

## *Are Home Deliveries Increasing during the Pandemic?*

### *Update 2*

Sorin Garber 8/11/2020

During the 2020 second quarter Americans continued to stay home and avoid travel to work – for those who still had jobs – and basic errands and non-essential appointments. This led to lower gasoline sales, fewer non-emergency health care visits, restaurant closures, cultural and entertainment attendees, bankruptcies for national retailers....and **increased e-commerce sales.**

In May 2020, total on-line sales of retail products in the U.S. increased by 25% compared with May 2019<sup>1</sup>. April and June on-line retail sales also rose by 21.2%<sup>2</sup> and 25%<sup>3</sup>, respectively, between 2019 and 2020. For the second quarter, e-commerce represented 14.5% of all retail sales, up from 11% in 2019<sup>4</sup> (see Table 1). These changes are due, in part, to the continued closure of brick-and mortar establishments, consumer's preference for contact-less shopping, and the one-time stimulus checks and the extra \$600 in weekly unemployment benefits that have effectively cushioned incomes amid widespread layoffs are running dry.

**Table 1. U.S. Retail Sales in First and Second Quarters from 2015 through 2020 (in \$millions)**

	January-June 2015	January-June 2016	January-June 2017	January-June 2018	January-June 2019	January-June 2020
<b>In Stores</b>	\$2,168,572	\$2,194,064	\$2,288,652	\$2,410,525	\$2,410,340	\$2,404,090
<b>Via E-commerce</b>	\$164,786	\$190,438	\$217,576	\$257,053	\$286,061	\$407,711
<b>Total</b>	\$2,333,358	\$2,384,502	\$2,506,228	\$2,667,578	\$2,696,401	\$2,811,801
<b>% E-commerce</b>	7.06%	7.99%	8.68%	9.64%	10.61%	14.50%

Source: Quarterly Retail E-Commerce Sales, U.S. Department of Commerce <https://www2.census.gov/retail/releases/historical/ecommm/19q>

Despite this unprecedented growth in the second quarter, there was some unevenness from commodity type to commodity type. For example:

<sup>1</sup> E-commerce spending in May 2020 greater than the entire 2019 holiday season, by Brandon Vigliarolo for TechRepublic, June 12, 2020, <https://www.techrepublic.com/article/e-commerce-spending-in-may-2020-greater-than-the-entire-2019-holiday-season/>

<sup>2</sup> Retailers: Is Your E-Commerce Website Ready For A Sales Surge?, by Rieva Lesonsky for Forbes Magazine Aug 1, 2020, <https://www.forbes.com/sites/allbusiness/2020/08/01/is-your-ecommerce-website-ready-for-sales-surge/#27dce8a21367>

<sup>3</sup> U.S. e-commerce sales up 25% in June, by Marianne Wilson for Chain Storage Age, 7/14/2020, <https://chainstoreage.com/us-e-commerce-sales-25-june>

<sup>4</sup>Emerging E-Commerce Growth Trends to Leverage In 2020, Jia Wertz for Forbes Magazine, Aug 1, 2020, <https://www.forbes.com/sites/jiawertz/2020/08/01/3-emerging-e-commerce-growth-trends-to-leverage-in-2020/#486621596fee>

- On-line grocery sales declined by 18% in June from its high in May 2020<sup>5</sup>, in part due to the slowing down of stockpiling groceries that occurred earlier during the pandemic as well as customers returning to brick and mortar stores.
- On-line apparel sales fell by 15% in June 2020 compared with May 2020 which may correspond with a 2.7% increase in their cost from May to June<sup>6</sup> 2020.
- Despite relatively steep price increases (i.e., 6.2% between March and June 2020), on-line purchases of consumer electronics increased by 130% in June 2020<sup>7</sup> versus June 2019 as employees continued to work from home and students continued to study from home.
- With gyms closed, sales of exercise equipment grew from 500% to nearly 2000% between March and April of 2020 compared to March and April sales in 2019<sup>8</sup>.

Even though we shouldn't rely on these data to forecast too many trends<sup>9</sup>, consumers will continue to increase their on-line purchasing, and that the supply chain and its facilities and logistics strategies will support and influence consumer decisions.

