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## Introduction & Overview: Covid-19 and the Hudson Valley Economy

This section of the update of the Comprehensive Economic Development Strategy provides an update of the economic conditions in the Hudson Valley Region since the adoption of the 2019-23 CEDS. In that document, the Hudson Valley Region was characterized as a “a key nexus where the economic, social, and cultural forces of a major global capital, New York City, meet and intermingle with the dynamics associated with the Valley’s small cities, towns and rural areas—vibrant legacies in agriculture and food, industrial innovation.”<sup>1</sup> In the intervening months, that characterization remains unchanged. However, the emergence of the Covid-19 pandemic has led to unprecedented economic disruption throughout the nation and globe.

Not only did the pandemic and its associated lock-downs dramatically reduce overall economic activity, the response by business in various sectors accelerated trends already at work in the economy. These, in turn, have created new challenges and opportunities across the globe and, specifically in the Hudson Valley region. This section provides a description of those overall challenges and opportunities and then analyzes data to assess the impact on the Hudson Valley region in particular.

The challenges emerging from the pandemic include the disruption of the leisure and hospitality sectors in the face of economic lockdowns and general fear of occupying space in proximity to others. This has left many tourism businesses, restaurants and small-scale retailers and service businesses with bleak short-term prospects. As indicated in this analysis, much of the damage done by Covid-19 has fallen upon small businesses that lack the reserves or access to capital needed to weather this disruption. They are at heightened risk of disappearing.

At the same time, transportation, distribution and warehousing enterprises have seen pre-Covid trends accelerate. Networks of large scale, remotely located, centralized distribution centers are being replaced by smaller facilities nestled in and around major market centers to enable more rapid, flexible responses to the growing volume of on-line orders. Similarly, as the pandemic has accelerated the move to remote work, existing models of stand-alone office parks are being reconsidered in lieu of smaller, mixed use facilities. Complementing this trend is the “hybridization” of food and retail enterprises, where the concept of a stand-alone grocery store or restaurant is giving way to a recombination of this uses (along with office space and warehousing) into new multi-use enterprises and facilities.

Finally, the use of remote work by companies has been accelerated by the pandemic. Located in the transition between the New York City region and Upstate New York, the Hudson Valley is likely to feel the long-term effects of this trend. Indeed, it is a potential source of growth for the Region in terms of population, employment and wealth. Analyses in this section indicate that, while the overall numbers may be small, the trend is already having an effect on hiring practices of the Region’s employers as well as on the housing market and the Hudson Valley appears to be receiving an ever greater number of relocating workers.

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<sup>1</sup> Hudson Valley Regional Council, *Comprehensive Economic Development Strategy, 2019-23*, page 24.

### Changing Threats and Opportunities Associated with Covid-19

The pandemic has accelerated a number of trends that are affecting and will continue to affect the Hudson Valley economy. This section describes four trends and what they might mean for the region:

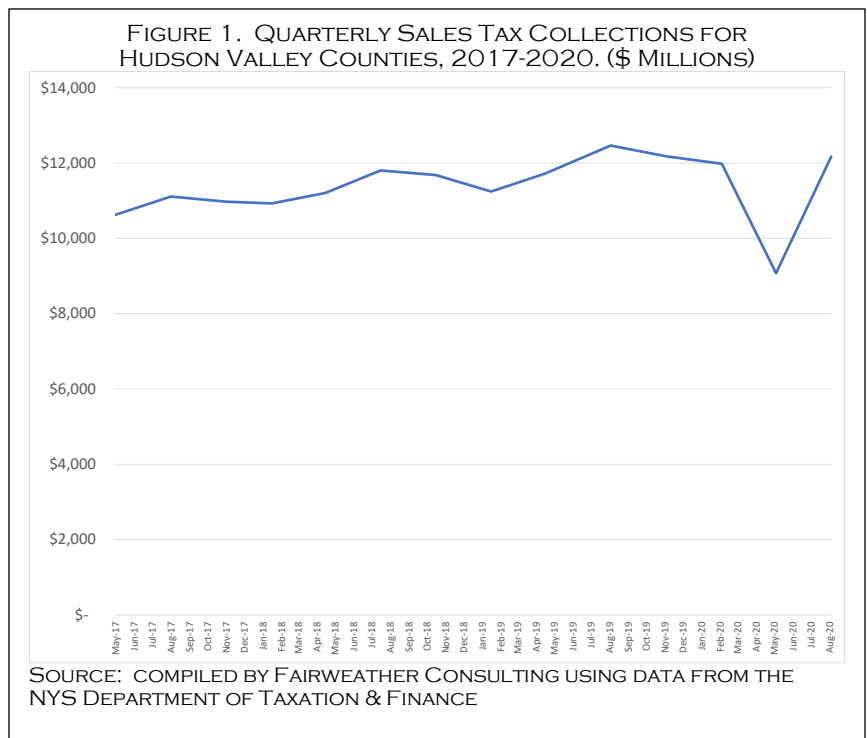
- The Impact on Tourism, Hospitality and “Mom & Pop” businesses
- The Transformation of Warehousing & Distribution
- Convergence & Hybridization in Food & Retail
- The Rise of Remote Work & “Space as a Service”

#### The Impact on Tourism, Hospitality and “Mom & Pop” businesses

One of the most dramatic and damaging impact of the Covid-19 pandemic has been its effect on main street businesses and tourism-related enterprises. Social distancing, and in extreme cases, lockdowns are important tools in the fight against the pandemic. But they can reduce or even eliminate the demand for main street shopping and other the Hudson Valley, but across the globe. A recent report by McKinsey described it this way:

COVID-19 has caused an unprecedented crisis for the tourism industry. International tourist arrivals are projected to plunge by 60 to 80 percent in 2020, and tourism spending is not likely to return to precrisis levels until 2024. This puts as many as 120 million jobs at risk.<sup>2</sup>

A proxy for the impact on the Hudson Valley’s retail and tourism sectors can be seen in Figure 1, which shows the trend in sales tax collections in the County since 2017. The precipitous drop in sales tax collections beginning the second quarter of 2020 is testimony to the pandemic’s impact. While much of that was made up in subsequent months, as of August, collections were still down 2.4 percent from the previous August. This modest decline in the heels of a dramatic drop spells trouble, particularly for smaller businesses that do not have the reserves to weather such unprecedented adversity.



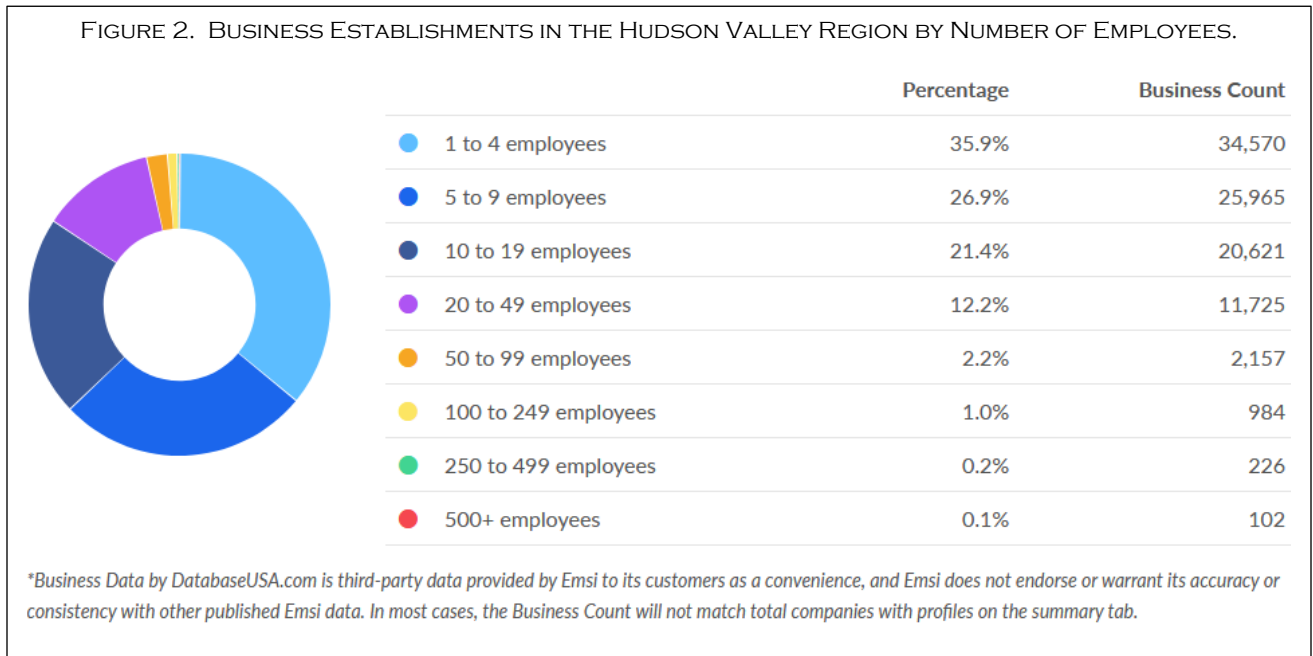
<sup>2</sup> Margaux Constantin, Steve Saxon, and Jackey Yu, “Reimagining the \$9 trillion tourism economy—what will it take?” McKinsey & Company, August 5, 2020

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Indeed, a recent survey by the online small business referral network Alignable found that one half of the small retailers they surveyed in November, 2020 believed they were in imminent danger of failing.<sup>3</sup> This could have a widespread effect in the Hudson Valley Region. Figure 2 illustrates this fact. According to data from EMSI, approximately 62 percent of the Region’s firms have fewer than 10 employees, with one third of all businesses having five or fewer employees. Developing a response to this situation must be a priority for this economic development strategy.

The Transformation of Warehousing and Distribution

This trend is almost the mirror image of the troubles faced by small retailers. The rise of on-line shopping during the pandemic has led to new approaches to warehousing and distribution in order to better serve changing consumer demand.



The humble shed can be as good an investment in the e-commerce era as shovels were in the gold rush. . . The future is likely to be ever closer to large urban or suburban areas as online retailers strive to shorten delivery times. . . New warehousing might combine storage with light manufacturing, creative industries, a gym & coffee shop—re-using an abandoned shopping mall.<sup>4</sup>

In previous times, the most efficient system for warehousing and distribution involved extremely large warehouse facilities to gain economies of scale. In the Covid (and likely post-Covid) economy, that has given way to the creation of smaller warehouses located closer to markets to serve proliferating demand more quickly. The Hudson Valley’s proximity to New York City make it a potential candidate for these new types of facilities.

<sup>3</sup> Pamela N. Danziger, “Half Of Small Retailers May Be Forced Out Of Business With More Restrictions Threatening,” *Forbes*, December 7, 2020.

<sup>4</sup> *Economist*, 5/30/2020

### Convergence & Hybridization in Food & Retail

The changes in retail and distribution described above have contributed to another trend which is a potential opportunity for the Hudson Valley: accelerating convergence and hybridization in food and retail. As retailers seek to provide a reason for shoppers to patronize “bricks and mortar” stores, and restaurants seek ways to entice diners to return, establishments that used to be separate will be combined into a single enterprise. A recent report by the Brookings Institution describes it:

“Convergence and hybridization will accelerate in food retail. . . IKEA was already a furniture showroom, warehouse, and restaurant. High-end grocers were encouraging shoppers to have a beer. Restaurants were increasingly not just dine-in, but fast-casual or mobile food trucks. . . . Americans will return to eating much of their food prepared outside the home. In 2017, jobs in leisure and hospitality (which includes all bars and restaurants) grew to outnumber jobs in retail trade. The pandemic is a setback, but not a reset.”<sup>5</sup>

This trend could be an important opportunity for communities in the Hudson Valley, with their well-established successful commercial core districts combined with the presence of a strong agriculture and food sector in the County.

### The Rise of the Remote Worker & “Space as a Service”

The pandemic has also accelerated changes in the way office space is used in business. This raises problems and opportunities for Region’s economy. One aspect of this is the rise of remote working as a permanent feature of business. This began out of a need to isolate and socially distance during the pandemic. But firms and employees soon became convinced of the potential long-term advantages of this arrangement. A whitepaper by the consulting firm Gartner describes the result:

A recent Gartner poll showed that 48% of employees will likely work remotely at least part of the time after COVID-19 versus 30% before the pandemic. As organizations shift to more remote work operations, explore the critical competencies employees will need to collaborate digitally, and be prepared to adjust employee experience strategies. Consider whether and how to shift performance goal-setting and employee evaluations for a remote context.<sup>6</sup>

As workers discovered the possibilities of remote work, many have sought to relocate to smaller, less densely populated areas as a means to avoid contracting Covid-19. This could be a potential source of new residents and workers for the Hudson Valley Region.

