To: Dr. John Yinger
From: Katherine Gibson & Parker Nash
Subject: Impact of COVID-19 on Local Budgets & Recommended Actions for Onondaga County
Date: 6 May 2020

Introduction

The recent global health crisis known as the COVID-19 Pandemic is creating unforeseen challenges for all levels of government in the United States and around the world. Of particular interest is the way that the pandemic and its requisite public health response has affected the budgets of state and local governments. County governments are highly dependent on sales taxes to fund and balance their operating budgets. Lost tax payments can have detrimental effects on the cash flows of local governments that must support essential services in times of crisis. This memo will primarily focus on the effects of the COVID-19 pandemic on Onondaga County in Central New York and the necessary policy actions it should take to partially remedy budgetary shortfalls. While the magnitude and level of devastation that the current crisis will cause is uncertain, research aims to analyze how counties in New York respond to uncertainties and risks regarding future cash flows and how they adapt their systems to better handle future budgetary shortfalls.

Background Information

COVID-19, a novel coronavirus, has led to millions of illnesses and hundreds of thousands of deaths globally. The spread of the virus has major implications on both the health of individuals and the economy. The banning of gatherings, travel, business shutdowns, and fear resulting from the virus has led to a time of budget uncertainty unlike any other. Budget uncertainty from COVID-19 results from a need for increased spending on essential services and a simultaneous decrease in revenue streams. The demand for emergency services and swift action drives up costs for governmental agencies and creates large deficits that are difficult to fill. Deferred and reduced revenue further the difficulty of balancing state and local government budgets. The 2008 financial crisis serves as a comparison in order to understand historical responses to budget uncertainty and past adaptive efforts, especially in the case of Onondaga County. The financial crisis and the current pandemic are not identical in scope or impact, but both introduce a time of declined revenue and intensified need for public spending (Gordon, 2012). Traditional strategies to combat the uncertainty may not apply, but will serve as guidance to address the challenges of the pandemic.

Government Response

Federal Actions

On March 13, 2020, President Trump declared a state of emergency for all states, tribes, and territories in the United States ("Local Governments Can Seek," 2020). The Federal Emergency Management Agency (FEMA) released funds to state and local governments to assist in COVID-19 related responses such as emergency operations, facilities, commodities, and equipment ("Local Governments Can Seek," 2020). On March 18, the Families First Act was enacted which requires short-term funding for paid sick leave and unemployment benefits ("Congress Gov", 2020). The IRS extended the filing deadline of federal tax payments from April 15, 2020 to July 15, 2020. Regardless of the amount owed, tax payments are extended without penalties or interest (IRS, 2020).

The Coronavirus Aid Relief and Economic Security (CARES) Act was signed two weeks after the declared national state of emergency, providing approximately $2 trillion in relief aid (Kellar, 2020). The act details a host of loans, grants, and sources of funding to state and local governments, businesses, and households. Each state will receive at least $1.5 billion, and local governments who meet certain population requirements may receive direct grants (Kellar, 2020). Additionally, $454 billion in emergency loans have been allocated to governments and businesses with the primary goal of providing loan guarantees to small businesses (Kellar, 2020). $45 billion is allocated to FEMA's disaster relief fund for medical response, equipment, safety measures, shelter, food, and other services (Kellar, 2020). Eligible local hospitals can apply for funding to address surges in operations and increased healthcare costs, with an allocated $100 billion in funding (Kellar, 2020). The CARES act is possibly the most notable action taken by the federal government, attempting to provide swift relief and target strained industries and regions.

New York State Actions
Effective and efficient state response to the novel coronavirus is critical, and legislators are responding quickly to pass budgets and appropriate emergency COVID-19 funding (Loughhead et al., 2020). On March 2, 2020 the State of New York passed an act to expand the definition of a state disaster emergency to allow an appropriation of $40 million to assist COVID-19 related services and expenses ("State Fiscal Responses," 2020). Governor Andrew Cuomo suspended mortgage payments for 90 days and temporarily postponed foreclosures and evictions (Smith, 2020). On March 22, the New York State on PAUSE plan was effective closing non-essential businesses, closing schools, distributing masks, and enacting social distancing standards ("New York State on PAUSE," 2020).

