

Supporting Business Adaptation During COVID-19 Case Study



Early on in the COVID-19 pandemic when people were asked to stay at home, reliance on delivery services for essential goods such as groceries surged. Some major grocery chains with established delivery services saw their online orders double¹ and responded by increasing capacity, while some businesses, such as small grocers, struggled to set up delivery options.

In an effort to help the community adapt to the new realities of the pandemic and experiment with car-free transportation options, WeCycle created a pilot delivery program. WeCycle, launched in 2015, is a community organization with a mission to support, promote, and catalyze bicycle-based businesses in Vancouver. WeCycle partnered with The Soap Dispensary, Vancouver's first dedicated refill shop, to deliver online orders to customers. The Soap Dispensary had pivoted to an online ordering system and used deposit jars or paper bags to pack orders. They were seeking a more sustainable delivery alternative to using the shop's cargo van, so using bicycles to reduce vehicle pollution was a natural fit.



Pilot Program Design

WeCycle worked closely with The Soap Dispensary in an iterative process to analyze and improve services over ten trials from May 1 to June 30. Delivery zones were mapped based on proximity to the store and homes of the riders for bicycle delivery. These zones included the West End, Yaletown, Grandview-Woodland, Hastings-Sunrise, Mount Pleasant, Olympic Village, Fairview, Kitsilano, and some areas extending south of the delivery zone. WeCycle mapped the ordering process to understand where and how bicycle delivery fits in, and key points of communication. Over the course of the delivery trials, a flowchart was updated to show the process. Potential integration of digital tools were added to show opportunities to consolidate manual work and improve automation in the future.

Bicycle deliveries took place once per week. On bicycle delivery days, orders were managed by WeCycle to optimize all deliveries based on their suitability for cargo bike or van. The pilot program was meant to be a community response and provide a low-cost solution for customers who could not make it to the store to pick up their orders for health reasons, such as needing to self-isolate. The delivery charge was \$5 per order, or was free for orders over a minimum threshold (\$50 to \$100 depending on the proximity of the delivery address to the store).

Two riders tested different cargo carrying systems. One rider used a steel frame bicycle with a custom-built flat deck pull-behind trailer that held five plastic totes with a total capacity of 275 L, plus expandable cooler capacity. The other rider used a long-tail bicycle with large saddle bags and plastic tote for a total capacity of 150 L.

¹ Grocery deliveries delayed as demand surges amid COVID-19 pandemic. 25 March 2020. <https://www.ctvnews.ca/health/coronavirus/grocery-deliveries-delayed-as-demand-surges-amid-covid-19-pandemic-1.4868114>

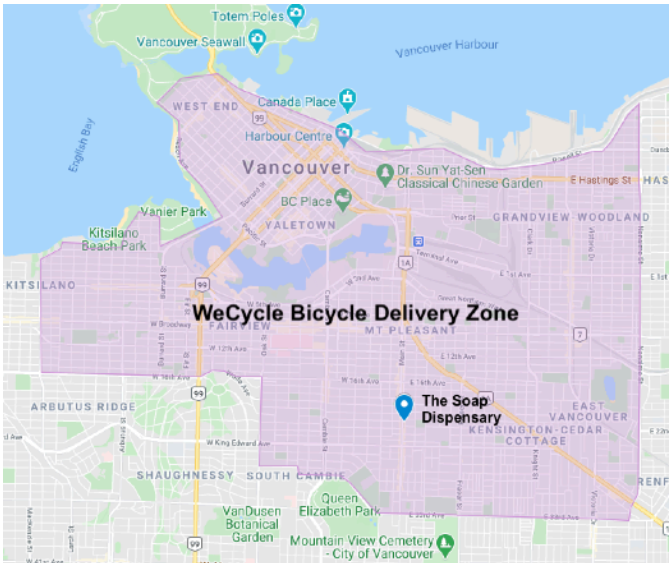


An Upcycled Trailer: Most of the materials used for WeCycle's trailer were recovered from items that would have gone to waste. The metal frame came from a queen-sized mattress frame. The wood deck was made from the accompanying box spring. Used wheels came from Our Community Bikes. New trailer components were purchased from the Bike Doctor. New, high durability, puncture resistant, rubber tires were purchased from MEC. Tools were rented from Home Depot and fabrication was done through local businesses while also providing educational opportunities.

Overcoming Challenges for Small Businesses

Working with technology can often appear simpler than the reality of its implementation. The focus on the customer's experience means that the digital infrastructure needs to mask the necessary complexities involved. Most customers likely have tried and experienced highly sophisticated online services, such as Amazon, which set the bar very high for small and medium businesses that don't have the ability, or capital to compete. Typically, small businesses need to use multiple software applications that sometimes work well together, and sometimes don't. Using a suite of tools means additional work and technical literacy for the business owner, who may have to adopt quickly to new digital infrastructure. Furthermore, technology solutions that are more turn-key or easier to integrate are often also more expensive.

WeCycle offered technical support to increase efficiency of the web ordering and delivery management system. The Soap Dispensary used JotForm to collect online orders, which included in-store pick-up, curbside pick-up, and home delivery. As each type of order required different information, WeCycle assisted in improving the form using conditional logic and field verification so customers only provided the relevant details for each order type. WeCycle created a single database for order taking, order tracking, and mapping delivery routes. WeCycle also provided training on data organization tools in Google Sheets and Google Maps, such as using queries and filters, and importing data into maps for delivery routing. Finding the right mix of technology, not just for features, but that are compatible with existing processes and capacities of staff are very important. While this iterative process took a great amount of effort from WeCycle, it was crucial part that enabled smoother communications and more efficient logistics.



