

COVID-19 Statistical Review

Our Daily Update on the Data and the Trends

Today's Analysis: Data from July 1, 2020

Cases set a new record again Wednesday, and, yes, deaths were down again by 132 on a week-over-week basis. The rate of increase in cases jumped up but stayed below the level of five out of the last seven days (Exhibit 3C). Friday will be a big test as that is a normal day for big jumps in cases.

We found some interesting data from Arizona, a major current hot spot state. Their records on hospitalizations shown at the bottom of Exhibit 3C record a dramatic fall in new hospitalizations despite lots of new cases, over a thousand today. The drop off suggests that most new cases are appearing in people with low vulnerability to the bug.

There is an interesting cultural divide occurring that is heightened by the recent spike in cases. Many Americans remain close followers of the health experts and are leery of a return to normal living. Like the experts, the media, and most politicians, they point to the spike in cases as the natural result of people's disregard for isolation and social distancing.

The other side of the population is embracing the move towards normalcy, convinced by their own health that the crisis is over, if there ever was one. The two sides, as in so many contemporary issues, have difficulties even talking about their divergent views. The center chart in Exhibit 1. shows statistically the divide between concern for cases counts and the optimism encouraged by the death data.

Most importantly, the politicians, despite their continued rhetoric in support of sequestration, are opening their states despite the kind of case increases that justified the original lockdown orders. It is apparent that the cost-benefit analysis governing economic restrictions has moved significantly towards economics and away from health concerns. Put another way, having experienced radical sequestration, the average American wants no part of it again. A return to sequestration would generate far more political resistance than the original orders when the death rate was headed towards 10%. Most people were scared then. Most are not scared now.



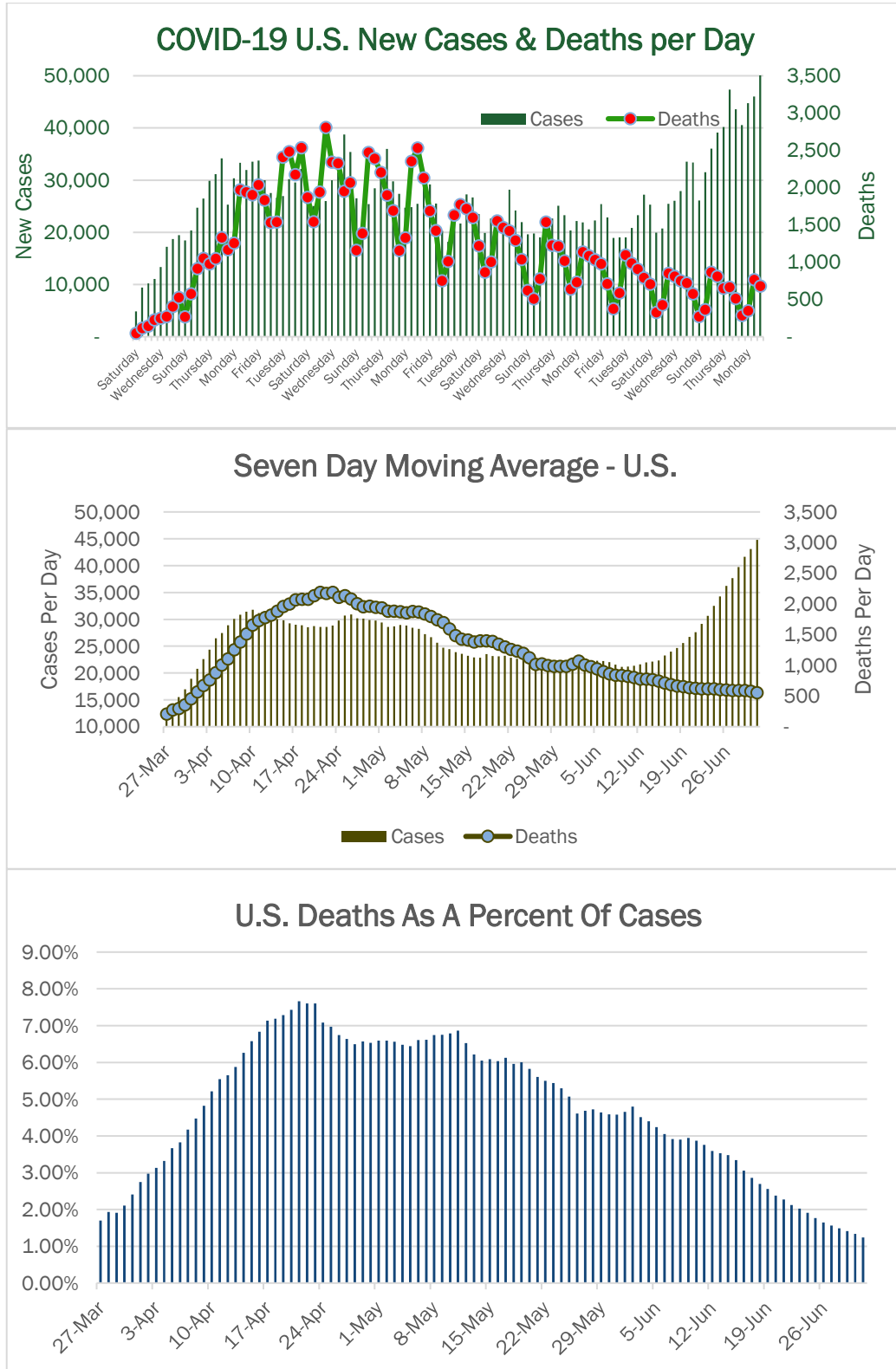
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Exhibit 1