The New York State Comptroller, Thomas DiNapoli, estimates tax revenue to be $4 to $7 billion less than the $87.9 billion executive budget projections (Harris, 2020). However, definite estimates of revenue loss are not possible, as the ultimate health, social, and economic impacts are unknown.The federal government's delayed tax filing deadline could result in billions of tax payments subsequently delayed in New York. The federal government's stimulus and relief packages could offset revenue deterioration, but it is uncertain to what extent this will ameliorate conditions currently faced by state and local governments (Harris, 2020).

County Constraints

COVID-19 has sent governments around the world into states of emergency. The implications for all levels of government requires a highly coordinated response by both Federal and State governments in the United States. However, local governments stand at the front lines of this pandemic and bear the burden of both coordinating and implementing localized response, while being hit with the direct economic impacts of reduced social and business activities.

Local governments are highly dependent on revenue streams funded by taxation at the state and local level. Of primary concern are county level governments, the intermediaries between municipality and state level government.

Decreased Sales Taxes
County governments are the primary sub-state level governments in the state of New York and are dependent on sales tax revenue collected by the state for a significant portion of their budgets. Given the state of emergency, local travel has been significantly reduced and all non-essential businesses have been temporarily shuttered with thousands of employees sent home either to telecommute or on furlough.

Loss in Tourism Industry
The pandemic has severe economic consequences for local revenues as bars, restaurants, and hotels, among many other brick and mortar businesses have severely reduced traffic. Consequently, local governments are facing massive revenue uncertainties. Economic forecasts by the New York State Association of Counties (NYSAC) predict potential statewide losses of tax revenue for county governments of up to $1 billion, excluding New York City (Marren & Acquario, Stephen, 2020).

Due to these unique circumstances of county level government, a combination of federal, state, and local policy solutions are needed to curb massive financial shortfalls. Onondaga County, located in Central New York, provides a good case study to understand both the need for federal government intervention and practical policy solutions at the local level.

Onondaga County

Onondaga County has a population of approximately 460,528 ("United States Census," 2019). The county's economy is regarded as relatively stable, as its economic diversity provides somewhat of a safeguard from adverse fluctuations (Mahoney et al., 2019). However, the ramifications of COVID-19 have caused great budget uncertainty, with high levels of spending going toward preventing further spread of COVID-19 and an unpredictable revenue stream moving forward. The harmful fiscal impacts of the virus have led to furloughing 225 hourly county workers to offset the high amounts of spending (Knauss, 2020). Cornell University is the second largest employer in Central New York, providing approximately 8,792 jobs, and announced as of March 30, 2020 a hiring and salary freeze (Butler, 2020). In 2019, the county portion of the sales tax revenue accounted for 20.6 percent of the county's total revenue (Mahoney et al., 2019), a reduction in this revenue will lead to much greater difficulty in balancing the budget. The county budgeted $286 million in sales tax revenue for 2020, and could lose an estimated $11.5 to $34 million (Knauss, 2020).

The New York State Assessment of Counties assessed the economic impacts of the novel coronavirus under a mild and severe scenario (Marren & Acquario, Stephen, 2020). The scenarios differ by loss of sales revenue, with the mild scenario indicating taxable sales for counties outside of New York City falling by approximately 4 percent relative to the baseline, and in the severe scenario falling by 12 percent below the baseline (Marren & Acquario, Stephen, 2020). Onondaga County's mild scenario indicates potential sales tax loss of roughly $14.5 million, and in the severe scenario roughly $44 million (Marren & Acquario, Stephen, 2020). Furthermore, Onondaga County is challenged by two exclusionary elements in the recent federal legislation. Firstly, Onondaga County fails to meet the current population requirement of 500,000 people for direct federal aid (Katko, 2020b). This is harmful to the county as it has played a large role in COVID-19 response efforts in Central New York. Additionally, under current legislation, all employers with payrolls larger than 50 employees are federally required to provide two weeks paid sick leave for employees that contract COVID-19. This mandate includes governments like Onondaga County who are not eligible for the payroll tax credits that are being used to refund businesses for this additional expense (Katko, 2020a). Because of this unfunded mandate and the exclusionary population requirement for federal aid, bipartisan House legislation is aimed at providing relief for state and local governments. However, the pending status of relief is too far off for Onondaga County to wait to act, given its currently accruing expenses. Instead, Onondaga County must take intermediary action to raise revenues and slow the widening budget deficit.

