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Estill County "Twin Cities" Consolidation Study

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ESTILL COUNTY “TWIN CITIES” CONSOLIDATION STUDY

CAPSTONE IN PUBLIC ADMINISTRATION

A capstone project submitted in partial fulfillment of the requirements for the degree of Master of Public Administration in the Martin School of Public Policy and Administration at the University of Kentucky.

BY

Logan Hart

ABSTRACT

To provide essential services without imposing an unreasonable financial burden on their residents, local governments, particularly those with a declining population or tax base, are seeking ways to maximize their resources. Municipal consolidation is one of the solutions that many local governments have considered. This study aimed to determine if municipal consolidation would improve the efficiency and financial standing of the Estill County, Kentucky cities of Irvine and Ravenna. The study's findings suggest that consolidation could lead to cost benefits for both cities. However, due to the limited availability of data, further research is required to gain a complete understanding of how consolidation would impact the efficiency and financial standing of Irvine and Ravenna.

Martin School of Public Policy and Administration

Table of Contents

Introduction

Local governments are responsible for providing a number of services to the residents of their communities. Among those services are public utilities, police and fire protection, and parks and recreation. To provide these services, local governments must maintain a steady stream of revenue that matches or exceeds their expenditures. In an economy where costs are rapidly increasing, it is important that municipalities steadily grow their tax base to avoid having to increase their tax rates and fees or reduce the quality of the services that they provide. Unfortunately, only half of Kentucky's 120 counties are experiencing growth – with the majority being in the Louisville, Lexington, and Cincinnati Metropolitan Areas.[1]. The remaining counties are experiencing stagnant growth or population decline. The decline of the coal and manufacturing industries has exacerbated this trend across the western and eastern parts of the state.

Governments everywhere, and particularly those in communities that are declining in population, are faced with the important task of identifying changes that will allow them to continue to provide high-quality services without increasing the financial burdens placed on their residents. One possible action that some communities across the country have taken with the intended goal of improving efficiency is municipal consolidation. Municipal consolidation is the process in which two or more municipal governments dissolve and the area of the dissolved municipalities are combined to form a single new municipality. Despite being talked about regularly as a potential solution to the problem of inefficiency, consolidating local governments is difficult, and has rarely taken place. The most common form of local government

[1] Estep, Bill, and Liz Moomey. 2021. "'Trying to hold on.' Rural Kentucky losing people ." *Lexington Herald Leader.* August 13. https://www.kentucky.com/news/local/counties/fayette-county/article253466344.html.

consolidation has been that of a city-county merger, and as of today, there are only 42 consolidated city-county governments in the United States.[2] Of these 42, two are in Kentucky. In 1974, the City of Lexington and Fayette County consolidated their governments to form the Lexington-Fayette Urban County Government. In 2003, the City of Louisville and Jefferson County consolidated their governments to form the Louisville-Jefferson County Metro Government.

In many cases, the primary motivation for municipal consolidation is improved efficiency. The argument is that by pooling resources, operations will improve and become more efficient due to less duplication of services, fewer elected officials, equalization of services, and the possibility of improved utilization of resources.[3] Although there have been interesting findings related to the financial effects of municipal consolidation; empirical data that either proves or disproves its effects on efficiency has been limited due to the relatively few examples of successful consolidations in the United States. In addition, most of these consolidations have been between mid-to-large cities and their respective counties rather than small towns or cities.

To better understand how municipal consolidations may impact the financial standing of small towns in Kentucky, this study examines the finances of the cities of Irvine and Ravenna and compares them to cities of similar size and demographics to that of a consolidated Irvine and Ravenna. This study answers the following questions:

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[2] National Association of Counties. 2021. *Consolidated City-Counties.* October 27. https://www.naco.org/resources/consolidated-city-counties.

[3] Hardy, Pat. 2019. "The Pros and Cons of Consolidated Government ." *UT Municipal Technical Advisory Services.* https://www.mtas.tennessee.edu/system/files/knowledgebase/original/Hardy_pros_cons_consol_2019_final_0.pdf.

- How would consolidation impact the capacity of Irvine and Ravenna to deliver essential services?
- If consolidation improves financial standing, are there additional costs to be considered?
- How might consolidation change the distribution of tax payments among residents of the two cities?

Literature Review

The limited number of successful consolidations across the United States has made it difficult for researchers to ascertain the true impacts of consolidation on municipal finances. Past literature on the topic has provided mixed findings, which contributes to the importance of this study into the potential effects of consolidation between small municipalities. Previous studies have provided insight into optimal jurisdiction sizes, effects on expenditures, and the effects of forced versus voluntary mergers.

Optimal Jurisdiction Sizes

Across the world, municipal governments vary greatly in terms of size. They range from a few dozen people to several million. Because of this stark difference, it is possible that consolidations could have different effects depending on size. There are several findings in the previous literature related to the optimal size of jurisdictions as it relates to municipal consolidations. Southwick finds that the ideal population lies between 4,600 and 25,200.[4] Communities that are below 4,600 and above 25,200 population will not receive the maximum efficiency benefits. These findings are not universal, however. Blom-Hansen and co-authors find

[4] Southwick, Lawrence. 2012. "Economies of Scale in Local Government: General Government Spending." *Scientific Research*, June 18: 273.

that mergers yield no gains in cost savings.[5] They did emphasize that it should not be assumed that their overall findings will be consistent across all municipalities. It is entirely possible that consolidation did result in cost savings in some communities, but those savings were negated by increases in other cities. The inconclusive findings of past studies further reinforce the importance of conducting more research in the future.

Effects on Expenditures

Another primary focus of past studies is the effect that municipal consolidations have on expenditures. Past literature has focused not only on municipal consolidations, but also on service consolidation. In their research, Maher finds that expenditure reductions were only associated with capacity management services, which include training and development programs, technical assistance and support, and the implementation of management systems, not with protective services, which include fire and police protection, etc..[6] Maher noted that due to limited data, one should be cautious about making general claims based on the findings of their study. Other research suggests that it is not possible for expenditures to vary between municipalities for reasons other than size or homogeneity. Allers and Geertsema find no evidence to suggest that consolidations had a significant effect on spending or taxation across municipalities.[7] This is not to imply that it is not possible for consolidations to have an effect, rather that these effects could be seen on an individual and not general basis.

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[5] Blom-Hansen, Jens, Kurt Houlberg, Søren Serritzlew Serritzlew, and Daniel Treisman. 2016. "Jurisdiction Size and Local Government Policy Expenditure: Assessing the Effect of Municipal Amalgamation." *American Political Science Review*, November: 828.

[6] Maher, Craig. 2015. "A Longitudinal Analysis of the Effects of Service Consolidation on Local Government Expenditures." *Public Administration Quarterly*, 415-416.

[7] Allers, Maarten A., and J. Bieuwe Geertsema. 2016. "The Effects of Local Government Amalgamation on Public Spending, Taxation, and Service Levels: Evidence From 15 Years of Municipal Consolidation." *Journal of Regional Science*, 679-680.

Effects of Forced Versus Voluntary Consolidations

The third focus of the past literature is the effect in which voluntary versus involuntary consolidations affect the services to be provided and the costs associated with providing those services. The consensus among researchers is that those municipalities that consolidate on their own without being forced do tend to see more benefits than those that are forced to consolidate. This was confirmed in one study, a study of local governments in New South Wales, Australia, where Mughan finds that those governments that merged voluntarily saw a 10 percent decline in total per capita expenditures, while those that were forced failed to see any reduced spending.[8] Tricaud finds that despite often experiencing similar benefits to those that consolidated voluntarily, municipalities that were forced to consolidate often saw costs that were much higher.[9]

In general, past literature has stressed that the effects of consolidations should not be generalized and assumed to be consistent across all municipalities. There are many different factors that may contribute to the effects of consolidation on municipal finances. Potential consolidations should be considered on an individual basis to determine if they are worth pursuing. This study will contribute to the past literature as it relates to smaller municipalities by providing an analysis of a combined Irvine-Ravenna's revenues, expenditures, and debts and comparing them to similar communities across the Commonwealth of Kentucky.

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[8] Mughan, Sian. 2019. "When do Municipal Consolidations Reduce Government Expenditures? Evidence on the Role of Local Involvement." *Public Administration Review*, February 25: 180-192.

[9] Tricaud, C. (2022, December). *Better Alone? Evidence on the Costs of Intermunicipal Cooperation.* Retrieved from Clemence Tricaud : https://www.clemence.tricaud.com/_files/ugd/718dda_6638bd57e531472ea491a7f0faea009a.pdf

Background

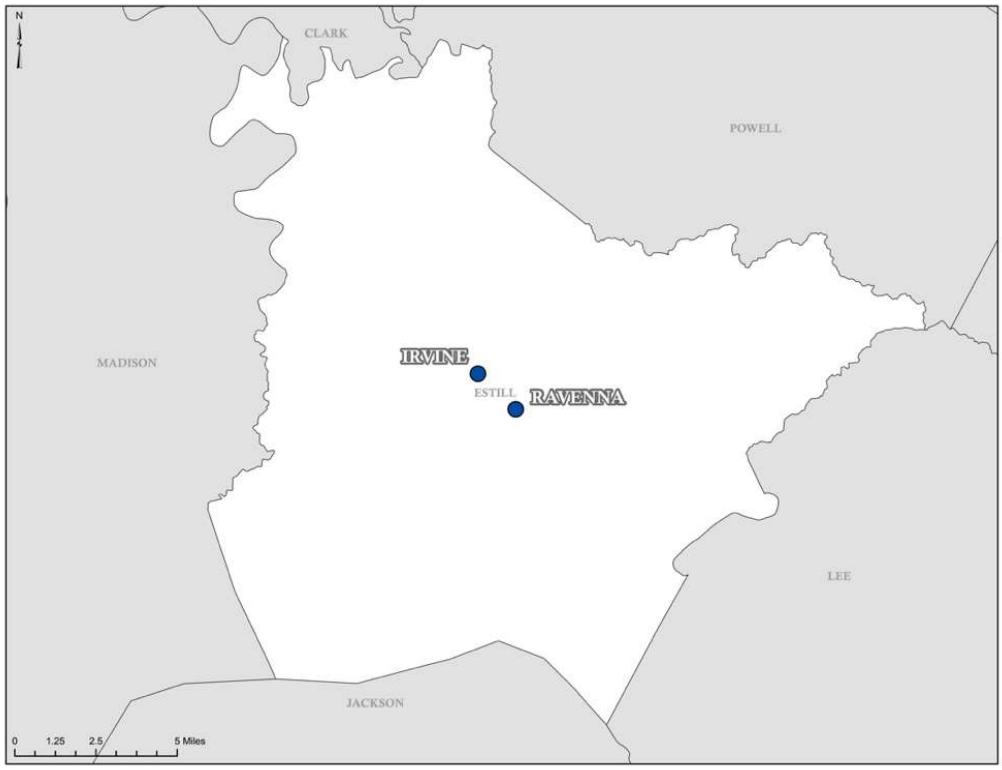
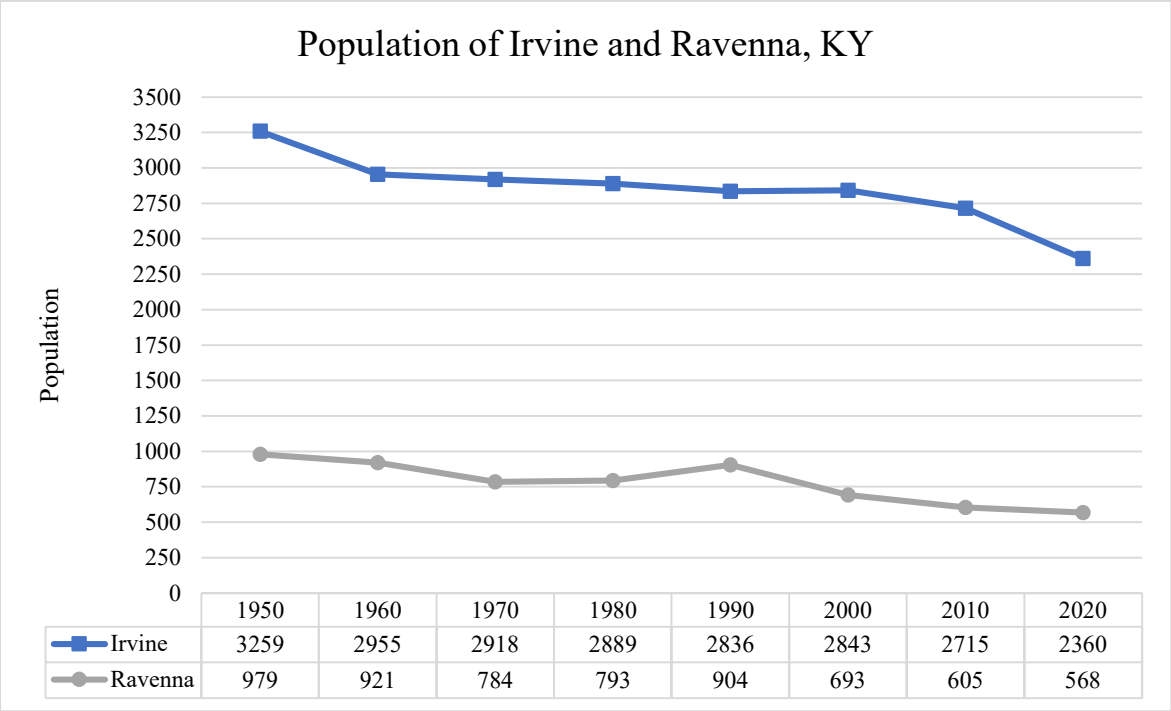


Figure 1*: Map of Estill County, Kentucky.*

The cities of Irvine and Ravenna, referred to as the "twin cities" in Estill County, are located immediately adjacent to one another on the banks of the Kentucky River. As of 2020, Irvine (the county seat) has a population of 2,349 while Ravenna has a population of 569 with both decreasing each year. As seen in Figure 2, Irvine and Ravenna have both experienced substantial population loss over the past 70 years.[10] During this time, Irvine's population declined by roughly 27% while Ravenna's declined by 42%. This loss has contributed to a decline in the tax base, limiting available funds, and preventing both cities from pursuing many much-needed projects. Because of this decline, Irvine and Ravenna often lack the resources to meet essential needs on their own without assistance from outside sources. As they are adjacent,

[10] U.S. Census Bureau . 2020. *Census Bureau Data.* Accessed January 15, 2023. data.census.gov.

consolidation has been floated as a possibility in the past. In 2014, leaders in both Irvine and Ravenna tried to unify their local governments, but voters in Ravenna rejected the measure.