Source: Worldometer.com, Transport Futures, & Broughton Capital

Exhibit 2

| Country | Status | Current days | Cases | Deaths | Death Rate | Pop per case | Pop per death | Daly Max Cases | New Cases Latest Day | Daily Max Deaths | New Deaths Latest Day | Change In New Case Count Latest Day | Change In New Case Count From Week Before | Change in New Death Count Latest Day | Change in New Death Count From Week Ago |
|---|----------------|--------------|------------------|----------------|-------------|--------------|---------------|----------------|----------------------|------------------|-----------------------|-------------------------------------|---|--------------------------------------|---|
| China | Recovery | 159 | 83,534 | 4,634 | 5.5% | 17,241 | 333,333 | 6,000 | 3 | 150 | - | -16 | (9) | 0 | 0 |
| S. Korea | Recovery | 134 | 12,850 | 282 | 2.2% | 3,984 | 166,667 | 851 | 50 | 9 | - | 7 | (1) | 0 | 0 |
| Italy | Recovery | 131 | 240,760 | 34,788 | 14.4% | 251 | 1,739 | 6,557 | 182 | 919 | 21 | 40 | (8) | -2 | -9 |
| Iran | Falling | 128 | 230,211 | 10,958 | 4.8% | 365 | 7,692 | 3,186 | 2,549 | 158 | 141 | 92 | 18 | -6 | 8 |
| Germany | Recovery | 123 | 196,324 | 9,061 | 4.6% | 427 | 9,259 | 6,933 | 492 | 333 | 9 | 52 | 16 | -2 | -8 |
| France | Recovery? | 121 | 165,719 | 29,861 | 18.0% | 394 | 2,188 | 9,678 | 918 | 1,809 | 18 | 377 | 837 | -12 | 7 |
| UK | Recovery | 119 | 313,483 | 43,906 | 14.0% | 217 | 1,546 | 8,681 | 829 | 980 | 176 | 140 | 177 | 21 | 22 |
| Norway | Recovery | 119 | 8,896 | 251 | 2.8% | 609 | 21,739 | 399 | 17 | 16 | 1 | 0 | 1 | 0 | 0 |
| Netherlands | Recovery? | 118 | 50,273 | 6,113 | 12.2% | 341 | 2,801 | 1,316 | - | 234 | - | -50 | (82) | -6 | -2 |
| Sweden | Recovery? | 118 | 69,692 | 5,370 | 7.7% | 145 | 1,880 | 2,214 | 103 | 185 | 12 | -95 | (240) | 0 | -36 |
| USA | Falling | 117 | 2,779,953 | 130,798 | 4.7% | 119 | 2,532 | 51,097 | 51,097 | 2,804 | 676 | 5055 | 11,994 | -88 | -132 |
| Spain | Recovery | 117 | 296,739 | 28,363 | 9.6% | 158 | 1,647 | 8,271 | 388 | 961 | 8 | 87 | 54 | -1 | 6 |
| Switzerland | Recovery | 117 | 31,851 | 1,965 | 6.2% | 272 | 4,405 | 1,321 | 137 | 75 | 2 | 75 | 93 | 1 | 0 |
| Belgium | Recovery? | 117 | 61,509 | 9,754 | 15.9% | 188 | 1,188 | 2,454 | 82 | 496 | 7 | 16 | (6) | -8 | -2 |