At the same time, the rise of remote work has also given rise to a re-thinking of how to use office space itself. If workers are no longer bound to a particular office as part of their job, companies have been reconsidering how they use space to get their work done. A recent University of Oxford study described what this will look like:

Offices will no longer just be places to come to work every day, but will become collaborative/creative spaces, perhaps visited twice a week. Consequently, companies might

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<sup>5</sup> Brookings Institution, *The ABCs of the post-COVID economic recovery*, May, 2020

<sup>6</sup> Mary Baker, “9 Future of Work Trends Post-COVID-19,” *Smarter with Gartner*, June 8, 2020.

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choose to have more local, suburban and smaller offices, closer to where people live, in order to reduce commutes – a multi-site or dual-hub solution.<sup>7</sup>

The key here is that companies are not limited to a single option in terms of how they organize their places of work. A recent whitepaper by McKinsey described the changes taking place:

In any case, the coming transformation will use a portfolio of space solutions: owned space, standard leases, flexible leases, flex space, co-working space, and remote work. Before the crisis, flexible space solutions held about 3 percent of the US office market. Their share had been growing at 25 percent annually for the past five years, so flexibility was already in the works. McKinsey research indicates that office-space decision makers expect the percentage of time worked in main and satellite offices to decline by 12 and 9 percent, respectively, while flex office space will hold approximately constant and work from home will increase to 27 percent of work time, from 20 percent.<sup>8</sup>

### How Covid-19 Has Affected Economic Activity in the Hudson Valley

While it is essential to understand the extent and nature of Covid-19's impact on the Hudson Valley economy, it is also difficult to gain detailed understanding given the lack of timely data on employment, wages, etc. For example, as of the writing of this report, the most recent data available from the US Labor Department's Quarterly Census of Employment and Wages was for the second quarter of 2020, which marks just the beginning of the pandemic. Thus, there are limits to what can be understood in terms of how the pandemic has affected various sectors and localities on the region.

Fortunately, the New York State Department of Labor has made every effort to provide preliminary summary data on employment trends in the US, New York State and its constituent regions, including the Hudson Valley. The following pages will review what can be learned from the limited data that are available. As part of understanding these trends, this analysis will also examine trends in sales tax collections in the Hudson Valley. The New York State Department of Taxation and Finance provides data on taxable sales and purchases broken out by the various industries making the sales. While this is not the equivalent of employment data, it does provide some relative indication of which sectors have been hardest hit by Covid-19 and which have been spared the worst effects.

Finally, the analysis will conclude with an assessment of trends in remote working in the Hudson Valley, using an analysis of recent job postings to gauge the presence of remote working in the region. This is accompanied by an analysis of recent single-family home sales in the region to provide a preliminary indication of the extent to which each County is seeing an influx of remote workers.

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<sup>7</sup> Richard Darby and Tom Darby, The post-pandemic future for city centre office space, University of Oxford, July 6, 2020

<sup>8</sup> Brodie Boland, Aaron De Smet, Rob Palter, and Aditya Sanghvi, *Reimagining the office and work life after COVID-19: Changing attitudes on the role of the office*. McKinsey & Company, June 8, 2020.

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### Employment Trends

While detailed data on employment is not yet publicly available, special tabulations of employment data by the New York State Department of Labor provides insight into how the pandemic and its associated economic impact has affected employment in the US, New York State and the Hudson Valley Region.

**National Trends:** Table 1 shows the impact of Covid-19 on the US economy. From December 2019 to December 2020, total nonfarm employment in the US dropped by six percent, with a drop of 6.1 percent in private employment. Note that Table 1 indicates any modest recovery was stalling, with total private sector employment falling 0.1 percent from November to December of 2020.

As would be expected, given the analysis above, Leisure & Hospitality employment in the United States experienced the largest drop over the past year, falling by 22.7 percent from December, 2019 to December, 2020. Again, a modest recovery eluded that sector, with a 3.9 percent decline in the sector from December, 2019 to December, 2020.

While Table 1 does indicate that only a few sectors (natural resources & mining, manufacturing, trade, financial activities and professional services) have shown modest increases in the past month, which reinforces the concept that any recovery is in danger from the intensifying spread of Covid-19, as evidenced by the recent release of jobs data from the US Bureau of Labor Statistics, indicating that total nonfarm payroll employment declined by 140,000 in December, 2020.<sup>9</sup>

**New York State Trends:** As seen in Table 2, New York State has experienced trends similar to the US with even more dramatic declines. Overall employment dropped by 10.3 percent from December, 2019 to December, 2020, with a 11.5 percent decline in private employment. Note also that, among the private sectors, only manufacturing, trade, information (e.g., media), financial activities experienced any growth in jobs. As with the US economy, Leisure and Hospitality was hit the hardest, showing a decline of 38.9 percent, including a 6.9 percent drop in jobs from November to December, 2020.

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<sup>9</sup> US Bureau of Labor Statistics, Employment Situation Summary, January 8, 2021

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| Table 1. Covered, Nonfarm Employment, December 2020, November 2020, December 2019, United States |             |             |             |           |         |            |        |
|--|-------------|-------------|-------------|-----------|---------|------------|--------|
| Category   | Dec 2020    | Nov 2020    | Dec 2019    | Net Month | % Month | Net Year   | % Year |
| Total Nonfarm  | 143,777,000 | 144,105,000 | 152,934,000 | -328,000  | -0.2%   | -9,157,000 | -6.0%  |
| Total Private  | 122,027,000 | 122,162,000 | 129,919,000 | -135,000  | -0.1%   | -7,892,000 | -6.1%  |
| Goods-producing  | 20,283,000  | 20,320,000  | 21,034,000  | -37,000   | -0.2%   | -751,000   | -3.6%  |
| Natural Resources and Mining   | 630,000     | 629,000     | 713,000     | 1,000     | 0.2%    | -83,000    | -11.6% |
| Construction   | 7,322,000   | 7,425,000   | 7,447,000   | -103,000  | -1.4%   | -125,000   | -1.7%  |
| Manufacturing  | 12,331,000  | 12,266,000  | 12,874,000  | 65,000    | 0.5%    | -543,000   | -4.2%  |
| Service-Providing  | 123,494,000 | 123,785,000 | 131,900,000 | -291,000  | -0.2%   | -8,406,000 | -6.4%  |
| Private Service-Providing  | 101,744,000 | 101,842,000 | 108,885,000 | -98,000   | -0.1%   | -7,141,000 | -6.6%  |
| Trade, Transportation and Utilities  | 27,896,000  | 27,410,000  | 28,584,000  | 486,000   | 1.8%    | -688,000   | -2.4%  |
| Information  | 2,640,000   | 2,642,000   | 2,897,000   | -2,000    | -0.1%   | -257,000   | -8.9%  |
| Financial Activities   | 8,758,000   | 8,737,000   | 8,820,000   | 21,000    | 0.2%    | -62,000    | -0.7%  |
| Professional and Business Services   | 20,800,000  | 20,748,000  | 21,597,000  | 52,000    | 0.3%    | -797,000   | -3.7%  |
| Education and Health Services  | 23,470,000  | 23,581,000  | 24,630,000  | -111,000  | -0.5%   | -1,160,000 | -4.7%  |
| Leisure and Hospitality  | 12,712,000  | 13,225,000  | 16,455,000  | -513,000  | -3.9%   | -3,743,000 | -22.7% |
| Accommodation and Food Services  | 11,127,700  | 11,549,000  | 14,146,200  | -421,300  | -3.6%   | -3,018,500 | -21.3% |
| Food Services and Drinking Places  | 9,768,800   | 10,161,500  | 12,113,500  | -392,700  | -3.9%   | -2,344,700 | -19.4% |

Source: NYS Department of Labor.

| Table 2. Covered, Nonfarm Employment, December 2020, November 2020, December 2019, New York State |           |           |           |           |         |            |        |
|---|-----------|-----------|-----------|-----------|---------|------------|--------|
| Category  | Dec 2020  | Nov 2020  | Dec 2019  | Net Month | % Month | Net Year   | % Year |
| Total Nonfarm   | 8,873,700 | 8,931,800 | 9,892,100 | -58,100   | -0.7%   | -1,018,400 | -10.3% |
| Total Private   | 7,417,300 | 7,458,600 | 8,383,300 | -41,300   | -0.6%   | -966,000   | -11.5% |
| Goods-producing   | 774,100   | 778,700   | 835,200   | -4,600    | -0.6%   | -61,100    | -7.3%  |
| Natural Resources and Mining  | 4,500     | 4,700     | 5,100     | -200      | -4.3%   | -600       | -11.8% |
| Construction  | 370,500   | 379,100   | 392,900   | -8,600    | -2.3%   | -22,400    | -5.7%  |
| Manufacturing   | 399,100   | 394,900   | 437,200   | 4,200     | 1.1%    | -38,100    | -8.7%  |
| Service-Providing   | 8,099,600 | 8,153,100 | 9,056,900 | -53,500   | -0.7%   | -957,300   | -10.6% |
| Private Service-Providing   | 6,643,200 | 6,679,900 | 7,548,100 | -36,700   | -0.5%   | -904,900   | -12.0% |
| Trade, Transportation and Utilities   | 1,451,800 | 1,426,600 | 1,593,700 | 25,200    | 1.8%    | -141,900   | -8.9%  |
| Information   | 272,700   | 272,500   | 278,700   | 200       | 0.1%    | -6,000     | -2.2%  |
| Financial Activities  | 691,200   | 688,500   | 728,400   | 2,700     | 0.4%    | -37,200    | -5.1%  |
| Professional and Business Services  | 1,248,900 | 1,252,800 | 1,390,700 | -3,900    | -0.3%   | -141,800   | -10.2% |
| Education and Health Services   | 2,039,100 | 2,056,900 | 2,196,700 | -17,800   | -0.9%   | -157,600   | -7.2%  |
| Leisure and Hospitality   | 575,900   | 618,500   | 942,500   | -42,600   | -6.9%   | -366,600   | -38.9% |
| Other Services  | 363,600   | 364,100   | 417,400   | -500      | -0.1%   | -53,800    | -12.9% |
| Government  | 1,456,400 | 1,473,200 | 1,508,800 | -16,800   | -1.1%   | -52,400    | -3.5%  |

Source: NYS Department of Labor.

**Hudson Valley Trends:** Table 3 summarizes the employment trends in the Hudson Valley, showing overall declines that are greater than the US experienced, but not as dramatic as the declines seen in New York State as a whole. Overall nonfarm employment dropped 8.4 percent from December, 2019 to December 2020. Private employment fell by 9.2 percent. Similar to New York State, the Hudson Valley Region saw a dramatic drop in Leisure and Hospitality employment (-36.2 percent). While declines were virtually universal, with only Natural Resources & Mining holding steady with a 0.2 percent increase. Only Manufacturing, Trade and Information show slight increases from November to December, 2020, which indicates the hold the pandemic still has on the region.



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| Table 3. Covered, Nonfarm Employment, October 2020, November 2020, December 2019, Hudson Valley Region |          |          |          |           |         |          |        |
|--|----------|----------|----------|-----------|---------|----------|--------|
| Category   | Dec 2020 | Nov 2020 | Dec 2019 | Net Month | % Month | Net Year | % Year |
| Total Nonfarm  | 891,300  | 899,400  | 972,900  | -8,100    | -0.9%   | -81,600  | -8.4%  |
| Total Private  | 741,700  | 747,000  | 816,500  | -5,300    | -0.7%   | -74,800  | -9.2%  |
| Goods-producing  | 94,500   | 95,200   | 98,100   | -700      | -0.7%   | -3,600   | -3.7%  |
| Natural Resources, Mining and Construction   | 54,800   | 55,900   | 54,700   | -1,100    | -2.0%   | 100      | 0.2%   |
| Manufacturing  | 39,700   | 39,300   | 43,400   | 400       | 1.0%    | -3,700   | -8.5%  |
| Service-Providing  | 796,800  | 804,200  | 874,800  | -7,400    | -0.9%   | -78,000  | -8.9%  |
| Private Service-Providing  | 647,200  | 651,800  | 718,400  | -4,600    | -0.7%   | -71,200  | -9.9%  |
| Trade, Transportation and Utilities  | 178,100  | 173,900  | 185,700  | 4,200     | 2.4%    | -7,600   | -4.1%  |
| Information  | 14,600   | 14,500   | 14,800   | 100       | 0.7%    | -200     | -1.4%  |
| Financial Activities   | 43,000   | 43,400   | 46,300   | -400      | -0.9%   | -3,300   | -7.1%  |
| Professional and Business Services   | 106,400  | 107,500  | 115,200  | -1,100    | -1.0%   | -8,800   | -7.6%  |
| Education and Health Services  | 212,600  | 216,200  | 223,500  | -3,600    | -1.7%   | -10,900  | -4.9%  |
| Leisure and Hospitality  | 57,900   | 61,400   | 90,800   | -3,500    | -5.7%   | -32,900  | -36.2% |
| Other Services   | 34,600   | 34,900   | 42,100   | -300      | -0.9%   | -7,500   | -17.8% |
| Government   | 149,600  | 152,400  | 156,400  | -2,800    | -1.8%   | -6,800   | -4.3%  |

Source: NYS Department of Labor

Tables 4 through 7 provide employment trends within areas in the Hudson Valley region. For example, Table 4 provides a summary of employment trends for the Dutchess/Putnam Metropolitan Statistical Area (MSA). Job losses are similar to what has been experienced by the Region as a whole, with declines in total, nonfarm employment of 9.6 percent from December, 2019 to December, 2020, and a drop of ten percent in private employment over that same time period. Similar to national, statewide and regional trends, the largest drop in the Dutchess/Putnam MSA was in the Leisure and Hospitality sector, with a drop of 32.4 percent, smaller than what was experienced nationally, within the State and Region, but a significant decline nonetheless.

