

COVID-19 Residual Effects: Sustainability Strength and Volatility for the Future

Noel Cricione-Naylor, Ed.D*

Associate Professor Hospitality and Tourism Management Studies
Stockton University
Noel.Cricione@stockton.edu

Jane Bokunewicz, Ph.D.*

Associate Professor Hospitality and Tourism Management Studies
Stockton University
Jane.Bokunewicz@stockton.edu

ABSTRACT

The topic of sustainability, the use of resources and ability to achieve ecological balance, has become a widely researched topic within hospitality segments including events, food & beverage and hotel operations. The COVID-19 pandemic has created an extenuating impact on sustainability initiatives with long term risks on their survivability. Business requirements, such as additional sanitation protocols and food safety practices, as well as a shift in priorities to focus on financial recovery, may have long lasting implications for sustainability progress. The purpose of this industry commentary was to gain insight into the current state of sustainability strength in the “Resort Capital of the East Coast” one-year post COVID-19 and forecast volatility of sustainability initiatives as hospitality segments reopen and move more toward normal business operations. In the early days of the pandemic indicators demonstrated a shift in overall waste from commercial to residential yet the reduction in waste for commercial entities has not been in proportion to occupancy requirements with new safety protocols in place. As hotels and restaurants reopened with increased use of disposables and heightened cleaning procedures, a notable increase in commercial trash production was found. Overall, operating during a time of pandemic has proven to be a financial burden and challenge for businesses.

Keywords:

sustainability, waste, COVID-19, hospitality, hotel, food

BACKGROUND

The topic of sustainability, the use of resources and the ability to achieve ecological balance has become a widely researched topic within hospitality and tourism segments including but not limited to: events and entertainment (Getz, 2017; Riungu, et al.2018), food and beverage (Bilska, et al., 2020; Filimonau & Coteau, 2019), and hotel operations (Curry, 2016; Filimonau, Derqui,, & Matute, 2020). In research examining national tourism policy, Torkington et al. (2020) identified that environmental sustainability was depicted as instrumental to maintaining tourist demand and growth across the industry niches. The industry

* Dr. Bokunewicz is the Editor-in-Chief and Dr. Cricione-Naylor is Section Editor-Casino Gaming for this Journal. This article was submitted to the same double-blind peer review process as other articles published to this journal.

International Journal of Gaming Hospitality and Tourism (IJGHT), Vol. 1, Issue 1. © 2021 by the authors. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution NonCommercial-NoDerivatives 4.0 International license (CC BY-NC-ND 4.0). View this license’s legal deed at <https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode> for more information.

and those that participate in tourism and hospitality activities have become increasingly aware of the need to conduct practices sustainably whereby the community, the environment, and economic benefits are all significantly considered (Riungu, et al., 2018). However, sustainment of sustainability initiatives has often been met with challenges despite support from a variety of stakeholders and actions to force compliance within organizations from local, state and federal entities (Galvani, 2020).

This has now been compounded with the COVID-19 pandemic and its global impact on the world, creating an extenuating impact on sustainability initiatives with the addition of suggested and required health and wellness protocols. New standards that must be met by destinations and businesses may consequently result in long-term risks of sustainability survivability. In the 2020 annual risk report from the World Economic Forum (2020), the top five risks in terms of likelihood were environmental, and the top four of five risks in terms of impact were both social and environmental in nature, all influenced by COVID-19. Despite the short-term benefits associated with the pandemic such as reduced occupancy rates, reduction in travel, and so on, there are fears that corporate financial support for sustainability initiatives will be reallocated as companies shift priorities to focus on financial recovery and meet new business requirements (Jones & Comfort, 2020).

The purpose of this industry commentary was to conduct exploratory research to gain insight into the current state of sustainability strength in the “Resort Capital of the East Coast” one-year post COVID-19, and forecast volatility of sustainability initiatives as hospitality segments reopen and move more toward normal business operations. This resort capital destination is 1.92 square miles long with nearly 27 million visitors per year. The destination offers popular tourist attractions from celebrity chef restaurants, luxurious spas, 15-city blocks of dining and retail outlet shopping, golf, and amusement park attractions. The area also includes nine casino entertainment resort properties, timeshare hotels, and more. The resort capital is 30 minutes from a one terminal, international airport, and 1.5 hours from a seven terminal, international airport. Public transportation to the destination is also available via train.