	1950	1960	1970	1980	1990	2000	2010	2020
Irvine	3259	2955	2918	2889	2836	2843	2715	2360
Ravenna	979	921	784	793	904	693	605	568

***Figure 2**: Population Trends - Irvine and Ravenna, KY.*

Improving the efficiency and financial standing of the local governments is critical to ensuring that the cities can continue to serve their residents in the future. A more efficient government with improved financial standing would have a greater capacity to pursue projects and would be better equipped to provide essential services to their residents. It would also minimize the number of future tax and fee increases needed to account for the shrinking tax base. One example of how the current financial situation has affected the cities can be noted in a February 2014 edition of the Estill Tribune. In this article, which was discussing a previous attempt to consolidate, mention was made of Ravenna's insurance premium tax being higher than neighboring Irvine's. It was stressed that without the merger, any attempts to lower the tax

rate to match Irvine would put the City in a financial bind.[11] The findings of this study will hopefully provide some insight that will allow other communities to examine their own unique circumstances and will contribute to the understanding of how consolidations impact the efficiency and financial standing of small municipal governments.

Data

To conduct this analysis, this study utilizes data from multiple sources, including the cities themselves. This data encompasses tax rates, revenue and expenditure totals, and outstanding debt totals for each city, with a full breakdown available in Appendix A. The primary source for this information is the Uniform Financial Information Reports (UFIRs) of the cities from 2017-2020, as this is the period for which the Kentucky Department for Local Government has complete records. Additionally, demographic data from the U.S. Census Bureau was used to identify cities that are comparable to a consolidated Irvine and Ravenna. To ensure the most equivalent comparison possible, I compared the data mentioned previously from the cities of Irvine and Ravenna to the cities of Marion, Springfield, Brandenburg, Providence, Russell Springs, Louisa, Stanton, Mount Vernon, Jackson, and Prestonsburg.

[11] Dawes, Cathy. 2014. "Ravenna starts process of merging with Irvine." *The Estill Tribune*, February 12: 1.

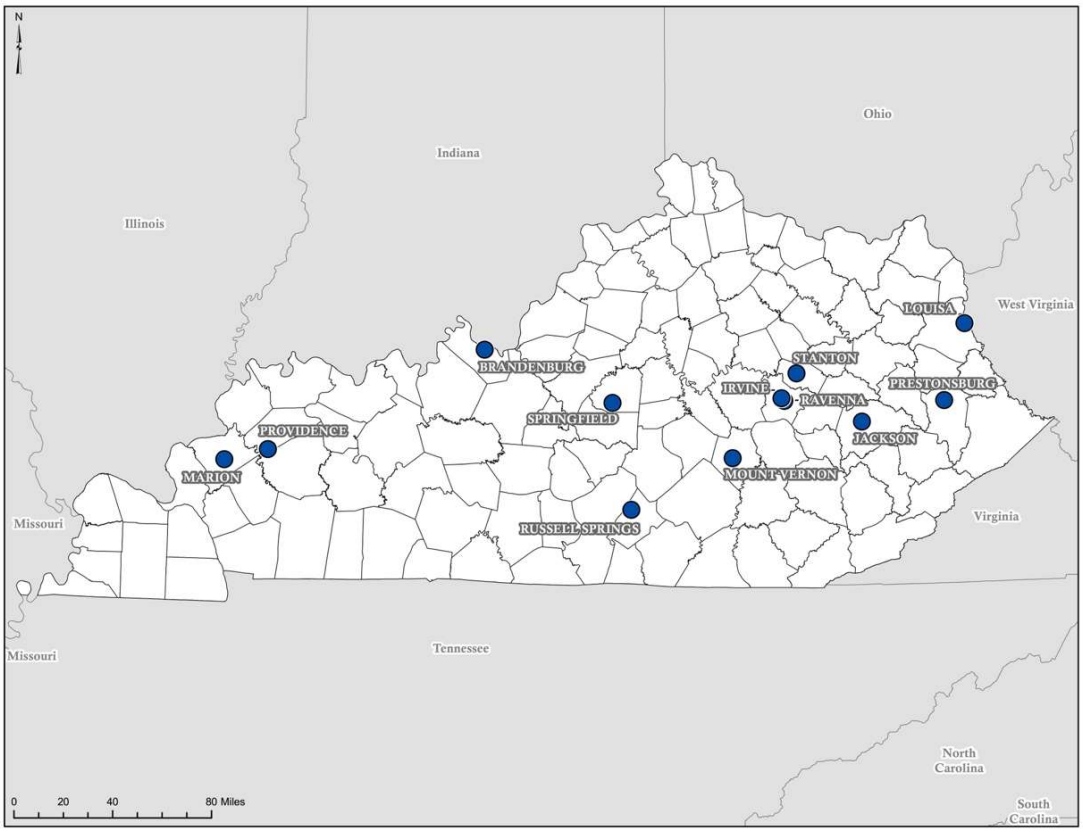


Figure 3*: Map of Comparison Cities.*

This comparison includes four cities above and four below Irvine and Ravenna's combined population of 2,897 in 2020. In addition to being selected due to their populations being similar to a combined Irvine and Ravenna, these cities were selected because they feature a profile similar to Irvine and Ravenna – meaning that they have been seeing limited and/or negative population growth, similar education levels, and median household incomes.

Demographics

Shown in Table 1, I have selected the cities of Marion, Springfield, Brandenburg, Providence, Russell Springs, Louisa, Stanton, Mount Vernon, Jackson, and Prestonsburg for my comparison. From 2017 to 2020, these cities differ in population from Irvine-Ravenna by an average of just 3.5%.[12] In terms of median household income, in 2020 these cities differed from Irvine-Ravenna by 5%. Finally, in terms of how many residents had completed a bachelor's degree or higher, these cities differed by just 6%.

Table 1*: Community Demographic Information.*

	Population				Median Household Income	Bachelor's Degree or Higher
Year	**2017**	**2018**	**2019**	**2020**	**2020**	**2020**
Marion	2,908	2,873	2,841	2,864	$41,076	11%
Springfield	3,888	2,932	2,965	2,814	$41,750	25%
Brandenburg	2,838	2,888	2,885	2,875	$47,440	15%
Providence	3,008	3,014	2,992	2,892	$44,306	12%
Russell Springs	2,547	2,594	2,635	2,701	$31,307	24%
Louisa	2,394	2,362	2,326	2,665	$28,378	11%
Stanton	2,709	2,716	2,697	3,154	$32,313	11%
Mount Vernon	2,395	2,396	2,379	2,405	$21,755	15%
Jackson	1,996	1,965	1,935	2,237	$29,654	18%
Prestonsburg	3,565	3,554	3,513	4,151	$31,818	14%
Comparison Cities (Average)	2,825	2,729	2,717	2,876	$35,462	16%
Irvine – Ravenna	2,899	2,882	2,866	2,918	$33,750	17%
Difference	**3%**	**5%**	**5%**	**1%**	**5%**	**6%**

[12] U.S. Census Bureau . 2020. *Census Bureau Data.* Accessed January 15, 2023. data.census.gov.

Research Design

The purpose of this study is to identify the financial implications of consolidating the two municipal governments in Estill County, KY – the cities of Irvine and Ravenna. To complete this analysis, I have identified two key impacts that I wish to evaluate to determine if consolidation would result in more efficient operations and improved financial standing. These impacts include those on municipal expenditures and on the communities' capacity to provide essential services. The questions that I asked in this analysis to evaluate each of these impacts include:

Impact on Municipal Expenditures

- Post-consolidation, will the new level of expenditures per capita be in line with the comparison cities?

Impact on Capacity to Provide Essential Services

- How will the consolidation of the governments of Irvine and Ravenna affect outstanding debt per capita?
- When consolidated, will outstanding debt per capita be comparable to the comparison cities?

To analyze these impacts, I assess revenue and expenditure trends, as well as the debt trends of both Irvine and Ravenna to the trends seen in cities that are similar to the consolidated Irvine-Ravenna. Though this analysis may provide a greater sense of whether consolidation would provide a public benefit, it must be clear that this is solely in terms of city finances. It does not provide any insight into how consolidation may affect the quality of the services that are provided by the combined city. Also, this study does not take into consideration non-quantifiable

benefits such as “sense of community”. These benefits must be recognized, as they often contribute to the citizens’ ultimate decision on whether to consolidate or not. The findings of this analysis have also been based on a limited data set. In Kentucky, governments are not required to keep records for more than five years, which limits available data. Lastly, the findings are based on the assumption that the information submitted in the Uniform Financial Information Reports have been accurately reported by each of the cities in the analysis.

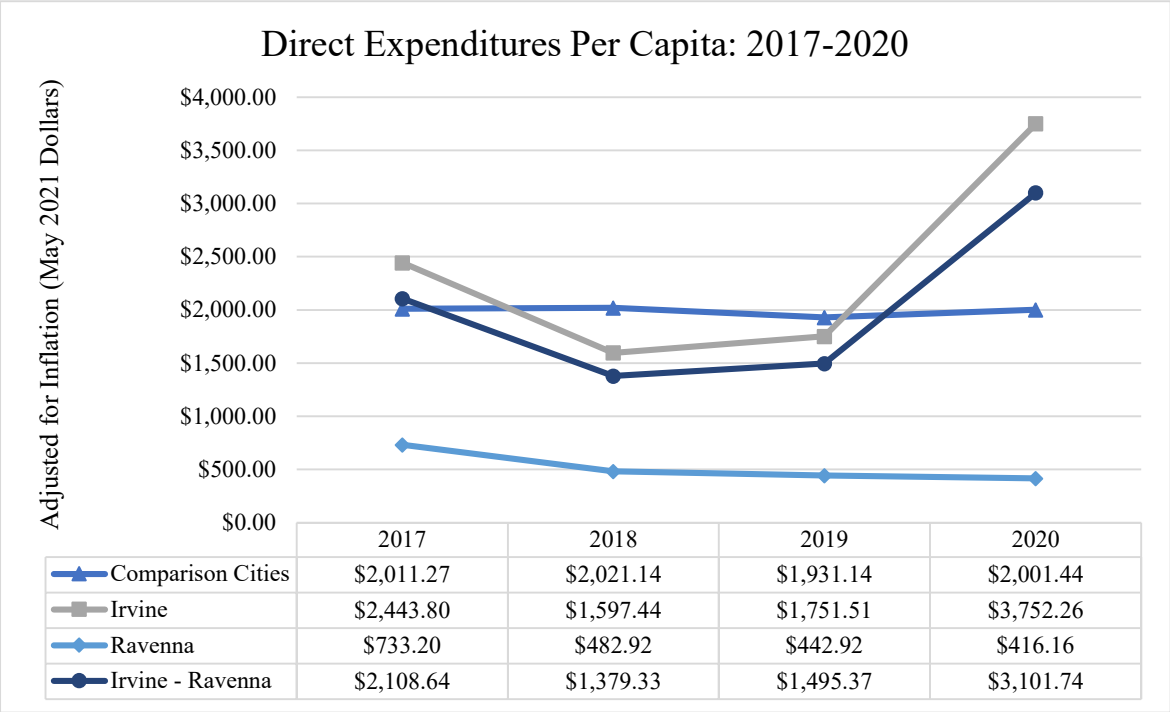
Results

Direct Expenditures

In Kentucky, cities are required to report their expenditures each fiscal year. Direct expenditures are categorized according to their function in the Uniform Financial Information Reports, which include general government, public safety, public services, community services, utilities, and debt payment expenditures. These expenditures are further classified as direct salary costs, operating costs, or capital outlay, as detailed in Appendix B.