Table 5 summarizes employment for the Orange/Rockland/Westchester MSA. Again, the trends at this level match national, State and Regional trends. Note that Leisure and Hospitality employment declined by 42.6 percent from December, 2019 to December, 2020, with this decline continuing between November and December, 2020.

Table 6 shows the situation in Sullivan County, where the declines were more modest than the other areas. Total nonfarm employment fell by 6.8 percent from December, 2019 to December, 2020, while private sector jobs declined by 8.2 percent. The trends in Sullivan also show stagnation or decline in employment has continued from November to December, 2020, with the biggest ongoing declines in Natural Resources, Mining & Construction (down by 8.3 percent) and Other Services (-11.1 percent). As in all of the other areas examined, the sector with the steepest decline in Leisure and Hospitality, with a relatively modest drop of 19.0 percent.

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As Table 7 shows, the area with the most modest declines may be Ulster County (aka, the Kingston MSA). Overall, the County saw total nonfarm employment fall by 5.1 percent from December, 2019 to December, 2020, and private employment drop by 5.2 percent. The only private sector to lose more than ten percent in employment was Other Services (16.7 percent). Note also that, according to the NYS Labor Department data, Ulster County experienced only a 2.4 percent decline in Hospitality and Leisure employment from November, 2019 to November, 2020.

| Category                                   | Dec 2020 | Nov 2020 | Dec 2019 | Net Month | % Month | Net Year | % Year |
|--|----------|----------|----------|-----------|---------|----------|--------|
| Total Nonfarm                              | 136,600  | 137,900  | 151,100  | -1,300    | -0.9%   | -14,500  | -9.6%  |
| Total Private                              | 112,200  | 113,100  | 124,600  | -900      | -0.8%   | -12,400  | -10.0% |
| Goods-producing                            | 18,300   | 18,300   | 17,700   | 0         | 0.0%    | 600      | 3.4%   |
| Natural Resources, Mining and Construction | 10,000   | 10,100   | 8,700    | -100      | -1.0%   | 1,300    | 14.9%  |
| Manufacturing                              | 8,300    | 8,200    | 9,000    | 100       | 1.2%    | -700     | -7.8%  |
| Service-Providing                          | 118,300  | 119,600  | 133,400  | -1,300    | -1.1%   | -15,100  | -11.3% |
| Private Service-Providing                  | 93,900   | 94,800   | 106,900  | -900      | -0.9%   | -13,000  | -12.2% |
| Trade, Transportation and Utilities        | 24,000   | 23,500   | 25,500   | 500       | 2.1%    | -1,500   | -5.9%  |
| Wholesale Trade                            | 3,000    | 3,000    | 3,200    | 0         | 0.0%    | -200     | -6.3%  |
| Retail Trade                               | 16,800   | 16,500   | 17,600   | 300       | 1.8%    | -800     | -4.5%  |
| Transportation, Warehousing and Utilities  | 4,200    | 4,000    | 4,700    | 200       | 5.0%    | -500     | -10.6% |
| Information                                | 1,900    | 1,900    | 1,900    | 0         | 0.0%    | 0        | 0.0%   |
| Financial Activities                       | 4,900    | 4,900    | 5,100    | 0         | 0.0%    | -200     | -3.9%  |
| Professional and Business Services         | 11,800   | 11,700   | 13,200   | 100       | 0.9%    | -1,400   | -10.6% |
| Education and Health Services              | 35,500   | 36,200   | 39,900   | -700      | -1.9%   | -4,400   | -11.0% |
| Educational Services                       | 12,000   | 12,700   | 14,900   | -700      | -5.5%   | -2,900   | -19.5% |
| Health Care and Social Assistance          | 23,500   | 23,500   | 25,000   | 0         | 0.0%    | -1,500   | -6.0%  |
| Leisure and Hospitality                    | 9,800    | 10,600   | 14,500   | -800      | -7.5%   | -4,700   | -32.4% |
| Other Services                             | 6,000    | 6,000    | 6,800    | 0         | 0.0%    | -800     | -11.8% |
| Government                                 | 24,400   | 24,800   | 26,500   | -400      | -1.6%   | -2,100   | -7.9%  |
| Federal Government                         | 1,500    | 1,500    | 1,500    | 0         | 0.0%    | 0        | 0.0%   |
| State Government                           | 5,600    | 5,700    | 5,800    | -100      | -1.8%   | -200     | -3.4%  |
| Local Government                           | 17,300   | 17,600   | 19,200   | -300      | -1.7%   | -1,900   | -9.9%  |
| Local Government Education                 | 10,900   | 11,200   | 12,400   | -300      | -2.7%   | -1,500   | -12.1% |

Source: NYS Department of Labor

| Category                                   | Dec 2020 | Nov 2020 | Dec 2019 | Net Month | % Month | Net Year | % Year |
|--|----------|----------|----------|-----------|---------|----------|--------|
| Total Nonfarm                              | 667,400  | 673,400  | 729,300  | -6,000    | -0.9%   | -61,900  | -8.5%  |
| Total Private                              | 562,300  | 566,300  | 620,300  | -4,000    | -0.7%   | -58,000  | -9.4%  |
| Goods-producing                            | 67,300   | 67,900   | 71,000   | -600      | -0.9%   | -3,700   | -5.2%  |
| Natural Resources, Mining and Construction | 40,700   | 41,600   | 41,700   | -900      | -2.2%   | -1,000   | -2.4%  |
| Specialty Trade Contractors                | 25,900   | 26,600   | 28,200   | -700      | -2.6%   | -2,300   | -8.2%  |
| Manufacturing                              | 26,600   | 26,300   | 29,300   | 300       | 1.1%    | -2,700   | -9.2%  |
| Chemical Manufacturing                     | 4,000    | 4,000    | 4,100    | 0         | 0.0%    | -100     | -2.4%  |
| Service-Providing                          | 600,100  | 605,500  | 658,300  | -5,400    | -0.9%   | -58,200  | -8.8%  |
| Private Service-Providing                  | 495,000  | 498,400  | 549,300  | -3,400    | -0.7%   | -54,300  | -9.9%  |
| Trade, Transportation and Utilities        | 137,700  | 134,300  | 143,300  | 3,400     | 2.5%    | -5,600   | -3.9%  |
| Wholesale Trade                            | 25,000   | 24,500   | 27,500   | 500       | 2.0%    | -2,500   | -9.1%  |
| Merchant Wholesalers, Durable Goods        | 12,400   | 12,300   | 13,500   | 100       | 0.8%    | -1,100   | -8.1%  |
| Retail Trade                               | 87,000   | 84,500   | 87,400   | 2,500     | 3.0%    | -400     | -0.5%  |
| Food and Beverage Stores                   | 19,600   | 19,300   | 20,000   | 300       | 1.6%    | -400     | -2.0%  |
| Grocery Stores                             | 16,700   | 16,300   | 16,800   | 400       | 2.5%    | -100     | -0.6%  |

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| Table 5. Covered, Nonfarm Employment, December 2020, November 2020, December 2019, Orange/Rockland/Westchester MSA |          |          |          |           |         |          |        |
|--|----------|----------|----------|-----------|---------|----------|--------|
| Category   | Dec 2020 | Nov 2020 | Dec 2019 | Net Month | % Month | Net Year | % Year |
| Health and Personal Care Stores  | 6,600    | 6,500    | 6,800    | 100       | 1.5%    | -200     | -2.9%  |
| Clothing and Clothing Accessories Stores   | 8,600    | 8,300    | 11,400   | 300       | 3.6%    | -2,800   | -24.6% |
| General Merchandise Stores   | 14,300   | 13,700   | 13,600   | 600       | 4.4%    | 700      | 5.1%   |
| Transportation, Warehousing and Utilities  | 25,700   | 25,300   | 28,400   | 400       | 1.6%    | -2,700   | -9.5%  |
| Utilities  | 4,000    | 4,000    | 4,300    | 0         | 0.0%    | -300     | -7.0%  |
| Transportation and Warehousing   | 21,700   | 21,300   | 24,100   | 400       | 1.9%    | -2,400   | -10.0% |
| Information  | 11,700   | 11,700   | 11,900   | 0         | 0.0%    | -200     | -1.7%  |
| Telecommunications   | 3,200    | 3,300    | 3,500    | -100      | -3.0%   | -300     | -8.6%  |
| Financial Activities   | 35,000   | 35,400   | 38,000   | -400      | -1.1%   | -3,000   | -7.9%  |
| Finance and Insurance  | 21,800   | 22,100   | 23,800   | -300      | -1.4%   | -2,000   | -8.4%  |
| Credit Intermediation and Related Activities   | 8,800    | 8,900    | 9,000    | -100      | -1.1%   | -200     | -2.2%  |
| Depository Credit Intermediation   | 4,900    | 4,900    | 5,100    | 0         | 0.0%    | -200     | -3.9%  |
| Insurance Carriers and Related Activities  | 10,000   | 10,100   | 10,300   | -100      | -1.0%   | -300     | -2.9%  |
| Real Estate and Rental and Leasing   | 13,200   | 13,300   | 14,200   | -100      | -0.8%   | -1,000   | -7.0%  |
| Professional and Business Services   | 88,800   | 90,000   | 95,800   | -1,200    | -1.3%   | -7,000   | -7.3%  |
| Professional, Scientific, and Technical Services   | 39,900   | 40,000   | 41,700   | -100      | -0.3%   | -1,800   | -4.3%  |
| Management of Companies and Enterprises  | 10,500   | 10,500   | 11,100   | 0         | 0.0%    | -600     | -5.4%  |
| Administrative and Support and Waste Management and Remediation Services   | 38,400   | 39,500   | 43,000   | -1,100    | -2.8%   | -4,600   | -10.7% |
| Administrative and Support Services  | 37,000   | 38,100   | 40,800   | -1,100    | -2.9%   | -3,800   | -9.3%  |
| Employment Services  | 8,400    | 8,300    | 10,600   | 100       | 1.2%    | -2,200   | -20.8% |
| Education and Health Services  | 159,800  | 162,700  | 165,000  | -2,900    | -1.8%   | -5,200   | -3.2%  |
| Educational Services   | 31,400   | 33,200   | 34,600   | -1,800    | -5.4%   | -3,200   | -9.2%  |
| Health Care and Social Assistance  | 128,400  | 129,500  | 130,400  | -1,100    | -0.8%   | -2,000   | -1.5%  |
| Ambulatory Health Care Services  | 46,600   | 48,400   | 48,000   | -1,800    | -3.7%   | -1,400   | -2.9%  |
| Hospitals  | 28,200   | 28,000   | 28,900   | 200       | 0.7%    | -700     | -2.4%  |
| General Medical and Surgical Hospitals   | 25,200   | 25,000   | 25,700   | 200       | 0.8%    | -500     | -1.9%  |
| Social Assistance  | 26,300   | 26,200   | 29,200   | 100       | 0.4%    | -2,900   | -9.9%  |
| Leisure and Hospitality  | 36,700   | 38,800   | 63,900   | -2,100    | -5.4%   | -27,200  | -42.6% |
| Accommodation and Food Services  | 28,500   | 30,300   | 49,500   | -1,800    | -5.9%   | -21,000  | -42.4% |
| Food Services and Drinking Places  | 27,600   | 29,400   | 46,300   | -1,800    | -6.1%   | -18,700  | -40.4% |
| Full-Service Restaurants   | 11,800   | 13,300   | 22,500   | -1,500    | -11.3%  | -10,700  | -47.6% |
| Other Services   | 25,300   | 25,500   | 31,400   | -200      | -0.8%   | -6,100   | -19.4% |
| Government   | 105,100  | 107,100  | 109,000  | -2,000    | -1.9%   | -3,900   | -3.6%  |
| Federal Government   | 9,300    | 9,200    | 9,400    | 100       | 1.1%    | -100     | -1.1%  |
| State Government   | 15,000   | 15,300   | 15,300   | -300      | -2.0%   | -300     | -2.0%  |
| Local Government   | 80,800   | 82,600   | 84,300   | -1,800    | -2.2%   | -3,500   | -4.2%  |
| Local Government Education   | 49,300   | 49,500   | 51,300   | -200      | -0.4%   | -2,000   | -3.9%  |

Source: NYS Department of Labor.