| Denmark | Recovery? | 114 | 12,794 | 606 | 4.7% | 453 | 9,524 | 390 | 26 | 15 | 1 | 9 | (28) | 1 | 1 |
| Austria | Recovery | 113 | 17,873 | 705 | 3.9% | 504 | 12,821 | 1,321 | 107 | 30 | - | 64 | 66 | -2 | 0 |
| Canada | Recovery | 111 | 104,271 | 8,615 | 8.3% | 362 | 4,386 | 1,920 | 67 | 207 | 24 | -219 | (212) | -1 | -6 |
| Ireland | Recovery | 111 | 25,477 | 1,738 | 6.8% | - | 2,841 | 1,515 | 4 | 57 | 2 | -7 | (1) | 1 | -4 |
| Portugal | Recovery | 110 | 42,454 | 1,579 | 3.7% | 240 | 6,452 | 1,516 | 313 | 37 | 3 | 84 | (54) | -5 | 0 |
| Australia | Recovery | 110 | 7,920 | 104 | 1.3% | 3,215 | 250,000 | 534 | 84 | 8 | - | 15 | 55 | 0 | -1 |
| Brazil | Falling | 110 | 1,453,369 | 60,713 | 4.2% | 146 | 3,497 | 55,209 | 44,884 | 1,261 | 1,057 | 6887 | 3,889 | -214 | -46 |
| Malaysia | Recovery | 110 | 8,640 | 121 | 1.4% | 3,745 | 250,000 | 235 | 1 | 8 | - | -1 | (5) | 0 | 0 |
| Mexico | Falling | 109 | 226,089 | 27,769 | 12.3% | 570 | 4,651 | 6,288 | 5,432 | 60 | 648 | 1627 | (856) | -175 | -145 |
| Singapore | Recovery | 118 | 44,122 | 26 | 0.1% | 133 | 250,000 | 1,426 | 215 | 2 | - | -31 | 24 | 0 | 0 |
| North America | Falling | 117 | 3,110,313 | 167,182 | 5.4% | 160 | 2,977 | 50,133 | 56,596 | 2,974 | 1,348 | 6,463 | 10,926 | 86 | (283) |
| Western Europe | Recovery | 131 | 1,533,844 | 174,060 | 11.3% | 262 | 2,310 | 35,453 | 3,598 | 4,442 | 260 | 792 | 825 | (14) | (25) |
| Other | Rising | 159 | 6,150,943 | 176,816 | 2.9% | 1,118 | 38,878 | 124,657 | 136,707 | 3,155 | 3,239 | 15,382 | 12,050 | (297) | 84 |
| World | Inflection | 159 | 10,795,100 | 518,058 | 4.8% | 722 | 15,038 | 196,901 | 196,901 | 7,960 | 4,847 | 22,637 | 23,801 | (225) | (224) |
| U.S. Change Since Last Week | | | | | | | | | | | | | | | |
| | Cases/Day | Deaths/Day | | | | | | | | | | | | | |
| Original Hot Spot | 436 | (73) | | | | | | | | | | | | | |
| Current Hot Spot | 9,108 | 8 | | | | | | | | | | | | | |
| Rest | 2,450 | (67) | | | | | | | | | | | | | |
| Seven-Day Moving Averages | | | | | | | | | | | | | | | |
| | Maximum | Today | Reduction | | | | | | | | | | | | |
| Cases | 44,788 | 44,788 | 0% | | | | | | | | | | | | |
| Deaths | 2,193 | 556 | -75% | | | | | | | | | | | | |
| State Conditions - Weekly Deaths | | | | | | | | | | | | | | | |
| Falling | Inflection | Rising | | | | | | | | | | | | | |
| 38 | 5 | 9 | | | | | | | | | | | | | |