METHODOLOGY

This industry commentary employed a convenience case study methodology appropriate to obtain preliminary data to offer insights into the field. A convenience sample of businesses and operators were drawn from the resort capital population. Three businesses participated in the study and offered data pertaining to waste, cost, and processes pre and post COVID-19. Interviews were conducted with an executive of each business. The individuals interviewed had access to business volumes, operational practices, vendor agreements, and the operating budget expenditures. The interview protocol included broad questions to understand COVID-19 practices to allow the researchers to tailor questions to each business model and extract appropriate data. Businesses requested to stay anonymous due to constant, changing operational regulations. Limitations of this study include the sample size and sampling methodology which limit the generalizability of findings in the commentary. The casino-hotel resort represents 6% of total rooms available within the category of casino-hotel rooms or ranked 7 of 9 based on data obtained from the NJ Division of Gaming Enforcement first quarter press release. The restaurants used in the study have comparable offerings and capacity to the destination average. See Table 1.

Table 1:
Businesses in the Study – Capacity and Percent of Market

Businesses	Capacity	Square Footage	Percent of Market
Business A Casual Dining	Indoor 60 Outdoor 100	Indoor 1,500 Outdoor 1,500	1 out of 30
Business B Casual Dining	Indoor 100 Outdoor 225	Indoor 2,000 Outdoor 3,500	1 out of 30
Business C Casino Hotel	1,000 Rooms	NA	1 out of 9 6% of total available casino hotel rooms

Data was also obtained from the area’s local utilities authority. As per their mission: The utilities authority is responsible for enhancing the quality of life through the protection of waters and lands from pollution by providing responsible waste management services. The authority is an environmental leader and will continue to use new technologies, innovations and employee ideas to provide the highest quality and most cost-effective environmental services.

The utilities authority operates two divisions: Wastewater Division and the Solid Waste Division. Data was provided from 2019-2021 in both the areas listed above for residential and commercial waste. The authority covers the full area of the resort capital and the surrounding counties from the homes and businesses located in the 14 municipalities that tie into the system. Data from the State Department of Environmental Protection was used for household recycling materials. Inter-coastal rainfall was accounted for during the periods of measure and water usage in these communities was examined to correlate a more accurate picture of COVID-19 impacts.

COVID-19 EXECUTIVE ORDERS AND WASTE TIMELINE

On March 16, 2020 the Governor of the state ordered the closure of restaurants, hotels and casinos. See Table 3. In the period of time immediately following the closure there was a decrease in trash coming from commercial establishments. From March through July 2020, the utilities authority measured a 41 percent decrease in commercial trash as well as a 29 percent decrease in commercial recycling when compared with the same time in 2019. On the residential side, from March through July 2020, there was an 11 percent increase in household trash and recycling from the county municipalities when compared to the same time in 2019. The flow of wastewater coming into the utilities authority greatly decreased. From March through July 2020, there was a 13 percent decrease in flows when compared to 2019.

Table 2:*Relevant Executive Orders Impacting Casinos, Hotels, and Restaurants*

Date	Relevant NJ Executive Orders Covid 19
3/16/2020	Casinos closed. Restaurants take out only
6/15/2020	Outdoor dining permitted with social distancing guidelines
7/02/2020	Casinos permitted to re-open with restrictions Casino Hotels re-open
9/04/2020	Indoor dining permitted to resume with restrictions