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| Table 6. Covered, Nonfarm Employment, December 2020, November 2020, December 2019, Sullivan County |          |          |          |           |         |          |        |
|--|----------|----------|----------|-----------|---------|----------|--------|
| Category   | Dec 2020 | Nov 2020 | Dec 2019 | Net Month | % Month | Net Year | % Year |
| Total Nonfarm  | 27,400   | 27,900   | 29,400   | -500      | -1.8%   | -2,000   | -6.8%  |
| Total Private  | 21,200   | 21,500   | 23,100   | -300      | -1.4%   | -1,900   | -8.2%  |
| Goods-Producing  | 2,700    | 2,800    | 2,900    | -100      | -3.6%   | -200     | -6.9%  |
| Natural Resources, Mining and Construction   | 1,100    | 1,200    | 1,200    | -100      | -8.3%   | -100     | -8.3%  |
| Manufacturing  | 1,600    | 1,600    | 1,700    | 0         | 0.0%    | -100     | -5.9%  |
| Service-Providing  | 24,700   | 25,100   | 26,500   | -400      | -1.6%   | -1,800   | -6.8%  |
| Private Service-Providing  | 18,500   | 18,700   | 20,200   | -200      | -1.1%   | -1,700   | -8.4%  |
| Trade, Transportation and Utilities  | 4,200    | 4,200    | 4,500    | 0         | 0.0%    | -300     | -6.7%  |
| Information  | 100      | 100      | 100      | 0         | 0.0%    | 0        | 0.0%   |
| Financial Activities   | 800      | 800      | 800      | 0         | 0.0%    | 0        | 0.0%   |
| Professional and Business Services   | 1,700    | 1,700    | 1,800    | 0         | 0.0%    | -100     | -5.6%  |
| Education and Health Services  | 7,500    | 7,500    | 7,900    | 0         | 0.0%    | -400     | -5.1%  |
| Leisure and Hospitality  | 3,400    | 3,500    | 4,200    | -100      | -2.9%   | -800     | -19.0% |
| Other Services   | 800      | 900      | 900      | -100      | -11.1%  | -100     | -11.1% |
| Government   | 6,200    | 6,400    | 6,300    | -200      | -3.1%   | -100     | -1.6%  |

Source: NYS Department of Labor.

| Table 7. Covered, Nonfarm Employment, December 2020, November 2020, December 2019, Kingston MSA (Ulster County) |          |          |          |           |         |          |        |
|---|----------|----------|----------|-----------|---------|----------|--------|
| Category  | Dec 2020 | Nov 2020 | Dec 2019 | Net Month | % Month | Net Year | % Year |
| Total Nonfarm   | 59,900   | 60,200   | 63,100   | -300      | -0.5%   | -3,200   | -5.1%  |
| Total Private   | 46,000   | 46,100   | 48,500   | -100      | -0.2%   | -2,500   | -5.2%  |
| Goods-producing   | 6,200    | 6,200    | 6,500    | 0         | 0.0%    | -300     | -4.6%  |
| Natural Resources, Mining and Construction  | 3,000    | 3,000    | 3,100    | 0         | 0.0%    | -100     | -3.2%  |
| Manufacturing   | 3,200    | 3,200    | 3,400    | 0         | 0.0%    | -200     | -5.9%  |
| Service-Providing   | 53,700   | 54,000   | 56,600   | -300      | -0.6%   | -2,900   | -5.1%  |
| Private Service-Providing   | 39,800   | 39,900   | 42,000   | -100      | -0.3%   | -2,200   | -5.2%  |
| Trade, Transportation and Utilities   | 12,200   | 11,900   | 12,400   | 300       | 2.5%    | -200     | -1.6%  |
| Wholesale Trade   | 1,500    | 1,500    | 1,600    | 0         | 0.0%    | -100     | -6.3%  |
| Retail Trade  | 8,800    | 8,600    | 9,000    | 200       | 2.3%    | -200     | -2.2%  |
| Transport. Warehousing & Utils.   | 1,900    | 1,800    | 1,800    | 100       | 5.6%    | 100      | 5.6%   |
| Information   | 900      | 800      | 900      | 100       | 12.5%   | 0        | 0.0%   |
| Financial Activities  | 2,300    | 2,300    | 2,400    | 0         | 0.0%    | -100     | -4.2%  |
| Professional and Business Services  | 4,100    | 4,100    | 4,400    | 0         | 0.0%    | -300     | -6.8%  |
| Education and Health Services   | 9,800    | 9,800    | 10,700   | 0         | 0.0%    | -900     | -8.4%  |
| Leisure and Hospitality   | 8,000    | 8,500    | 8,200    | -500      | -5.9%   | -200     | -2.4%  |
| Other Services  | 2,500    | 2,500    | 3,000    | 0         | 0.0%    | -500     | -16.7% |
| Government  | 13,900   | 14,100   | 14,600   | -200      | -1.4%   | -700     | -4.8%  |
| Federal Government  | 400      | 400      | 400      | 0         | 0.0%    | 0        | 0.0%   |
| State Government  | 5,300    | 5,300    | 5,000    | 0         | 0.0%    | 300      | 6.0%   |
| Local Government  | 8,200    | 8,400    | 9,200    | -200      | -2.4%   | -1,000   | -10.9% |
| Local Government Education  | 4,900    | 5,000    | 5,600    | -100      | -2.0%   | -700     | -12.5% |

Source: NYS Department of Labor.

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Trends in Taxable Sales

One way to corroborate the preliminary employment data provided by the NYS Department of Labor is to examine trends in taxable sales as a proxy for economic activity. The State Department of Taxation and Finance reports taxable sales for each sector in the economy. Consequently, the trends in sales by sector provides some insights into the condition of local economies. This data is summarized in Table 8, which shows the percent change in taxable sales by sector from August, 2019 to August, 2020 for the counties of the Hudson Valley region, New York State and New York City. In almost every sector, the trends are consistent with what is seen in employment changes.

The data show that, within the Hudson Valley the deepest declines in overall sales was in Westchester County, with a 3.8 percent drop. Note that the declines were much more severe for the State (-9.1 percent) and New York City (-23.0 percent). It is worth noting that, for all counties, the State and New York City, taxable sales by manufacturers increased over this time period, suggesting that, despite drops in employment, many manufacturers were still able to maintain some positive momentum. On the other hand, many sectors have shown steep drops, including Transportation & Warehousing, Professional Services, Administrative Support & Waste Management and, as would be expected, Arts & Entertainment and Accommodation and Food Services.

Table 8. Percent Change in Taxable Sales & Purchases, August, 2019 to August, 2020.

| NAICS Code | Row Labels                | DUTCHESS | ORANGE | PUTNAM | ROCKLAND | SULLIVAN | ULSTER | WESTCHESTER | NY STATE | NY CITY |
|------------|---------------------------|----------|--------|--------|----------|----------|--------|-------------|----------|---------|
|            | Grand Total               | 0.4%     | -6.7%  | 5.5%   | 2.6%     | -2.6%    | 1.2%   | -3.8%       | -9.1%    | -23.0%  |
| 11         | Ag. Forest.               | 5.4%     | 30.1%  | 7.1%   | 12.7%    | -35.3%   | 1.9%   | 10.9%       | 9.2%     | -20.2%  |
| 21         | Mining                    | -12.7%   | 14.4%  | 3.1%   | -17.1%   | 10.2%    | 38.3%  | 24.1%       | 14.7%    | 180.6%  |
| 22         | Utilities                 | 23.0%    | -8.0%  | 15.0%  | -4.1%    | 22.9%    | -10.1% | 6.3%        | -4.9%    | -4.5%   |
| 23         | Constr.                   | 6.6%     | -16.6% | -13.5% | -5.8%    | 17.5%    | -13.3% | -13.2%      | -12.9%   | -18.9%  |
| 31-33      | Mfg.                      | 46.2%    | 15.5%  | 11.8%  | -6.5%    | 21.4%    | 31.9%  | 11.7%       | 25.9%    | 46.1%   |
| 42         | Wholesale                 | 0.9%     | -5.1%  | 3.2%   | 48.2%    | -16.0%   | -0.5%  | 2.4%        | -5.0%    | -17.5%  |
| 44-45      | Retail                    | 8.0%     | -2.4%  | 14.0%  | 10.1%    | 12.3%    | 13.2%  | 5.6%        | 8.2%     | -4.6%   |
| 48-49      | Trans/Warehsg.            | -9.1%    | -6.6%  | -19.1% | -31.3%   | -26.4%   | 10.3%  | -48.8%      | -46.6%   | -52.2%  |
| 51         | Info.                     | -9.7%    | -0.4%  | 5.1%   | -1.2%    | 12.3%    | 10.3%  | 15.1%       | 6.1%     | 6.8%    |
| 52         | Fin & Ins.                | -5.9%    | -6.7%  | -27.1% | 51.8%    | -7.8%    | -7.6%  | 1.9%        | 5.4%     | 5.8%    |
| 53         | Real Estate               | 3.3%     | -16.1% | 93.7%  | -0.8%    | -14.4%   | 8.7%   | -13.8%      | -16.9%   | -25.9%  |
| 54         | Prof.Svcs.                | 6.5%     | -0.1%  | -15.1% | 80.9%    | 19.0%    | -2.2%  | -23.1%      | -6.0%    | -6.4%   |
| 55         | Mgt.                      | 17.2%    | 36.5%  | 70.6%  | -68.3%   | 468.6%   | -15.1% | 4.7%        | -29.9%   | -28.1%  |
| 56         | Admin Support/Waste Mgt   | -39.0%   | -44.4% | -45.3% | -33.9%   | -58.0%   | -44.9% | -32.5%      | -44.4%   | -52.0%  |
| 61         | Educ.                     | -90.1%   | -26.4% | 9.4%   | -34.8%   | -45.2%   | -62.2% | -25.2%      | -40.8%   | -40.5%  |
| 62         | Healthcare                | -41.6%   | -12.9% | 27.8%  | 43.7%    | 97.5%    | -27.0% | -5.9%       | -20.0%   | -23.2%  |
| 71         | Arts/Ent.                 | -42.6%   | -46.6% | -49.6% | -19.1%   | -3.3%    | -16.9% | -29.9%      | -53.7%   | -90.5%  |
| 72         | Accomodation & Food Svcs. | -25.5%   | -26.6% | -14.7% | -30.5%   | -50.2%   | -27.6% | -32.8%      | -51.3%   | -70.1%  |
| 81         | Other Svcs.               | -10.8%   | -5.2%  | -16.7% | -12.7%   | 2.7%     | -1.8%  | -19.9%      | -15.1%   | -38.5%  |
| 92         | Pub Admin                 | 15.0%    | 1.4%   | 10.3%  | -5.6%    | 4.3%     | -6.2%  | 0.3%        | 18.2%    | 20.3%   |
| 99         | NEC                       | 44.2%    | 53.3%  | 136.1% | 198.3%   | 95.9%    | 119.5% | 93.4%       | 64.9%    | 51.6%   |

Source: compiled by Fairweather Consulting using data from the NYS Department of Taxation and Finance.

## Remote Workers in the Hudson Valley

The emergence of remote workers has been identified as one of the trends accelerated by the Covid-19 pandemic. This section attempts to better understand how that trend is playing out in the Hudson Valley region. This is done through an analysis of job postings for remote workers in the Region and New York County using data supplied by EMSI’s Jobs Postings Analytics Service. This service compiles job postings by geographic area, recording the skills and other qualifications for those postings. Using this data, it is possible to estimate the growth in demand for jobs with particular characteristics, in this case, jobs that involve remote work.