Source: Worldometer.com, Transport Futures, & Broughton Capital

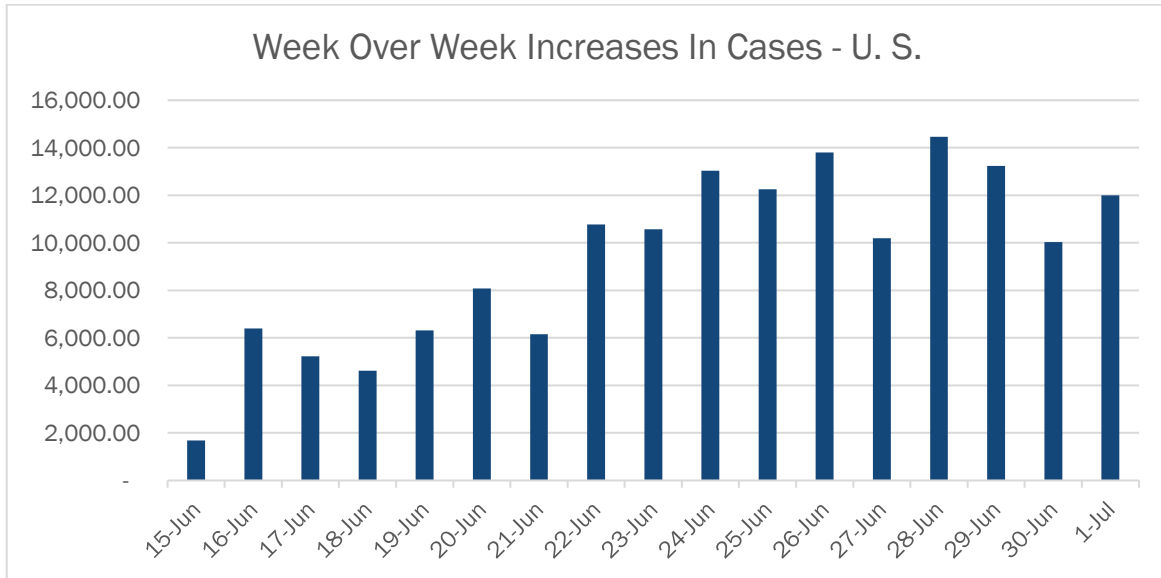
Exhibit 3A

| | Total Cases | Max New Cases/Day Since 21 April | New Cases Latest Day | Change in New Cases/Day | Change In Cases/Day Since Week Ago | Change In Cases/Day Since Max | Total Deaths | Max New Deaths/Day Since 21 April | New Deaths Latest Day | Change In New Deaths/Day | Change In Deaths/Day Since Week Ago | Change In Deaths/day since Max |
|------------------|------------------|----------------------------------|----------------------|-------------------------|------------------------------------|-------------------------------|----------------|-----------------------------------|-----------------------|--------------------------|-------------------------------------|--------------------------------|
| USA Total | 2,779,953 | 38,474 | 51,097 | 5,055 | 11,994 | 33% | 130,798 | 2,804 | 676 | (88) | (132) | -76% |
| New York | 418,605 | 10,868 | 769 | 261 | 50 | -93% | 32,143 | 764 | 14 | (3) | (18) | -98% |
| New Jersey | 177,238 | 4,160 | 285 | (269) | 113 | -93% | 15,218 | 458 | 41 | (13) | (7) | -91% |
| Massachusetts | 109,143 | 4,946 | 261 | 147 | 89 | -95% | 8,081 | 252 | 27 | 27 | (21) | -89% |
| California | 238,391 | 7,906 | 6,497 | (1,409) | 1,531 | -18% | 6,164 | 121 | 83 | (22) | (13) | -31% |
| Pennsylvania | 91,864 | 3,096 | 636 | (37) | 144 | -79% | 6,741 | 294 | 39 | 9 | (18) | -87% |
| Illinois | 145,066 | 4,014 | 828 | 104 | 113 | -79% | 7,152 | 191 | 28 | 7 | (35) | -85% |
| Michigan | 71,089 | 1,350 | 361 | (144) | 3 | -73% | 6,198 | 232 | 5 | (27) | - | -98% |