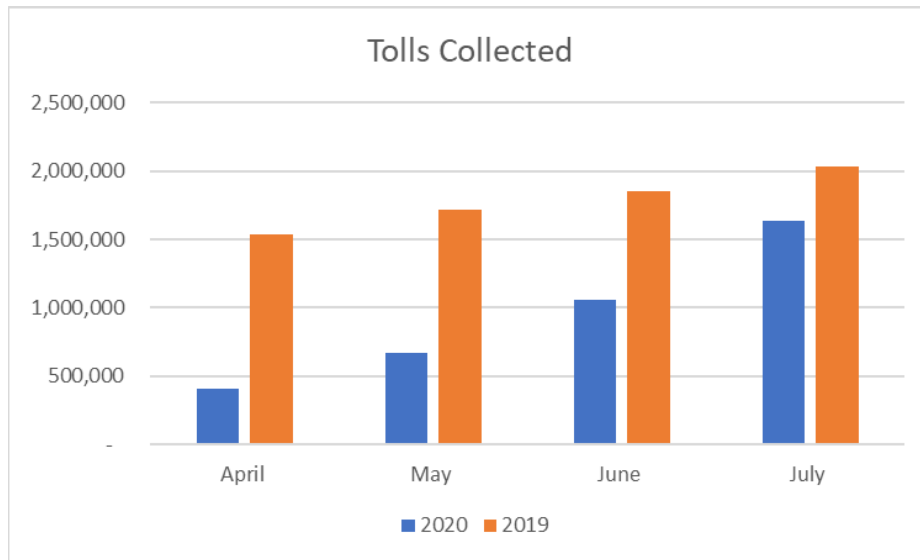
Restaurant Operations

During the closure, restaurants were permitted to offer take-out food and beverage options so many pivoted their operations to provide this service. Take-out food and beverage resulted in increased usage of disposable containers. Each entrée had to be packaged individually and each drink served in a plastic container with a lid and a sticker to show that it was sealed. Business B in the study, reported that prior to the closure they received very few take-out orders. During the closure they used approximately 400 disposable plastic containers per week. These containers would be taken home and ultimately placed into household trash contributing to the 11 percent increase. In addition to the waste resulting from the containers, the profit margins of restaurant operators were impacted by the additional cost. Each take out container cost was between \$.35 and \$.40 during the time of the closure.

The 41% decrease in commercial trash (Atlantic County Utilities Authority, 2020) is understandable considering the decrease in tourism during the shutdown. The state transportation authority's monthly statistical summary report showed from April through June 2020, tolls collected at the plaza at the entrance to the resort district were down 47% from 7 million to 3.8 million. See Figure 1.

Figure 1:

Tolls Collected at Entry to Resort 2020 over 2019



Source: South Jersey Transportation Authority Monthly Statistical Summary

The Governor of the state passed an executive order to permit outdoor dining as of June 15, 2020. Restaurant operators in the resort in the study continued take-out service and created outdoor operations as an addition. Of those restaurants in the resort that offered outdoor dining, many shifted from glassware and flatware to disposable plates, cups, knives, forks and spoons. Business B in the study had an outdoor dining space pre-pandemic and they used glass plates, drinking glasses and stainless-steel flatware. Upon re-opening, after the closure, they switched to disposables to minimize the potential for spreading COVID-19 and facilitate the clean-up process by avoiding the need for dishwashing and re-stacking. The executive chef of the restaurant in the study estimated the following weekly usage of disposables, see Table 2. The increase in cost weekly to the business for disposable cutlery was estimated at \$243.96, \$60.99 per case, an average of \$975.84 per month. There are sustainable options on the market. The cost per case of 1000 on average is \$86.99. Sustainable cutlery is made of PLA, a plant-based plastic that is formed with renewable resources to minimize environmental impact upon disposal. In the case of the usage described in Table 2, if the operation were to switch to this option, it would increase cost by an additional \$416.00 per month.

Table 3:

Weekly Usage of Restaurant Disposables Business B

Item	Weekly Quantity	Weekly Cost
Plastic Cups	1.4-1.6 cases (1,400-1,600 (1000 count)	\$97.20 (\$64.80 per case)
Plastic Forks	2 cases (2000 count)	\$121.98 (\$60.99 per case)
Plastic Knives	1 case (1000 count)	\$60.99
Plastic Spoons	1 case (1000 count)	\$60.99
<i>Weekly Total Cost/Monthly Total Cost</i>		\$341.16/\$1,364.64

The shift to disposables resulted in increased monthly costs estimated at \$1,364.64. The executive chef of Business B interviewed in the study estimated that the cost of washing 25 pint size glasses at \$0.30; the cost of 25 disposable plastic cups \$1.62, for an increase of \$1.32 per 25 cups. The chef estimated the cost of washing 50 pieces of silverware in a rack to be about \$0.27, 50 pieces of plastic cutlery \$3.00, for an increase of \$2.73 per 50 pieces. The casual restaurant above continued the use of disposables at their outdoor dining operation from June 15, 2020 until May 1, 2021. In the colder months the restaurant tried to extend the outdoor service using heat lamps which required approximately 5-6 propane tanks per day at a cost of about \$100.