The analysis began by identifying a sampling of occupations that are likely to be adaptable to remote work situations. Table 9 shows the occupations that were included in this analysis to trace the changes in postings requiring remote work.

| Table 9. Occupations included in the Analysis of Job Postings for Remote Workers. |  |
|---|--|
| SOC Code  | Occupational Title   |
| 15-1200   | Computer Occupations   |
| 15-2000   | Mathematical Science Occupations   |
| 17-2000   | Engineers  |
| 17-3000   | Drafters, Engineering Technicians, and Mapping Technicians               |
| 19-1000   | Life Scientists  |
| 19-2000   | Physical Scientists  |
| 19-3000   | Social Scientists and Related Workers                                    |
| 19-4000   | Life, Physical, and Social Science Technicians                           |
| 13-1000   | Business Operations Specialists  |
| 13-2000   | Financial Specialists  |
| 23-2000   | Legal Support Workers  |
| 27-3000   | Media and Communication Workers  |
| 11-2000   | Advertising, Marketing, Promotions, Public Relations, and Sales Managers |
| 11-3000   | Operations Specialties Managers  |
| 11-9000   | Other Management Occupations   |
| 17-1000   | Architects, Surveyors, and Cartographers                                 |
| 19-5000   | Occupational Health and Safety Specialists and Technicians               |
| 23-1000   | Lawyers, Judges, and Related Workers                                     |
| 27-1000   | Art and Design Workers   |
| 29-1000   | Healthcare Diagnosing or Treating Practitioners                          |
| 29-2000   | Health Technologists and Technicians                                     |
| Source: EMSI  |  |

Figure 3 shows the month-to-month change in positions required remote work for jobs posted by employers in the Hudson Valley and New York County (Manhattan). Note the sharp upward trend in

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posting for remote working positions beginning in the first quarter of 2020. The data in Figure 3 have two important implications for the Hudson Valley Region. First, it indicates that employers in the Region are expanding the number of positions in the Region that will require remote work. Second, but just as significant for the region is the fact that employers in Manhattan have expanded the postings that require remote work. This could be an important source of employment for Hudson Valley residents, while also providing an indication that workers from the New York City area are increasingly able to relocate to the Region while maintaining employment with a New York City-based enterprise—a potentially important source for growth in jobs, population and income for the Hudson Valley.

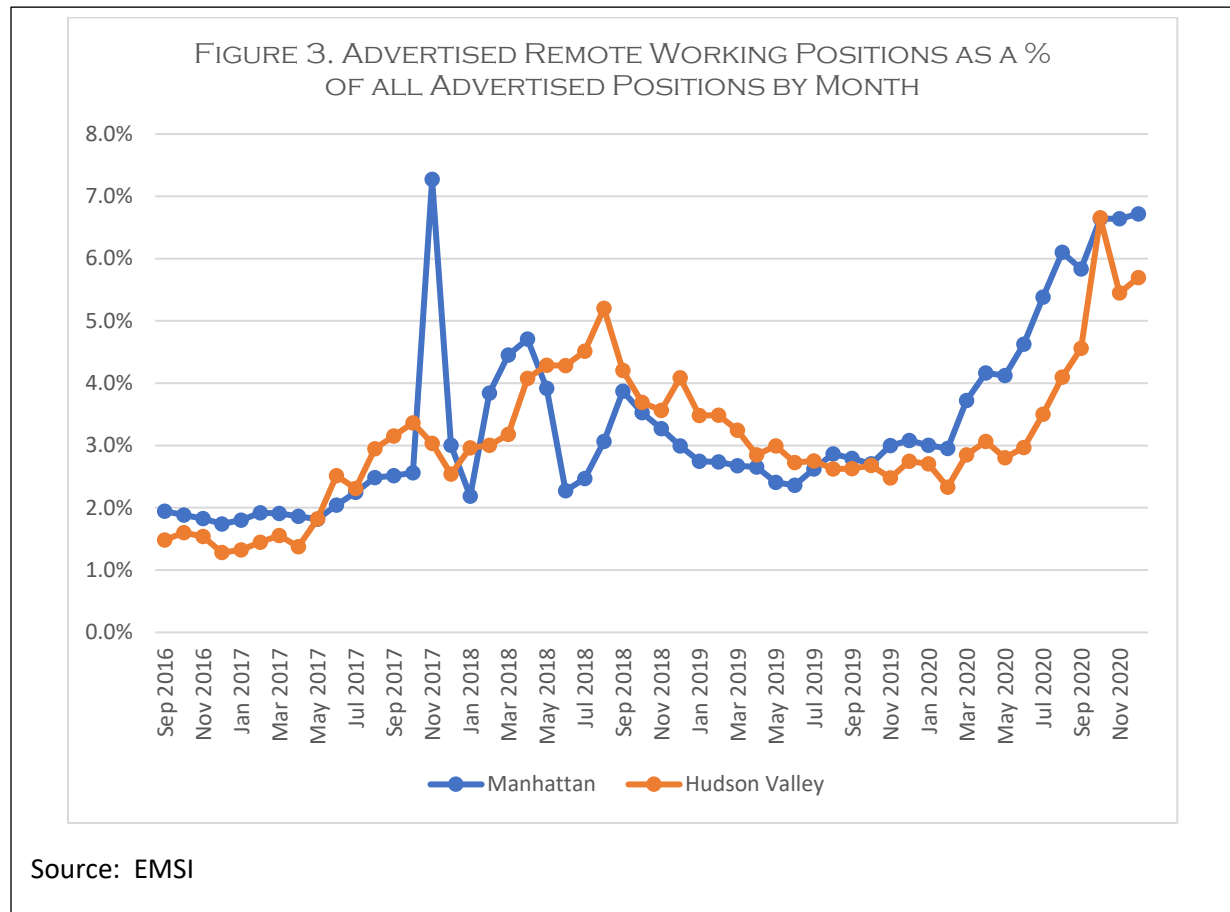
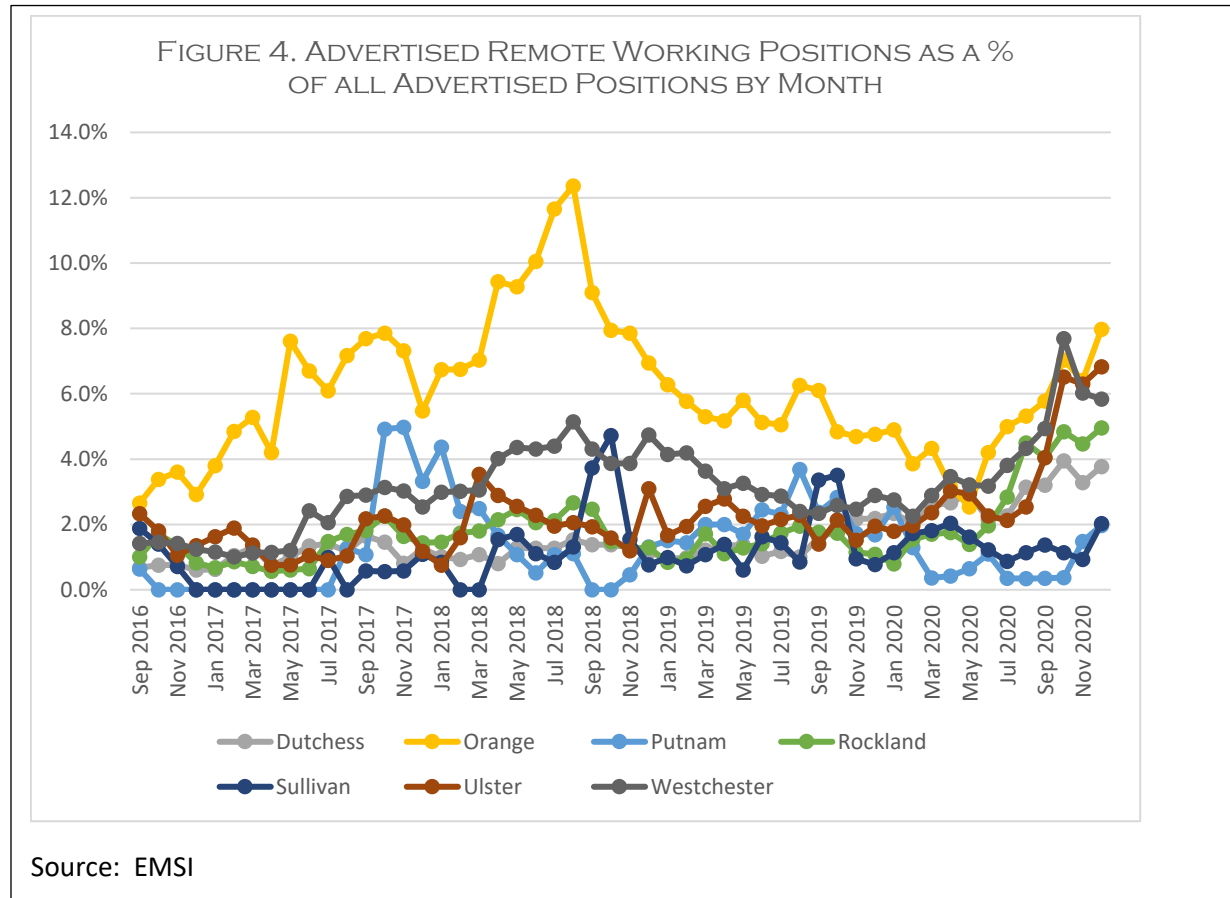


Figure 4 shows the trends in job postings for remote work for each of the seven counties of the Hudson Valley. Note that Westchester, Orange and Ulster show the largest gains for remote positions during the Covid-19 pandemic. Dutchess and Rockland show more moderate increases, while Sullivan and Putnam counties have the slowest rise in postings for remote jobs. These differences may be related to two factors. First, the dominant sectors in each of the county have different abilities to support remote work. For example, the health care industry so important to Sullivan County may not require remote workers as much as professional services and technology industries in locations in Ulster, Dutchess or Westchester counties. Second, the ability to support remote work may also be a function of the telecommunications infrastructure available to employers. This may be the case for sparsely populated counties like Sullivan or Putnam. Clearly this would require further investigation to corroborate. But in any case, the data do

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indicate that there is a general increase in demand for remote workers in the Region, with some variation on a county-by-county basis. And it is also worth repeating: the growth in remote working positions in Manhattan could represent an important opportunity for the counties of the Hudson Valley.



Anecdotally, there are many accounts of home sales in the Hudson Valley being driven by affluent remote workers from New York City relocating to areas with lower population densities in the wake of the Covid-19 pandemic. Table 10 provides some additional insight in to the dynamics of remote work in the Region. It shows sales of single-family homes in each of the counties of the Region as an indicator of the emergence of remote workers in each county. For the period from June to December 2019 to June to December 2020, the table shows the number of sales, median, average maximum and minimum price and how each of those changed over that year-long period.

Table 10 has two noteworthy findings. First, in each county, the total sales in June to December, 2020 was below total sales in June to December, 2019. This contradicts the anecdotes of a boom in the local housing markets, but, upon reflection, should not be surprising. The data are comparing two very different economic situations. In 2019, the economy was continuing the steady growth begun in the previous decade. By 2020, the economy was in a Covid-induced tailspin. Therefore, the drop in sales should not be unexpected.

It is the second finding that reinforces the anecdotes about the rise in remote workers flocking to the Region. Note that in every county, despite the drop in number of sales, the median value of the houses



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sold increased dramatically, ranging from 8 percent in Dutchess County to over 20 percent in Ulster County. These rising prices in the face of declining sales indicates that the Region is seeing a growth in purchases of higher end homes and/or a bidding up of home prices. This is consistent with the situation of a housing market being influenced by an influx of upper-income home buyers, such as would occur if remote workers were relocating into the Hudson Valley.

| Table 10. Prices for Arms-Length Sales of Single-Family Houses by County, June 1, 2019 to December 31, 2019 & June 1, 2020 to December 30, 2020 |               |               |          |               |               |          |               |               |          |               |               |          |
|---|---------------|---------------|----------|---------------|---------------|----------|---------------|---------------|----------|---------------|---------------|----------|
|   | Dutchess      |               |          | Orange        |               |          | Putnam        |               |          | Rockland      |               |          |
|   | Jun-Dec, 2019 | Jun-Dec, 2020 | % Change | Jun-Dec, 2019 | Jun-Dec, 2020 | % Change | Jun-Dec, 2019 | Jun-Dec, 2020 | % Change | Jun-Dec, 2019 | Jun-Dec, 2020 | % Change |
| # of Sales  | 1,887         | 890           | -52.8%   | 2,552         | 1,121         | -56.1%   | 659           | 350           | -46.9%   | 1,586         | 552           | -65.2%   |
| Median  | \$310,000     | \$335,000     | 8.1%     | \$284,730     | \$315,000     | 10.6%    | \$360,000     | \$390,000     | 8.3%     | \$450,000     | \$505,000     | 12.2%    |
| Mean  | \$348,432     | \$377,238     | 8.3%     | \$302,117     | \$335,447     | 11.0%    | \$395,151     | \$430,398     | 8.9%     | \$479,291     | \$542,273     | 13.1%    |
| Maximum   | \$5,371,400   | \$2,850,000   | -46.9%   | \$1,860,000   | \$2,100,000   | 12.9%    | \$1,595,000   | \$1,900,000   | 19.1%    | \$6,600,000   | \$6,300,000   | -4.5%    |
| Minimum   | \$11          | \$11          | 0.0%     | \$13,000      | \$290         | -97.8%   | \$56,500      | \$35,000      | -38.1%   | \$100         | \$6,600       | 6500.0%  |
|   | Sullivan      |               |          | Ulster        |               |          | Westchester   |               |          |               |               |          |
|   | Jun-Dec, 2019 | Jun-Dec, 2020 | % Change | Jun-Dec, 2019 | Jun-Dec, 2020 | % Change | Jun-Dec, 2019 | Jun-Dec, 2020 | % Change |               |               |          |
| # of Sales  | 611           | 218           | -64.3%   | 1,151         | 1,083         | -5.9%    | 4,381         | 3,427         | -21.8%   |               |               |          |
| Median  | \$156,000     | \$182,000     | 16.7%    | \$245,000     | \$295,000     | 20.4%    | \$649,990     | \$760,000     | 16.9%    |               |               |          |
| Mean  | \$190,093     | \$203,976     | 7.3%     | \$283,709     | \$356,372     | 25.6%    | \$830,679     | \$961,388     | 15.7%    |               |               |          |
| Maximum   | \$1,415,000   | \$1,550,000   | 9.5%     | \$2,095,000   | \$2,200,000   | 5.0%     | \$7,660,000   | \$7,850,000   | 2.5%     |               |               |          |
| Minimum   | \$100         | \$10,000      | 9900.0%  | \$100         | \$28,000      | 27900.0% | \$100         | \$100         | 0.0%     |               |               |          |

Source: NYS Department of Taxation & Finance, Sales Web Database.