| Florida | 158,997 | 9,585 | 6,563 | 470 | 1,052 | -32% | 3,554 | 83 | 49 | (9) | 4 | -41% |
| Louisiana | 60,178 | 2,041 | 2,041 | 999 | 1,179 | 0% | 3,238 | 126 | 9 | (14) | (9) | -93% |
| Texas | 175,509 | 8,240 | 8,240 | 281 | 2,063 | 0% | 2,541 | 63 | 45 | (14) | 3 | -29% |
| Connecticut | 46,572 | 2,109 | 58 | (94) | 44 | -97% | 4,324 | 125 | 2 | - | (8) | -98% |
| Georgia | 84,237 | 2,946 | 2,946 | 1,072 | 1,243 | 0% | 2,827 | 78 | 22 | 1 | 12 | -72% |
| Maryland | 67,918 | 1,730 | 359 | 54 | 29 | -79% | 3,205 | 77 | 15 | - | (1) | -81% |
| Ohio | 53,335 | 1,002 | 916 | 152 | (51) | -9% | 2,901 | 138 | 11 | (29) | (28) | -92% |
| Washington | 34,595 | 834 | 707 | 210 | 92 | -15% | 1,339 | 30 | 7 | (5) | (2) | -77% |
| Indiana | 45,952 | 949 | 358 | (8) | 89 | -62% | 2,650 | 119 | 10 | (6) | 1 | -92% |
| Colorado | 33,029 | 994 | 314 | 110 | 52 | -68% | 1,697 | 122 | 7 | (1) | 5 | -94% |
| Virginia | 63,203 | 1,615 | 416 | (182) | (104) | -74% | 1,786 | 43 | 23 | - | 7 | -47% |
| Tennessee | 45,315 | 2,125 | 1,806 | 594 | 874 | -15% | 609 | 27 | 5 | (7) | (9) | -81% |
| North Carolina | 66,653 | 2,387 | 1,256 | (407) | (1,128) | -47% | 1,394 | 27 | 18 | 8 | (6) | -33% |
| Missouri | 22,695 | 713 | 351 | (215) | (2) | -51% | 1,049 | 31 | 11 | (3) | 5 | -65% |
| Rhode Island | 16,853 | 443 | 40 | (9) | (33) | -91% | 956 | 27 | 6 | 2 | - | -78% |
| Alabama | 38,962 | 1,734 | 917 | 47 | (50) | -47% | 972 | 28 | 22 | 1 | (5) | -21% |
| Arizona | 84,092 | 4,877 | 4,877 | 2,649 | 3,082 | 0% | 1,720 | 88 | 88 | 44 | 9 | 0% |
| Mississippi | 27,900 | 1,265 | 653 | (27) | 127 | -48% | 1,082 | 35 | 9 | (5) | (13) | -74% |

