



CUBIC™ | **Transportation Systems**

2021 Federal Pre-Budget Consultation

House of Commons | Standing Committee on Finance

Submission: Creating Resilient Communities with Public Transit Investment

SUBMITTED BY:

Cubic Transportation Systems, Inc.

August 5, 2020

Recommendations

1. That the government establish a national mobility pricing framework for road networks in Canada's largest urban centres through partnership with other levels of government to combat traffic congestion, curb emissions, and utilize revenue for public transit investment.
2. That the government broaden its existing public transit funding model beyond capital infrastructure contributions and allocate monies toward stable operational support so that public transit agencies become less reliant on user fees.
3. That the government make permanent the public transit stream of the Investing in Canada Infrastructure Program (ICIP) and ensure any unallocated funds are recommitted to public transit.
4. That the government create a dedicated funding stream and allocate designated monies within ICIP exclusively for public transit agencies to finance innovative fare collection technologies aimed at reducing onboard physical touchpoints, integrating ancillary mobility service providers, and instituting dynamic pricing and loyalty rewards to reattract ridership post COVID.

August 5, 2020

Reference: 2021 Federal Pre-Budget Consultation

Dear Standing Committee on Finance,

The disruption of travel patterns and transportation networks due to the impact of the global coronavirus (COVID-19) pandemic is forcing governments at all levels, as well as public transit agencies, to modify, adapt and strategically plan investments in a way they have rarely done before. The highly infectious coronavirus and enclosed nature of bus and train travel has caused public transit to become a focal point in conversations around managing transmission.

Whether real or perceived, travellers are wary of their risks of exposure when considering public transit, creating a simultaneous decrease in transit ridership and subsequent revenues, and increases in traffic congestion. The result is an untangling of the positive progress public transit agencies in Canada have made over the last several years, attracting and building ridership as a viable alternative to low occupancy vehicular travel.

As cities begin to rebound and recover from the pandemic, they are likely to experience an increase in low occupancy passenger vehicle trips as commuters return to life but remain reticent of public transit. With additional vehicles on the road network across cities in Canada, it is inevitable that accidents, congestion and air pollution will rise. Even after a vaccine is developed and made available to the Canadian population, it is likely that public transit ridership will be slow to return without the continued support of the federal government.

Now is the time to build a more resilient transportation network with public transit at its core. As such, we call on the federal government to consider our list of recommendations to ensure the continued viability of public transit and community resiliency in Canada.

Public transit is the backbone of livable and resilient cities and regions, as well as an essential part of COVID-19 restart and recovery.

Sincerely,

Cubic Transportation Systems

Public Transit, Technology & Recovery

The latest in transportation technologies can support cities in managing the viral spread, while also helping make our transport networks and services safer, more efficient and more resilient.

As a leading integrator of fare payment, information technology and support services in the transportation sector, our focus is on supporting our existing and prospective customers in Canada so that they can respond to the COVID-19 pandemic in the near-term and thrive in the long-term. Various technology tools can enable agencies to attract and regain ridership, improve safety and security by reducing onboard physical touchpoints, harness predictive analytics to better manage passenger flow and enable physical distancing, and implement loyalty rewards to acknowledge and incent desired behaviour, such as riding in off-peak periods.

Responding to Congestion

Already in Canada, we are witnessing a faster return to the private automobile as a means for mobility than public transit. Reduced public transit ridership and mode shift to private automobiles is leading to substantive public transit farebox losses and eventual increased strain on road capacity and greater greenhouse gas (GHG) emissions.

The transport sector is the second highest category of GHG emissions in Canada, second only to stationary combustion. The vast majority (71%) of transport emissions in Canada can be attributed to road transportation. In 2018, road transportation was responsible for 217 megatonnes of carbon dioxide equivalent (Mt CO₂ eq), a 14% increase over 2005 levels. According to Environment and Climate Change Canada, “the total vehicle fleet has increased by 40% since 2005, leading to more kilometres driven overall” (National Inventory Report 1990 – 2018: Greenhouse Gas Sources and Sinks in Canada – Executive Summary: Page 6).

While it is likely we will witness a temporary reduction in road transportation emissions commensurate with economic contraction, the personal mobility decisions we make today, and as part of recovery, will have far-reaching downstream impacts. If we revert back to the status quo and let people remain reticent of public transit, the incremental addition of new personal vehicles will cause greater congestion, air pollution and lost productivity.

Congestion on road networks in Canadian cities costs the Canadian economy billions of dollars a year in lost productivity, wasted fuel and delayed deliveries – contradicting the very economic interest the transportation system should inspire.

In order to ensure our communities of tomorrow support citizen enrichment, we must improve our transportation system and work to eradicate traffic congestion and make our systems more responsive and more resilient.

The time is now for the federal government to invest and lead the charge on a national mobility pricing framework for Canada’s urban centres through partnership with other levels of government.

Supporting Operations

Throughout the coronavirus pandemic, the federal government and many provincial jurisdictions rightfully recognize transportation as an essential service. Public transit is, and remains, a critical means to transport essential workers, such as nurses and grocery store employees, to employment and for the continued operation of society.

