit that will mobilize their constituents on the way to economic recovery.

## PANTONIUM'S MACROTRANSIT SOLUTION

**Pantonium has deployed its macrotransit solution** in several Canadian cities, including Belleville, Stratford, Chatham-Kent, Deseronto, St. Albert, Saskatoon, and Regina with significant improvements in productivity, passenger convenience, and service area coverage.

In Belleville Ontario, Pantonium's macrotransit solution increased public transit ridership by 300% (to 30 passengers per revenue hour – equivalent to New York City's dense transit ridership) in only 6 weeks. It also increased the service area to cover most of the city's bus stops with reduced vehicle mileage. This has been [studied by the University of Toronto](#) to demonstrate the many benefits to the community including making it easier for people to get to work and travel to their activities and social networks.

## MACROTRANSIT HELPS CITIES TO DELIVER:

- 1 Improved Efficiency & Productivity**  
Reduced operating costs (fuel, maintenance, etc.) & GHGs and increased ridership resulting in low costs/trip.
- 2 Better Passenger Experiences**  
Equal & convenient access with reduced ride & wait times, no transfers, putting passengers in control of where and when they travel.
- 3 Larger Service Areas**  
Connects unserved & underserved suburban & rural areas; covers entire cities by servicing all city bus stops with few vehicles.

Macrotransit favours full-sized buses to efficiently service large areas with lower and changing passenger densities, while using fewer resources than fixed route transit, increasing service area coverage, and making transit more convenient for all passengers. Cities need to move large number of people in large vehicles (buses) over large distances (the entire city) to be economically viable and resource efficient. Pantonium's macrotransit is powered by a sophisticated AI-engine to determine the best possible routes dynamically, in real-time, while optimizing all vehicles (globally) in the city.

Macrotransit puts control into the hands of its citizens who get to choose where they want to go and when they want to get there. Passengers can book rides via an app, online portal, over the phone, or by simply flagging a bus on the street. They benefit from lower wait and ride times and getting directly to their destinations without needing to transfer.

# Passenger Access, Convenience, Safety & Equity

**Pantonium's macrotransit system** also allows transit agencies to automatically manage rider safety through capacity limits on buses to maintain social distancing. This allows transit agencies to promote passenger safety and encourage confidence in taking public transit again.

Public transportation connects us to our jobs, activities and social networks. It underpins the economic prosperity of our communities. Pantonium's macrotransit ensures equal and convenient access to public transit for everyone, such that no one is left behind and everyone has the opportunity to lead productive lives. Enhanced social equity means more access to jobs and improved economic development leading to a better quality of life for everyone.



# Microtransit isn't the only answer.

**All Canadian municipalities will be faced with the need to ensure “herd immunity” through the organized and safe administration of an unprecedented mass vaccination program.** To achieve this end, municipalities, health officials and public transit agencies will need to coordinate the scheduling and real-time movement of large numbers of people to and from mass vaccination sites, likely over large distances.

On-demand transit is the optimal solution to solve these multi-stakeholder objectives in every city. But this can't be done with on-demand microtransit solutions only, which rely on the use of small vehicles to move small numbers of people over short distances.

Microtransit uses smaller vehicles, which typically operate in many, smaller zones. Using smaller vehicles makes microtransit more expensive because the driver, not the vehicle, is the largest cost per hour. Using many smaller zones makes transit inconvenient because it means riders have to transfer between zones. It also makes rides longer and more complicated to manage as passenger demand increases. Transfers deter people from using public transit, particularly during Canadian winters or late at night. Unlike macrotransit, microtransit does not globally optimize vehicles to find the most efficient, direct journeys for passengers. Instead, it uses a geo-fenced, pooling technology, that can only route trips that are closest to each vehicle. In short, using this approach to deliver on-demand transit usually means longer rides, higher costs and more transfers.

During the pandemic, microtransit solutions have become even more comprised, due to their inability to create safe and socially distanced shared rides using small vehicles. This limits microtransit vans to only provide transportation for same-household passengers, while prohibiting shared rides with any other passengers, thus delivering a “less with more” outcome. Moreover, these vehicles cannot be used during peak commuting times due to their lack of capacity. In this instance, microtransit is reduced to an expensive taxi service.