In addition to the shift to disposable dinnerware and utensils, condiments like ketchup, mayonnaise and hot sauce were removed from the tables to prevent transmission of COVID-19 by guests from different parties touching the containers. They were replaced with single use packets. The executive chef of Business B in the study estimated using approximately 2,000 ketchup packets per week. This resulted in additional waste because any unused packets that were placed on the table had to be disposed of to prevent the spread of COVID-19 between parties. When the restaurant opened for outdoor dining, they began using disposable paper menus, one for each guest. They quickly realized this was costly and implemented an app where customers scan a QR code to display the menu. This is an example of reimagining a process that is more sustainable because of COVID-19. The executive in Business A interviewed in the study reported that they continued to use glassware and flatware even for outdoor dining, but they switched to disposable paper napkins. As part of their increased cleaning protocols, Business A shifted from lint free rags that would be laundered by the linen supply company, to disposable, single use sanitizing wipes. The single use wipes were used because the lint free rags would need to be laundered after each use in order to prevent spreading COVID-19. This would be operationally difficult and would require a large inventory of reusable rags. The executive of Business A estimated using approximately 1 case of disposable wipes per week.

Hotel Operations

The Governor of the state passed an executive order permitting Casinos including the hotel operations to re-open on July 2, 2020 with safety protocols. Business C, the Casino Hotel in the study, which has approximately 1,000 rooms, made changes to minimize touch points in the hotel rooms where the virus could potentially spread between incoming and outgoing guests. Some of the changes reduced trash output while others increased it. For example, all paper informational materials were removed from the rooms including hotel directories, room service menus, tip envelopes, note pads and marketing brochures. This resulted in an initial increase in trash but over time reduced consumption of paper because of not replacing these items. The hotel in the study previously provided drinking glasses and ceramic coffee mugs in the room for guests to use along with a coffee maker with complimentary coffee, sugar, and creamers. Drinking glasses were immediately replaced with plastic cups increasing trash production. Initially the coffee maker and all coffee products were removed from the room. The coffee makers were restored in January with paper cups instead of washable ceramic mugs. Any unused coffee products where the bag was opened were disposed of after each guest.

Business C in the study averaged 5,309 occupied room nights per week in the first quarter of 2021. Assuming two plastic drinking cups and two insulated paper coffee cups were used per occupied room night, the average weekly usage of disposables is 10,618 plastic cups and 10,618 paper cups at a cost of \$2,068.57 per week, see Table 3. Additionally, Business C provided masks and hand sanitizer for employees at a cost of \$218.22 per week as well as two hand wipes per check in at the front desk at a cost of \$273.41.

Table 4:
Weekly Usage of Hotel Disposables

Item	Weekly Quantity	Weekly Cost
Plastic Cups	10.62 cases (1000 count)	\$688.18 (\$64.80 per case)
Insulated Paper Cups	21.24 cases (500 count)	\$1,380.39 (\$64.99 per case)
Masks and Hand Sanitizer	NA	\$218.22
Hand Wipes	NA	\$273.41
<i>Weekly Total Cost/Monthly Total Cost</i>		\$2,560.20/\$10,240.80

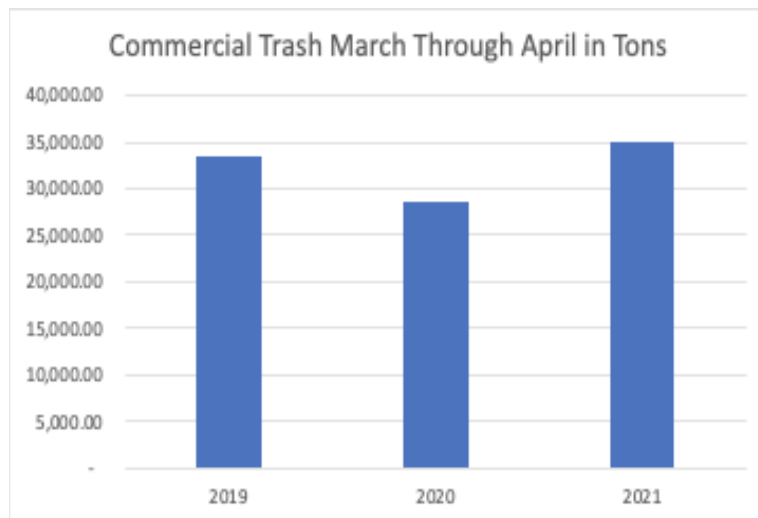
RESULTS

The estimated increase in disposable products related to COVID-19 in the three businesses interviewed in the study over the course of 4 weeks amounts to approximately 150 cases of various disposable products at a total cost of \$11,604.80.