## Employment, Unemployment & Distress

| Table 11. Hudson Valley Region vs. United States                 |          |          |                        |
|--|----------|----------|------------------------|
|  | Region   | U.S.     | Threshold Calculations |
| 24-month Average Unemployment Rate (BLS) period ending June 2021 | 6.40     | 6.43     | -0.03                  |
| 2019 Per Capita <b>Money</b> Income (5-year ACS)                 | \$45,817 | \$34,103 | 134.35%                |
| 2019 Per Capita <b>Personal</b> Income (BEA)                     | \$80,962 | \$56,490 | 143.32%                |
| Source: US EDA   |          |          |                        |

The 24-month average unemployment of the Hudson Valley region is very similar to the United States as a whole at 6.40% and 6.43% respectively. However, the Hudson Valley is wealthier than the rest of the United States. Both money income per capita and personal income per capita are significantly higher in the Hudson Valley region.

| Table 12. Employment, Unemployment & Distress by County |                       |                       |           |                       |                    |                       |                 |                       |
|---|-----------------------|-----------------------|-----------|-----------------------|--------------------|-----------------------|-----------------|-----------------------|
|   | 24 Month Unemployment | Threshold Calculation | BEA PCPI  | Threshold Calculation | Census PCMI (2000) | Threshold Calculation | ACS 5-Year PCMI | Threshold Calculation |
| Dutchess County   | 6.03                  | -0.4                  | \$58,478  | 103.5                 | \$23,940           | 110.9                 | \$40,093        | 117.6                 |
| Orange County   | 6.50                  | 0.07                  | \$53,656  | 95                    | \$21,597           | 100                   | \$34,959        | 102.5                 |
| Putnam County   | 5.94                  | -0.49                 | \$69,365  | 122.8                 | \$30,127           | 139.6                 | \$47,448        | 139.1                 |
| Rockland County   | 6.21                  | -0.22                 | \$63,167  | 111.8                 | \$28,082           | 130.1                 | \$39,286        | 115.2                 |
| Sullivan County   | 6.84                  | 0.41                  | \$48,753  | 86.3                  | \$18,892           | 87.5                  | \$30,446        | 89.3                  |
| Ulster County   | 6.30                  | -0.13                 | \$53,006  | 93.8                  | \$20,846           | 96.6                  | \$34,834        | 102.1                 |
| Westchester County                                      | 6.56                  | 0.13                  | \$113,477 | 200.9                 | \$36,726           | 170.1                 | \$57,049        | 167.3                 |
| Source: US EDA  |                       |                       |           |                       |                    |                       |                 |                       |

Table 12 displays employment data on the individual counties that make up the Hudson Valley Region. The 24-month average unemployment rate does not vary much with all but one county falling between six and seven percent unemployment. There is more variation in Per Capita Personal Income. Sullivan County has both the highest 24-month average unemployment rate (6.84) and the lowest PCPI (\$48,753). Westchester County is an outlier on the high end with a PCPI of \$113,477 which is slightly more than twice that of the United States. Westchester County also had the highest Per Capita Money Income as measured by the 2000 Census and the ACS 5-year rate.

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**Industry Clusters & Major Employers**

In the previous CEDS, industry clusters were identified using the analyses available from the now defunct US Cluster Mapping Project sponsored by EDA at the Harvard Business School (clustermapping.us). Based on that analysis of 2016 data, the largest traded industry clusters (i.e., clusters that export most of their goods and services outside the region) for the Hudson Valley region were:

| <u>Traded Cluster</u>                     | <u>2016 Employment</u> |
|---|------------------------|
| Business Services                         | 47,815                 |
| Distribution and Electronic Commerce      | 33,276                 |
| Education and Knowledge Creation          | 28,562                 |
| Hospitality and Tourism                   | 14,890                 |
| Financial Services                        | 12,476                 |
| Marketing, Design, and Publishing         | 10,516                 |
| Info. Technology & Analytical Instruments | 9,061                  |
| Insurance Services                        | 7,395                  |
| Food Processing and Manufacturing         | 4,222                  |

According to EDA’s statsamerica.org database, in 2019, those clusters were largely unchanged, though there had been minor changes in the rankings as some cluster lost employment while other gained jobs. Table 13 has the 2019 data. This can be expected to change yet again once the pandemic subsides.

| <b>Table 13. Largest Hudson Valley Traded Industry Clusters</b> |                   |                     |
|---|-------------------|---------------------|
| <b>Industry Cluster</b>   | <b>Employment</b> | <b>Average Wage</b> |
| Business Services   | 36,563            | \$124,798           |
| Education and Knowledge Creation                                | 29,022            | \$60,286            |
| Distribution and Electronic Commerce                            | 28,142            | \$79,562            |
| Hospitality and Tourism   | 19,628            | \$39,275            |
| Marketing, Design, and Publishing                               | 11,107            | \$88,041            |
| Financial Services  | 10,302            | \$252,301           |
| Information Technology and Analytical Instruments               | 8,996             | \$178,976           |
| Food Processing and Manufacturing                               | 5,318             | \$53,613            |
| Insurance Services  | 5,236             | \$144,310           |
| <b>Source: US EDA IBRC modeled estimates.</b>                   |                   |                     |

These clusters are well-represented in the 10 largest employers in each of the region’s seven counties. Table 14 provides a list for 2020 from Database USA.

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**Table 14. Ten Largest Private Employers in Each County, 2020**

| Dutchess  | Orange  | Putnam  | Rockland   | Sullivan   | Ulster   | Westchester  |
|---|---|---|--|--|--|--|
| <ul style="list-style-type: none"> <li>• Toshiba Machine Co America</li> <li>• Marist College</li> <li>• Vassar Brothers Medical Center</li> <li>• Health Quest</li> <li>• Vassar College – Security</li> <li>• Mid Hudson Plating</li> <li>• Wingate At Beacon</li> <li>• Devereux in New York</li> <li>• Cardinal Hayes School for Special Children</li> <li>• Elant at Fishkill Inc</li> </ul> | <ul style="list-style-type: none"> <li>• Amazon Fulfillment Center</li> <li>• St. Luke’s Cornwall Hospital -Newburgh Campus</li> <li>• Kolmar Labs Group</li> <li>• Mediacom Communications</li> <li>• Bon Secours Community Hospital</li> <li>• Precision Pipeline Solutions</li> <li>• St. Luke’s Cornwall Cornwall Campus</li> <li>• Valley View Center for Nursing Care &amp; Rehab</li> <li>• Martin-Brower Metroplex Mobile Life Support Service</li> </ul> | <ul style="list-style-type: none"> <li>• Green Chimney School Inc</li> <li>• Putnam Hospital Center</li> <li>• Ace Endico Corp</li> <li>• Guardian Veterinary Specialists</li> <li>• Medical Center at Cold Spring</li> <li>• Watchtower Bible School of Gilead Library</li> <li>• Surprise Lake Camp</li> <li>• Putnam Precision Products Inc</li> <li>• Home Depot</li> </ul> | <ul style="list-style-type: none"> <li>• SS&amp;C Technologies</li> <li>• Amazon Last Mile Delivery Station for Small Packages</li> <li>• Distribution Center</li> <li>• Helen Hayes Hospital</li> <li>• Good Samaritan Hospital</li> <li>• Orange &amp; Rockland Utilities Inc</li> <li>• La Mont Doherty Earth Obsrvty</li> <li>• Trans Group LLC</li> <li>• Active International</li> <li>• Par Pharmaceutical Inc</li> <li>• Nathan Kline Institute</li> </ul> | <ul style="list-style-type: none"> <li>• Catskill Regional Medical Center</li> <li>• Center For Discovery</li> <li>• Murray's Chicken</li> <li>• Labelle Farms Inc</li> <li>• Monticello Casino Management</li> <li>• Simcha</li> <li>• Kutsher's Country Club</li> <li>• Camp HASC</li> <li>• Crystal Run Healthcare Rock Hill</li> <li>• Empire Resorts Inc</li> </ul> | <ul style="list-style-type: none"> <li>• Mohonk Mountain House</li> <li>• Metrahealth</li> <li>• Health Alliance Hospital Mary's Avenue Campus</li> <li>• Family Practice Center-Kingston</li> <li>• Golden Hill Health Care Center</li> <li>• Ten Broeck Commons</li> <li>• Tax Savers</li> <li>• Wingate At Ulster</li> <li>• Health Alliance Hospital</li> <li>• Hudson Valley Dentistry</li> </ul> | <ul style="list-style-type: none"> <li>• Mastercard Inc</li> <li>• USI Insurance Services LLC</li> <li>• Morgan Stanley Wealth Management</li> <li>• White Plains Hospital</li> <li>• Westcon Group Inc</li> <li>• Westchester Medical Center</li> <li>• Phelps Memorial Hospital</li> <li>• Northern Westchester Hospital</li> <li>• Davita Nor'easters Dialysis</li> </ul> |

Source: Database USA.

### Employment by Industry

Table 15 provides a listing of employment by industry for New York State, Upstate (New York State minus the Hudson Valley, New York City and Long Island), the Hudson Valley region and each of its seven constituent counties, showing employment estimates for 2020 and 2021. As shown in the first few rows of the table, overall employment recovery is mixed, which the State and Upstate unchanged over the past year, and only Rockland showing any growth above one percent. The same is true across industries. Several counties show strength in manufacturing growth while others lag behind. The strongest growth has occurred in the “eds and meds” sectors (education and health care), with the greatest weaknesses in hospitality-related sectors. This is discussed in greater detail below.