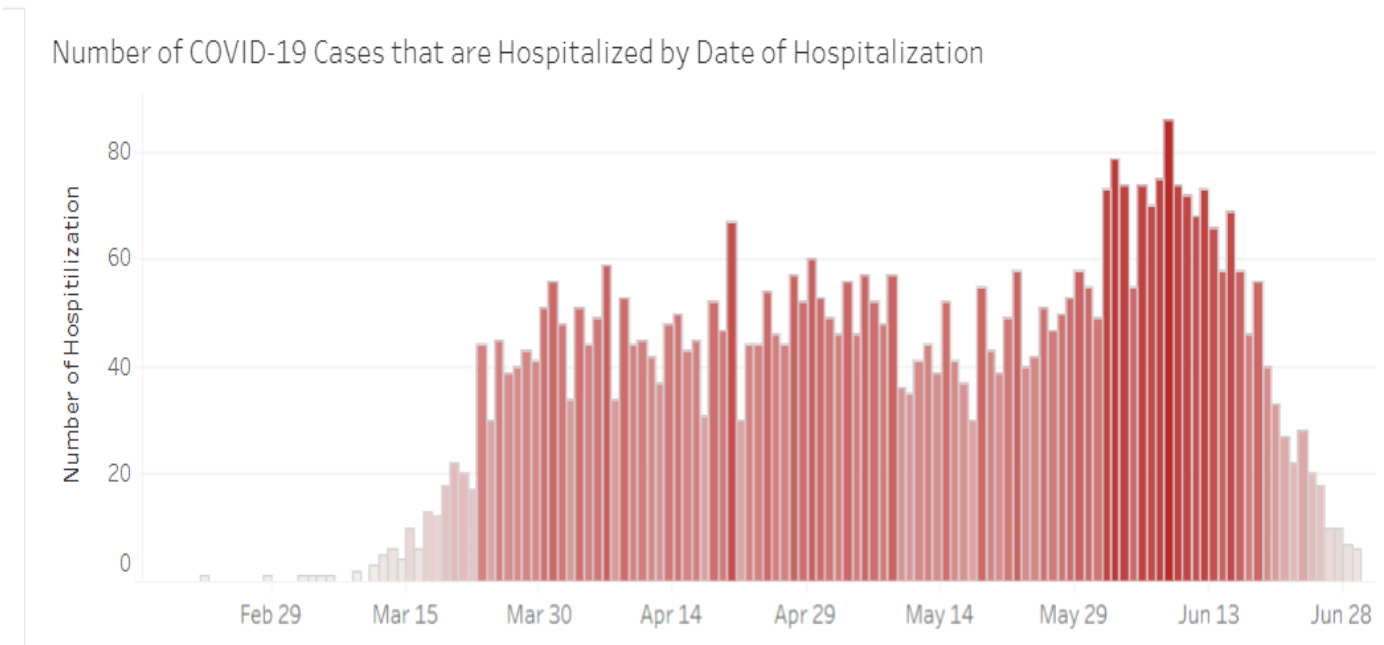
Exhibit 3B.