### Portland Regional Trends

In Portland and Oregon as a whole, there is corresponding data about the supply chain associated with e-commerce. For example:

- Available industrial space – particularly warehouse space – in the Portland market increased slightly as did industrial space rents in the 2020 second quarter from the first quarter of 2020, but again, the **vacancy rates are at historic lows** due to the high demand for warehouse and distribution space to support the growth in e-commerce.<sup>10</sup>
- Portland region truck driver employment **decreased by 5.4%** between June 2020 and June 2019, while **warehouse jobs jumped by 11.1% and courier and messenger jobs by 11.4%**<sup>11</sup> between June 2019 and June 2020. The increase in warehouse and courier and messenger jobs is directly related to the increased e-commerce sales activity, while the drop in truck driver jobs is a symptom of the overall general economic collapse.
- Statewide truck transportation jobs decreased by 11% during the same period, while warehouse and courier and messenger jobs jumped by 13.4% and 12.9%, respectively.<sup>12</sup>

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<sup>5</sup> Ibid

<sup>6</sup> Ibid

<sup>7</sup> Ibid

<sup>8</sup> Ibid

<sup>9</sup> That is, because they are, in many instances, short-lived phenomenon and because of the unprecedented economic times we are experiencing,

<sup>10</sup> Q2 2020 *Portland Metro Industrial Report*, Colliers International, <https://www2.colliers.com/en/Research/Portland/Q2-2020-Portland-Metro-Industrial-Market-Report>

<sup>11</sup> *Current Employment Estimates*, Oregon Employment Department, August 3, 2020, <https://www.qualityinfo.org/ed-ceest/?at=1&t1=4101000000~0~0~00000000~2014~or>

<sup>12</sup> Ibid

- Retail jobs in the Portland area dropped by 7.5% between June 2019 and June 2020, and statewide they fell by 4.8%.<sup>13</sup>

**Current E-Commerce Related Land Development.** The trend in developing warehouse and distribution space closer to urban areas to support quick delivery of ecommerce items is also occurring in Portland. One example is the industrial park at the former Portland Meadows horse racing track property that is under construction and scheduled for opening in 2022-2023. The site, which will contain more 1.8 million square feet of industrial warehouse space, is being developed by Prologis (who are renaming the parcel Prologis Meadows) and will have Amazon (150,000 sq. ft) as a tenant as well as a host of other warehouse, manufacturing and logistics providers.

Prologis also purchased the Broadmoor Golf Course (located on Columbia Blvd between NE 33<sup>rd</sup> and NE 42<sup>nd</sup> Avenues) with plans to begin developing the area into warehouse and manufacturing space and wetlands preservation areas beginning in October 2020. Further, Prologis is redeveloping property west of I-5 across from the Prologis Meadows development for additional industrial use.



Rendering of Prologis Meadows Development – Just 6 miles from Downtown Portland (courtesy Colliers International)

### What are Suppliers/Shippers and Carriers doing

As shown in Table 2, Amazon dominates the e-commerce retail market with nearly 50% of all sales, followed by eBay

**Table 2. Top 10 U.S. E-commerce Companies**

	2017	2019
Amazon	49.1%	47%
eBay	6.6%	6.1%
Apple	3.9%	3.8%
Walmart	3.7%	4.6%
Home Depot	1.5%	1.7%
Best Buy	1.3%	1.3%
QVC Group	1.2%	1.3%
Macys	1.2%	1.2%
Costco	1.2%	1.3%
Wayfair	1.1%	1.3%

**Source:** emarketer, July 2018 and July 2020

<sup>13</sup> Ibid

and Apple with 6.1% and 3.8% of the e-commerce retail sales market.

- Large retailers are undergoing dynamic transitions in their competition for on-line consumers. For example, Walmart plans to launch Walmart+ in August 2020 which mirrors Amazon's Prime program – including same-day delivery, discounted items, and two-hour grocery delivery, but at less cost (\$98/year while Amazon Prime is \$119/year)<sup>14</sup>.
- E-commerce retailers have seen an 18% increase in buy online, pick up in-store (BOPUS) initiatives during the pandemic<sup>15</sup>; due in large part to consumer's concerns with Covid-19 contagion.
- “Personalization”, which is the process of identifying customer's shopping preferences (e.g., product type, particular stores, etc.) and providing them with information about those preferences, is helping to overcome the “personal” experience that clerks at brick and mortar stores often provide<sup>16</sup>. Several retailers are using Augmented Reality, which is a technology that superimposes a computer-generated image on a user's view of the real world, such as showing how clothing would look on a person or how furniture would appear in a room.