Policy Recommendations

Given the challenges that counties are facing in the response to the public health crisis and budgetary uncertainties, policies regarding response, restoration, and planning are necessary. Governments must take the necessary actions to respond to the crisis despite potential budgetary failures, as the failure to respond would be far more damaging to the public and the economy. In the short term, necessary actions must be taken to aid necessity and in the long-term adjustments are imperative to add flexible sustainability for future crises. We pose two recommendations to aid budget uncertainty in Onondaga County, which we discuss in detail below: increase the fuel tax rate and increase the property tax levy.

1. Increase Onondaga County's Fuel Tax

Onondaga County needs to raise the local fuel tax rate to help stop the bleeding of falling revenues and capture additional future revenues as the economy comes out of crisis. Raising the county fuel tax rate from 4 percent to 4.75 percent is an adequate and acceptable option to meet this goal.

Raising the fuel levy to 4.75 percent would be one way that the county could utilize existing consumption taxes to lessen the blow of the COVID-19 crisis to the FY 2020 and FY 2021 budgets. Fuel tax collections are a viable alternative in times when revenues from traditional sales and income taxes fall short. The demand for motor fuel is generally agreed to be inelastic, although the level of inelasticity is not certain. Studies by Hughes et al. (2006) find fuel demand as becoming increasingly inelastic from 2001 to 2006 compared to a period from 1975 to 1980. While there are concerns that large portions of the tax are passed on to the consumer through price changes (Coyne, 2017), the fuel tax fulfills the benefits principle, where users of the commodity are paying for costs that arise from its use.

Furthermore, Onondaga County is well positioned to raise its levy, despite currently homogenous tax rates among its direct neighbors. Onondaga County's level of taxation is modestly situated with surrounding Upstate counties comparatively (NYS Department of Taxation and Finance, 2019) and has lower average fuel prices respective to its neighbors (Gasbuddy, 2020). Levin, Lewis, and Wolak find that consumers may initially cross nearby political boundaries in response to a price increase, but that this effect dissipates over time (as cited in Coyne, 2017). Additionally, Coyne (2017) finds that gas stations in other jurisdictions raise prices to a degree in response to a neighbor's tax increase, when located near their neighbor's border. This effect lessens the incentives for individuals to try to escape increases in fuel taxes. Due to Onondaga County's current respective tax rates and fuel prices, the county is in a secure stance to raise its rate without significant loss of sales across county lines, despite potential short-term border effects.

Externalities

Increasing the gas tax could reduce excess consumption and driving, ultimately reducing the negative externality of pollution and infrastructure decay that imposes social costs to the community. However, the gas tax is potentially regressive and could increase costs as a higher share of income for poorer individuals. In order to lessen undue burden across economic classes, the county should bolster support for existing non-profit and community action programs that provide fuel assistance and gasoline vouchers to vulnerable populations.

Considerations

Ideally, this policy measure could be implemented on a short term basis. Counties have historically been allowed to adjust their fuel tax rates on a quarterly basis (Office of Tax Policy Analysis, 2006, p. 3); however, currently most New York counties apply their local sales tax rate to qualifying fuel sales. Our recommendation seeks to differentiate the rate applied to qualifying fuel sales from the rate of the general sales tax, therefore legislation may be needed to establish the separate rate if current policy does not permit immediate adjustment.