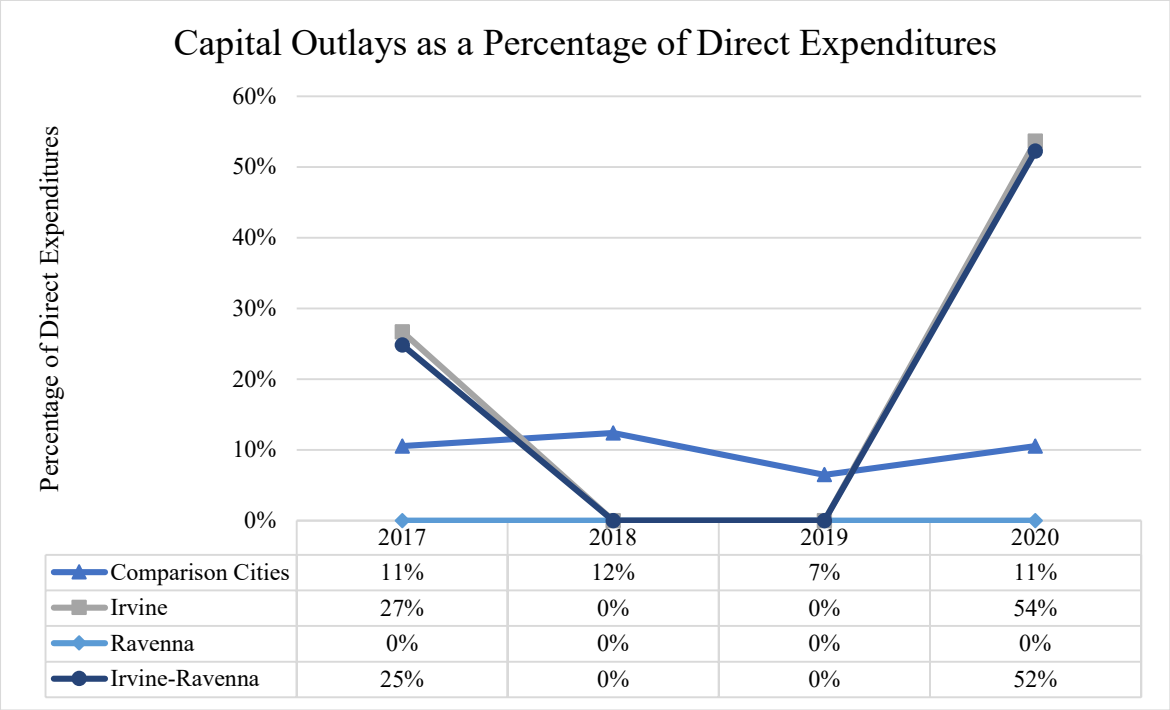
In Figure 4, we can see that when combined, Irvine and Ravenna show significantly more variation in direct expenditures than the average of the comparison cities over the four years that make up the study period. Throughout the period of the study Irvine spent the most per capita each year, with expenditures increasing from $2,444 in 2017 to $3,752 in 2020. This is an increase of 53.5%. The average per capita expenditures of the comparison cities stayed consistent, decreasing from $2,011 in 2017 to $2,001 in 2020. Ravenna’s per capita expenditures also decreased – going from $733 in 2017 to $416 in 2020. This is a decrease of 43%. This is primarily due to the variation in Irvine’s direct expenditures, as Ravenna’s expenditures remain consistent, albeit much lower. When broken down by function and whether the expenditure constitutes salary costs, operating costs, or capital outlay, it becomes apparent why Irvine, and in

turn, the combined Irvine-Ravenna, saw a dramatic increase in expenditures per capita compared to the other cities in the study. Figure 5 shows that capital outlays as a percentage of direct expenditures increased dramatically, from 0% in 2019 to over 54% of all direct expenditures in 2020. This increase is the result of a threefold increase in utilities expenditures per capita, as illustrated in Figure 6.



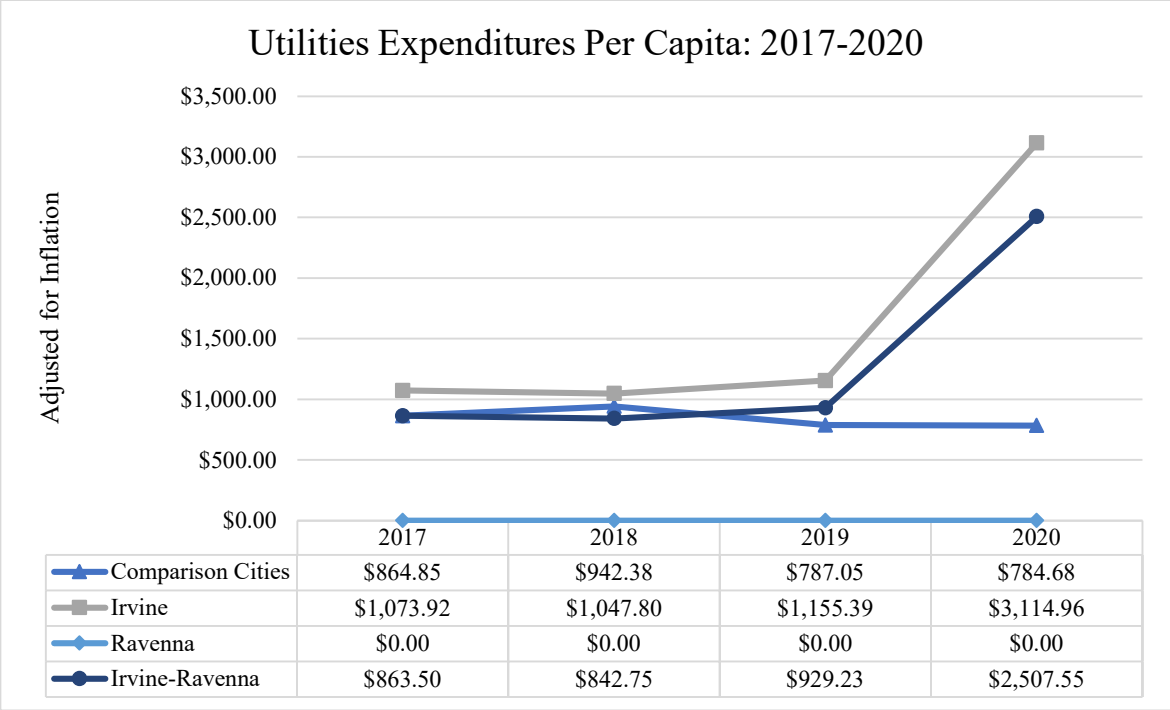
	2017	2018	2019	2020
Comparison Cities	$2,011.27	$2,021.14	$1,931.14	$2,001.44
Irvine	$2,443.80	$1,597.44	$1,751.51	$3,752.26
Ravenna	$733.20	$482.92	$442.92	$416.16
Irvine - Ravenna	$2,108.64	$1,379.33	$1,495.37	$3,101.74

Figure 4*: Direct Expenditures Per Capita.*



	2017	2018	2019	2020
Comparison Cities	11%	12%	7%	11%
Irvine	27%	0%	0%	54%
Ravenna	0%	0%	0%	0%
Irvine-Ravenna	25%	0%	0%	52%

***Figure 5**: Capital Outlays as a Percentage of Direct Expenditures.*



	2017	2018	2019	2020
Comparison Cities	$864.85	$942.38	$787.05	$784.68
Irvine	$1,073.92	$1,047.80	$1,155.39	$3,114.96
Ravenna	$0.00	$0.00	$0.00	$0.00
Irvine-Ravenna	$863.50	$842.75	$929.23	$2,507.55

***Figure 6**: Utilities Expenditures Per Capita.*

Ravenna, unlike Irvine and the other comparison cities, does not operate any public utilities of their own. Instead, they are served by Irvine's municipal utilities. In the event of consolidation, the expenditures per capita would also rise for Ravenna, but this would not have any real adverse effects on the community. Instead, the costs to maintain and manage the existing system that serves both communities would be shared among a larger population, potentially decreasing the possibility of future rate hikes or additional incurred debt.

As further outlined in Appendix B, the effect of consolidation on various types of expenditures varies across categories. Consolidation would lead to decreased per capita expenditures in Ravenna's Community Services (Parks and Recreation) and Public Services (Streets and Roads, Sanitation/Solid Waste) categories, while in the Direct Expenditures (General Government Operations, Public Safety), Utilities (Water Systems, Sewerage Systems), and Debt Payments categories, Irvine would experience lower per capita expenditures. Overall, Irvine stands to gain the most from consolidation in terms of per capita expenditures. Residents of Irvine would bear a reduced burden of expenditures per capita, whereas those of Ravenna would face a significant increase. This is primarily because Ravenna lacks a public utility, resulting in substantial differences in utilities expenditures.

Revenue Source Comparison

The Constitution of the Commonwealth of Kentucky designates which taxes and fees city governments may impose. According to Section 181, the General Assembly "...may, by general laws, delegate the power to counties, towns, cities, and other municipal corporations, to impose and collect license fees on stock used for breeding purposes, on franchises, trades, occupations, and professions. And the General Assembly may, by general laws only, authorize cities or towns of any class to provide for taxation for municipal purposes on personal property, tangible, and

intangible, based on income, licenses, or franchises, in lieu of an ad valorem tax thereon."[13] The Kentucky Department for Local Government requires each city to report the taxes and fees they impose in a Uniform Financial Information Report by May of each year.

Table 2 displays the tax and fee rates charged by each city included in this study. Property taxes (real, personal, and motor vehicle/watercraft) are presented as cents per $100 of assessed value. For example, a real property tax rate of 0.23 would indicate a tax rate of 23 cents per $100 of assessed value. All other tax rates and fees presented are presented as a percentage. For example, an occupational license fee of 0.01 would indicate a tax rate of 1% of all compensation earned for work and/or services performed in the city.

Irvine and Ravenna and the comparison cities differed slightly in their utilization of the available revenue sources. The cities of Irvine and Ravenna have elected to rely more heavily on property taxes and less on other taxes and fees. This contrasts with the comparison cities who relied less on property taxes. As indicated in Table 2, from 2017 to 2020, the combined Irvine-Ravenna levied higher real, personal, motor vehicle/watercraft, and insurance premium tax rates, on average, while the comparison cities levied higher occupational license and bank deposit franchise fees as well as net profits, restaurant, and motel tax rates.[14]

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[13] Legislative Research Commission. 2020. "Constitution of the United States of America and of the Commonwealth of Kentucky ." *Legislative Research Commission.* November. Accessed February 11, 2023. https://legislature.ky.gov/LRC/Publications/Informational%20Bulletins/ib210.pdf.

[14] City of Irvine, City of Ravenna, City of Marion, City of Springfield, City of Brandenburg, City of Providence, City of Russell Springs, City of Louisa, City of Stanton, City of Mount Vernon, City of Jackson, City of Prestonsburg. 2017-2020. "Uniform Financial Information Report."

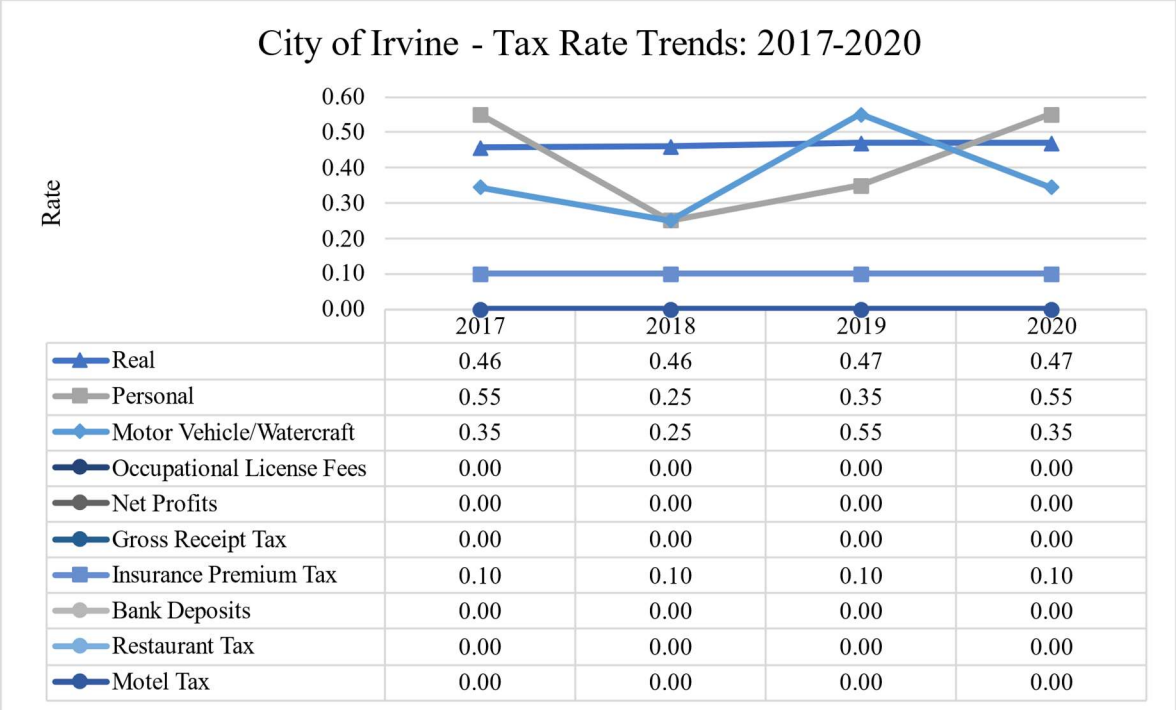
***Table 2**: Local Tax Rates: 2017-2020.*

Revenue Source	Comparison Cities (Weighted Average)	Irvine	Ravenna	Irvine – Ravenna (Weighted Average)
Real	0.23	0.46	0.50	0.48
Personal	0.27	0.42	0.50	0.54
Motor Vehicle/Watercraft	0.17	0.37	0.00	0.28
Occupational License Fees	0.01	0.00	0.00	0.00
Net Profits	0.01	0.00	0.00	0.00
Gross Receipt Tax	0.00	0.00	0.00	0.00
Insurance Premium Tax	0.05	0.10	0.10	0.10
Bank Deposits	0.04	0.00	0.00	0.00
Restaurant Tax	0.02	0.00	0.00	0.00
Motel Tax	0.01	0.00	0.00	0.00

Figures 7-10 display trends in tax rates and fees in the comparison cities, Irvine, Ravenna, and the combined Irvine-Ravenna from 2017 – 2020. Rates remained consistent throughout the period of study in the comparison cities with only slight variations. In Ravenna, there were no changes in any of the tax rates and fees. Irvine saw some more significant changes, however. From 2017 to 2018, the personal property tax rate decreased from 55 cents/$100 to 25 cents/$100, but it rebounded to 55 cents/$100 by 2020. The motor vehicle/watercraft tax rate decreased from 35 cents/$100 in 2017 to 25 cents/$100 in 2018. It then rose to 55 cents/$100 before decreasing to 35 cents/$100 by 2020. Because Ravenna saw no changes, the trends for the combined Irvine-Ravenna mirrors Irvine's trends, albeit at lower rates.