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| Table 15. Employment by Industry, 2020-2021          |           |           |               |             |         |          |          |        |        |          |
|--|-----------|-----------|---------------|-------------|---------|----------|----------|--------|--------|----------|
| Sector   | New York  | Upstate   | Hudson Valley | Westchester | Orange  | Rockland | Dutchess | Ulster | Putnam | Sullivan |
| <b>Total Employment</b>                              |           |           |               |             |         |          |          |        |        |          |
| % Change, Jobs                                       | 0%        | 0%        | 0%            | (1%)        | 1%      | 2%       | 0%       | (0%)   | 1%     | 2%       |
| 2020   | 9,609,595 | 2,820,997 | 970,608       | 442,554     | 155,329 | 133,515  | 118,927  | 62,512 | 28,206 | 29,566   |
| 2021   | 9,655,755 | 2,821,243 | 973,035       | 440,335     | 157,075 | 135,709  | 119,033  | 62,213 | 28,445 | 30,225   |
| <b>Agriculture, Forestry, Fishing and Hunting</b>    |           |           |               |             |         |          |          |        |        |          |
| Job Change %   | 1%        | 1%        | 1%            | 1%          | 3%      | (0%)     | 1%       | (3%)   | 3%     | (2%)     |
| 2020   | 43,827    | 33,338    | 5,568         | 536         | 1,843   | 104      | 1,087    | 1,349  | 54     | 594      |
| 2021   | 44,115    | 33,551    | 5,603         | 542         | 1,905   | 104      | 1,103    | 1,312  | 55     | 581      |
| <b>Mining, Quarrying, and Oil and Gas Extraction</b> |           |           |               |             |         |          |          |        |        |          |
| Job Change %   | 4%        | 4%        | (2%)          | 11%         | 1%      | (13%)    | (4%)     | 2%     | 20%    | (4%)     |
| 2020   | 4,775     | 3,850     | 620           | 16          | 63      | 93       | 228      | 105    | 30     | 85       |
| 2021   | 4,943     | 4,011     | 607           | 18          | 64      | 81       | 219      | 107    | 36     | 82       |
| <b>Utilities</b>                                     |           |           |               |             |         |          |          |        |        |          |
| Job Change %   | 1%        | 1%        | 1%            | 0%          | 0%      | (1%)     | 3%       | (1%)   | (1%)   | 7%       |
| 2020   | 36,389    | 11,899    | 5,332         | 2,461       | 585     | 1,024    | 762      | 218    | 127    | 155      |
| 2021   | 36,804    | 12,068    | 5,361         | 2,469       | 586     | 1,016    | 783      | 215    | 126    | 166      |
| <b>Construction</b>                                  |           |           |               |             |         |          |          |        |        |          |
| Job Change %   | (0%)      | (0%)      | 1%            | (0%)        | 4%      | 3%       | (1%)     | (1%)   | 0%     | 2%       |
| 2020   | 443,348   | 124,835   | 61,447        | 30,139      | 8,194   | 8,646    | 6,260    | 3,588  | 3,102  | 1,517    |
| 2021   | 442,770   | 124,386   | 61,925        | 30,101      | 8,493   | 8,917    | 6,206    | 3,547  | 3,116  | 1,545    |
| <b>Manufacturing</b>                                 |           |           |               |             |         |          |          |        |        |          |
| Job Change %   | (0%)      | 1%        | (0%)          | (2%)        | 2%      | 0%       | (2%)     | 1%     | 1%     | 4%       |
| 2020   | 411,449   | 245,905   | 41,564        | 11,884      | 8,656   | 7,597    | 7,200    | 3,255  | 1,352  | 1,620    |
| 2021   | 409,436   | 247,681   | 41,543        | 11,674      | 8,848   | 7,616    | 7,060    | 3,288  | 1,368  | 1,690    |
| <b>Wholesale Trade</b>                               |           |           |               |             |         |          |          |        |        |          |
| Job Change %   | (2%)      | (1%)      | (0%)          | (2%)        | 2%      | (1%)     | (0%)     | 1%     | 6%     | 2%       |
| 2020   | 303,019   | 96,430    | 29,983        | 12,981      | 7,720   | 4,468    | 1,760    | 1,398  | 1,173  | 483      |
| 2021   | 297,738   | 95,636    | 29,965        | 12,754      | 7,878   | 4,431    | 1,756    | 1,413  | 1,243  | 491      |

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Table 15. Employment by Industry, 2020-2021

| Sector  | New York | Upstate | Hudson Valley | Westchester | Orange | Rockland | Dutchess | Ulster | Putnam | Sullivan |
|---|----------|---------|---------------|-------------|--------|----------|----------|--------|--------|----------|
| <b>Retail Trade</b>   |          |         |               |             |        |          |          |        |        |          |
| Job Change %  | (2%)     | (1%)    | (2%)          | (2%)        | (2%)   | (2%)     | (1%)     | (1%)   | 1%     | 1%       |
| 2020  | 841,694  | 290,782 | 105,535       | 45,086      | 20,281 | 12,825   | 13,281   | 8,353  | 2,949  | 2,761    |
| 2021  | 826,520  | 286,728 | 103,755       | 44,194      | 19,911 | 12,555   | 13,098   | 8,237  | 2,981  | 2,778    |
| <b>Transportation and Warehousing</b>   |          |         |               |             |        |          |          |        |        |          |
| Job Change %  | 1%       | 2%      | 0%            | (1%)        | 3%     | (1%)     | 2%       | (1%)   | 3%     | (1%)     |
| 2020  | 314,021  | 79,944  | 29,750        | 11,965      | 7,433  | 3,224    | 4,005    | 1,403  | 763    | 956      |
| 2021  | 318,546  | 81,443  | 29,853        | 11,834      | 7,630  | 3,186    | 4,084    | 1,383  | 789    | 947      |
| <b>Information</b>  |          |         |               |             |        |          |          |        |        |          |
| Job Change %  | 1%       | (2%)    | (2%)          | (3%)        | 0%     | (3%)     | (2%)     | (1%)   | (2%)   | (1%)     |
| 2020  | 282,669  | 40,693  | 14,702        | 7,962       | 2,288  | 1,583    | 1,349    | 925    | 448    | 147      |
| 2021  | 286,879  | 39,810  | 14,369        | 7,725       | 2,294  | 1,536    | 1,315    | 914    | 440    | 145      |
| <b>Finance and Insurance</b>  |          |         |               |             |        |          |          |        |        |          |
| Job Change %  | 1%       | 1%      | (0%)          | (0%)        | (0%)   | 1%       | 1%       | (0%)   | 2%     | (3%)     |
| 2020  | 549,351  | 112,324 | 31,410        | 19,600      | 3,136  | 3,034    | 2,876    | 1,537  | 690    | 537      |
| 2021  | 556,510  | 113,612 | 31,335        | 19,503      | 3,125  | 3,052    | 2,901    | 1,531  | 703    | 520      |
| <b>Real Estate and Rental and Leasing</b>                                       |          |         |               |             |        |          |          |        |        |          |
| Job Change %  | 0%       | (0%)    | (0%)          | (1%)        | (1%)   | 2%       | 1%       | 1%     | (1%)   | (1%)     |
| 2020  | 218,135  | 34,996  | 19,461        | 11,557      | 1,829  | 2,525    | 1,737    | 1,051  | 356    | 405      |
| 2021  | 218,322  | 34,932  | 19,430        | 11,498      | 1,810  | 2,564    | 1,746    | 1,059  | 353    | 400      |
| <b>Professional, Scientific, and Technical Services</b>                         |          |         |               |             |        |          |          |        |        |          |
| Job Change %  | 2%       | 1%      | 1%            | 0%          | 1%     | 2%       | (0%)     | 1%     | (0%)   | (2%)     |
| 2020  | 752,838  | 158,618 | 57,084        | 32,670      | 6,689  | 8,169    | 4,778    | 2,511  | 1,701  | 567      |
| 2021  | 764,346  | 160,300 | 57,398        | 32,740      | 6,788  | 8,313    | 4,773    | 2,531  | 1,696  | 557      |
| <b>Management of Companies and Enterprises</b>                                  |          |         |               |             |        |          |          |        |        |          |
| Job Change %  | (1%)     | 0%      | 0%            | (1%)        | (3%)   | (3%)     | 5%       | (1%)   | 13%    | 6%       |
| 2020  | 131,532  | 42,864  | 12,392        | 8,643       | 749    | 727      | 1,409    | 331    | 76     | 457      |
| 2021  | 130,749  | 42,942  | 12,416        | 8,599       | 730    | 708      | 1,484    | 327    | 86     | 482      |
| <b>Administrative and Support and Waste Management and Remediation Services</b> |          |         |               |             |        |          |          |        |        |          |
| Job Change %  | 0%       | 0%      | 1%            | (0%)        | 3%     | 3%       | 4%       | 1%     | 1%     | 3%       |
| 2020  | 490,194  | 137,664 | 51,182        | 24,062      | 8,144  | 8,343    | 5,588    | 2,736  | 1,259  | 1,051    |

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Table 15. Employment by Industry, 2020-2021

| Sector   | New York  | Upstate | Hudson Valley | Westchester | Orange | Rockland | Dutchess | Ulster | Putnam | Sullivan |
|--|-----------|---------|---------------|-------------|--------|----------|----------|--------|--------|----------|
| 2021   | 490,800   | 137,698 | 51,938        | 24,032      | 8,372  | 8,605    | 5,804    | 2,766  | 1,277  | 1,082    |
| <b>Educational Services</b>                          |           |         |               |             |        |          |          |        |        |          |
| Job Change %   | 2%        | 1%      | 2%            | 2%          | 3%     | 2%       | 1%       | 1%     | 2%     | 3%       |
| 2020   | 436,154   | 124,486 | 42,713        | 18,848      | 3,580  | 6,288    | 11,762   | 1,012  | 957    | 268      |
| 2021   | 444,618   | 126,111 | 43,502        | 19,193      | 3,674  | 6,429    | 11,934   | 1,024  | 971    | 277      |
| <b>Health Care and Social Assistance</b>             |           |         |               |             |        |          |          |        |        |          |
| Job Change %   | 3%        | 2%      | 3%            | 2%          | 3%     | 7%       | 1%       | 0%     | 1%     | 3%       |
| 2020   | 1,639,914 | 417,782 | 171,573       | 76,695      | 23,470 | 30,253   | 20,029   | 9,545  | 4,443  | 7,138    |
| 2021   | 1,691,212 | 424,264 | 175,863       | 77,872      | 24,060 | 32,232   | 20,290   | 9,552  | 4,492  | 7,365    |
| <b>Arts, Entertainment, and Recreation</b>           |           |         |               |             |        |          |          |        |        |          |
| Job Change %   | (4%)      | (4%)    | (4%)          | (5%)        | (0%)   | (4%)     | (6%)     | (2%)   | (4%)   | (6%)     |
| 2020   | 159,903   | 35,225  | 17,872        | 9,769       | 2,091  | 1,673    | 1,945    | 1,205  | 820    | 370      |
| 2021   | 154,031   | 33,816  | 17,128        | 9,295       | 2,084  | 1,598    | 1,829    | 1,186  | 787    | 348      |
| <b>Accommodation and Food Services</b>               |           |         |               |             |        |          |          |        |        |          |
| Job Change %   | (4%)      | (4%)    | (1%)          | (3%)        | (0%)   | (2%)     | (1%)     | (1%)   | 0%     | 9%       |
| 2020   | 539,320   | 173,822 | 56,822        | 23,225      | 8,575  | 6,905    | 8,025    | 5,745  | 1,570  | 2,776    |
| 2021   | 517,066   | 167,406 | 55,999        | 22,456      | 8,559  | 6,745    | 7,962    | 5,673  | 1,573  | 3,032    |
| <b>Other Services (except Public Administration)</b> |           |         |               |             |        |          |          |        |        |          |
| Job Change %   | (1%)      | (1%)    | (1%)          | (2%)        | 1%     | 2%       | (0%)     | (1%)   | 0%     | 2%       |
| 2020   | 507,231   | 115,500 | 59,377        | 32,877      | 7,180  | 7,950    | 5,203    | 2,812  | 1,678  | 1,677    |
| 2021   | 504,401   | 114,631 | 58,869        | 32,167      | 7,230  | 8,096    | 5,195    | 2,785  | 1,681  | 1,713    |
| <b>Government</b>                                    |           |         |               |             |        |          |          |        |        |          |
| Job Change %   | 1%        | (0%)    | (0%)          | 0%          | 1%     | (1%)     | (1%)     | (1%)   | 0%     | 0%       |
| 2020   | 1,474,648 | 529,536 | 153,564       | 60,532      | 32,424 | 17,456   | 19,374   | 13,276 | 4,564  | 5,938    |
| 2021   | 1,486,013 | 528,817 | 153,491       | 60,631      | 32,629 | 17,288   | 19,213   | 13,201 | 4,576  | 5,954    |
| <b>Unclassified Industry</b>                         |           |         |               |             |        |          |          |        |        |          |
| Job Change %   | 3%        | 9%      | 1%            | (1%)        | 2%     | 2%       | 4%       | 3%     | (0%)   | 5%       |
| 2020   | 29,184    | 10,505  | 2,656         | 1,045       | 396    | 629      | 267      | 155    | 96     | 67       |
| 2021   | 29,936    | 11,399  | 2,686         | 1,037       | 406    | 639      | 278      | 160    | 95     | 70       |
| Source: EMSI Estimates                               |           |         |               |             |        |          |          |        |        |          |

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The Special Case of Tourism

| Table 15. Industry Change Summary, 2020-2021 |           |           |          |          |                       |                                   |
|--|-----------|-----------|----------|----------|-----------------------|-----------------------------------|
| Region                                       | 2020 Jobs | 2021 Jobs | Change   | % Change | 2020 Average Earnings | 2020 Payrolled Business Locations |
| New York                                     | 699,223   | 671,097   | (28,126) | (4%)     | \$42,749              | 64,799                            |
| Upstate                                      | 209,047   | 201,222   | (7,824)  | (4%)     | \$30,000              | 17,957                            |
| Hudson Valley                                | 74,693    | 73,127    | (1,566)  | (2%)     | \$36,022              | 7,395                             |
| Source: EMSI Q3 2021 Data Set                |           |           |          |          |                       |                                   |

The tourism and hospitality and industries both suffered due to the Covid-19 pandemic. However, the Hudson Valley Region saw a smaller contraction of the industry than the rest of New York State. Average earnings in the Hudson Valley (\$36,022) were roughly halfway in between average earnings of Upstate New York and the state as a whole.