Targeting rate increases on the fuel tax takes advantage of its low salience and preserves relatively low tax rates on general sales. The Onondaga County Legislature should move to implement this change as soon as possible to capture more revenue from currently low fuel prices and consumption, but more importantly to have a higher fuel tax rate established for when gas prices and consumption rebound as COVID-19 travel restrictions are eased. Increasing the fuel excise is not a salient taxation measure and has been historically palatable as a way to improve infrastructure and close deficits (Karplus, 2013). In 2008, the county eliminated the $2 cap on gas taxation at the county level and was able to capture over $6.4 million in additional revenue (Mahoney et al., 2009, section 2, p. 27). While a rate increase will not provide as drastic a revenue increase as in 2008 and 2009, the political precedent is in place to utilize increases in the gas tax to fill budget deficits. This moment provides a unique opportunity for the county to raise the fuel tax rate. The increased rate will benefit overall collections and is less likely to be politically contested during a period of low prices, than during a time when average gas prices are higher.

Gas price volatility is a concern of revenues based on fuel sales, especially given the collapsing price of oil in the US market. Lin and Prince (2013) find that gas price volatility may lead to higher demand elasticity for gasoline in the intermediate term, however, in the short and long term demand is much less elastic. Increasing taxes in the short term, with the intent to capitalize on short and long run revenue streams, leads to a worthwhile investment of accepting some elasticity of demand in the intermediate term during periods of increased volatility.

A different option to avoid some negative revenue fluctuations would be to utilize a cents-per-gallon tax at the county level. A cents-per-gallon method could add more revenue stability to fuel tax collections and might be useful if prices were expected to stay low or continue to fall for a significant period of time; however, without proper adjustment to inflation a cents-per-gallon approach could lead to stagnated revenues relative to increases in price in the long term. At the moment, increasing the current ad-valorem county fuel tax rate would be the best option to ensure the county's revenues are keeping in line with fuel prices as the county returns to normal market conditions.

2. Increase the Property Tax Levy

Increasing the property tax levy for Onondaga County will aid current financial uncertainty and increase revenue stability over the long run. After the financial crisis of 2008, the county focused on shifting away from property tax revenue. As stated in the 2009 budget "…by exercising spending restraint and joining other counties in maximizing non-property tax revenue sources, the budget before you contains the lowest countywide property tax rate since 1964…(Mahoney et al., 2009)." In 2009 property tax revenue approximated 15.2 percent of the counties total revenue and has declined to 11.8 percent of total revenue as of 2019 (Mahoney et al., 2019). As seen in Table 1, the property tax rate has declined from 7.28 percent in 2008 to 5.04 percent in 2019 (McMahon et al., 2020). To make up for the loss in property tax revenue, federal and state aid have increased as a share of total revenue, which subsequently furthered reliance on external revenue streams (Mahoney et al., 2019). Increasing the property tax rate after a decade of decreased dependence will allow the county to return to a revenue stream of greater stability and security.

Onondaga County is currently taxing slightly over one quarter of its constitutional authority. In 2019, the property tax limit to remain within the constitutional mandate was approximately $405 million and the actual amount was $145.5 million (Mahoney et al., 2019). As seen in Figure 1, the county's taxing capacity has gradually increased and is nearly 75 percent of the constitutional margin in 2018 (Mahoney et al., 2019). It is not recommended to reach the constitutional limit; however, it is important to note the opportunity to grow within the mandate.

The property tax levy limit, or tax cap, restricts the ability to enact this recommendation by limiting the annual growth of the property tax levy (*The Property Tax Cap*, n.d.). In 2020, the county was approximately $4 million under the tax levy limit utilizing a five percent full value tax rate. We recommend increasing the property tax to the tax levy limit to maximize revenue for the long-term. To expand the rate beyond the tax cap, the exclusion requirements would have to be adjusted. Currently, the levy limit can only be adjusted for costs resulting from tort actions or pension costs above two percentage points (*The Property Tax Cap*, n.d.). The state could consider giving exemptions due to COVID-19 to expand upon the property tax levy to respond to a time of economic uncertainty.