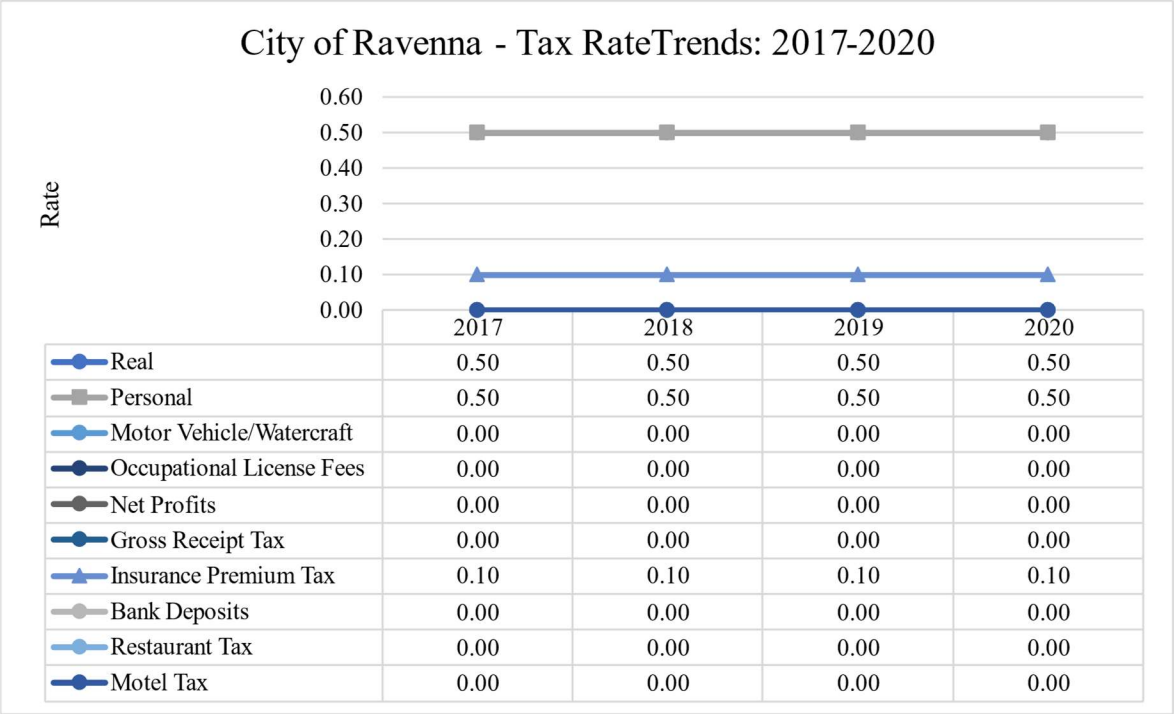
	2017	2018	2019	2020
Real	0.23	0.23	0.23	0.23
Personal	0.26	0.26	0.27	0.27
Motor Vehicle/Watercraft	0.16	0.18	0.18	0.17
Occupational License Fees	0.01	0.01	0.01	0.01
Net Profits	0.02	0.01	0.01	0.01
Gross Receipt Tax	0.00	0.00	0.00	0.00
Insurance Premium Tax	0.06	0.06	0.05	0.05
Bank Deposits	0.03	0.03	0.03	0.04
Restaurant Tax	0.02	0.02	0.02	0.02
Motel Tax	0.01	0.01	0.01	0.01

***Figure 7**: Comparison Cities - Tax Rate Trends.*



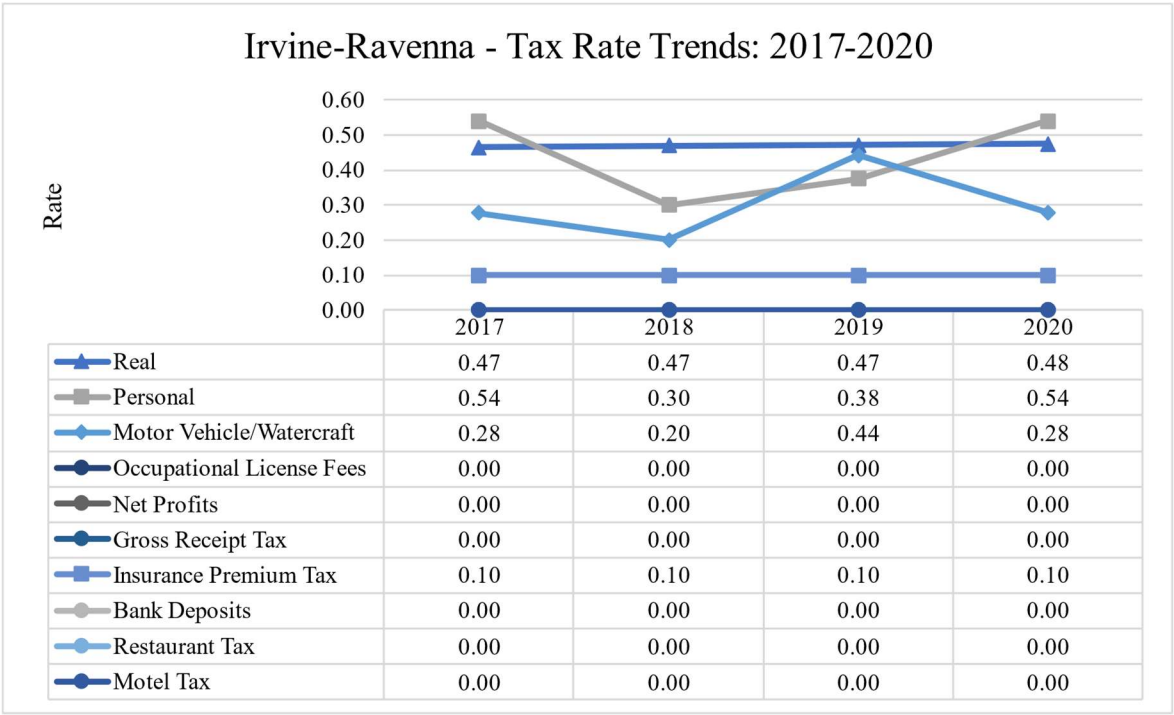
	2017	2018	2019	2020
Real	0.46	0.46	0.47	0.47
Personal	0.55	0.25	0.35	0.55
Motor Vehicle/Watercraft	0.35	0.25	0.55	0.35
Occupational License Fees	0.00	0.00	0.00	0.00
Net Profits	0.00	0.00	0.00	0.00
Gross Receipt Tax	0.00	0.00	0.00	0.00
Insurance Premium Tax	0.10	0.10	0.10	0.10
Bank Deposits	0.00	0.00	0.00	0.00
Restaurant Tax	0.00	0.00	0.00	0.00
Motel Tax	0.00	0.00	0.00	0.00

***Figure 8:** City of Irvine - Tax Rate Trends.*



	2017	2018	2019	2020
Real	0.50	0.50	0.50	0.50
Personal	0.50	0.50	0.50	0.50
Motor Vehicle/Watercraft	0.00	0.00	0.00	0.00
Occupational License Fees	0.00	0.00	0.00	0.00
Net Profits	0.00	0.00	0.00	0.00
Gross Receipt Tax	0.00	0.00	0.00	0.00
Insurance Premium Tax	0.10	0.10	0.10	0.10
Bank Deposits	0.00	0.00	0.00	0.00
Restaurant Tax	0.00	0.00	0.00	0.00
Motel Tax	0.00	0.00	0.00	0.00

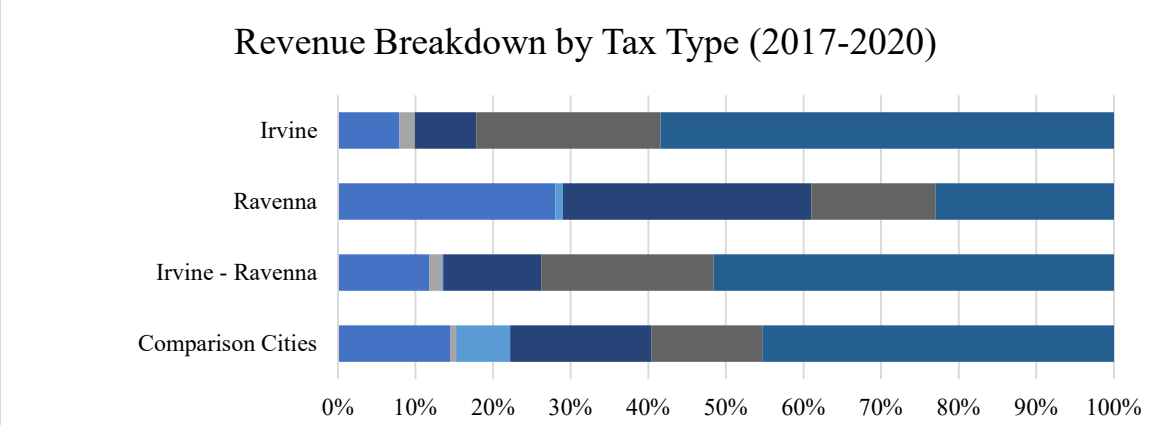
Figure 9: *City of Irvine - Tax Rate Trends.*



	2017	2018	2019	2020
Real	0.47	0.47	0.47	0.48
Personal	0.54	0.30	0.38	0.54
Motor Vehicle/Watercraft	0.28	0.20	0.44	0.28
Occupational License Fees	0.00	0.00	0.00	0.00
Net Profits	0.00	0.00	0.00	0.00
Gross Receipt Tax	0.00	0.00	0.00	0.00
Insurance Premium Tax	0.10	0.10	0.10	0.10
Bank Deposits	0.00	0.00	0.00	0.00
Restaurant Tax	0.00	0.00	0.00	0.00
Motel Tax	0.00	0.00	0.00	0.00

Figure 10: *Irvine-Ravenna - Tax Rate Trends.*

Despite both cities levying much higher property tax rates than the comparison cities, when combined, these property taxes still provide a lower percentage of the cities' total revenue. As shown in Figure 11, this is primarily due to Irvine relying on property taxes for just 8% of their total revenues. Ravenna, on the other hand, relies on property taxes for 28% of their total revenues. The comparison cities rely on property taxes to cover 15% of their total revenues. One would assume that if they were to consolidate, the tax rates across the city tax and fee rates would be changed to establish consistency across both existing jurisdictions. It is impossible to determine what new rates will be set, but it is likely that the distribution of taxes will change. Irvine would likely see an increased reliance on property taxes and other taxes/fees and a reduced reliance on license & permit fees, intergovernmental revenues, and other revenues/charges. Ravenna on the other hand would see an increased reliance on license & permit fees and other revenues/charges while seeing a decreased reliance on property taxes and other taxes/fees.