| | Total Cases | Max New Cases/Day Since 21 April | New Cases Latest Day | Change in New Cases/Day | Change In Cases/Day Since Week Ago | Change In Cases/Day Since Max | Total Deaths | Max New Deaths/Day Since 21 April | New Deaths Latest Day | Change In New Deaths/Day | Change In Deaths/Day Since Week Ago | Change In Deaths/day since Max |
|----------------------|-------------|----------------------------------|----------------------|-------------------------|------------------------------------|-------------------------------|--------------|-----------------------------------|-----------------------|--------------------------|-------------------------------------|--------------------------------|
| Wisconsin | 29,199 | 540 | 540 | (61) | 108 | 0% | 786 | 20 | 2 | (5) | (5) | -90% |
| South Carolina | 37,919 | 1,755 | 1,520 | (235) | 236 | -13% | 766 | 40 | 27 | 8 | 17 | -33% |
| Nevada | 19,101 | 1,099 | 645 | 83 | 280 | -41% | 511 | 17 | 4 | 1 | 2 | -76% |
| Iowa | 29,502 | 757 | 493 | 301 | 149 | -35% | 717 | 21 | 1 | (6) | (3) | -95% |
| Utah | 22,716 | 676 | 499 | (54) | 15 | -26% | 173 | 8 | 1 | (3) | 1 | -88% |
| Kentucky | 15,842 | 577 | 200 | (95) | (22) | -65% | 572 | 17 | 7 | 2 | 6 | -59% |
| District Of Columbia | 10,365 | 335 | 38 | 3 | 4 | -89% | 553 | 19 | 2 | 2 | (2) | -89% |
| Delaware | 11,510 | 458 | 36 | (62) | (6) | -92% | 509 | 69 | 0 | (2) | (1) | -100% |
| Oklahoma | 14,112 | 585 | 355 | (230) | (127) | -39% | 389 | 21 | 2 | - | 1 | -90% |
| Minnesota | 36,716 | 840 | 413 | (29) | 119 | -51% | 1,482 | 39 | 6 | - | (1) | -85% |
| Kansas | 15,097 | 622 | 538 | 492 | 114 | -14% | 278 | 13 | 3 | 1 | 3 | -77% |
| New Mexico | 12,276 | 319 | 129 | (36) | (23) | -60% | 500 | 12 | 3 | (1) | (1) | -75% |
| Oregon | 8,931 | 285 | 275 | 104 | 105 | -4% | 208 | 7 | 1 | (2) | (2) | -86% |
| Arkansas | 21,197 | 703 | 420 | (100) | (277) | -40% | 277 | 10 | 7 | 2 | 4 | -30% |
| Idaho | 6,370 | 433 | 253 | (112) | 10 | -42% | 92 | 3 | 0 | (1) | (1) | -100% |
| South Dakota | 6,826 | 239 | 62 | 14 | (4) | -74% | 93 | 5 | 2 | 2 | 1 | -60% |
| Nebraska | 19,310 | 641 | 133 | (145) | 4 | -79% | 276 | 21 | 2 | (5) | 1 | -90% |
| New Hampshire | 5,802 | 164 | 20 | (2) | (7) | -88% | 373 | 19 | 2 | (2) | (2) | -89% |
| West Virginia | 2,979 | 102 | 74 | 39 | 38 | -27% | 93 | 4 | 0 | - | - | -100% |
| Maine | 3,294 | 76 | 41 | 7 | 18 | -46% | 105 | 5 | 0 | - | (1) | -100% |
| Vermont | 1,210 | 16 | 2 | 2 | (18) | -88% | 56 | 3 | 0 | - | - | -100% |
| North Dakota | 3,615 | 134 | 39 | 2 | (3) | -71% | 80 | 6 | 1 | 1 | 1 | -83% |
| Hawaii | 926 | 27 | 9 | (8) | (7) | -67% | 18 | 2 | 0 | - | - | -100% |
| Wyoming | 1,514 | 44 | 27 | (10) | (1) | -39% | 20 | 4 | 0 | - | - | -100% |
| Montana | 1,016 | 56 | 49 | 1 | 26 | -13% | 22 | 2 | 0 | - | - | -100% |
| Alaska | 978 | 29 | 38 | 2 | 24 | 31% | 14 | 2 | 0 | - | - | -100% |
| Other | 64,239 | 2,495 | 1,794 | 835 | 638 | -28% | 2,294 | 186 | 7 | (21) | (3) | -96% |

Exhibit 3C



Source: Worldometer.com, Transport Futures, & Broughton Capital



Source: Arizona Department of Health Services

A note about data and our approach:

As we have noted before, the 'new case' numbers are influenced by the number of tests. Since the rate of testing varies between entities, varies over time, and is dependent on the completeness of collection, the data on new cases can be misleading at times. However, counting them is simple. Does the test show positive? It is not so simple with deaths, where there is considerable interpretation as to whether COVID-19 was the causal factor. Take the case of a desperately ill person already in hospice care. When that person dies, if he or she has contracted COVID-19, that death is attributed to the contagion, even though death was near anyway. Moreover, some jurisdictions are counting a person dying with 'possible' COVID-19 infection as a COVID-19 death. In addition, there is also the same problem with completeness of counting as with the case statistics.