Increasing the property tax levy is not without its challenges, as the political feasibility of doing so is difficult. The property tax is typically local governments larger, if not, primary source of revenue, therefore by increasing the levy the county is correcting the historical "over-correction." Reverting the shift away from the property tax taxes advantage of the current situation by utilizing a source that cannot be evaded and reducing reliance on revenue streams that will be largely hit from the pandemic, such as the sales tax. The shift away from the property tax to sources outside of the county's control created greater volatility, thus returning to this stream will allow greater certainty. A strength of the property tax is its relative predictability, and a stable revenue stream allows for generation of revenue without dramatically increased tax rates (DiNapoli, n.d.). This proposal will allow for recovery from the economic damage resulting from the pandemic. Ultimately, the goal of assessing the budget uncertainty of Onondaga County is to provide measures to reduce risk and increase reliability, and the recommendation to increase the levy allows a long-term, stable solution.

Conclusion

The effects of the COVID-19 pandemic have presented unprecedented challenges to all levels of government. Despite the need for a robust federal and state level response, often local governments are at the front lines of fighting the virus and feel the immediate economic impacts of containment efforts. County level governments must quickly adjust to the current demands of the situation, while making practical adjustments to their budget in order to slow the widening deficit of falling revenues and increased expenses. A comprehensive federal response will be needed to compensate state and local governments, but it is slow moving and becomes increasingly tangled in partisan politics. Therefore, it is in the best interest of governments such as Onondaga County to take action where feasible to patch the leaks of the current and future fiscal situation. Onondaga County has the opportunity to leverage two existing revenue streams that are generally more consistent than the currently plummeting sales and income tax collections. By increasing its fuel tax rate, Onondaga County can take advantage of currently low prices to implement much needed policy change that will provide both increased revenue and positive externalities in the future. Similarly, the county has neglected to increase the property tax, which is a result of both higher reliance on the sales tax and positive political effects for keeping rates low. In a time where other revenue streams will come up significantly short, the county must consider utilizing at least the full levy limit available to them, given the uncertainty of federal funding or an existing state policy to alleviate caps on property based revenue sources. By taking direct action and utilizing existing structures, Onondaga County could serve as a model for pragmatic county level response to the COVID-19 crisis and will secure a more stable financial future for its constituents.

Bibliography

Butler, M. (2020, March 30). *Cornell announces staff hiring freeze and salary freeze amid COVID-19 concerns*. https://www.ithaca.com/news/ithaca/cornell-announces-staff-hiring-freeze-and-salary-freeze-amid-covid/article_25ec01bc-729f-11ea-a5dd-db6fadaa66c1.html
This article discusses the efforts made by Cornell University to suspend hiring and salary raises in an effort to keep costs low moving forward.

Congress Gov. (2020, March 18). H.R.6201 Families First Coronavirus Response Act. https://www.congress.gov/bill/116th-congress/house-bill/6201/text
The Families First Coronavirus Response Act is detailed, an act requiring short-term funding for paid sick leave and unemployment benefits.

Coyne, D. (2017, November 20). Crossing the border: how political boundaries affect gas price competition and state motor fuels tax (Working Paper). Retrieved from: https://econweb.ucsd.edu/~dcoyne/wp/gastax.pdf
This paper details border effects of policy changes that affect gas prices. This is a working paper from a professor at UC San Diego.

DiNapoli, T. (n.d.). *Meltdown: The Housing Crisis and its Impact on New York State's Local Governments*. https://www.osc.state.ny.us/localgov/pubs/research/subprime08.pdf
The implications of the housing crisis on local government budgets, specifically addressing the reliance on the property tax.

Gasbuddy. (2020). Region detail: New York average for regular. *Fuel Insights.* http://fuelinsights.gasbuddy.com/Home/US/New_York
This source provides average trends of gas prices at a national, state, and local level. This platform utilizes real-time consumer reported gas prices and regional detail was utilized to assess trends in gas prices in Central New York.

Gordon, T. (2012, December 31). *State and Local Budgets and the Great Recession*. https://www.brookings.edu/articles/state-and-local-budgets-and-the-great-recession/
An overview of how state and local governments responded to the economic impacts of the Great Recession, addressing spending needs, revenue loss, and government response efforts.