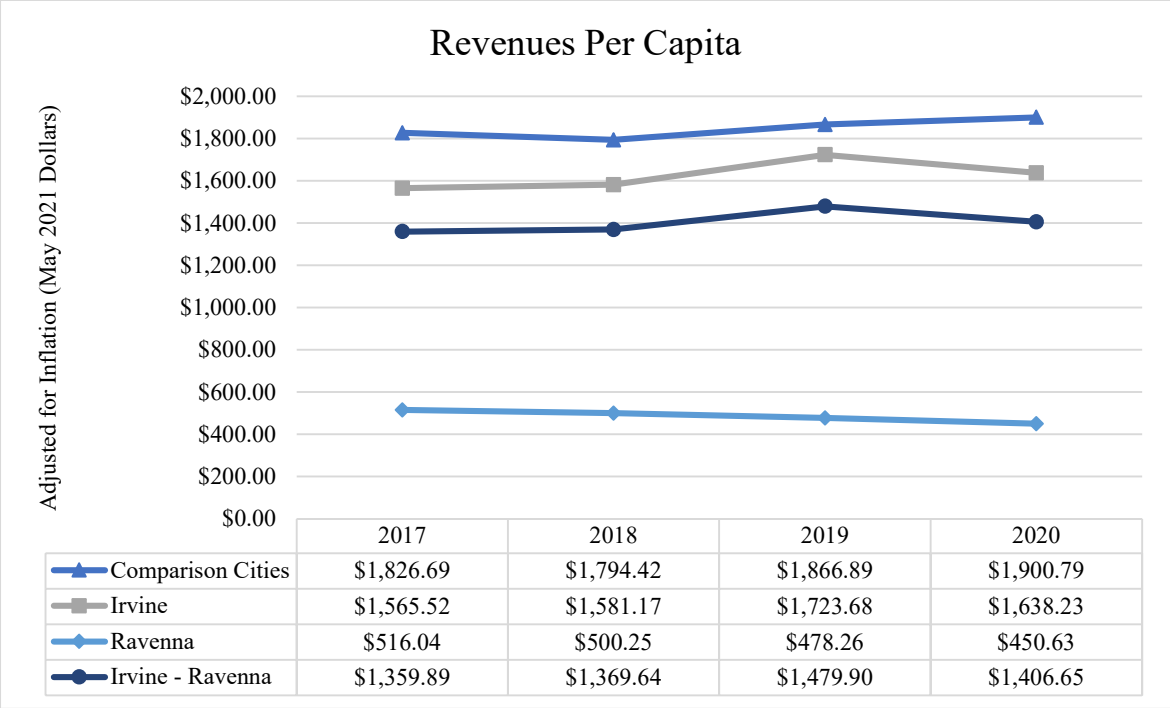
	Comparison Cities	Irvine - Ravenna	Ravenna	Irvine
Property Taxes	15%	12%	28%	8%
License & Permit Fees	1%	2%	0%	2%
Occupation & Business Fees	7%	0%	1%	0%
Other Taxes/Fees	18%	13%	32%	8%
Intergovernmental Revenues	14%	22%	16%	24%
Other Revenues/Charges	46%	52%	23%	59%

***Figure 11**: Revenue Breakdown by Tax Type.*

Revenues and Outstanding Debt

To adequately serve the residents of their communities, cities must be able to generate sufficient revenue to cover the cost of various expenditures while simultaneously limiting the burden that is placed on taxpayers. Utilizing revenue data reported to the Department for Local Government by Irvine, Ravenna, and the comparison cities in their annual Uniform Financial Information Reports, Figure 12 illustrates the differences in per capita revenues (excludes intergovernmental revenues) between these municipalities.[15] In 2017, the average per capita revenue for the comparison cities was $1,827. This compares to $1,565 in Irvine – a difference of $262. Ravenna generated significantly less revenue – with a per capita revenue of just $516. This is just 28% of the comparison cities' per capita revenue and 33% of Irvine's per capita revenue during the same year. Ravenna was also an outlier in that its revenues per capita decreased from 2017 to 2020. The comparison cities and Irvine's revenues increased by 4% and 5% respectively, while Ravenna's declined by 13%. When combined, Irvine and Ravenna's revenues per capita increased by 3.5% from $1,360 in 2017 to $1,407. The fact that Ravenna does not offer public utilities, and its residents receive services from Irvine Municipal Utilities explains why the City's revenues per capita are significantly lower than the other cities in the study. Consequently, if there are no changes in the utility rates, consolidating the cities would not affect the revenues generated from utilities.

[15] City of Irvine, City of Ravenna, City of Marion, City of Springfield, City of Brandenburg, City of Providence, City of Russell Springs, City of Louisa, City of Stanton, City of Mount Vernon, City of Jackson, City of Prestonsburg. 2017-2020. "Uniform Financial Information Report."

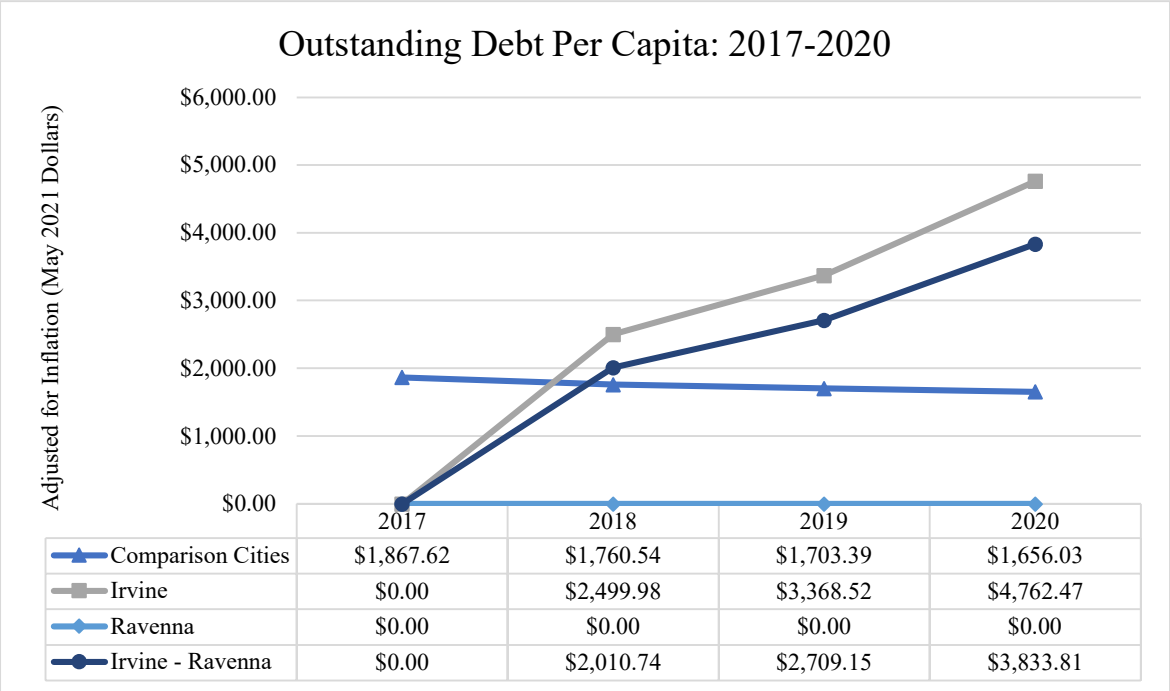


	2017	2018	2019	2020
Comparison Cities	$1,826.69	$1,794.42	$1,866.89	$1,900.79
Irvine	$1,565.52	$1,581.17	$1,723.68	$1,638.23
Ravenna	$516.04	$500.25	$478.26	$450.63
Irvine - Ravenna	$1,359.89	$1,369.64	$1,479.90	$1,406.65

***Figure 12**: Revenues Per Capita.*

In addition to generating revenues through taxes and fees, many cities use different modes of financing, such as bonds, notes, and tax increment financing. These obligations can be either short-term (less than one year) or long-term (greater than one year). Each city's debt capacity varies depending on the amount of revenue they generate, existing expenditures and obligations, and local policies. For this analysis, I calculated the outstanding debt per capita for the comparison cities, as well as for Irvine and Ravenna, to provide insights into the amount of debt the cities accrued from 2017 to 2020 to fund necessary projects. Figure 13 shows that in 2017, Irvine and Ravenna had $0 in debt outstanding, while the comparison cities averaged $1,867 in outstanding debt per capita. During that period, the comparison cities' debt per capita decreased by 11% to $1,656. Ravenna's debt remained stable, but Irvine's debt per capita increased to $4,762 due to the issuance of debt for business-type activities, such as water, sewer, gas, and electric services. This increase coincided with a significant rise in utilities expenditures

and the undertaking of a major capital project by the City of Irvine. Consolidating the cities would increase the reported debt burden for Ravenna residents but this does not necessarily indicate negative consequences. Currently, Irvine Municipal Utilities provides services to both cities, but because it is owned by Irvine, costs are not evenly reported. Although Ravenna does not record utilities expenditures, its residents pay higher "out-of-city" rates for services provided by Irvine Municipal Utilities.



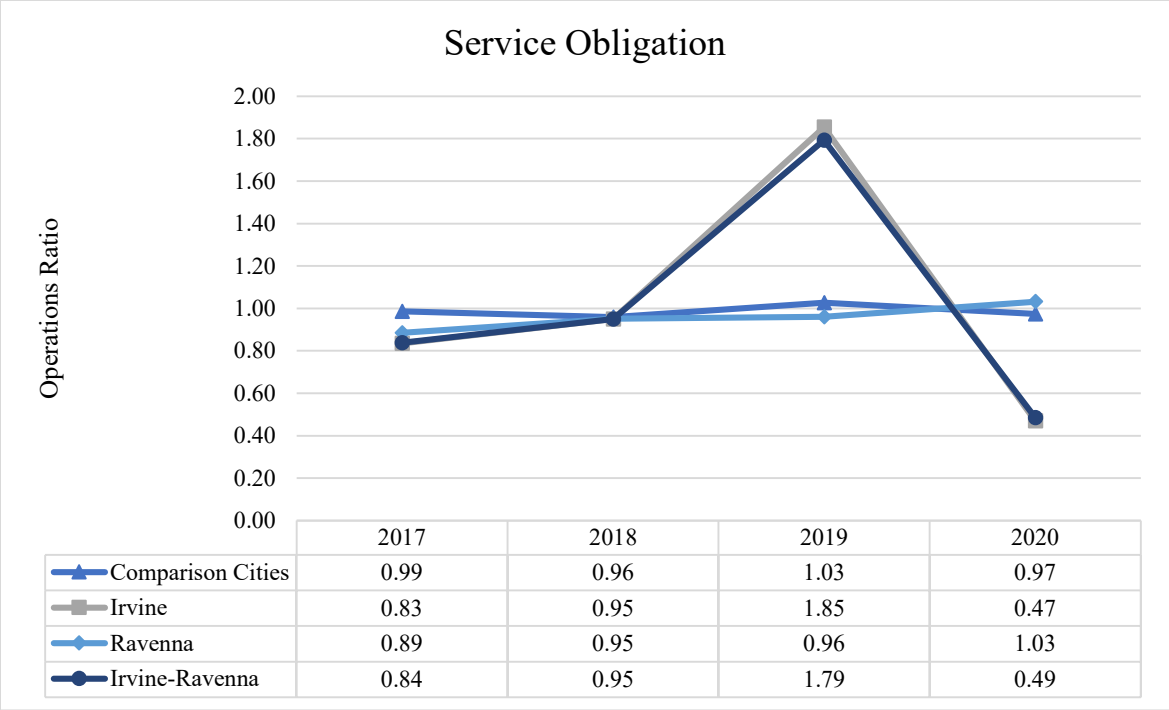
	2017	2018	2019	2020
Comparison Cities	$1,867.62	$1,760.54	$1,703.39	$1,656.03
Irvine	$0.00	$2,499.98	$3,368.52	$4,762.47
Ravenna	$0.00	$0.00	$0.00	$0.00
Irvine - Ravenna	$0.00	$2,010.74	$2,709.15	$3,833.81

***Figure 13**: Outstanding Debt Per Capita.*

I must note that the data provided for outstanding debt was not complete. In 2019, Springfield did not accurately report their outstanding debt in their Uniform Financial Information Report. In 2020, both Springfield and Prestonsburg submitted incomplete reports. To limit the effect of the incomplete data on overall averages, I projected values for these years based on previous trends. These values were used in calculating the average outstanding debt per capita for the comparison cities in my study.

Financial Analysis

To gain a better understanding of Irvine and Ravenna's ability to provide services when compared to the other cities in the study, it's important to understand how effectively the governments have been able to operate within their annual revenues and how reliant they are on other governments for financial assistance. Utilizing the operations ratio (total revenues / total expenditures), Figure 14 illustrates the years during the study period that the comparison cities', Irvine's, and Ravenna's revenues exceeded their expenditures. Except for 2019, the average expenditures in the comparison cities fell below their average revenues. From 2017-2019, the comparison cities' expenditures averaged 97% of their revenues. Ravenna's revenues exceeded their expenses in 2017-2020 but fell below in 2020. From 2017-2020, Ravenna's expenditures averaged 96% of their revenues. Irvine's revenues also exceeded their expenditures in 3 of the study's 4 years. From 2017-2020, Irvine's expenditures averaged 103% of their revenues. The combined Irvine-Ravenna saw trends that mirrored those of Irvine, albeit at lower ratios.