Recent revisions have slightly increased the number of new cases reported and widened the gap between our projection and the actual data. This process has lowered our confidence in our prediction of the quarantines being lifted quickly. In all of our analysis, we try to point out other factors that may bias the data or those who are reporting the data; and, in the interest of transparency, we strive to admit any bias we harbor. We acknowledge one of our biases - we suspect that there are deaths, classified as caused by Covid-19, in which Covid-19 was only coincidental. Call it our bias about someone else's bias - the potential of increased government and insurance funding, as well as other resources, may incentivize hospitals to report more of the deaths experienced in their facilities as Covid-19 caused.

We continue to find the scarcity of factual data being reported about the Covid-19 Virus alarming. Even more distressing is the scarcity of statistically-based trend analysis. There are many models based largely on assumption, with little of the kind of evidence-based analysis you will find in this report.

1. From within the health care industry, those with intimate working knowledge of patients and the evolution of the cases overall, are for some reason, not producing any statistical forecasts or even conducting simple mathematical trend analysis. We will give the benefit of the doubt, since we know they are busy treating patients, and perhaps the kind of work we love to do, just isn't on their priority list.
2. We claim no special insights into the virology or contagion or appropriate medical treatment protocols. We do, however, understand the basic principles of applying critical thinking, conducting a bit of evidence scrutiny, and then using some old-fashioned mathematical reasoning. We use data science techniques to produce trend analysis that is free from emotion, as well as to construct forecasts which have statistical significance. This analysis should allow our readers a chance to improve their awareness, embolden their patience (and we could all use a little more patience, right now), and set realistic expectations for the coming days, weeks, and months.

Important Disclosures

Broughton Capital, LLC is an independent, privately held, deep-data driven quantamental economics balanced with fundamental equity research, firm. Headquartered in St. Louis, with personnel in Boston, Dallas, Chicago, Nashville and Philadelphia, we travel the globe to meet with companies, their customers and vendors, and clients, as we strive to be the single best resource for transportation data and understanding the trends driving the future of the commercial transportation of goods. The material contained herein is based upon sources we believe to be reliable, but is not guaranteed to be accurate or complete. It is published for informational purposes only and should not be construed as an offer, or the solicitation of an offer to buy or sell any security. Opinions expressed are solely those of the author and subject to change as new data becomes available.

We are “The Independent Variable.” Why? Two reasons:

1. As is true in a mathematical equation, **the independent variable drives the value, changes the value of the dependent variables.** Knowing the independent variable, allows you to solve for the value of not only the dependent variables but the value of the overall equation. We know that through good fundamental research, high quality data, and years of industry experience, we can literally change the value of an equity, a company's access to capital (debt and equity), ability to merge or acquire, and even a management team or their behavior. We know that if we do our job well, we become the 'Independent Variable' in a company's future.
2. **We are Independent.** We do not work for a large commercial bank. We are not beholden to lending relationships, or our firm's investment holdings, or even worse – our firm's investment bankers. While we pride ourselves on being independent from emotion and influence, we are aware of, and guarded against falling victim to, the cognitive biases inherent in the human brain. We are dependent on math and the power of back tested multivariable analysis, especially when balanced with wisdom of experience from those who have made decades of mistakes. **We are Variable.** Over the last several decades, we have been everything from strongly positive about to strongly negative about almost every single equity in the transportation universe. We have built our reputation upon having an opinion, and being clear about that opinion (i.e., no one ever finishes a conversation with us and says, “I wonder what they really think?”). We know that our opinions and outlooks may be everything from slightly flawed to completely wrong. As a result, we consider it our professional duty to change our opinions and outlooks as the statistics, data, or evidence warrant.

Transportation stocks have the reputation for predicting the overall market #dowtransporttheory because the underlying goods flow is heartbeat of the economy. That goods flow becomes increased (or decreased) levels of asset utilization for asset intensive transportation companies, which becomes increased (or decreased) levels of financial returns, which becomes stock price. We believe that the stock price performance of transportation companies is only symptomatic of the underlying goods flow.