Harris, C. (2020, March 17). *DiNapoli Revenue Forecast*. https://www.scribd.com/document/452062264/Dinapoli-Revenue-Forecast#from_embed
The New York State Comptroller, Thomas DiNapoli's predicted revenue forecast resulting from COVID-19. Details lay out predicted sales revenue loss and specific industries which will be primarily impacted.

Hughes, J. E., Knittel, C. R., & Sperling, D. (2006). Evidence of a shift in the short-run price elasticity of gasoline demand. (NBER Working Paper 12530). Cambridge, MA: National Bureau of Economic Research. Retrieved from the National Bureau of Economic Research: http://www.nber.org/papers/w12530

This is an NBER working paper that looks at the demand elasticity response to price changes. The findings of this paper demonstrate that over time the price elasticity of demand for gasoline has become more inelastic.

Karplus, V. J., (2013, February 21). The case for a higher gasoline tax. *The New York Times.* This article was provided as course-material in PAI 735 and was accessed via the class Blackboard page.

Katko, J. (2020, April 15) Rep. Katko leads bipartisan effort to provide unfunded mandate relief for state & local governments [Press Release]. https://katko.house.gov/media-center/press-releases/rep-katko-leads-bipartisan-effort-provide-unfunded-mandate-relief-state
This is an official press release from the office of Rep. John Katko NY-24. The resource details current challenges of local governments and pending legislation to ameliorate these concerns.

Katko, J. (2020, May 1) Katko leads bipartisan effort in support of local governments in upcoming COVID-19 relief packages [Press Release]. https://katko.house.gov/media-center/press-releases/katko-leads-bipartisan-effort-support-local-governments-upcoming-covid
This is an official press release from the office of Rep. John Katko NY-24. The resource details current challenges of local governments and pending legislation to ameliorate these concerns.

Kellar, E. (2020, March 26). *President Trump Signs $2 Trillion CARES Act – Local Government Highlights*. ICMA. https://icma.org/articles/article/president-trump-signs-2-trillion-cares-act—-local-government-highlights
ICMA announces and details The Coronavirus Aid Relief and Economic Security (CARES) Act which provides $2 trillion in funding across differing levels of government and for varying purposes.

Knauss, T. (2020, March 31). *Onondaga County furloughs 225 hourly workers, victims of coronavirus fiscal impact*. https://www.syracuse.com/coronavirus/2020/03/onondaga-county-furloughs-225-hourly-workers-victims-of-coronavirus-fiscal-impact.html
The article announces Onondaga County furloughing 225 hourly workers in an effort to temporarily reduce spending.

Lin, C.-Y. C., & Prince, L. (2013). Gasoline price volatility and the elasticity of demand for gasoline. *Energy Economics*, 38(C), 111-117. Retrieved from http://clinlawell.dyson.cornell.edu/gas_price_volatility_paper.pdf
This is a peer reviewed paper detailing the effects of gasoline price volatility on demand elasticity for gasoline.

Local Governments Can Seek Coronavirus Relief from FEMA. (2020, March 20). https://icma.org/articles/article/local-governments-can-seek-coronavirus-relief-fema
ICMA details President Trump's declaration of emergency and The Federal Emergency Management response.

IRS. (2020, March 21). *Tax Day now July 15: Treasury, IRS extend filing deadline and federal*

tax payments regardless of amount owed. https://www.irs.gov/newsroom/tax-day-now-july-15-treasury-irs-extend-filing-deadline-and-federal-tax-payments-regardless-of-amount-owed
The Internal Revenue Service extended the deadline to file and pay federal tax payments from April 15 to July 15, 2020.

Loughhead, K., Cammenga, J., Walczak, J., Boesen, U., Parks, T., Shuster, R., & DeHart, J. (2020, March 30). *Tracking State Legislative Responses to COVID-19*. Tax Foundation. https://taxfoundation.org/state-tax-coronavirus-covid19/
The Tax Foundation details the differing timelines and quick action taken across states.