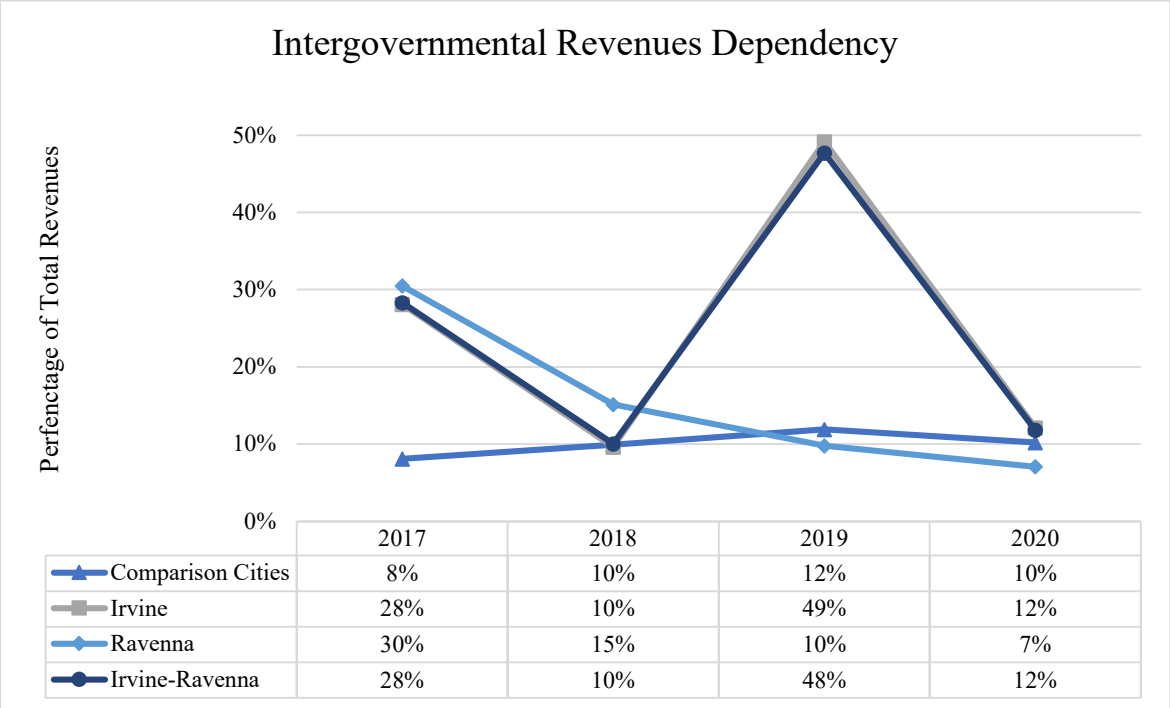


	2017	2018	2019	2020
Comparison Cities	0.99	0.96	1.03	0.97
Irvine	0.83	0.95	1.85	0.47
Ravenna	0.89	0.95	0.96	1.03
Irvine-Ravenna	0.84	0.95	1.79	0.49

***Figure 14**: Service Obligation.*

Another metric that I'm using to understand where Irvine and Ravenna stand financially is their dependency on intergovernmental revenues. As seen in Figure 15, the percentage of the comparison cities' total revenues that were intergovernmental revenues ranged from a low of 8% in 2017 to a high of 12% in 2019. Over the period of the study, the average was 10%. During this period, the cities of Irvine and Ravenna were significantly more dependent on intergovernmental revenues. The percentage of Ravenna's total revenues that were intergovernmental revenues fell from a high of 30% in 2017 to a low of 7% in 2020. Ravenna's percentage of intergovernmental revenues averaged 16% over the four years in this study. Irvine's dependency ranged from 10% in 2018 to a high of 49% in 2019. Over the four years in the study, Irvine depended on intergovernmental revenues for an average of 12% of all revenues.

Irvine's and Ravenna's significantly higher dependence on intergovernmental revenues when compared to the comparison cities over the course of the study period is concerning. These are revenues that come from other government sources and are not guaranteed. Without these revenues, Irvine and Ravenna would struggle to provide basic services to their residents. As Figure 8 indicates, consolidation would reduce this dependency slightly, but not by a significant amount.



	2017	2018	2019	2020
Comparison Cities	8%	10%	12%	10%
Irvine	28%	10%	49%	12%
Ravenna	30%	15%	10%	7%
Irvine-Ravenna	28%	10%	48%	12%

***Figure 15**: Intergovernmental Revenues Dependency.*

Limitations and Recommendations for Future Research

Although this study was able to provide some general insights into how consolidation would affect the finances of Irvine and Ravenna, it has limitations. Due to time constraints and an inability to obtain employment, asset, and infrastructure data from the cities included in the study, the analysis could not fully depict how consolidation would reduce duplicate services. Future research should incorporate this data to identify potential cost savings from reducing duplicate services and to account for additional costs that may be necessary to ensure equal services across cities.

Next, many of the cities included in the study failed to accurately report cash and fund balances in the Uniform Financial Information Reports that were filed with the Department for Local Government. Without this information, comparisons between Irvine and Ravenna and the comparison cities could not be made. This problem cannot be solved without stronger enforcement of existing reporting requirements of the Department for Local Government.

Finally, due to a lack of records extending beyond 2017, it was impossible to analyze the long-term effects that a decreasing tax base has had on Irvine and Ravenna. Enough data existed for an analysis to be completed for a short, 4-year period from 2017 – 2020. To solve this issue, modifications would have to be made to Kentucky's public records retention laws.

Conclusion

In this study, I sought to evaluate the impact that the consolidation of Irvine and Ravenna would have on the ability of local governments to operate and provide essential services. Several cost benefits were identified. Those benefits are not uniform across jurisdictions, however. In some cases, consolidation would prove beneficial to Irvine but not to Ravenna, while in other cases, Ravenna would benefit while Irvine would not. Benefits are not always immediately apparent either. For example, outstanding debt is higher in Irvine due to capital projects related to Irvine Municipal Utilities. Currently, this system provides services to both Irvine and Ravenna, but since it is owned by the City of Irvine, only they are responsible for maintaining and improving it. With respect to outstanding debt per capita, consolidation would bring Irvine's outstanding debt per capita more in line with the study's comparison cities, while Ravenna would see a dramatic increase. At first glance, this increase might appear to have a negative impact on Ravenna's finances, but in reality, the newly consolidated city would have a greater capacity to borrow money for necessary maintenance and improvements to the system that serves both communities. Since Irvine and Ravenna are already served by the same utility system, they are uniquely positioned to benefit from consolidation because no additional costs will be incurred to ensure each city is on equal footing.

Irvine and Ravenna are just two of the many cities across the state that have struggled in recent years due to declining tax bases. The Kentucky State Data Center at the University of Louisville, who projects population trends at the state, area development district, and county level, projects that of Kentucky’s 120 counties, 70 are expected to see a decline in population

between 2020 and 2050.[16] Some of these counties are expected to see declines by as much as 44% during this time frame. Population declines of this magnitude make it even more paramount that cities understand all the options that can help them promote efficiency and maintain financial stability, while reducing impacts to the services that they provide.

This study establishes a framework that can serve as a basis for future research to fully evaluate the effects of consolidation on small local governments like Irvine and Ravenna. Many small cities across the Commonwealth could potentially benefit from consolidation. Stanton and Clay City in Powell County, Somerset and Ferguson in Pulaski County, and Powderly and Greenville in Muhlenberg County are just a few examples. Going forward, policymakers should strive to improve local public record reporting requirements to ensure that necessary data is not only more accessible but also complete and accurate. Such data is of the utmost importance in assisting local governments in identifying appropriate measures to sustain their financial stability over the long term.

[16] Kentucky State Data Center. 2022. *Population and Household Projections | Kentucky, Kentucky Counties, and Area Development Districts | 2020-2050.* Population Projection Report , Louisville: University of Louisville.

Bibliography

Allers, Maarten A., and J. Bieuwe Geertsema. 2016. "The Effects of Local Government Amalgamation on Public Spending, Taxation, and Service Levels: Evidence from 15 Years of Municipal Consolidation." *Journal of Regional Science* , 678-679.

Blom-Hansen, Jens, Kurt Houlberg, Søren Serritzlew Serritzlew, and Daniel Treisman. 2016. "Jurisdiction Size and Local Government Policy Expenditure: Assessing the Effect of Municipal Amalgamation." *American Political Science Review*, November: 828.

City of Irvine, City of Ravenna, City of Marion, City of Springfield, City of Brandenburg, City of Providence, City of Russell Springs, City of Louisa, City of Stanton, City of Mount Vernon, City of Jackson, City of Prestonsburg. 2017-2020. "Uniform Financial Information Report."

Dawes, Cathy. 2014. "Ravenna starts process of merging with Irvine." *The Estill Tribune*, February 12: 1.

Estep, Bill, and Liz Moomey. 2021. "'Trying to hold on.' Rural Kentucky losing people ." *Lexington Herald Leader.* August 13. https://www.kentucky.com/news/local/counties/fayette-county/article253466344.html.

Hardy, Pat. 2019. "The Pros and Cons of Consolidated Government ." *UT Municipal Technical Advisory Services.* https://www.mtas.tennessee.edu/system/files/knowledgebase/original/Hardy_pros_cons_consol_2019_final_0.pdf.

Hirsch, Werner. 1959. "Expenditure Implications of Metropolitan Growth and Consolidation." *The Review of Economics and Statistics*, August: 240.

Kentucky Department for Libraries and Archives. 2014. "Local Governments General Records Retention Schedule." June 12. Accessed March 3, 2023. https://www.klc.org/UserFiles/LocalGovernmentGeneralRecordsRetentionSchedule.pdf.

Kentucky State Data Center. 2022. *Population and Household Projections | Kentucky, Kentucky Counties, and Area Development Districts | 2020-2050.* Population Projection Report , Louisville: University of Louisville.

Legislative Research Commission. 2020. "Constitution of the United States of America and of the Commonwealth of Kentucky ." *Legislative Research Commission.* November. Accessed February 11, 2023. https://legislature.ky.gov/LRC/Publications/Informational%20Bulletins/ib210.pdf.

Lexington-Fayette Urban County Government. 2022. "Charter and Code of Ordinances Lexington-Fayette Urban County Government." *Lexington-Fayette County.* March 3. https://library.municode.com/ky/lexington-fayette_county/codes/code_of_ordinances?nodeId=LEXINGTON-FAYETTEURCOGOCH_ART5THMA.

Maher, Craig. 2015. "A Longitudinal Analysis of the Effects of Service Consolidation on Local Government Expenditures." *Public Administration Quarterly*, 415-416.

National Association of Counties. 2021. *Consolidated City-Counties.* October 27. https://www.naco.org/resources/consolidated-city-counties.

Southwick, Lawrence. 2012. "Economies of Scale in Local Government: General Government Spending." *Scientific Research*, June 18: 273.

State Archive and Records Commission. 2014. "Local Governments General Records Retention Schedule." *Kentucky League of Cities.* June 12. Accessed March 3, 2023. https://www.klc.org/UserFiles/LocalGovernmentGeneralRecordsRetentionSchedule.pdf.

Tricaud, Clemence. 2022. "Better Alone? Evidence on the Costs of Intermunicipal Cooperation." *Clemence Tricaud* . December. https://www.clemence.tricaud.com/_files/ugd/718dda_6638bd57e531472ea491a7f0faea009a.pdf.

U.S. Census Bureau . 2020. *Census Bureau Data.* Accessed January 15, 2023. data.census.gov.

Appendix A: Revenues

Tax Rates

- Real Property
- Personal Property
- Motor Vehicle
- Other Rates - Insurance Premium

Revenues

- Property Tax - Real, Personal, Motor Vehicle, Delinquent
- License and Permit Fees - City Vehicle Licensing, Other Licensing and Permit Fees
- Occupation and Business Fees - Fixed-Rate Business License
- Other Taxes/Fees - Electric Franchise, Water/Wastewater Franchise, Insurance Premium Tax
- Intergovernmental Revenues
- Other Revenues/Charges - Water Sales, Sewer Sales, Electric Sales, Special Assessments, Surplus Property Sales, Investment Earnings, Fines and Forfeits, Penalties and Interest, Donations, Rents, Solid Waste Collection, and Miscellaneous Bond Proceeds

Expenditures

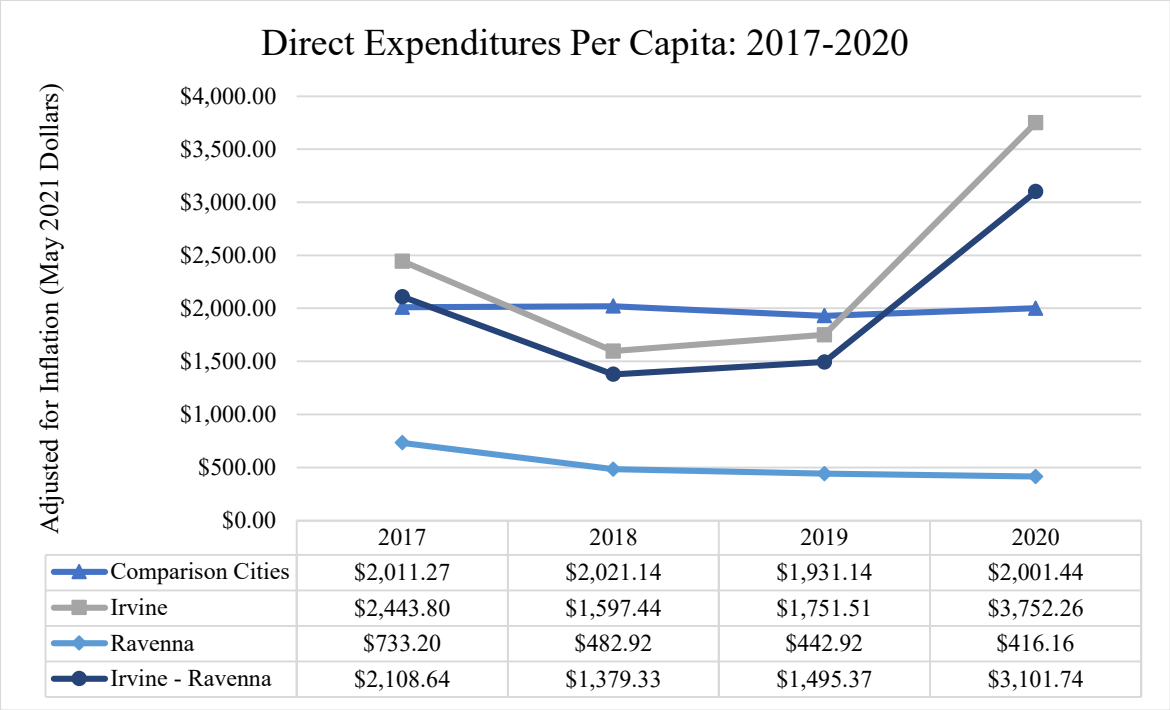
- Intergovernmental Expenses
- General Government - Salaries, Other Operations, Equipment, Construction
- Financial Administration - Salaries, Other Operations
- Police - Salaries, Other Operations, Equipment
- Fire - Salaries, Other Operations, Equipment
- Other Public Safety - Salaries, Other Operations
- Streets and Roads - Salaries, Other Operations, Equipment
- Sanitation and Solid Waste - Salaries, Other Operations, Equipment
- Cemeteries - Other Operations
- Parks and Recreation - Salaries, Other Operations
- Water System - Salaries, Other Operations
- Sewer System - Salaries, Other Operations