Example of Augmented Reality – courtesy spaceo.ca

## Threats to the USPS

The U.S. Postal Service (USPS) delivers more e-commerce retail packages in the U.S. than any carrier. Its detailed networks of operations cover every residence and business on almost a daily basis, and it offers the lowest cost for delivery of any carrier. Unfortunately, the USPS has also been operating at a deficit for over a dozen years – including a \$4.5 billion loss in the fiscal 2020 second quarter<sup>17</sup> - and predicted they would be insolvent by March 2021 even after receiving a \$10 billion loan under the CARES Act.

The Trump Administration has asked that the USPS quadruple its rates to avoid bankruptcy. Doing so, however, would lead some of its major customers including UPS, FedEx and Amazon, who depend on the USPS for last mile delivery, to seek other strategies for last-mile service. In addition, the Administration, which has authority over release of the \$10 billion loan, has yet to release those funds.

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<sup>14</sup> Walmart+: What is it, and when does it launch?, Josh Levenson for digitaltrends, July 13, 2020 <https://www.digitaltrends.com/web/what-is-walmart-plus/>. At this time, however, Walmart+ does not offer entertainment services like Amazon does with its as Amazon Prime video and music offerings.

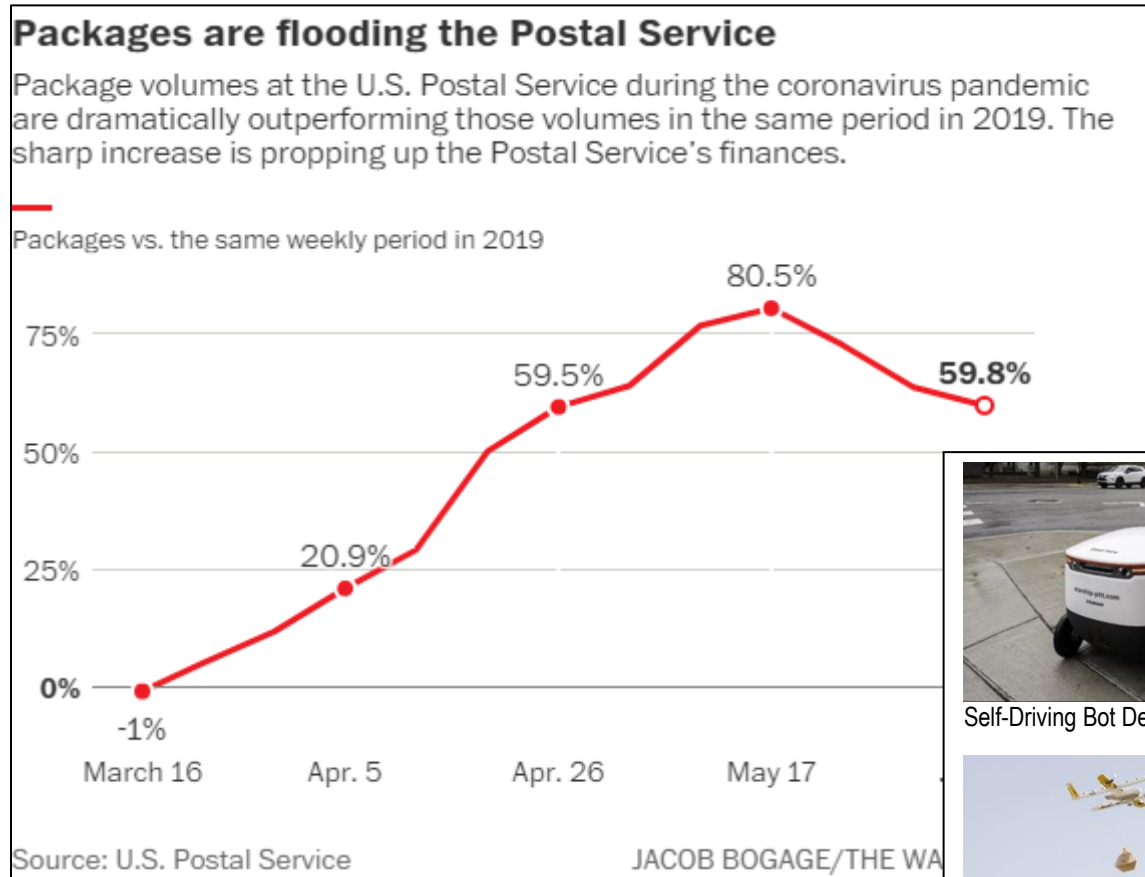
<sup>15</sup> How Coronavirus (COVID-19) Is Impacting Ecommerce, Sarah Davis and Lauren Toney, July 14, 2020 [file:///C:/Projects/ECommerce%20for%20PBOT/Updates/Update%202/How%20Coronavirus%20\(COVID-19\)%20Is%20Impacting%20Ecommerce%20\[July%202020\]%20-%20ROI%20Revolution.html](file:///C:/Projects/ECommerce%20for%20PBOT/Updates/Update%202/How%20Coronavirus%20(COVID-19)%20Is%20Impacting%20Ecommerce%20[July%202020]%20-%20ROI%20Revolution.html)