Mahoney, J., Fisher, William, Primo, Mary Beth, Rooney, A., Morgan, Steven, & Venditti, Tara. (2019). *Onondaga County New York 2019 Adopted Budget*. http://www.ongov.net/finance/documents/2019AdoptedBudget.pdf
The Onondaga County New York Adopted Budget for 2019 details extensive budgetary statements as well as the economic conditions, past and present, for Onondaga County.

Mahoney, J., Kochian, E., Smiley, J., Rooney, A., Rowley, J., Seitz, P., & Petrela, R. (2009). *Onondaga County New York 2009 Adopted Budget*. http://www.ongov.net/finance/documents/2009FinalAdoptedBudgetBook.pdf
The 2009 Onondaga County Budget, assessed to research the responses to economic downturn resulting from the 2008 financial crisis.

Marren, J., & Acquario, Stephen. (2020, March). *Coronavirus Economic Impact: County Sales Tax Revenue Projections*. New York State Association of Counties. https://www.nysac.org/files/NYSAC%20Report%20Economic%20Impact%20of%20Coronavirus.pdf
The New York State Association of Counties provides economic impact projections, and details predicted losses under mild and severe scenarios across counties.

McMahon, R., Donnelly, B., Primo, M. B., Rooney, A., Morgan, S., & Venditti, T. (2020). *Onondaga County 2020 Executive Budget*. http://www.ongov.net/finance/documents/2020ExecutiveBudgetBook.pdf
Onondaga County 2020 Executive Budget utilized to assess historical property tax rates and research the tax cap.

NYS Department of Taxation and Finance. (2019). *Publication 718-F: Local sales and use tax rates on qualified motor fuel, highway diesel motor fuel, and B20 biodiesel.* Retrieved from https://www.tax.ny.gov/pdf/publications/sales/pub718f.pdf
This is an official NYS publication that provides the official taxation rates of various counties in NYS.

New York State on PAUSE. (2020, May 1). https://coronavirus.health.ny.gov/new-york-state-pause
Governor Cuomo released a ten point plan to respond to the spread of the virus by closing non-essential businesses and enacting social distancing standards.

Office of Tax Policy Analysis: Technical Services Division. (2006). *New guidelines on the sales of motor fuel and diesel motor fuel subject to the cents-per-gallon sales tax.* New York State Department of Taxation and Finance. https://www.tax.ny.gov/pdf/memos/sales/m06_8s.pdf
This is an official NYS memorandum that conveys changes to the motor fuel tax law as amended under Governor Pataki in 2006.

Smith, K. A. (2020, March 20). *Mortgage Relief Tracker: Coronavirus (COVID-19) Relief For Homeowners*. Forbes. https://www.forbes.com/sites/advisor/2020/03/20/mortgage-relief-tracker-covid-19-relief-for-homeowners-and-renters/#498878632f19
The Forbes article depicts state responses to mortgage payments, foreclosures, and evictions.