IMPACT

The increased use of disposables in hotel and restaurant operations is reflected in the early data collected post pandemic from the resort’s utilities authority. Despite pandemic related reduction in visitation to the resorts in March and April 2021, commercial trash produced in those two months was almost 5% higher than March and April of 2019, a period of growth for the resort pre-pandemic. Figure 2 shows the comparison of the three time periods.

Figure 2:
Three Year Comparison Commercial Trash March - April



Source: Resort Utilities Authority

The number of tolls collected at the plaza at the entrance to the resort in March and April of 2021 was 20% below the number of tolls collected in March and April of 2019. The 5% increase in commercial trash with

a 20% decrease in visitation to the resort indicates that the increased use of disposables may be a contributing factor.

It is reasonable to assume that a high percentage of the commercial trash increase during the March and April 2021 time-period in this industry commentary can be attributed to accommodations and food services. According to the Bureau of Economic Analysis in 2019 the accommodation and food services segment represented 16% of the total Gross Domestic Product (GDP) of the area. It was the 4th largest segment preceded by Finance, Government, and Real Estate, respectively. The other three segments, Finance, Government and Real Estate were operating primarily virtually during this time-period. (Bureau of Economic Analysis, 2019)

RECOMMENDATIONS

As the threat of COVID-19 begins to wane, hospitality operators must still be concerned for the health and safety of their guests. It is important however, to focus on sustainable measures that can balance safety with environmental responsibility. Operators should expand the use of contactless technologies that reduce touch points while decreasing the use of paper in the form of menus, receipts and magnetic cards. While this technology existed pre-COVID-19, its acceptance by both customers and operators was accelerated during the pandemic. A survey conducted by Rapyd in August of 2020 showed that 60% of consumers planned on using touchless payment methods instead of cash in the future because of Covid concerns (Frazier, 2020). Operators should resume the use of re-usable items such as drinking glasses, coffee mugs, dishware, flatware, and cloth napkins to reduce commercial trash production as well as operating costs. When disposable items must be used, operators should focus on environmentally friendly products that are made from recycled materials or biodegradable, plant-based products made from sustainable sources. Bioplastics are a good substitute for petroleum-based products because they are sustainable, renewable, and they do not release harmful toxins into the environment (Shafqat et al., 2020). This improves the environment and bottom-line financial performance.

SUMMARY

Comparing baseline data of waste pre and post COVID-19 offers some evidence of the impact of the pandemic in the following ways: the increase in waste due to additional sanitation requirements which may have a long-term impact on costs in the business to offer services; insight into the average waste per visitor when examining large businesses in the area; and forecast total increases based on occupancy percentages.

This research is of value as it seeks to provide evidence of the potential change in the relationships between sustainability and the hospitality and tourism industry highlighted by the COVID-19 crisis, offering a range of research opportunities, at both the theoretical and empirical levels. Research needs to be conducted to validate these preliminary findings and determine the long-term impact of COVID-19 on organizational sustainability efforts within each niche area of the hospitality and tourism industry as sustainability and environmental programs are key components of long-term value and business resiliency (EY Americans, 2020). For example, research may be conducted within the variety of different types of food and beverage models such as quick service, casual dining, gourmet, and buffet. Similarly, research can examine the impact on specific hotel types, those that are independent and those that support a casino gaming property.

Additional research can examine the impact of COVID-19 on organizations based on organizational structure (independently owned, franchised, or part of a large corporate entity). As such, this research starts the conversation for sustainability efforts to be considered and prioritized with short-term and long-term options. Furthermore, this research begins to call attention to the need to understand the indirect burden it may put on service providers such as the utility authority in the short and long term. This industry commentary aligns to existing literature of the continued need to create awareness of waste disposal

challenges. Findings and implications of this study support Čorak et. al., (2020) findings that the COVID-19 crisis should become a turning-point for growth-strategies in hospitality and tourism development to be transformed into more sustainable and more inclusive activity. Furthermore, the hospitality and tourism setting make sustainability efforts complex and require continuous improvement (Getz, 2017).