<sup>16</sup> This is provided by artificial intelligence where computers can learn natural language processing and enable them to sense, comprehend, act, and learn.

<sup>17</sup> USPS Woes Could Impact Ecommerce SMBs, by Armando Roggio for PracticalECommerce, July 12, 2020, <https://www.practicalecommerce.com/usps-woes-could-impact-e-commerce-smb/>



Then the pandemic hit, and USPS' number of package deliveries increased by 20%-50% in April 2020 compared with April 2019, and between 60% and 80% in May 2020 from May 2019.<sup>18</sup> Even with this growth, the USPS will again be at an operating deficit in 2021. The latest drafts of the current (i.e., August 2020) economic stimulus program – the HEROES Act – include a \$25 billion loan to the USPS and would strip the Administration from attaching any conditions to release of those funds.



## New Technology being used by Carriers and Suppliers / Shippers for Last-Mile Delivery

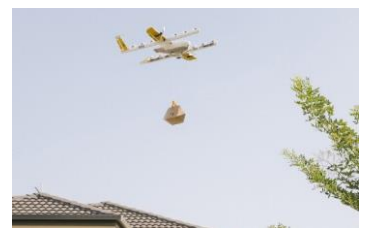
As reported in my *E-Commerce and Emerging Logistics Technology Research Report* in December 2019<sup>19</sup>, last-mile delivery of retail products are being made by a wide assortment of means, from small passenger trucks and vans to cargo bikes to drones, robots, autonomous vehicles, automobile, and bicycles. Moreover, they are increasingly being delivered to and from urban logistics centers (e.g.,

<sup>18</sup> Under siege from Trump, U.S. Postal Service finds surprising financial upside in pandemic, by Jacob Bogage for The Washington Post, June 25, 2020, <https://www.washingtonpost.com/business/2020/06/25/postal-service-packages-coronavirus/>

<sup>19</sup> E-Commerce and Emerging Logistics Technology Research Report, by Sorin Garber & Associates for the Portland Office of Economic Development, December 2019, <https://www.portland.gov/sites/default/files/2020-05/final-report-ecommerce-and-logistics-technology-research-report-12-4-2019-.pdf>



Self-Driving Bot Delivery



Drone Delivery



Autonomous Vehicle Delivery



Cargo Bike Delivery

the Redd in Portland's Central Eastside neighborhood), storefronts (such as 7-Eleven and Whole Foods stores), office mail rooms, and even neighborhood locker facilities.

The diversity of delivery options has been made necessary by the customer expectations for fast, convenient, and low-cost (sometimes free) shipping, and is a highly competitive market. To reduce cost, carriers are looking to delivery types that use little to no personnel (e.g., autonomous vehicles and robots and drones) and consume little to no fuel (e.g., electric vehicles, cargo bikes and bicycles). Finally, during the pandemic, there is a strong desire from customers for contactless delivery and social distancing which can be provided by robots and drones.

In China, when authorities enforced a lockdown during the pandemic, self-driving vans delivered food and medical supplies.

Throughout the U.S. there have been a number of official pilot tests of drone and robot delivery in homogenous environments such as corporate campuses, hospitals, and universities, and even neighborhoods. These tests were authorized in some instances by the federal government (i.e., the Federal Aviation Administration with respect to drone delivery), and both industry and local government with autonomous vehicles and robots (or bots) that travel on sidewalks and across crosswalks. While many felt that these tests proved that deliveries by drone, robots and autonomous vehicles are technically feasible, there are many regulatory and political issues to be resolved.

For example, there's consideration about the ability of local jurisdictions to regulate commercial drone operations. In general, the Federal Aviation Administration has authority over the air space while local jurisdictions have authority over landing sites. In addition, operations in the airspace can impact citizens' privacy, noise levels, safety, and land use, all of which fall under the purview of local jurisdictions.