Insights on Bicycle Deliveries

Collecting data on the bicycle deliveries was important for measuring effectiveness of the service. This data allowed WeCycle to evaluate the pilot objectively and gain insights that would otherwise not have been identified from anecdotal evidence.

At the beginning of the pilot when more people were staying at home, both WeCycle riders were able to create efficient delivery routes because there was enough density of orders from the same neighbourhood. As British Columbia progressed to Stage 2 and Stage 3 of re-opening, the number of delivery orders began to decrease. Meanwhile, order sizes increased. The outcome of this shift resulted in more kilometres ridden between stops and a fewer number of orders that could be delivered in one route. With a flat-rate delivery fee model, this resulted in a lower earnings per hour for a rider. If operations included electric assist, travel time and delivery time could be reduced, but would require the capital investment for an electric assist bicycle. However, there are limits as to how fast an electric assist bicycle could safely travel with a full load. Therefore, having adequate density of orders within a geographic area is still crucial to making a business case for bicycle deliveries.

Another consideration for delivery efficiency was the time spent at each customers' home. For approximately 60% of deliveries, the waiting time was less than five minutes. Contributors to a waiting time of more than five minutes included customers that were not at home to receive their orders, buzzers in apartment buildings that did not work, and customers that did not answer the door immediately. Delivery applications that provide customers with real-time data on expected delivery times and the location of the delivery bike could help shorten the wait time at customers' homes but would require an investment in another digital tool.

Customer Feedback

Overall, customers saw value in the delivery service. 91% of customers surveyed said they were very satisfied with their deliveries. Customers noted that they appreciated being able to receive emissions-free deliveries, felt that communications were prompt, and enjoyed the convenience of being able to have products brought to their home. In the long term, 69% of customers said they would be very likely to continue using a delivery service. However, cost seemed to be a major factor in customers' willingness to order for delivery. Only 20% of customers said they would be willing to pay \$12 per delivery, which would be close to a break-even point to cover some costs such as bicycle repairs, cargo storage etc, but would not be enough to pay each rider a living hourly wage. Setting the fee at only \$5 per delivery or free if a minimum order total was met was too low to sustain a delivery service. Once this pricing model was established, it was difficult to increase delivery fees without discouraging customers from using the service.

PILOT PROGRAM FACTS AND FIGURES

164 deliveries completed by bicycle

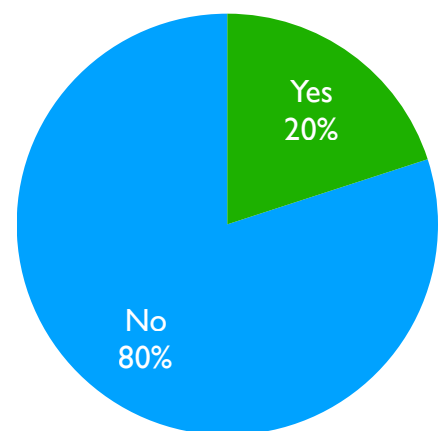
261 kilometres travelled by bicycle

78 Kilograms of carbon dioxide emissions saved from using a bicycle instead of a delivery van

16 deliveries per week per rider

3.5 deliveries per hour

\$9 earned per hour per rider



If the price of delivery was \$12, instead of \$5 or free, would you still want delivery?



The Myth of Free Deliveries

Based on the current pricing model, a bicycle delivery rider would earn an average of \$9 per hour without factoring operational expenses, which would decrease the hourly earnings further. In other words, the price that customers are willing to pay for deliveries is not even enough to cover minimum wage (\$14.60/hour)², let alone a living wage (\$20.91/hour)³. The exploitative nature of delivery services is not new. Business models being used by leading tech-based delivery businesses aren't working and the only way the delivery apps could make money was if the deliveries were done by robots and not by humans, or by underpaying for the delivery labour⁴.

Potential Innovations in Community Based and Collaborative Models

The collaboration between The Soap Dispensary and WeCycle is an excellent example of how businesses can come together to overcome adversity. The right mix of skills and experience on both sides allowed for a fast and fluid response. WeCycle helped The Soap Dispensary's customers buy online and receive delivery of critical food and home supplies, while maintaining their sustainability values.

Further innovation is needed around delivery hubs and ways to effectively use vehicles and bicycles for local distribution. For example, neighbourhood depots could be used for a van to deliver a group of orders, which are then transferred for delivery by bicycle. Van-bicycle combinations and hand-offs are hybrid models worth more exploration.

Another innovation is around crowdsourcing orders to maximize delivery efficiency. An online platform that allows customers in the same neighbourhood to group their orders into one delivery window would help increase the density of orders, thereby reducing the cost per delivery for the customer while increasing the earnings per hour for the rider.

There is ample important work to be done to help the local community integrate delivery services that reduce carbon emissions and provide viable jobs. The use of cargo bikes, e-bikes, or cycle logistics, is a new and growing market. The introduction of local integrated delivery hubs is already being explored in places like Toronto, where Pembina Institute has found "that given the right context and conditions, these alternative delivery models can be viable and practical, and will save businesses money and time spent in traffic."⁵

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² Minimum wage. <https://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards/wages/minimum-wage>

³ Living wage. <https://vancouver.ca/doing-business/living-wage.aspx>

⁴ During the Pandemic, Grubhub Should be Thriving. It's Not. 27 May 2020. <https://themarkup.org/coronavirus/2020/05/27/during-the-pandemic-grubhub-should-be-thriving-its-not>

⁵ New opportunities in the GTHA to improve last-mile deliveries and save money. 25 June 2019. <https://www.pembina.org/media-release/new-opportunities-last-mile-deliveries>