- Electric System - Salaries, Other Operations
- Debt Payments - Salaries, Utilities
- Bond Issuance - Other Operations
- Miscellaneous - Other Operations
- Pensions and Benefits - CERS, Health Insurance, All Other Benefits

Debt and Cash

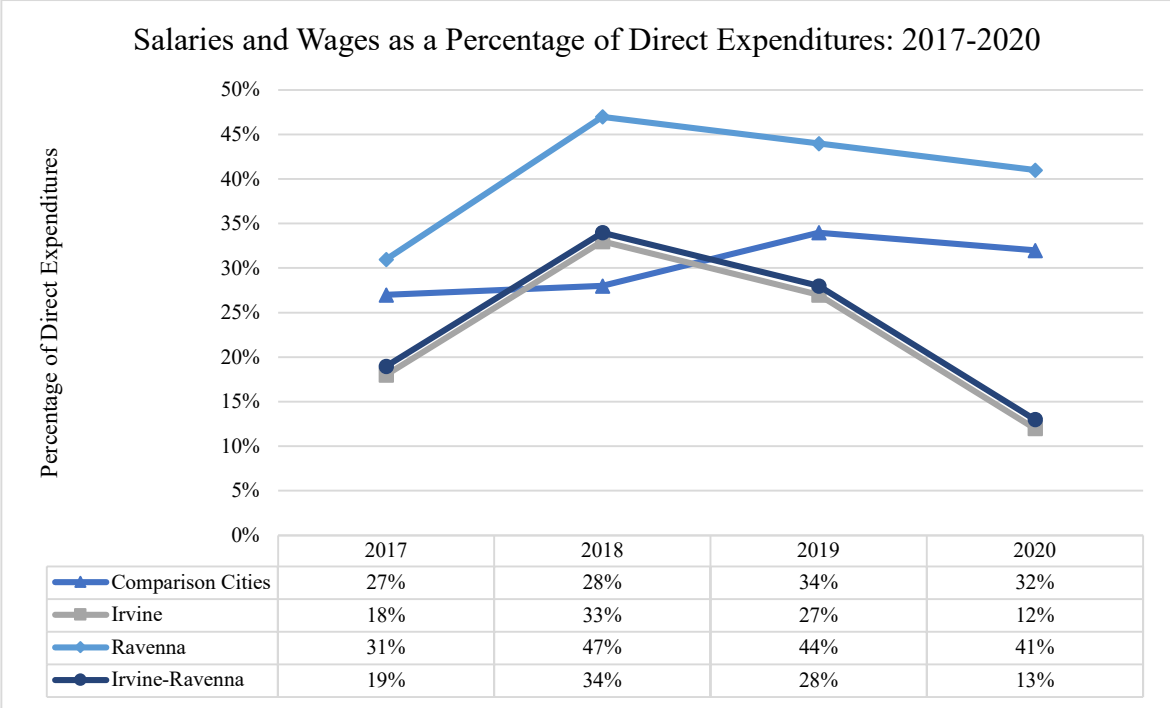
- General Government Debt - Outstanding Balance at Beginning of Fiscal Year, Issued Debt, Retired Debt, Outstanding Balance at End of Fiscal Year, General Obligation Bonds
- Business-Type Debt - Outstanding Balance at Beginning of Fiscal Year, Issued Debt, Retired Debt, Outstanding Balance at End of Fiscal Year, Revenue Bonds
- Private Obligation Debt - Outstanding Balance at Beginning of Fiscal Year, Issued Debt, Retired Debt, Outstanding Balance at the End of Fiscal Year
- Interest Paid - Water Debt, Electric Debt, Other Debt
- Cash and Investments - Beginning of the Fiscal Year, Other Reserved Funds, All Non-Reserved Funds

Appendix B: Expenditures



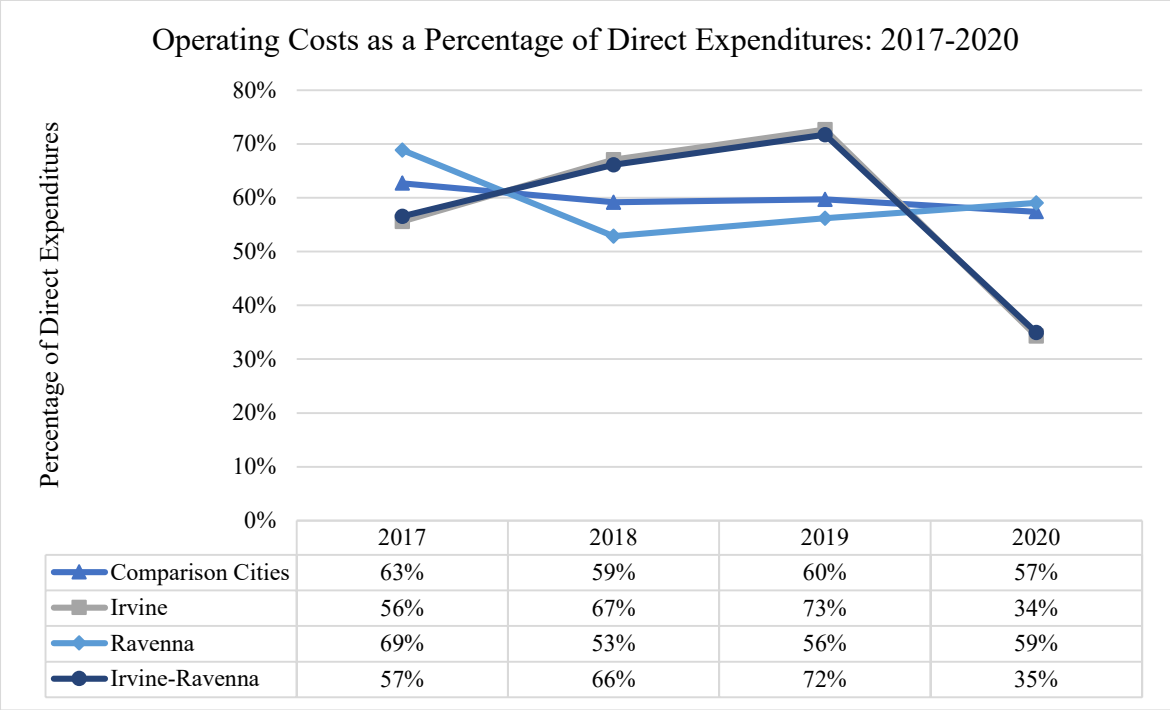
	2017	2018	2019	2020
Comparison Cities	$2,011.27	$2,021.14	$1,931.14	$2,001.44
Irvine	$2,443.80	$1,597.44	$1,751.51	$3,752.26
Ravenna	$733.20	$482.92	$442.92	$416.16
Irvine - Ravenna	$2,108.64	$1,379.33	$1,495.37	$3,101.74

***Figure 16**: Direct Expenditures Per Capita: 2017-2020.*



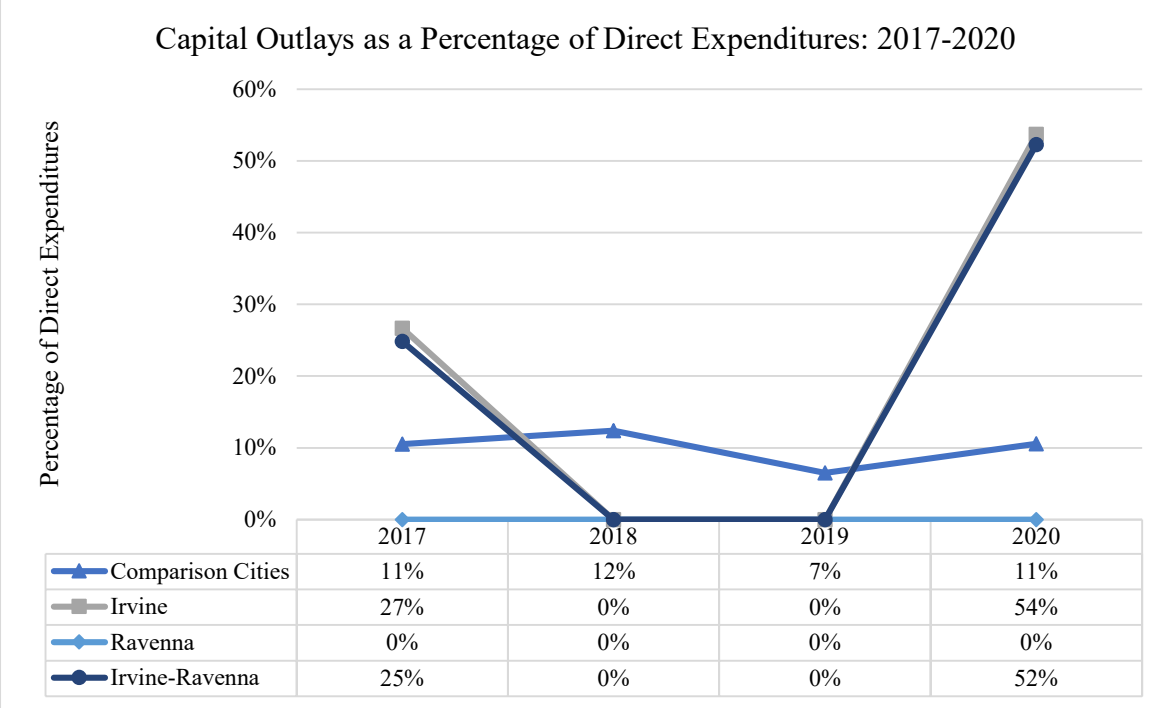
	2017	2018	2019	2020
Comparison Cities	27%	28%	34%	32%
Irvine	18%	33%	27%	12%
Ravenna	31%	47%	44%	41%
Irvine-Ravenna	19%	34%	28%	13%

***Figure 17**: Salaries and Wages as a Percentage of Direct Expenditures: 2017-2020.*



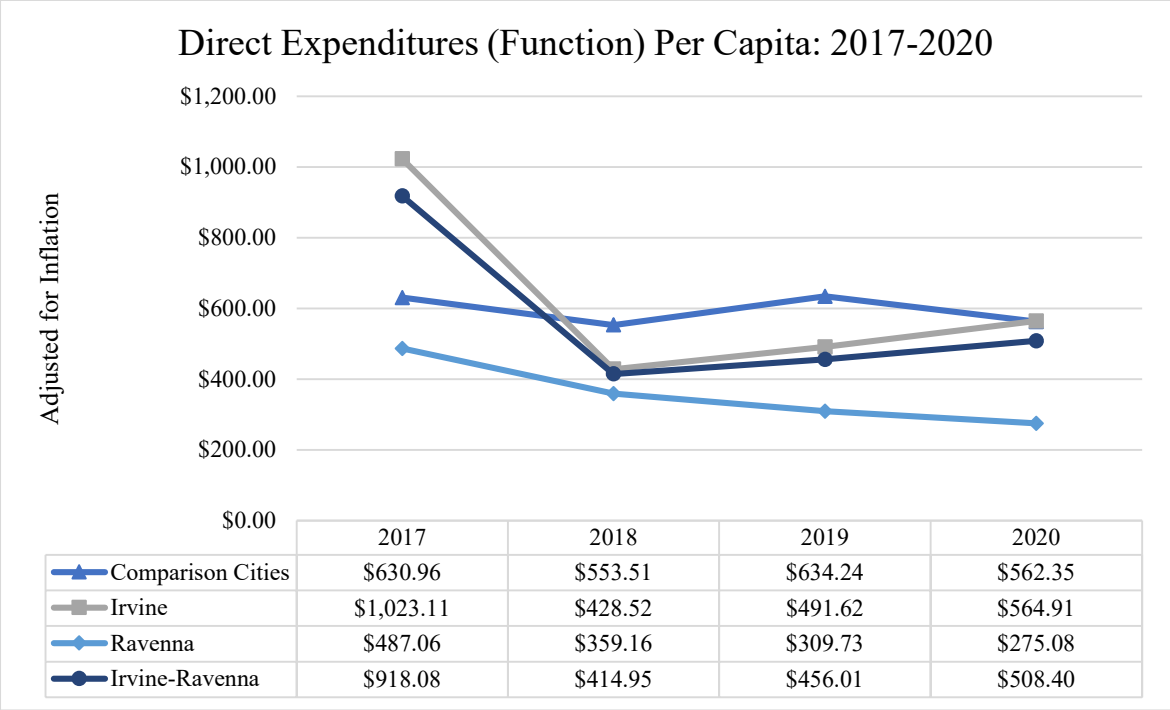
	2017	2018	2019	2020
Comparison Cities	63%	59%	60%	57%
Irvine	56%	67%	73%	34%
Ravenna	69%	53%	56%	59%
Irvine-Ravenna	57%	66%	72%	35%

