

TransLink Tomorrow – leveraging transportation innovations for Metro Vancouver

/ Graham Cavanagh



TransLink, Metro Vancouver's public transportation entity, recognizes that as a transit provider and a regional transportation authority, it can both shape and be shaped by mobility innovation which is happening globally. Therefore, TransLink is taking a two pronged approach to considering mobility innovation that both addresses the short and medium term, and prepares for more profound changes in the long term.

Transportation technology is evolving rapidly, bringing new opportunities and challenges, and changing how we move and live. Many at Translink believe the future of transportation will be: Automated, Connected, Electrified and Shared (ACES).

Automated vehicles are already being tested in cities around the world. Advances in computing and sensors are increasingly putting robots in the driver's seat. And large companies – from Google to GM – are banking on a future of self-driving vehicles. In two decades, most passenger vehicles sold in North America will be capable of self-driving.

Connected vehicles of all types will be able to communicate with each other, potentially increasing safety and convenience. By 2025, it is expected that all new automobiles will be capable of making electronic contact, in some way, with each other and the infrastructure around them.

Electrified: When the CEO of Shell started driving an electric car, even electric vehicle skeptics did a double-take. Cheaper to operate, with smaller carbon footprints, electric vehicles are going mainstream. That goes for bikes, cars, trucks, and buses. By law, all new vehicles sold by 2040 in British Columbia must have zero tailpipe emissions – meaning that electric cars will soon be the norm.

Shared: Worth over \$1 billion per year, Canada's sharing economy is on the rise. And shared transportation is a big piece of the pie. Why own when you can rent? People are increasingly choosing to move around using shared transportation services instead of personally-owned vehicles. Shared scooters, bikes, and cars are starting to become common in many cities around the world.

In 2015, TransLink founded *Translink Tomorrow*, a cross-departmental program to develop solutions for a better transportation future. TransLink Tomorrow is a commitment to continuously explore, test, and implement innovative ways to improve mobility in Metro Vancouver. It is also a commitment to a more open and nimble approach to collaborating with industry, entrepreneurs and academia. Working together, staff can more quickly surface worthwhile new ideas and technologies to:

- enable seamless and efficient door-to-door mobility for people and goods
- promote safe, healthy, clean, and compact communities
- ensure affordable and equitable access for all

From battery electric buses, accessible fare-gates and on-demand micro-transit (less than 20 passengers), TransLink is always looking for new, better and more cost-effective ways to keep the region moving forward.

Some of the innovative demonstration projects explored by TransLink to date include:

- partnering with Evo and Modo carshares and MoBi bikeshare services onto a single transit pass

Transportation has been evolving rapidly over the past decade and will likely continue to do so – informed in part by growing troves of data, technological advancements, and new business models.



- battery electric buses through a partnership with the Canadian Urban Transit Research & Innovation Consortium (CUTRIC), the Government of Canada, and BC Hydro
- a carpooling campaign with Poparide, a ridesharing app and program
- an artificial intelligence (AI) bus pilot project with 70-95% accuracy improvement
- dockless bikesharing¹ at UBC;
- universal fare gate access program using RFID cards
- transportation hubs that will offer Modo and Evo carsharing vehicles as a first/last mile options to transit stations
- an on-demand shuttle service, first piloted on Bowen Island and anticipated to expand to other locations across the region.

TransLink has also been playing an active role as the regional coordinator for the introduction of ride-hailing services such as Uber and Lyft to enter the market in Metro Vancouver. As part of this, TransLink brought together all the municipalities in Metro Vancouver and neighboring Fraser Valley and Squamish Lillooet regions for the creation of a single intermunicipal business license (IMBL) for ride-hailing which streamlines regulations across the broader region.

The Province of B.C. has recently updated legislation to allow for micromobility devices (e.g. e-scooters, skateboards and self-balancing devices) to be piloted on public roads. This new law opens the doors for devices like dockless electric scooters and e-bicycles to enter the market. Discussions around demonstration projects in municipalities are underway.

Although these devices may provide additional and fun options for people to travel, it is also important to consider the potential challenges such as parking, rebalancing and charging devices, and the safety of users. Through multi-stakeholder partnerships between TransLink, the municipalities and private operators, the region may integrate these innovative new modes of travel to complement existing services and mitigate disruptions. For example, there are electric scooter parking docks with built-in electric charging powered by solar panels that may work in the regional context (e.g. Swiftmile in Austin, TX).

Transportation has been evolving rapidly over the past decade and will likely continue to do so – informed in part by growing troves of data, technological advancements, and new business models. With a view to the long term, TransLink is leading the development of *Transport 2050*, the regional transportation strategy for Metro Vancouver for the next 30 years. *Transport 2050* will address emerging issues associated with innovative mobility solutions, including:

- advancements in battery technology for more electric vehicles
- sharing made easier by the prevalence of smartphones and mobile devices
- business models that focus on selling trips and rides rather than privately owned vehicles
- early explorations into uncrewed aerial transportation (i.e. drones) for movement of both people and goods.

Transport 2050 has been TransLink's largest ever public engagement process with 158,575 conversations in 7 distinct languages at 315 events in 27 municipalities in Metro Vancouver. Additionally, there

were 31,682 survey responses with 4,026 ideas submitted by the public to inform this process.

From those ideas, TransLink learned that people are excited about future innovation but also want to know the key issues are being addressed – congestion, transportation options, safe places to walk and bike, as well as transit oriented and affordable housing. People want a transportation system that is efficient, cost-effective and environmentally friendly. Phase 2 engagement launches in spring 2020, and TransLink will be asking the region to help consider trade-offs between different possible approaches for the future of transportation.

There are many uncertainties associated with planning the region's transportation for the next 30 years, but what Translink knows so far is that bold action is needed. Priorities for phase 2 will include further exploration into safe pedestrian and bike travel, expanded investments in transit, affordable development around transit stations, and more efficient, cleaner movement of goods and people. Translink hopes that public participation and a multi-stakeholder process, will help to achieve sustainable, healthy, efficient and accessible transportation options for all. ■

Graham Cavanagh is a Senior Planner, New Mobility Policy & Strategy at TransLink working on policy and strategy for the 30-year vision 'Transport 2050,' leading the New Mobility Lab academic research engagement program, and supporting various other projects and initiatives.

¹Dockless bike sharing systems allow for customers to access bicycles that may be picked up and dropped off at any location (using GPS) without a formal docking location.