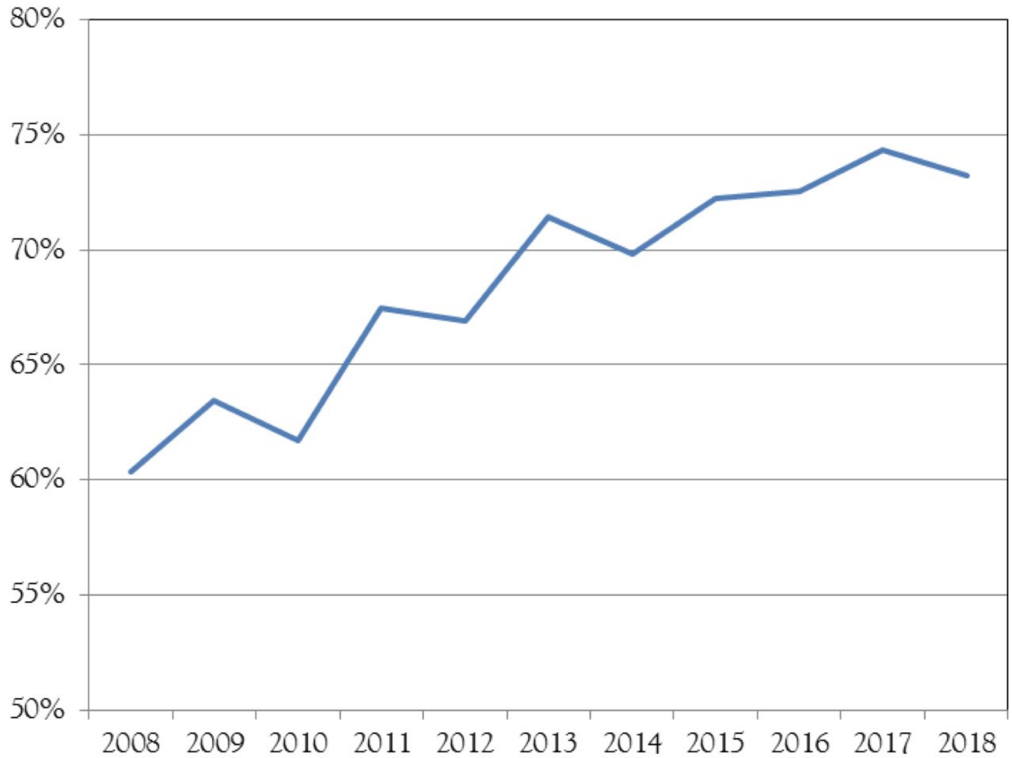
State Fiscal Responses to Coronavirus (COVID-19). (2020, March 31). National Conference of State Legislatures. https://www.ncsl.org/research/fiscal-policy/state-fiscal-responses-to-covid-19.aspx
The NCSL article describes the state responses to COVID-19 regarding declaring state of emergency and funding allocations.

The Property Tax Cap. (n.d.). New York State Department of Taxation and Finance and the New York State Department of State. https://www.tax.ny.gov/pdf/publications/orpts/capguidelines.pdf
The details of the New York property tax cap with guidelines for implementation, instructions for calculation, and information on exemptions.

United States Census Bureau. (2019b, July 1). https://www.census.gov/quickfacts/onondagacountynewyork
The United States Census Bureau estimates for Onondaga County, providing population estimates for 2019.

Appendix

Figure 1. Onondaga County's Available Taxing Capacity of the Constitutional Tax Margin



Source: Onondaga County 2019 Executive Budget
http://www.ongov.net/finance/documents/2019Executive.pdf

Table 1. Onondaga County Gross Property Tax Levy

Year of Assessment	County Gross Tax Levy	% Change Tax Levy	Total Full Value	% Change Full Value	Full Value Tax Rate	% Tax Rate Change
2020[1]	$149,590,731	2.7%	$29,951,644,565	3.7%	5.00	(0.8%)
2019[2]	$145,590,731	2.8%	$28,871,577,171	3.0%	5.04	(0.2%)
2018	$141,690,731	0.4%	$28,029,550,818	0.9%	5.06	(0.3%)
2017	$141,096,060	1.0%	$27,788,399,337	1.5%	5.07	(0.7%)
2016	$139,691,159	(0.1%)	$27,365,729,891	0.4%	5.10	0.6%
2015	$139,891,159	(0.7%)	$27,244,303,609	1.2%	5.13	(1.9%)
2014	$140,891,159	(0.1%)	$26,918,210,215	0.8%	5.23	(0.9%)
2013	$140,998,859	(8.3%)	$26,704,901,404	0.1%	5.28	(5.0%)
2012	$148,216,571	(3.6%)	$26,666,826,135	0.9%	5.56	(4.5%)
2011	$153,821,817	(16.4%)	$26,420,301,254	1.0%	5.82	(17.3%)
2010	$183,997,042	2.3%	$26,148,206,733	2.1%	7.04	0.2%
2009	$179,821,396	0.1%	$25,599,869,832	3.7%	7.02	(3.5%)
2008	$179,707,960	(2.3%)	$24,690,825,684	6.2%	7.28	(8.0%)

[1] Total Full Value as of August [2] Adopted

Source: Onondaga County 2020 Adopted Budget
http://www.ongov.net/finance/documents/2020AdoptedBudgetBook.pdf