It is imperative for the federal government to investigate new, more stable public transit funding models that are less reliant on user fees. While capital infrastructure contributions are critical to ensuring new services, public transit agencies need operational assistance in the near-term to survive and thrive post pandemic.

In partnership with provinces and relevant stakeholders, the government need examine increasing the fuel sales tax, helping finance the cost of provincial road tolling and priced facility infrastructure, and leading the charge on a national mobility pricing strategy for Canada's largest urban centres.

If public transit is truly an essential public service, we recommend the federal government evaluate other funding models that do not rely so heavily on user fees, but rather incent public transit adoption and better manage roadway demand.

Leveraging Technology

As transportation agencies respond to new challenges set forth by their ever-changing environment and needs of their customers, it is evident that many antiquated systems are not capable of providing the level of support needed. Today, we have an opportunity to advance the industry, as it moves to a more resilient, equitable and connected experience. Account-based fare collection is the transformative technology that will facilitate such an evolution.

Account-based models provide transit agencies with more flexibility in adjusting fare policies to enact public policy goals; can integrate with multiple modes of public and private transportation to enhance efficiency; and can empower mobility pricing policies. It enables an integrated, customer-centric experience that puts the traveller back in charge, promising best-fares, providing greater options and rebuilding trust in the system.

As part of its continued commitment to public transit, we recommend the federal government dedicate a separate stream within ICIP and earmark funds so that public transit agencies can adopt new technologies aimed at reducing onboard physical touchpoints, tying in other mobility operators to reach more remote and rural places, and enabling loyalty rewards and off-peak travel incentives to promote physical distancing.

Below are examples of technologies transit agencies can leverage within account-based automated fare collection (AFC) systems, rebuilding confidence in public transit.

Going Contactless

Contactless, account-based fare collection is one of the primary tools agencies can deploy to support the removal of cash and minimize touchpoints in a transportation fare payment environment. With account-based fare collection, a token in the form of a displayed or printed

QR code, smart card, student ID, virtualized card, or contactless bank card, is used as a unique identifier for a centrally managed transport account. Once authenticated and linked with an account in the back office, fares are paid using funds or credits such as incentives for the journey. Such acceptance provides extensive options to reduce or remove onboard cash collection and enables the adoption of open payments.

Adopting Open Payments

Given the prevalence of contactless credit and debit cards in Canada, open payments is one-way agencies can reduce onboard cash collection, eliminate interactions with ticket machines and improve customer convenience.

Transport for London (TfL)'s open fare payment system was deployed in 2012. Today, 60% of all trips taken on the TfL network are now paid with a contactless credit card or mobile wallet (i.e. Apple Pay, Google Pay and Samsung Pay). In May 2018, Metro Vancouver's transit agency, TransLink, began acceptance of open payments aboard transit vehicles and at rapid transit stations.

Technology adoption in more suburban and rural areas is made possible because of recent investments in cloud-based solutions that are easier to scale. The advent of "as-a-service" business models and the commodification of commercial off-the-shelf hardware makes the expansion of open payments an attractive and affordable option for agencies of any size. Additional components of an account-based environment include web based top ups and mobile ticketing. As agencies look for ways to steer travellers away from touchpoints, open payments become that much more attractive.

Leveraging Mobile

Over the last few years, advancements in mobile technology have played a notable role in the evolution of fare payment systems. The digitization of tickets via mobile have moved beyond an aspirational endeavor and is now the preferred method of payment for travellers on public transport. Agencies that have been advancing their fare collection systems to include mobile payments to reduce costs and simplify ticket distribution and delivery for years now have an additional reason to embrace mobile to help limit touchpoints. Smartphones can be used as tickets, allowing travellers to quickly board buses by removing physical touchpoints for access.

Frictionless or hands-free access offers travellers greater freedom to board buses and pass through stations easily and quickly without queuing. An app on a smartphone identifies the traveller to the bus or gate as they approach, which then automatically generates a 'tap' based on their location to open a gate or to board onto a bus.

For the agency, benefits include faster throughput, limited interaction between staff and travellers, less cleaning and an overall simplification of operations.

Enhancing Mobility

In cities where stay at home orders have been relaxed, public transport ridership is significantly down. Public perception is that a single occupancy vehicle is safer to travel and government

messaging of 'no essential travel' and 'physical distancing' is going to have a lingering impact on transport use.

Public transit will face challenges to overcome on the perception of public safety and shared ridership, but Mobility as a Service (MaaS) can offer a beneficial alternative and become the flexible operating model for personal mobility. While access to public transit has been limited and non-essential ridership discouraged, travellers have engaged with viable multi-modal alternatives out of necessity. Bikeshare companies are reporting higher usage rates, Transportation Network Companies (e.g. Uber and Lyft) are providing late night and demand responsive services to agencies. Cities that had once banned the use of electric scooters on public streets are now working on policies that will recognize them as a practical mode of transport.

Transportation networks across Canada will need to adapt, grow and become more resilient after this latest crisis. A 'MaaS marketplace' with public transit at the forefront can tie together disparate mobility service providers, providing a viable alternative to the automobile and improving the reach of mobility services to remote and rural communities.