Politically we can expect a great deal of discussion about the merits and disadvantages of self-driving vehicles including bots. Cities have been struggling with how to regulate this new kind of vehicle creating confusion and congestion on sidewalks. The City of San Francisco severely restricted the machines at the end of 2017, requiring permits and mandating that startups test their delivery robots in quieter, more industrial neighborhoods.

At a special event in New York City in November 2019, a limited demonstration of an autonomous delivery bot on City streets was met with the following tweet by Mayor DeBlasio:



**[Mayor Bill de Blasio](#)**  
**[@NYCMayor](#)**

First of all, [@FedEx](#), never get a robot to do a New Yorker's job. We have the finest workers in the world. Second of all, we didn't grant permission for these to clog up our streets. If we see ANY of these bots we'll send them packing.

Several other tests of autonomous vehicles and bots in Snohomish County, Orange County, CA, Houston, Boston, Scottsdale, AZ, and elsewhere have been

completed but there have yet to be reports of their success and/or whether they will be continued.

One thing for certain is that any last-mile delivery strategy will have to involve both a larger network of urban logistics and distribution centers and places where handoffs are made between delivery methods

### **What does this all mean?**

As with my last review<sup>20</sup> about how e-commerce customers and suppliers of retail products in the U.S. are reacting to the pandemic, there are few consistent trends that we can rely on because there are so many unprecedented global events that dictate both product availability and customer confidence.

First and foremost is the contraction of the U.S. economy – which shrank 9.5% in the second quarter of 2020; the worst quarter decline ever – including the Great Depression when the economy shrank by 7.2% in one quarter<sup>21</sup>. Further, the U.S. GDP shrank at an annual rate of 32.9%<sup>22</sup> in the second quarter, and the unemployment rate fluctuated between 11.1% and 14.7%<sup>23</sup>.

In other words, we need to exercise caution when reviewing data and anecdotes about the changes in the retail sector during the pandemic before reaching conclusions about what the future will bring. Retailers have always innovated to outperform their competitors, and suppliers and carriers have always responded to their changing demands. It's unclear whether the growth in on-line retail sales will continue at its current pace or whether customers will return to brick-and-mortar stores in droves. In fact, Amazon has recently opened a new grocery store in Los Angeles that is distinctly different from the company's Whole Foods Market stores and has signed leases for other grocery stores in San Francisco, Seattle, Chicago, Philadelphia, and Washington DC. If they have nearly 50% on the on-line market, why are they building stores?

On-line orders for retail products and their delivery by drones, bots, and autonomous vehicles, and the development of urban area distribution centers, are the first steps in the e-commerce revolution. A year or two from now there'll likely be a whole new set of innovations that improve efficient delivery, reduce costs, and increase customer satisfaction.

This is the second installment of updates to the study - [\*E-Commerce and Emerging Logistics Technology\*](#) - I prepared for the City of Portland, which also describes strategies employed by shippers and carriers throughout the U.S. and around the world to meet the

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<sup>20</sup> *Are Home Deliveries Increasing during the Pandemic?*, Sorin Garber 5/31/2020, <https://www.sgapdx.com/news>

<sup>21</sup> *U.S. economy contracted at fastest quarterly rate on record from April to June as coronavirus walloped workers, businesses*, Washington Post, Rachel Siegel and Andrew Van Dam, July 30, 2020, <https://www.washingtonpost.com/business/2020/07/30/gdp-q2-coronavirus/>

<sup>22</sup> *Gross Domestic Product, 2nd Quarter 2020 (Advance Estimate) and Annual Update*, U.S. Department of Commerce, July 30, 2020, <https://www.bea.gov/news/glance>

<sup>23</sup> *Unemployment Rates Seasonally Adjusted (USLAUS Tool)*, Quality Info. Org, <https://www.qualityinfo.org/ed>

fast-growing volume of ecommerce deliveries, and recommendations for how cities can work with industry to help manage the delivery traffic.

I'm going to continue tracking data e-commerce sales, employment by type of delivery worker, vacancy rates for industrial/warehouse space, and sales by retail category., and publishing them on both my web site ([www.sgapdx.com](http://www.sgapdx.com)) and [LinkedIn site](#).

There is a wide range of data about ecommerce sales behaviors during the pandemic such as ecommerce sales by age group, ecommerce sales by commodity, ecommerce sales by company, and more.

If you're interested in learning more about these and other trends, please contact me at [sorin.garber@sgapdx.com](mailto:sorin.garber@sgapdx.com)