Figure 18: *Operating Costs as a Percentage of Direct Expenditures: 2017-2020.*



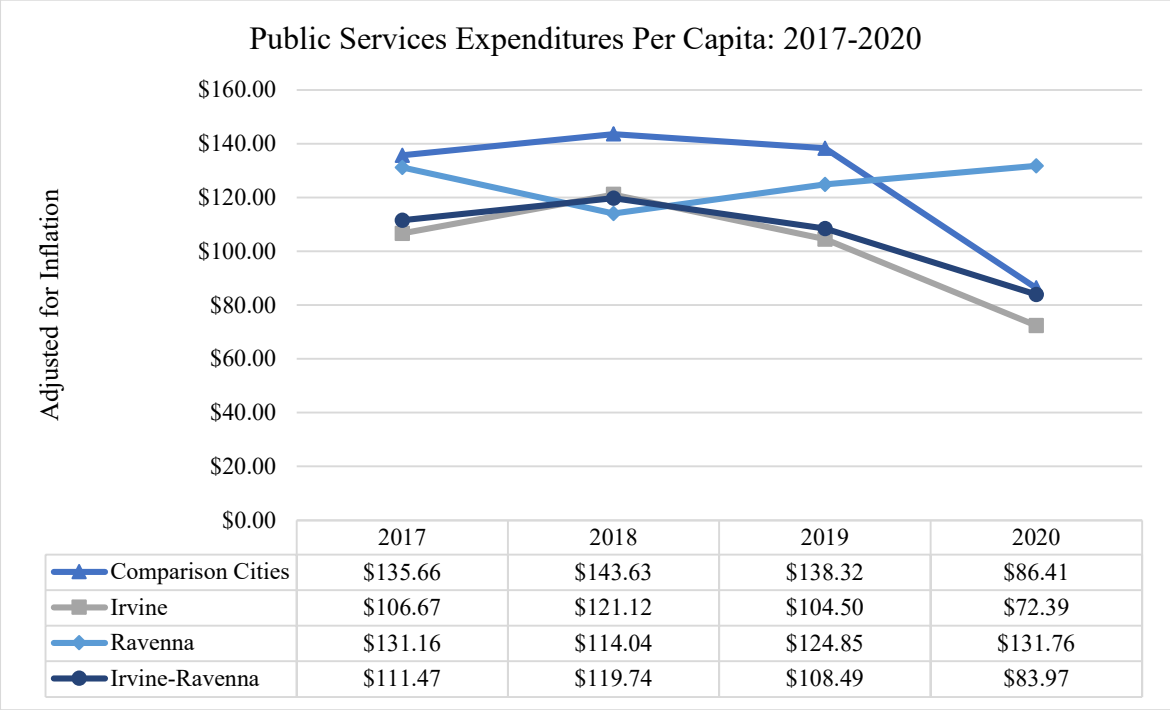
	2017	2018	2019	2020
Comparison Cities	11%	12%	7%	11%
Irvine	27%	0%	0%	54%
Ravenna	0%	0%	0%	0%
Irvine-Ravenna	25%	0%	0%	52%

Figure 19: *Capital Outlays as a Percentage of Direct Expenditures: 2017-2020.*



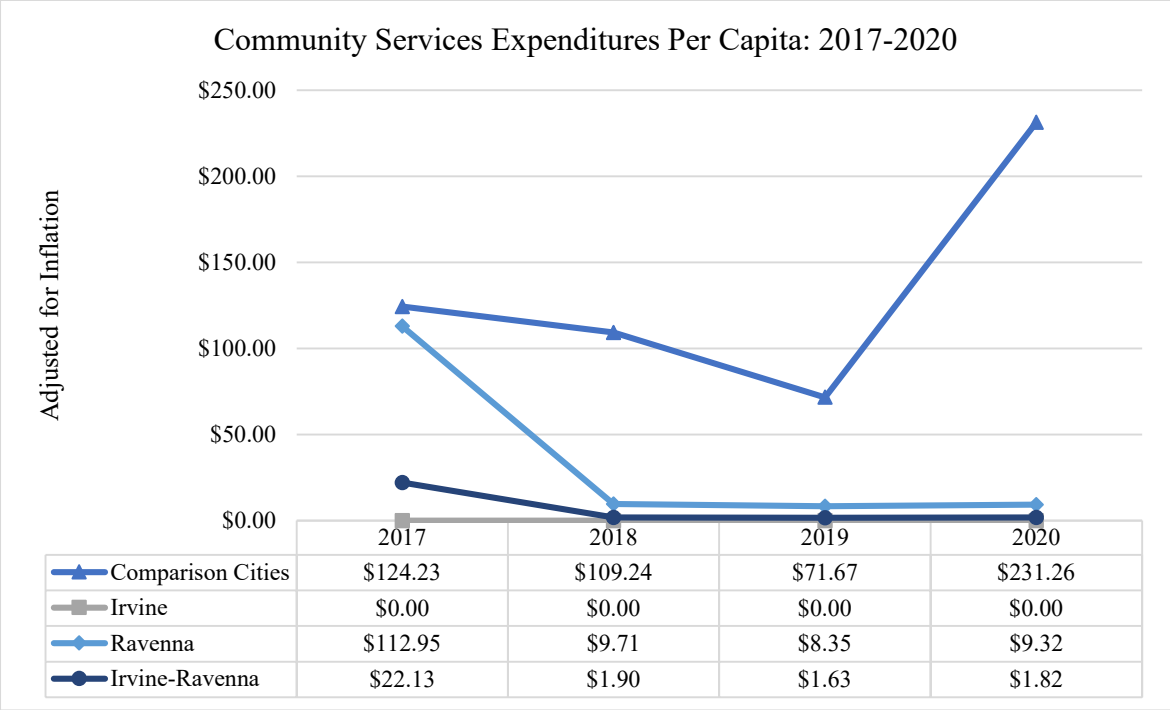
	2017	2018	2019	2020
Comparison Cities	$630.96	$553.51	$634.24	$562.35
Irvine	$1,023.11	$428.52	$491.62	$564.91
Ravenna	$487.06	$359.16	$309.73	$275.08
Irvine-Ravenna	$918.08	$414.95	$456.01	$508.40

Figure 20: *Direct Expenditures (Function) Per Capita: 2017-2020.*



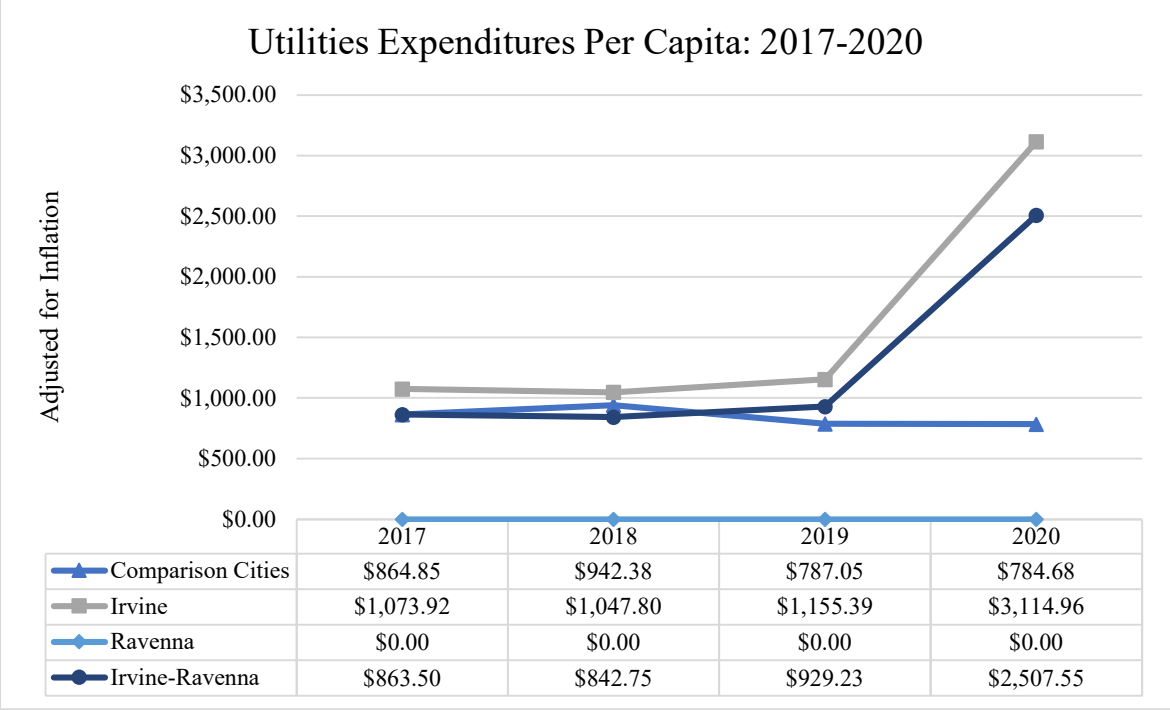
	2017	2018	2019	2020
Comparison Cities	$135.66	$143.63	$138.32	$86.41
Irvine	$106.67	$121.12	$104.50	$72.39
Ravenna	$131.16	$114.04	$124.85	$131.76
Irvine-Ravenna	$111.47	$119.74	$108.49	$83.97

Figure 21: *Public Services Expenditures Per Capita: 2017-2020.*



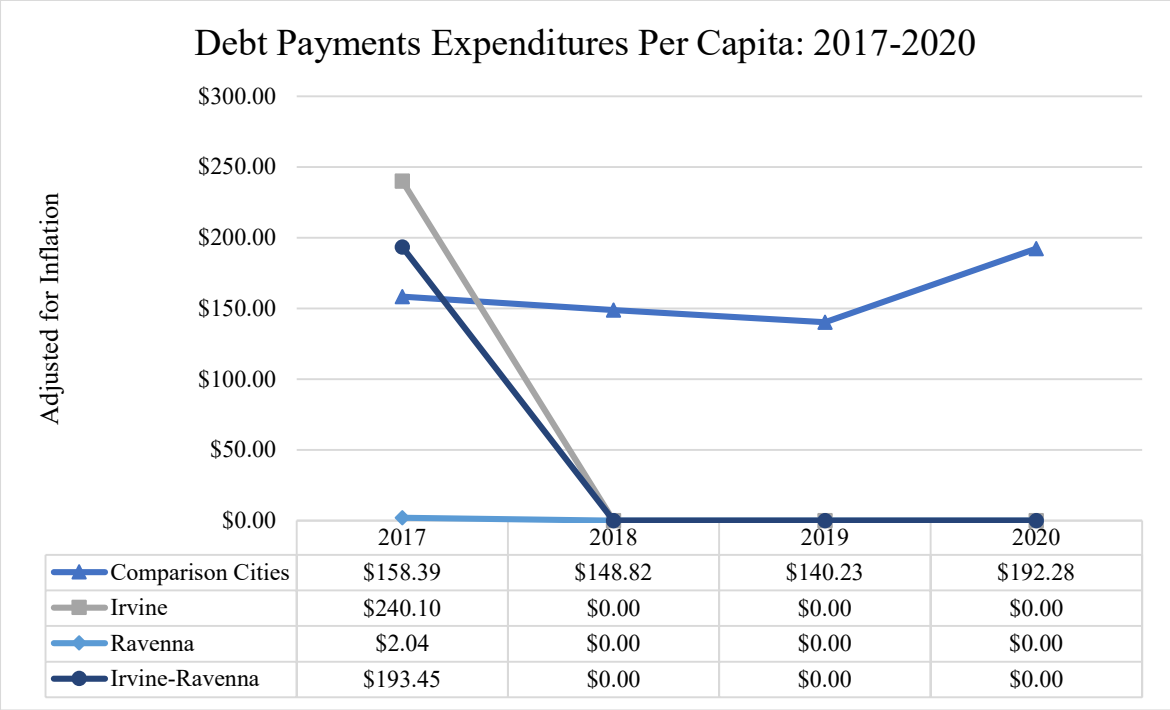
	2017	2018	2019	2020
Comparison Cities	$124.23	$109.24	$71.67	$231.26
Irvine	$0.00	$0.00	$0.00	$0.00
Ravenna	$112.95	$9.71	$8.35	$9.32
Irvine-Ravenna	$22.13	$1.90	$1.63	$1.82

***Figure 22**: Community Services Expenditures Per Capita: 2017-2020.*



	2017	2018	2019	2020
Comparison Cities	$864.85	$942.38	$787.05	$784.68
Irvine	$1,073.92	$1,047.80	$1,155.39	$3,114.96
Ravenna	$0.00	$0.00	$0.00	$0.00
Irvine-Ravenna	$863.50	$842.75	$929.23	$2,507.55

***Figure 23**: Utilities Expenditures Per Capita: 2017-2020.*



	2017	2018	2019	2020
Comparison Cities	$158.39	$148.82	$140.23	$192.28
Irvine	$240.10	$0.00	$0.00	$0.00
Ravenna	$2.04	$0.00	$0.00	$0.00
Irvine-Ravenna	$193.45	$0.00	$0.00	$0.00

***Figure 24**: Debt Payments Expenditures Per Capita: 2017-2020.*