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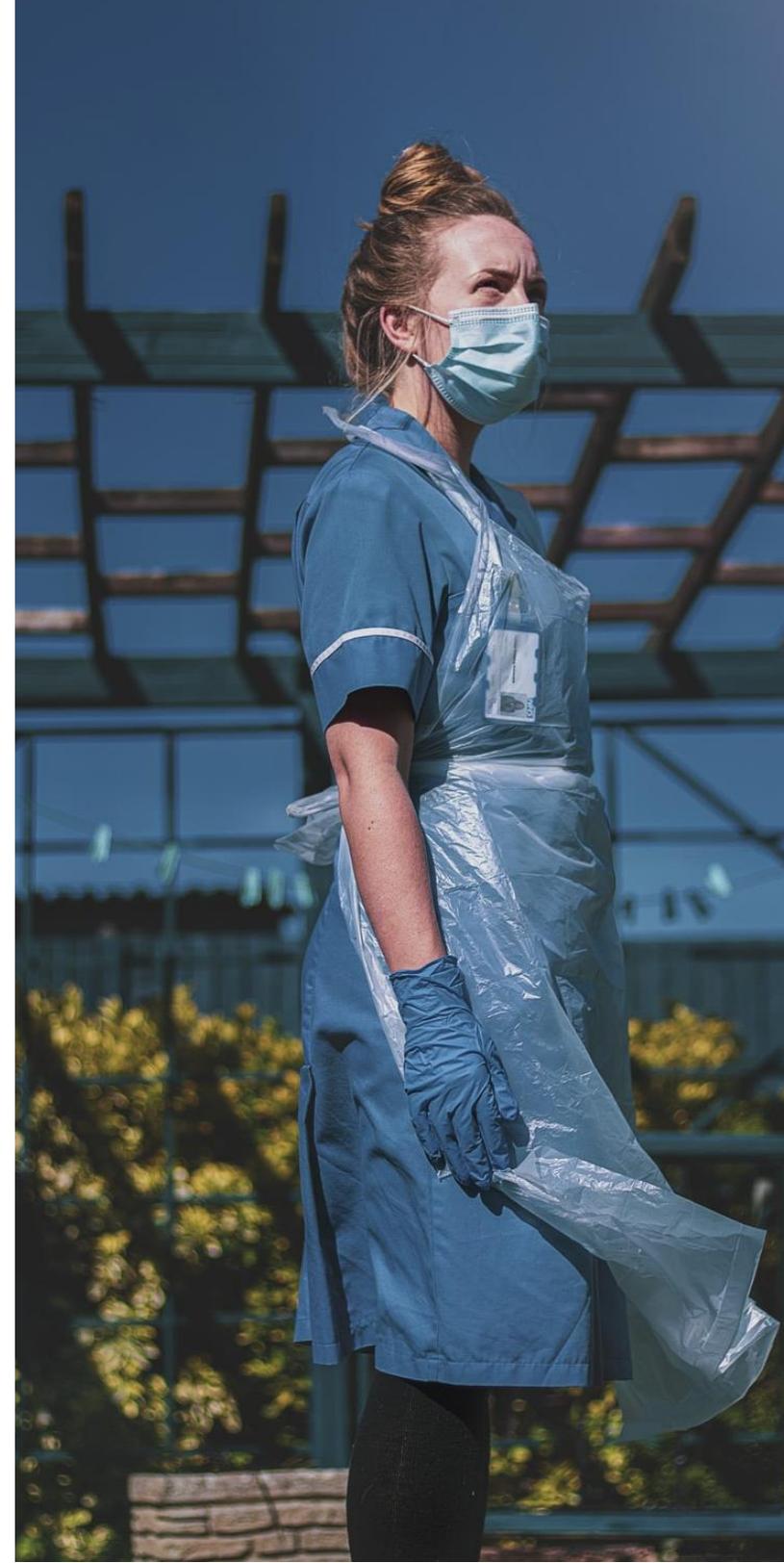
**On-demand  
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objectives during  
these challenging  
times**

# Pantonium & Vaccine Site Transportation

Pantonium's macrotransit solution uses full-sized buses to safely transport large numbers of socially distanced passengers over the entire city to vaccination sites to conveniently arrive on-time for their vaccination appointments. Pantonium's ODT digital infrastructure can coordinate and dynamically adjust in real-time trips for multiple groups of passengers from different households across a varied fleet of vans, para-transit vehicles, and full-size buses.

This drives optimal productivity and efficiency outcomes, while ensuring equal and convenient access to all without leaving anyone behind. In other words, Pantonium's Macrotransit is "doing more with less" during a time when public transit has suffered huge economic loss and a crisis of public confidence to provide a safe, equitable and economically viable solution to its citizens.

**Now, more than ever**, public transit needs to play a role in generating herd immunity across all of our communities. Its relevance, and even its future viability, will depend on the efficient use of its resources to reduce costs, to get more utility out of its existing assets (buses) and continuously improve the access, convenience and quality of services for its citizens.



**Pantonium is proposing to assist Canadian municipalities** with the recovery of their public transit systems and achieving mass vaccination of their citizens by creating two specialized COVID initiatives using its on-demand Macrotransit solution.

## **A Pilot Projects**

**Pantonium will offer low cost, entry pilots** to help cities recover passengers and reduce their operating costs associated with unproductive fixed routes, typically found on weekends and weekday evenings.

The company will charge a reduced one-time start-up fee in conjunction with a monthly vehicle (bus) charge for a 6-month pilot against achieving a series of mutually agreed pilot performance milestones. Pantonium will help you to structure a pilot that meets your objectives.

All pilots will be subject to an expedited 1-2 month start-up that will include driver training and a passenger marketing playbook to promote the switch to ODT services. This will ensure you are up and running quickly and delivering enhanced operating efficiency, passenger experience and economic productivity outcomes.

## **B Vaccination Transport**

**Pantonium will create a dedicated COVID vaccine service** using full-sized buses and other transit agency fleet vehicles to transport people throughout the day to and from vaccination sites.

This will require transit agencies to dedicate a small handful of full-size buses and other transit vehicles specifically for this service. Again, the use of full-sized buses will not only ensure safe and socially distanced transit of passengers, but it will dramatically lower the cost/ride for each passenger.

Microtransit applications will typically cost in the range of \$15-25/passenger and will only be able to accommodate single-household rides safely, acting more as a traditional taxi service. Whereas Pantonium's Macrotransit platform will cost between \$3-5/passenger with the added passenger safety and security attributes. The company will charge a reduced, one-time start-up fee with a monthly vehicle charge and will ensure you are ready to start this dedicated service within 1-2 weeks.