Chart 1 shows the sharp spike in industry unemployment that occurred at the onset of the Covid-19 Pandemic in March 2020. By May 2021 however, industry unemployment had almost fallen to pre-pandemic levels.



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Table 16. Change in Employment for Selected Tourism-related Sectors, 2019 to 2021.

| Industry:     | Performing Arts, Spectator Sports, & Related Industries |         |         |                  | Museums, Historical Sites, and Similar Institutions |        |        |                  |
|---------------|---|---------|---------|------------------|---|--------|--------|------------------|
| Geography     | 2019  | 2020    | 2021    | % Change 2019-21 | 2019  | 2020   | 2021   | % Change 2019-21 |
| New York      | 102,503   | 77,479  | 75,364  | -26.5%           | 21,107  | 17,104 | 17,315 | -18.0%           |
| Upstate       | 15,742  | 11,741  | 11,397  | -27.6%           | 3,850   | 3,067  | 3,098  | -19.5%           |
| Hudson Valley | 7,090   | 6,003   | 5,894   | -16.9%           | 1,073   | 843    | 869    | -19.0%           |
| Dutchess      | 921   | 724     | 700     | -24.0%           | 204   | 142    | 142    | -30.4%           |
| Orange        | 892   | 809     | 818     | -8.2%            | 172   | 139    | 143    | -16.9%           |
| Putnam        | 336   | 278     | 275     | -18.1%           | 95  | 85     | 88     | -6.7%            |
| Sullivan      | 730   | 617     | 604     | -17.2%           | 24  | 17     | 18     | -24.0%           |
| Rockland      | 325   | 203     | 194     | -40.5%           | NA  | NA     | NA     | NA               |
| Ulster        | 811   | 727     | 726     | -10.4%           | 160   | 125    | 137    | -14.2%           |
| Westchester   | 3,076   | 2,644   | 2,577   | -16.2%           | 409   | 322    | 325    | -20.5%           |
| Industry:     | Amusement, Gambling, and Recreation Industries          |         |         |                  | Accommodation                                       |        |        |                  |
| Geography     | 2019  | 2020    | 2021    | % Change 2019-21 | 2019  | 2020   | 2021   | % Change 2019-21 |
| New York      | 103,896   | 65,320  | 61,352  | -40.9%           | 104,363   | 61,832 | 57,798 | -44.6%           |
| Upstate       | 31,725  | 20,417  | 19,321  | -39.1%           | 33,230  | 20,639 | 19,783 | -40.5%           |
| Hudson Valley | 17,034  | 11,026  | 10,365  | -39.2%           | 11,862  | 7,695  | 7,702  | -35.1%           |
| Dutchess      | 1,702   | 1,079   | 987     | -42.0%           | 1,380   | 1,062  | 1,061  | -23.1%           |
| Orange        | 1,592   | 1,143   | 1,122   | -29.5%           | 1,088   | 719    | 701    | -35.6%           |
| Putnam        | 669   | 457     | 424     | -36.6%           | 84  | 95     | 101    | 20.2%            |
| Sullivan      | 1,723   | 1,038   | 976     | -43.4%           | 951   | 1,777  | 2,037  | 114.2%           |
| Rockland      | 281   | 152     | 139     | -50.7%           | 3,016   | 474    | 414    | -86.3%           |
| Ulster        | 516   | 353     | 323     | -37.4%           | 2,354   | 1,630  | 1,608  | -31.7%           |
| Westchester   | 10,550  | 6,803   | 6,393   | -39.4%           | 2,991   | 1,938  | 1,780  | -40.5%           |
| Industry:     | Food Services and Drinking Places                       |         |         |                  |   |        |        |                  |
| Geography     | 2019  | 2020    | 2021    | % Change 2019-21 |   |        |        |                  |
| New York      | 691,900   | 477,488 | 459,268 | -33.6%           |   |        |        |                  |
| Upstate       | 200,168   | 153,182 | 147,623 | -26.3%           |   |        |        |                  |
| Hudson Valley | 64,589  | 49,127  | 48,298  | -25.2%           |   |        |        |                  |
| Dutchess      | 8,965   | 6,963   | 6,901   | -23.0%           |   |        |        |                  |
| Orange        | 9,816   | 7,856   | 7,858   | -19.9%           |   |        |        |                  |
| Putnam        | 1,892   | 1,475   | 1,472   | -22.2%           |   |        |        |                  |
| Sullivan      | 8,508   | 6,431   | 6,331   | -25.6%           |   |        |        |                  |
| Rockland      | 1,153   | 999     | 996     | -13.7%           |   |        |        |                  |
| Ulster        | 5,331   | 4,115   | 4,065   | -23.8%           |   |        |        |                  |
| Westchester   | 28,924  | 21,288  | 20,676  | -28.5%           |   |        |        |                  |

Source: EMSI. Note: in Sullivan County, most casino employment is categorized under "Accommodation"

## Key Findings: SWOT Analysis

SWOT Analysis is a technique for summarizing analytical findings into a preliminary assessment of Hudson Valley's competitive situation describing the Region's **Strengths, Weaknesses, Opportunities and Threats** (hence the term SWOT analysis). SWOT analysis is summarized in Table 17. As shown in the table, strengths are conditions internal to the Region that can be employed to support economic growth, weaknesses are conditions internal to the Hudson Valley Region that could hamper its ability to support economic growth, opportunities consist of conditions in the environment which the Region could mobilize to generate economic growth and threats are conditions in the environment that could diminish the possibility for growth in the Hudson Valley Region. This SWOT analysis is based upon the 2019 CEDS for the Hudson Valley Region.<sup>10</sup>

There are several points noted in that SWOT analysis.

**The Hudson Valley's proximity to New York City is both an opportunity and a threat:** that proximity helps drive some of the strengths in the region, including its economic diversity and dynamism along with the Region's access to talent. The Hudson Valley is adjacent to a metropolis with over 8 million people, and many of its workers are drawn from that area. Similarly, as pointed out in the detailed data in the Summary Background in the Appendices to this report, many Hudson Valley residents commute to New York City for employment, earning higher wages than available in the Region itself and ensuring that the Region retains a cadre of skilled, experienced workers in a variety of fields. On the other hand, the proximity to New York City can limit the Hudson Valley's economic prospects. For employers in the Hudson Valley, that proximity to New York can drive up the costs for labor, real estate, insurance and other factors important to economic success. At the same time, much of the Region serves as a source of water supply for the City, leaving those areas with an additional layer of development regulations to protect the quality of the City's water, that can add costs and delays to development in those areas.

**Population stagnation:** like most of the Northeast, the communities in the Hudson Valley are experiencing slow population growth and even decline. This exacerbates any shortage of skilled workers facing an industry in the region. Over the long term, such stagnation and decline will limit local demand for goods and services, constrain economic growth, and may erode the ability of local government to pay for services such as schools, roads, etc., as some communities may see fewer and fewer people left to bear the costs of such services.

**Limited infrastructure:** Virtually every type of infrastructure has the potential to constrain growth in the Region. As described in detail in the Summary Background in the Appendices' Data Compendium, broadband, transportation and utility infrastructure all have limitations in the Valley at present. The most serious infrastructure issues may relate to sewer and water. The lack of adequate municipal sewer and water at industrial sites can render those sites unable to support any development of a scale capable of generating a meaningful number of new jobs. At the same time, limited and failing sewer and water infrastructure severely hampers a community's economic and environmental resiliency.

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<sup>10</sup> Hudson Valley Regional Council, *Comprehensive Economic Development Strategy, 2019-23*, p. 23.

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| Table 17. SWOT Analysis for the Hudson Valley   |  |
|---|--|
| STRENGTHS   | WEAKNESSES   |
| <ul style="list-style-type: none"> <li>• Economic Diversity               <ul style="list-style-type: none"> <li>○ biotech and life sciences</li> <li>○ advanced manufacturing</li> <li>○ information technology</li> <li>○ distribution</li> <li>○ financial and professional services</li> <li>○ agriculture/food products</li> <li>○ tourism</li> </ul> </li> <li>• Talent/workforce</li> <li>• Quality of Life</li> <li>• Proximity to New York City</li> <li>• Transportation Access to Key Markets</li> </ul> | <ul style="list-style-type: none"> <li>• High tax/high cost location nationally</li> <li>• Infrastructure:               <ul style="list-style-type: none"> <li>○ Sewer &amp; Water</li> <li>○ Transport</li> <li>○ Broadband</li> <li>○ Electricity</li> </ul> </li> <li>• Pockets of Distress</li> <li>• Population stagnation/decline</li> <li>• Limited Regional Planning Capacity for Infrastructure/Resilience</li> <li>• Too many layers of government</li> </ul> |
| OPPORTUNITIES   | THREATS  |
| <ul style="list-style-type: none"> <li>• Attraction of Small City/Small Town/Rural Lifestyle</li> <li>• Adjacent to NYC metro area (tourism, workforce, industry relocation)</li> <li>• Urban Revitalization as exemplified by DRI Awardees:               <ul style="list-style-type: none"> <li>○ Kingston</li> <li>○ Middletown</li> <li>○ New Rochelle</li> </ul> </li> <li>• Export/Traded Clusters</li> </ul>   | <ul style="list-style-type: none"> <li>• Competition from other States/Regions for businesses and residents</li> <li>• Climate change</li> <li>• Continued technological disruption of retail</li> <li>• Global competition affecting local employers</li> <li>• Proximity to New York City</li> </ul>   |

**Limited capacity to plan for infrastructure:** Meetings with planning and development officials held during this process highlighted constraints on the Region to plan for the infrastructure improvements needed to bolster economic and environmental resilience. Particularly in the case of sewer and water infrastructure, there are significant gaps in available information about the location and capacity of sewer and water lines. This must be addressed if the Region seeks to improve its economic and environmental resilience.

**The New Challenges Associate With COVID:** Clearly, the continuing Covid-19 pandemic remains a threat to the health and livelihood of Hudson Valley residents. Yet it is also true that some of the changes taking place in the economy in response to Covid intensify some of the opportunities defined in this SWOT analysis.

## Regional Vision & Strategy

As described in the 2019 CEDS, the Hudson Valley Region has emerged as a key nexus where the economic, social, and cultural forces of a major global capital, New York City, meet and intermingle with the dynamics associated with the Valley's small cities, towns and rural areas—vibrant legacies in agriculture and food, industrial innovation. This has remained true, despite the hardships imposed by the Covid pandemic. Consequently, it is worth restating the vision and strategy from that CEDS, since both still hold true and provide guidance in shaping the response over the next few years.

**The Vision:** The Hudson Valley will maximize the advantages of its location at the nexus between the Upstate and Downstate economies.

Thus, the central element of a vision for the Hudson Valley Region must be to build upon and strengthen those connections between and among those forces. This has never been truer, given the importance of the Hudson Valley for New York City-based households and businesses that sought temporary (and permanent) refuge in the region. From this vision a clear strategic approach emerges.

**The Strategy:** Building connections for regional competitiveness, resiliency and prosperity

This strategy for the Hudson Valley Region's economic development has been created after careful consideration of the Mid-Hudson Regional Economic Development Council's economic development strategy (e.g., "Live, Work & Play"), the Hudson Valley Economic Development Corporation and its focus on 3-D printing, Eds & Meds, Food & Beverage, Biotech, Talent and Play (i.e., tourism, recreation & the arts) and the ongoing work of the Hudson Valley Agribusiness Development Corporation promoting dynamic agricultural entrepreneurship and viable local food systems.

Each aspect of this strategy has its own needs for connectivity.

*Economic competitiveness depends upon the physical connections provided by infrastructure and the virtual and institutional connections needed to create an effective capacity to plan for future infrastructure needs*

*Resiliency requires its own set of connections, particularly well-functioning sewer and water infrastructure along with providing local decisionmakers with the information and technical assistance they need to make decisions that foster economic and environmental resiliency in their communities.*

*Prosperity is made more possible by tighter connections with the New York City area. This enables commuters to the City to bring additional income and wealth into the Hudson Valley. It makes the Valley a logical destination for entrepreneurs and creatives from places like the East Village and Williamsburg seeking lower cost locations to grow their start-up businesses. Stronger connections also support the Region's tourism economy and its growing agriculture and food sectors.*

Again, the new reality of the pandemic, and the potential for similar crises in a world affected by climate change, building and diversifying these connections between New York City and the Hudson Valley will be increasingly important for the prosperity of both places. This is the underlying premise for the actions described in this Comprehensive Economic Development Strategy.