REFERENCES

Atlantic County Utilities Authority (2020). How the COVID-19 Pandemic is Impacting Waste in Atlantic County. ACUA. Retrieved from <http://acua.com/Blog.aspx?pageid=5449&id=8771&blogid=1705>

Bilska, B., Tomaszewska, M., and Kolozyn-Krajewska, D. (2020). Managing the Risk of Food Waste in Foodservice Establishments. *Sustainability*, 12(5):2050. Retrieved from <https://doi.org/10.3390/su12052050>

Bureau of Economic Analysis, Gross Domestic Product by Metropolitan Statistical Area 2019. Retrieved from https://apps.bea.gov/iTable/iTable.cfm?reqid=70&step=30&isuri=1&major_area=5&area=12100&year=-1&tableid=501&category=2501&area_type=5&year_end=-1&classification=naics&state=5&statistic=-1&yearbegin=-1&unit_of_measure=levels

Čorak, S., Boranić Živoder, S., & Marušić, Z. (2020). Opportunities for tourism recovery and development during and after COVID-19: Views of tourism scholars versus tourism practitioners. *Tourism* (13327461), 68(4), 434–449. Retrieved from <https://doi-org.ezproxy.stockton.edu/10.37741/t.68.4.5>

Curry, A. (2016). Closing the Loop on Food Waste. *Executive Housekeeping Today*, 1–5.

EY Americas (2020). Why sustainability and ESG's are more important than ever. *EY Americas*. Retrieved from https://www.ey.com/en_us/assurance/why-sustainability-and-esg-are-now-more-important-than-ever

Filimonau, V., Derqui, B., & Matute, J. (2020). The COVID-19 pandemic and organizational commitment of senior hotel managers. *International Journal of Hospitality Management*, 91, N.PAG. Retrieved from <https://doi-org.ezproxy.stockton.edu/10.1016/j.ijhm.2020.102659>

Frazier, L. (2020). Already leaning towards digital money, Covid-19 pushes more people to contactless payments. *Forbes*. Retrieved from <https://www.forbes.com/sites/lizfrazierpeck/2020/08/21/already-leaning-towards-digital-money-covid-19-pushes-more-people-towards-contactless-payments/?sh=128517733012>

Galvani, A., Lew, A. A., & Perez, M. S. (2020). COVID-19 is expanding global consciousness and the sustainability of travel and tourism. *Tourism Geographies*, 22(3), 567–576. Retrieved from <https://doi-org.ezproxy.stockton.edu/10.1080/14616688.2020.1760924>

Getz, D. (2017). Developing a Framework for Sustainable Event Cities. *Event Management*, 21(5), 575–591. Retrieved from <https://doi-org.ezproxy.stockton.edu/10.3727/152599517X15053272359031>

Jones, P., & Comfort, D. (2020). The COVID-19 crisis and sustainability in the hospitality industry. *International Journal of Contemporary Hospitality Management*, 32(10), 3037–3050. Retrieved from <https://doi-org.ezproxy.stockton.edu/10.1108/IJCHM-04-2020-0357>

NJ Division of Gaming Enforcement Quarterly Press Release 1st Quarter 2021. Retrieved from <https://www.njoag.gov/about/divisions-and-offices/division-of-gaming-enforcement-home/financial-and-statistical-information/quarterly-press-releases-and-statistical-summaries/>

Riungu, G., Backman, K., Kiama, F. (2018). An Analysis of Event-Related Research across Allied Fields. *Event Management*, 22(4), 571–582. Retrieved from <https://doi-org.ezproxy.stockton.edu/10.3727/152599518X15300559276949>

Shafqat, A., Tahir, A., Mahmood, A., Pugazhendhi, A. (2020) A review on environmental significance carbon foot prints of starch based bio-plastic: A substitute of conventional plastics *Biocatalysis and Agricultural Biotechnology* Volume 27, August 2020, 101540 retrieved from <https://www.sciencedirect.com/science/article/pii/S1878818119306772>

South Jersey Transportation Authority Monthly Statistical Summary April 2020 - June 2020. Retrieved from https://www.sjta.com/sjta/annual_report.asp

Torkington, K., Stanford, D., & Guiver, J. (2020). Discourse(s) of growth and sustainability in national tourism policy documents. *Journal of Sustainable Tourism*, 28(7), 1041–1062. Retrieved from <https://doi-org.ezproxy.stockton.edu/10.1080/09669582.2020.1720695>

World Economic Forum (2020). The Global Risks Report. World Economic Forum. Retrieved from http://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf