

**Developing a Fair and Equitable Fire and Emergency Services Contract While
Promoting Economic Development**

By: John Tosko
Fire Chief
Kent Fire Department
320 South Depeyster Street
Kent, Ohio 44240

A research project submitted to the Ohio Fire Executive Program

January 8, 2018

CERTIFICATION STATEMENT

I hereby certify that the following statements are true:

1. This paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

2. I have affirmed the use of proper spelling and grammar in this document by using the spell and grammar check functions of a word processing software program and correcting the errors as suggested by the program.

Signed: _____

Printed Name: _____

ABSTRACT

The Kent Fire Department provides emergency response services to nearby Franklin Township on a contractual basis. The Franklin Township trustees have expressed a desire to amend the contract in order to lessen the financial impact on the Township budget. The Trustees have indicated that high fire and emergency medical service costs resulting from the current contract has a negative effect on commercial and residential development in the Township.

Descriptive research was utilized to answer three questions which were the foundation of this paper:

- To what extent is the method currently being used to determine fire and EMS contract pricing by the City of Kent perceived to be fair and equitable by the Franklin Township Trustees?
- How do some other fire departments' collaborative efforts help fund fire and EMS services?
- To what extent is Franklin Township's overall budget affected by contractual emergency service fees from Kent?

Any changes to the contract had to be implemented without negatively affecting Franklin's overall budget. The present contract contains several variables to determine an average cost per incident. These variables include both the department's operating budget and the number of annual emergency incidents. As department operating costs have continued to rise, the per-incident cost has escalated, negatively impacting the Township's budget year after year.

Procedurally, methods utilized to garner information on other fire department's collaborative service agreements included gathering contracts, or service agreements from around the country as well as a convenience survey sent to various departments throughout Ohio. This survey posed questions which were tailored to answer the research questions. Results collected from this survey plus interactions with the Township's administrators revealed three main areas of concern:

- Variability in the monthly billing from Kent
- Uncertainty of the next annual pricing increase
- Lack of capital funds available for fleet replacement and maintenance

Recommendations for areas of improvement to the existing contract were made and included changes for a more robust calculation method for determining service fees. A focus on apparatus replacement and maintenance also showed the importance of long term fleet upkeep.

TABLE OF CONTENTS

CERTIFICATION STATEMENT 1

ABSTRACT..... 2

TABLE OF CONTENTS..... 4

INTRODUCTION 5

 Statement of the Problem..... 5

 Purpose of the Study 6

 Research Questions..... 7

BACKGROUND AND SIGNIFICANCE..... 7

LITERATURE REVIEW.....16

PROCEDURES.....24

 Definition of terms.....27

 Limitations of Study.....27

RESULTS.....28

DISCUSSION..... 38

RECOMMENDATIONS..... 42

REFERENCES 46

APPENDIX 1 – Franklin Township Map..... 50

APPENDIX 2 – Agreement for Fire Protection and Emergency Medical Services..... 51

APPENDIX 3 - Fire Department Survey.....55

INTRODUCTION

Statement of the Problem

The City of Kent, a municipality of approximately 30,000 people is situated along the western edge of Portage County in Northeastern Ohio. The Kent Fire Department provides fire, emergency medical service (EMS), technical rescue and hazardous materials response not only to the City of Kent and Kent State University, but to surrounding Franklin Township as well (see Township Map, appendix 1). The fire chief represents the Kent Fire Department in matters concerning the contract with Franklin Township (see Agreement for Fire Protection and Emergency Services, appendix 2). Recently Franklin Township has expressed an interest in negotiating a new contract with different parameters on which the contract price is based. The current parameters have forced the Township Trustees to vote down certain economic development projects in order to keep the contractual costs down.

The problem that this research paper will address is that due to higher annual contractual costs, stagnant revenue, and decreased economic development, Franklin Township is forced to investigate alternatives because they soon may not be able to afford fire and emergency medical service as it is currently provided by the City of Kent.

Franklin Township Trustees report turning away certain types of development in fear of driving up contractual costs for fire and EMS, and as a result they are interested in developing a fair, equitable and acceptable long-term contract for fire and EMS between the City of Kent and Franklin Township that considers different and alternative funding sources, budgeting methodologies, and service load.

The basis of the current contract between Kent and Franklin Township includes: the fire department's operating budget, and the number of annual emergency incidents. Based on those factors, the higher the incident volume, the higher the costs will be for Franklin Township.

When developers submit certain types of project proposals, especially high-density student housing and other potentially high service projects to the township for consideration, the Franklin Trustees have said that they feel compelled to turn them down for fear of creating additional emergency incidents, thus driving up service expenses. However, turning projects down also prevents new investment which costs the township, the county, and the local school district needed new property tax revenues.

Compounding the issue, in December of 2016, Franklin Township was sued by a student housing developer for turning down their development, K. Penix (personal communication, January 24, 2017). This lawsuit exposed Franklin Township to a large financial liability. Rejecting the proposed projects in the Township has led the developers to look to build their projects in the City of Kent where they compete with other developers and further saturate the Kent housing market, impacting roads, police, fire, emergency medical services, and other infrastructure within the City.

Purpose of the Study

The purpose of this descriptive study was to identify, describe, and explore three main questions which are the basis of this research. The first question addressed how the Franklin Township administration perceives the fire and EMS contract pricing to be fair and equitable for both them and the township residents. The second question delved into the methods other fire departments use in a collaborative way to fund emergency services. Also, the affect the Kent emergency services contract has on the rest of the Franklin Township budget was examined.

Lastly, alternative funding sources were identified which could aid in reducing Franklin Township's dependence on property taxes for emergency services.

Research Questions

The research questions this descriptive study will investigate are:

1. To what extent is the method currently being used to determine Fire and EMS contract pricing by the City of Kent perceived to be fair and equitable by the Franklin Township Trustees?
2. How do some other fire departments' collaborative efforts help fund fire and EMS services?
3. To what extent is Franklin Township's overall budget affected by contractual emergency service fees from Kent?

BACKGROUND AND SIGNIFICANCE

The City of Kent is the largest city in Portage County (U.S. Census Bureau, 2016) and the Kent Fire Department with approximately 4,200 emergency calls per year is the busiest fire department in the county (Year End Statistics Report, 2017). In 1976 the Kent Fire Department began advanced life support EMS, and is now considered a "full service" department performing both fire and EMS duties. Throughout the past 30 years, because of its size and stature, the Kent Fire Department has taken on the added duties of providing water rescue response, hazardous materials response, and approximately fifteen years ago, technical search and rescue capabilities to not only the city, but all of Portage County.

Over the years, the department has developed a close relationship with other county fire departments through these rescue and hazardous materials response teams. The teams are now true Portage County teams, made up of team members from multiple fire departments; however, every team commander is a Kent fire officer. This is not something that happened by accident, Kent has provided leadership in many aspects of emergency services throughout the county and is truly a regional entity.

In 2014, the Kent Fire Department's Insurance Services Office (ISO) rating for fire protection improved from class five to class two (Insurance Services Office, 2014). One of the reasons for this class two rating was the department's demonstrated ability to work with other fire departments in the form of automatic mutual aid and joint training. This additional collaborative training comes at a price. In order to regularly train with other fire departments, the department absorbs personnel overtime costs associated with this training which ultimately impacts the fire department budget.

Another reason for the class two rating was efforts by the City of Kent to supply the department with enough tools, equipment, and apparatus necessary to improve our firefighting capabilities. The capital outlay for these tools, equipment and apparatus are significant each year and drive-up the department's overall budget.

The third component ISO measures is communications. The Kent Dispatch Center is a primary public safety answering point (PSAP) for 911 calls in the Kent area, and the center dispatches for both Kent Police and Fire Departments. The center is staffed 24 hours a day with a minimum of two dispatchers trained in emergency medical dispatching (EMD). The fire and EMS associated costs for this dispatch center are funded out of the fire department operating budget.

The fourth reason for the improved ISO rating was the commitment by Kent to provide an adequate water supply to all areas of the City of Kent. Having an adequate and robust water supply improves fire protection throughout the city, however it comes with a cost in monthly water bills for each household and added operating and capital costs to the City.

Another capital expense Kent must account for and is responsible for, is infrastructure expenses. These capital expenses are significant. Fire station one was built in 2003 at a cost of \$3,842,846 (Capital Assets Listing, 2017). Station two was built in 1950 at a cost of \$45,600, and in 1993 an addition was constructed on this station at a cost of \$113,680 (Capital Assets Listing, 2017). While these capital expenses are not used in the calculation to determine contract fees, they are however a necessary expense the city incurs in order to provide quality fire and EMS to the township.

As stated prior, the Kent Fire Department provides advanced life support EMS to the entire response district, including Franklin Township. All Kent Fire personnel are full time employees who hold paramedic certificates. All the state required annual continuing education (CE) for firefighters, and paramedics totals 44 hours (Ohio Division of EMS, 2016) and is funded by the City of Kent from the overtime line item within the fire department budget.

Operating a full-time, ISO class two fire department with advanced life support abilities, and technical rescue and hazardous material capabilities is costly. Adding the various cost factors together, one can realize that the costs associated with all the above results in a fire department operating budget of more than five million dollars. These are some of the reasons Franklin Township considers the costs for fire and EMS to be relatively high at almost \$1,300 per emergency response.

In years past, and going back decades, Franklin Township has contributed to the fire department apparatus fleet with a purchase of a medical unit every eight to ten years, a fire engine every fifteen to twenty years and a grass fire truck approximately every twenty years, D. Manthey (Personal communications, April 16, 2016). Franklin Township retains ownership of these vehicles and pays for any repairs that are over five hundred dollars, Kent pays the initial five hundred dollars of each repair. These capital assets are required to maintain an adequate fleet that covers an area of over 26 square miles and a population of more than 36,000 people. In 2015, the Franklin Township trustees indicated to the city administration that they are not able at this time to fulfill these obligations toward the fleet. The contract agreement, listed in appendix two, between the two entities does not specify that they will purchase this equipment, only that they will attempt to purchase the equipment.

Many decades ago, city and township leaders realized cost savings by combining resources in many aspects of municipal services. Both communities send their children to Kent City schools. They also staff a joint cemetery board that shares in the cost of running Standing Rock Cemetery. This cooperative spirit between the two communities has extended to fire and emergency medical services as well. Franklin Township has long recognized the value of working with the City in this endeavor. This cooperation has saved both the City of Kent and Franklin Township financial resources and has positively impacted the local community with coordinated services.

In Ohio, municipalities' primary revenue source is income tax (Carey, 2005). As personal incomes rise, the cities' tax revenues proportionately rise, generally keeping up with inflation. Ohio townships, on the other hand have no income tax authority so they rely predominately on property tax revenues to fund services. These revenues have not always kept

up with inflation due to stagnant property values and Ohio tax laws (Carey, 2005). Townships are then faced with having to continually place renewal levies, replacement levies, or even additional new levies on the ballot in an attempt to keep up with rising costs.

Renewal and replacement levies are property taxes that individual and corporate taxpayers pay. Renewal levies remain constant over a specific period the voters approved regardless of any additional property developments in the local jurisdiction. A replacement levy is based on the current property valuations and brings in additional revenue due not only to the higher value of the property in the township, but any additional developments built in a particular jurisdiction (Carey, 2005).

Franklin Township last placed a property tax levy increase on the ballot for fire and EMS services in 1999 (Hange, 1999). This levy replaced a 3.3 mill levy and added an additional 1.5 mills. The combined 4.8 mill levy at that time brought in roughly a half million dollars annually which covered the operating costs for Franklin's emergency services and provided for an additional amount annually for capital expenses related to fire services such as the apparatus purchased for the fire department fleet, M. Beckwith (personal communication, January 24, 2017). For the next four years, this combined 4.8 mill levy generated adequate funds to pay for fire and EMS contractual costs, L. Russell (personal communication, January 25, 2017).

In 2003 the City of Kent and Franklin Township entered into a Joint Economic Development District (JEDD) agreement (City of Kent Record of Ordinance, 2017). This JEDD has allowed both Franklin and Kent to experience increased tax revenues without increasing either property tax or income tax rates. The township voters approved the JEDD on the premise that the added revenue would allow the township to lower property tax rates for services such as road repair and emergency services, K. Penix (personal communication, January 24, 2017).

Therefore, in 2005 the trustees placed the current replacement 3.42 mill levy on the ballot, effectively shaving 1.38 mills off the levy, M. Beckwith (personal communication, January 24, 2017). This current 3.42 mill levy was last renewed by the voters in 2014. The levy also has a reduction factor of 0.2189, bringing the effective millage to 2.67. A reduction factor applies the first year a levy is in place and is utilized to adjust the rate so the levy produces the same revenue as the property values used in the original estimate to determine the tax rate or millage, (Sullivan and Sobul, 2010). As property values increase, this reduction factor will increase to keep the revenue generated constant. This current levy generates \$390,633 annually, and is earmarked for fire protection and emergency medical services.

Table 1

Franklin Township fire levy breakdown

Original Levy	Present Levy Millage	Reduction Factor	Effective Millage	Revenue Generated
4.80	3.42	0.2189	2.6712	\$390.633

Note. The reduction factor is expressed in percentages and is subtracted from the present millage. Revenue generated is for the 2017 budget year. (Portage County Abstract of Tax Rates, 2016).

In the intervening years though, the costs for providing emergency services have risen and more and more of the JEDD funds have been diverted into funding the contractual services.

When compared to other Portage County township fire and EMS levies, Franklin Township's levy is the lowest millage rate in the county. As stated prior, millage is the chief indicator of the amount of tax revenue brought in to fund governmental services. The lower the millage rate, the smaller the income will be from that millage rate. The following table

illustrates the total millage rates throughout Portage County. For added relevance, only those townships that provide similar services such as a staffed presence and advanced life support EMS capabilities are included.

Table 2

Comparison of Portage County Fire and EMS Levies

Township	Total Millage	Property Tax Revenues	Population	Tax dollars per person
Brimfield	6.6	\$1,190,656	10,376	\$114
Franklin	3.42	\$390,633	5,527	\$70
Ravenna	7.8	\$976,910	9,270	\$105
Rootstown	5.05	\$919,260	7,400	\$124
Suffield	5.75	\$803,536	6,383	\$126
Freedom-Nelson	5.9	\$847,981	5,074	\$167
Mantua-Shalersville	8.04	\$1,585,118	11,500	\$138

Note: Total millage is the accumulation of all levies used to fund fire and EMS services for the departments. Tax dollars per person is included to illustrate the tax burden per resident. The effective millage rate for the Franklin Fire/EMS levy is 2.67 mills. (Portage County Abstract of Tax Rates, 2016).

Table 2 illustrates the variations in fire and EMS millage rates for select townships in Portage County. Franklin Township has intentionally kept this rate low, thus keeping the income from a traditional source like the fire levy artificially low. This has forced the Trustees to utilize non-traditional sources such as the JEDD fund to supplement the fire and EMS services for the township. Without either cuts in service or additional funding from either traditional sources such as property taxes or alternative funding sources such as grants and service fees, Franklin

Township soon will not be able to afford the presently defined services it receives from the Kent Fire Department.

The Kent Fire Department has applied for SAFER (Staffing for Adequate Fire and Emergency Response) grants from the Federal Emergency Management Agency (FEMA) three different times in the past decade in an attempt to garner additional funds to increase staffing. The department was awarded the grant in 2010, however Kent City Council turned it down for fear of not being able to fully fund the third year of the grant. Since then, two other attempts have been unsuccessful. Kent Fire has applied five times for Assistance to Firefighters Grants (AFG) for structural firefighting gear and hydraulic extrication equipment and have been successful three times. Also, the department has applied for and has been awarded various local regional grants for tools and equipment including fire hose. In addition, in 2017, the fire department was awarded a FEMA Fire Prevention and Safety grant for \$8,500 to provide smoke detectors for low to moderate income residents. These types of alternative funding sources provide the department needed tools and equipment at little cost, helping to keep the operating budget down, thus saving both the City of Kent and Franklin Township money.

The Ohio Administrative Code sets forth rules governing the establishment of fire departments in municipal corporations and townships, 505 Ohio Rev. Code (2007). This code establishes the details and development of the rules and regulations governing how fire departments throughout the State of Ohio are administered. Although the Ohio Revised Code does establish regulatory mechanisms for the operation of EMS, 4765 Ohio Rev. Code (2017) there are however, no such rules mandating the establishment of emergency medicine in a municipality.

This is not to say that EMS is not important. Studies in fact have shown how important EMS is to a community. The National Association of EMS Physicians promulgated the idea of three fundamental ethical premises concerning prehospital emergency medicine:

- The principle of justice implies that the system be fair and equitable.
- The principle of beneficence requires that all actions and intentions are in the best interest of the patient.
- Respect for patient autonomy dictates that the requests of the patient are honored and nothing be done which is contrary to the wishes of the patient, (NAEMSP, 1993).

When an EMS system holds itself out to the community as a public emergency response system, it takes on the obligation to care for its citizens in an ethical manner. It responds in a manner which is blind to a patient's income or social position regardless of the financial resources of the patient. This community based EMS system might be regarded as one of the fairest and most just of all health systems. The care is mobile, timely, and equitable. In addition, community based prehospital care is unique among all medical environments in the scope of care it provides to the local community. The EMS system has a duty to provide a medically acceptable standard of care which continually evolves to keep up with modern techniques and technologies (NAEMSP, 1993). Community or hospital based EMS has been available to most communities in Ohio for the past thirty-five to forty years. For the last two generations, it has been a standard of care on which many communities including Franklin Township rely. It could be considered unethical or at least irresponsible to not provide EMS to its citizens in order to save money because of the potential loss of lives.

In summary, the potential impact this study could have on the Kent Fire Department is that a long-term contract which identifies more stable funding sources for Franklin Township will allow Kent Fire to develop long term strategies for growth without the fear of losing service income from Franklin Township.

LITERATURE REVIEW

The spirit of cooperation is considered the basis upon which urban life is built and maintained (Gotherman, Babbit, & Lang, 2015). It is also often the source for solutions for many of the problems arising from operating local governments. It is this spirit of cooperation which often compels local elected officials to work together for the common good of all residents. The Ohio Constitution and the Ohio Revised Code describe the means in which local municipal governments may interact with each other to improve services or save taxpayer dollars, 715 Ohio Rev. Code (2003). This section of the code references contractual agreements between two or more local governments and discusses this cooperation in detail, giving credence that the early Ohio legislators encouraged cooperative efforts between local governments. The larger question remains though, how to develop these contractual agreements so that all parties are satisfied in the aspects of funding and the level of service. There are many different variables communities look at when developing emergency services contracts such as operating and capital budgets, run volume, population, district size, service levels, and tax rates. But which variables should be included? Mastandrea (1995) looked at this very question and concluded that by including three variables; call volume, population, and property valuation, a fair contract could be developed. Call volume indicated workload, population of the district indicated a ratio upon which to compare districts or municipalities, and property valuation allowed for equal and fair tax rates to be established.

Municipal corporations and townships have available to them, a variety of ways to fund the cost of providing emergency services such as police, fire and EMS (Morton, Chen & Morse, 2008). The more traditional methods include income and property taxes for municipalities and property taxes for townships. Property taxes are typically levied at a set rate per dollar of property evaluation and are expressed in terms of mills, where one mill generates one dollar of taxes per \$1,000 of a property's assessed value. In general, the calculation of property taxes follows a simple formula:

$$\text{Taxable Value} \times \text{Property Tax Rate} = \text{Property Taxes Levied}$$

All real property has an assessment rate of 35 percent of the true or appraised value. For example, if a home has an appraised value of \$100,000, its taxable value would be \$35,000. This taxable value is then multiplied by the property tax rate and the property taxes levied is then determined (Sullivan & Sobul, 2010). In addition, a tax reduction factor is instituted to keep rising property values from generating additional tax revenues. This factor, expressed in percentages is multiplied by the property taxes levied, thus determining the final effective tax rate (Sullivan & Sobul, 2010).

Property taxes remain a large source of revenue for many municipalities, they provide an often-stable source of revenue, and they are familiar to voters. They are also deductible from an individual's federal income taxes. However, property taxes remain unpopular politically, primarily since the tax falls on unrealized gains the property owner makes on property values, hurting people such as senior citizens who may be considered property rich, but have lower incomes (Carey, 2005).

Income taxes, used by municipal corporations, are typically assessed on the wages and earnings on individuals at a rate set by elected officials and approved by voters. In addition, the

income from private, for-profit corporations are often taxed at the same rate as individuals. This is called a net profit return, D. Coffee (personal communication, December 19, 2016). These income taxes are often used by municipalities to fund various services within the city such as police and fire departments. Some municipalities in the United States also impose a surtax. This add-on tax is assessed as a percentage of an individual's state income tax (Morton et al., 2008). There are also several non-traditional methods in which municipal corporations and townships bring in revenue such as JEDDs, grants, and fees.

The ability to identify alternative sources of revenue such as grants and fees has become an essential skill for fire chiefs and local government leaders (IAFC, 2015). Fees for services such as responses for vehicle crashes and ambulance transports have become an integral part of many fire department's operating budgets. The International Association of Fire Chiefs (IAFC) has published material on cost recovery efforts. Fire departments have begun billing insurance companies of non-resident at-fault drivers involved in vehicle crashes. Also, many fire departments impose a hospital transport fee for EMS runs based on level of service and distance transported. These added service fees help alleviate the burden imposed on the departments by large numbers of vehicle crashes and ambulance transports (IAFC, 2015).

Grants from the federal government through the United States Department of Agriculture (USDA) may also be used to fund various fire department expenses in rural areas including townships. These grants, while not providing for everyday operational expenses, can provide relief to smaller fire department's small capital budgets. The eligible items include radios, water tender apparatus and water supply equipment such as dry hydrants (USDA, 2016). With the growing reluctance of voters in Ohio to approve levies for service including Police, Fire and EMS, local governments have been forced to look for these alternative sources of funding more

than ever (IAFC, 2015). The fire and emergency medical service especially sees a significant challenge in obtaining these alternative funding. However, much more could be done to garner outside sources of revenue to save money, especially for Franklin Township. There are many literature sources available to assist fire departments in securing additional funding. FEMA for example has published material including books and pamphlets which detail outside sources of funding for fire departments.

The City of Kent's population is estimated at 29,800 and has grown by 3.1% in the past five years. Franklin Township's population is estimated at 5,510 and has remained constant (U.S. Census Bureau, 2016). Kent's population growth has had a direct correlation to increased commercial and retail development throughout the City, particularly in the downtown commercial district. This added commercial development and corresponding new revenues has helped the City of Kent to keep up with increased costs including personnel costs.

Since 2010 Franklin Township has been approached by several different developers requesting zoning changes in order to accommodate commercial residential development. Each time, the township trustees have turned down the developers citing anticipated increases in emergency services costs from the City of Kent. The total potential valuations for these properties were several million dollars, and based on current property tax rates, these added developments could have brought in much needed revenue to the local school district, the county and the township. The Trustees decisions to vote down the variances required has come under increased pressure from certain property owners and developers. In fact, in December 2016 Franklin Township was sued by a student housing developer for refusing to allow zoning variances which would have allowed the construction of a large student housing project, M. Beckwith (personal communication, January 24, 2017).

In 1996 Ohio State Legislators passed a law allowing for the establishment of Joint Economic Development Districts throughout the state of Ohio, 715.72 Ohio Rev. Code (2016). A Joint Economic Development District (JEDD) describes the result of an arrangement between a city or a village and a township that allows them both to share in the benefits of industrial and commercial development (Schrader, 2016). This regional approach to economic development benefits both the township and the city, bringing in added revenues without increasing property or income taxes. JEDDs allow for the development of township land allowing municipal utilities such as water and sewer and even fire and EMS services to be extended into the township (Galen & Jackson, 2008). The income tax which is prevalent and in use in the city would then be applied to the JEDD situated in the township (Schrader, 2016). Each municipality, through administrative action can decide the best use for the JEDD income.

The revenue generated from the Kent-Franklin JEDD is split 55% to Kent and 45% to Franklin Township (City of Kent Record of Ordinance, 2003). Franklin initially set aside their portion of the funds for fire and EMS service and road repair. They convinced the voters that the added income from the JEDD (current amount is \$375,000) would be available to supplement the fire and EMS expenses, allowing the township trustees to reduce the 4.8 mill fire levy down to 3.42 mills. The current 3.42 mill levy was then placed on the ballot in 2005 and was approved by the voters. This levy generates \$390,633 annually. This amount, along with a small amount taken from the JEDD proved adequate to cover fire and EMS expenses for the next decade. However, the emergency services call volume for Franklin Township has increased 21.4% since 2006 (Year End Report, 2017) and the fire department budget continues to increase, growing from \$3,124,579 in 2010 to \$5,354,137 in 2017 (2017 Annual Budget, 2016). The 2016 bill to Franklin for fire and EMS services was \$721,864. This meant that \$331,231 or 89% of the

Franklin Township JEDD fund was utilized for fire and EMS. This amount is projected to increase so that in several more years the JEDD money will no longer be sufficient to supplement the fire levy, and there will be a deficit in available funds, M. Beckwith (personal communications, December 12, 2017).

As stated prior, two main variables are used to calculate the per-call charge: the fire department's operating budget and call volume for Franklin. The first variable is the Fire Department operating budget as approved and amended by council. The 2017 budget is broken down by types of service. Fire Services is composed of twenty-one lines of accounting which funds all fire and EMS services and includes operating and maintenance lines of accounting as well as training and personnel costs. Next, lines such as technical rescue, hazardous materials, confined space, and dispatching are added. The total amount is summarized as shown below:

Table 3

2017 Kent Fire Department Operating Budget

Fire Services	\$4,977,159
Technical Rescue	\$30,302
Haz Mat	\$14,277
Confined Space	\$19,629
Proportional dispatch costs	\$84,842
Fire Pension Costs	\$110,000
Total Operating Budget	\$5,236,209

Note. Fire Services also include worker's compensation costs, insurance costs, and Medicare costs. (2017 Annual Budget, 2016)

Fire prevention services are not included in these calculations because Franklin Township provides their own fire inspector who works out of fire department offices. Also, capital items such as apparatus purchases are not included because as indicated earlier, Franklin Township has in the past, contributed toward the fleet with apparatus purchases.

The second variable used to determine cost per call is the previous year's incident volume. Incident volume is totaled for all the fire department's service areas including Franklin Township, Kent State University, two other small villages, plus the City itself. The adjusted total is then added up and Franklin's proportioned amount per call is calculated using the operating budget. Franklin Township is then billed monthly for the previous months' total incident volume.

Table 4

2016 Proportioned operation of the Kent Fire Department incident response activity broken down by response area.

District	Total Incidents	Duplicate Incidents	Adjusted Incidents
Kent City	2,969	122	2,847
Kent State	441	14	427
Franklin Township	605	33	572
Sugar Bush Knolls	11	0	11
Brady Lake	49	3	46
Mutual Aid Given	67	2	65
Total Runs	4,146	178	3,968

Note. Duplicated incidents occur with dispatching errors, or when two run numbers are established for the same call. (Calculation of Fire Service Incident Rates, 2017).

There is a simple calculation performed to determine the cost per incident. The current year's budget is divided by the prior year's total incident volume and a cost per incident is then derived. For example, to calculate the 2017 cost per incident, the 2017 budget of \$5,236,209 is divided by the 2016 adjusted incident volume of 3,968 which calculates to \$1,320 per incident or: $\$5,236,209 / 3,968 = \$1,320$ per incident (Calculation of Fire Service Incident Rates, 2017). This amount is a \$58 or 4.6% increase over the previous years' rate of \$1,262. To keep too large of a percentage jump from occurring in any given year, a \$35 per incident cap increase was placed into the contract (Appendix 2). Therefore, the new rate is limited to \$1,297 per incident, a more modest 2.7% increase over the previous year. This calculated amount is then presented to the Franklin Township fiscal officer for review and the Township Trustees votes to accept the new amount. For the past several years, due to various factors, the amount increased has been the maximum of \$35 per incident. The calculation formula is premised on the more calls generated in Franklin Township, the greater the expense for the Township.

How this literature influenced the project:

Much of the literature used in this descriptive research paper dealt with variable funding sources in the fire and emergency medical services. Many of the referenced papers and articles referred to alternative funding sources such as grants, service fees, and contractual fees. However, historically, most fire departments receive income from two primary traditional sources, income taxes and property taxes. City fire departments generally receive the bulk of their funding from income tax while township departments receive almost all of their funding from property taxes (Smith, 1993). These facts led to additional research into alternative funding

sources that fire departments may utilize to supplement budgets thus reducing the burden on taxpayers while keeping service levels high.

Collaborative efforts among communities to provide for fire and EMS responses have proven to increase efficiency, reduce redundancy of equipment and personnel, and save taxpayers money (Gaines, 2013). It is for these reason that many fire departments contract out their services to neighboring communities. The question remains however, how best to determine the amount charge to those contractual communities? To answer this question, additional research was performed by use of a survey and reviewing contractual service agreements from fire departments that provide emergency services to other communities.

PROCEDURES

Research information was collected from four different types of sources; personal communication interviews, literature research, collection of data from fire and EMS service contracts, and a descriptive research survey. The personal interviews were necessary due to the long history of cooperation between Franklin Township and the City of Kent, plus the lack of hard-copy historical data, such as historical contracts. Information was collected through interviews with the Franklin Township personnel and elected officials, and by phone with a retired Kent fire chief.

Much of the literature review was accomplished through the use of University Libraries “Lib Guides” at Kent State University. The search was performed using keywords and phrases. This allowed the author to narrow down the search parameters and gather better, more relevant data.

It was determined early on in this research process that a scientific, logical approach in determining fair and equitable fees presented the best option in the long run. To achieve that goal, it was necessary to gather data from a certain number of fire and EMS service agreements between municipalities. The agreements needed to be cataloged by the actual amount of data that could be gathered from each, and the perceived relevance to the project itself. This relevance would depend on the type and sizes of the municipalities, and the services offered, such as fire only or fire and EMS. Appropriate and relevant fire and EMS service agreements between communities were needed not only from the State of Ohio, but from throughout the country as well. Internet searches were performed and telephone calls were made to different fire departments that provided contractual services to other communities nearby. These communities were identified by an email request to fire departments in Portage and Summit Counties. All fire departments in these two counties were sent an email requesting information on whether they provide emergency services to an adjacent community utilizing a service agreement. The departments that replied in the affirmative were then requested to email copies of these service agreements.

These agreements were then identified and collected, and the information gleaned was reviewed and analyzed. Unfortunately, this analysis had a lack of background on why certain procedures in the contracts were accomplished. For example, one important question that needed to be answered was, "How was the monthly or annual amount charged to the serviced municipality originally developed?" Some service contracts used a logical approach and calculated the costs based on empirical data such as call volume, census data (population) and area (square miles) serviced, while others appeared to set a price without a logical rationale for it. Some also established the minimum hours covered and the minimum number of firefighters and

paramedics to be staffed at a particular station, but failed to state the relevance of those minimum hours and staffing. A review of these contracts showed that there are a variety of methods which may be used to determine not only the initial fees, but the annual increases (if any). The contracts that included ancillary items such as minimum staffing levels provided, capital provisions such as fire apparatus provided, and the length of contract were numerous. Varying amounts of data was culled from each of the contracts, however it was difficult to get a consensus on what the most relevant parts of each contract were due to this variability; as each one was quite different. This led to the conclusion that a different method had to be used in order to gather good, consistent data from communities that provide fire and EMS services to other communities on a contractual basis.

Since the number of contracts found was limited, and the data culled was lacking, a survey was developed and performed to gather more information. The survey, sent using email and listed in appendix three, helped answer research question number two, “How do some other fire departments’ collaborative efforts help fund fire and EMS services?”

It was decided to distribute the survey to fire departments throughout Ohio. A list of Ohio fire departments and their email addresses was obtained from the Ohio Fire Chief’s Association. The type of survey chosen was a convenience survey. Unlike exploratory, or causal research, convenience sampling relies on data collected from individuals or organizations who are available -- in other words all subjects are invited to participate (Dudovskiy, 2016). Although there exists the possibility of bias by the respondent, this type of survey was chosen as most appropriate due to the ability to gather information quickly from individuals who are perceived to have relevant data. The survey was descriptive in nature, and rather than seeking answers about how or why something was done, it addressed the “what” questions. The use of

descriptive surveys allows the researcher to better define opinions, behavior, or attitudes held by certain individuals such as fire department or municipal officials. This question format often led to comments, observations, and conclusions that were unexpected. Also, by using multiple choice questions, the respondents were forced to choose from predefined categories, thus allowing the performance of statistical analysis on the raw data, illuminating significant information.

Definitions of terms

Renewal Levy. Predictable levy based on the effective tax rate at the time of the levy (Carey, 2005).

Replacement Levy. Replacement levies are distinct and replace the effective tax rate at the higher property evaluation (Carey, 2005).

Primary Public Safety Answering Point (PSAP). A primary PSAP is defined as an emergency call center to which 9-1-1 calls are routed directly from the 9-1-1 Control Office, such as, a selective router or 9-1-1 tandem (Federal Communications Commission, 2017).

FEMA. Federal Emergency Management Agency. An agency of the United States Department of Homeland Security dedicated to supporting citizens and first responders.

Water Tender. A truck with a permanently mounted water tank designed to transport water to an emergency scene to support fire engines and crews. Also known as a water tanker. (Schlags, 2008)

Limitations of Study

There were several limitations to this study. The first thought was to find municipalities that provided emergency services to another municipality or township. It was important to then

seek out written service agreements that covered the required parameters. In addition, the agreements had to be similar in nature to the one Kent utilizes with Franklin Township. This proved to be more difficult than expected as initially the number of relevant service agreements available were limited. Internet searches and phone calls were made in an attempt to find additional relevant agreements. Some of the main limits to these service agreements were:

- The number of service agreements available
- The variation in agreement format
- The perceived relevance of the individual components in each service agreement

Another limitation noted includes the survey distribution. The survey was sent out to 641 individual fire departments, and there was no method to determine who in the department received and ultimately filled out the survey. The individual who filled out the survey could have been anyone from the fire chief to a secretary to a firefighter. This uncertainty could have affected the results.

RESULTS

In reviewing the results gathered from resource material including personal interviews, emergency services contracts, and the survey performed, the following information has been compiled as related to the three research questions.

Research Question One- To what extent is the method currently being used to determine Fire and EMS contract pricing by the City of Kent perceived to be fair and equitable by the Franklin Township Trustees?

The question of perceived fairness was best answered by documenting interactions and interviews with the Franklin Township trustees, the fiscal officer and the township administrator.

The variations in month to month billing has presented a challenge to this fiscal officer, and could be viewed as unfair. This variation places a strain on the ability of the township to meet their obligation to pay the monthly contractual fees. The following table demonstrates how much of a variation exists month to month. The data was culled from the monthly billing data from 2016 (Monthly Emergency Services Billing Data, 2016).

Table 5

Franklin Township monthly incident volume, 2016

Month	# of Incidents	Month	# of Incidents
January	45	July	45
February	34	August	57
March	41	September	53
April	50	October	37
May	46	November	53
June	57	December	54
Average		47.6	

As one can see, a monthly variation in incidents exists. For 2016 the greatest variation is twenty-five between February and August. The monthly bill, based on the previous month's run volume is sent to the fiscal officer by the middle of the next month, B. Huff (personal communication, July 13, 2017). This invoice is paid to the City of Kent electronically out of the monthly property tax receipts garnered from the fire levy and received through the Portage County auditor's office, L. Russell (personal communication, January 24, 2017). These monthly receipts from the fire levy are always insufficient to cover the invoice amounts from the city, so the township must dip into funds earned through the JEDD to cover the shortfall.

Research Question Two- How do some other fire departments' collaborative efforts help fund fire and EMS services?

In attempting to determine the answer to question two, a compilation of data from gathered contracts plus the survey revealed a variety of results. The survey was sent to 641 fire departments throughout Ohio, and 94 departments responded. The departments surveyed included small and large departments, full time and volunteer/part time departments. The questions and general responses follows:

1. Does your department currently provide fire protection and/or emergency medical services to other communities through a contract?

Yes	No	Don't Know
44%	55%	1%

The survey was sent to fire departments throughout Ohio, however it targeted those departments that provide emergency services to a neighboring department contractually. The results from the first question showed that 44% of respondents provide this service. That information in itself reveals how prevalent the practice of shared services is.

2. Is the amount charged to the other community determined by:

Determining Factor	Percentage
Number of annual incidents generated by the serviced community	39.3
Population of serviced community	21.4
Size in square miles of the serviced community	14.3
Budget of your fire department	42.8

The responses to question two indicated that the three most prevalent indicators in determining the amount charged by the contracted fire department are: the budget of their department, the number of annual incidents they respond to in the contracted community, and population of the community.

3. Is an annual rate increase included in the contract?

Yes	No
26.1%	60.9%

The response to question three indicate that a majority of the contracts do not include an annual rate increase, and rely instead on renegotiating the contract at the end of the term if any rate increase is desired or required.

4. Are capital funds included in the contract?

Yes	No
20.8%	79.2%

The response to question four indicate that most departments do not include capital purchases such as fire and EMS apparatus in the contract. The funds required to operate and equip the fleet are evidently paid for by the contracted department a majority of the time.

5. Do you charge for EMS ambulance transport to the hospital?

Yes	No
73.9%	26.1%

6. How are the ambulance transport fees addressed in the contract?

- Responses**
-
- We bill as our own residents.
-
- Collected by a service provider
-
- They aren't, because the ORC dictates where the funds are supposed to go.
-
- We bill for communities we serve. That dollar amount (what is collected) is taken off the contract bill quarterly.
-
- Covered as part of the contract.
-
- Simply states in the contract that we, as the City determine EMS billing rates.
-
- All monies come back to the Fire Department
-

The responses to questions five and six indicate that it is common practice to bill for ambulance transport services through a third-party service provider and then some use that amount to assist in providing the service.

7. Please check all services that are provided to the contracted community:

Services Provided	Percentage who provided
Dispatching services	21.7
EMS	69.6
Fire	91.3
Fire Prevention	78.3
Fire Education	69.6
Technical Rescue	65.2
Hazardous Materials	65.2
Other	See note

Note: Other responses included "Fire Chief is appointed as Fire Prevention Officer, Dive, and Rescue".

The responses to question seven indicate that a clear majority of respondents provide fire service and fire prevention services, including education to the contracted community. Emergency medical services is also listed as a service that most departments provide. Approximately one-fifth of the departments provide dispatching services to the contracted community.

8. What is the duration of the contract?

Duration	Percentage
Less than 1 year	0
1-3 years	65.2
4-6 years	34.7
7 years or more	0

The results of question eight showed that most contract durations last from 1-3 years and none lasted no more than six years.

9. What is the number of EMS calls for the following in 2016?

Community	Average Number of EMS Responses
Your Community	1620
Contracted Community #1	200
Contracted Community #2	155
Contracted Community #3	123

10. What is the number of all other calls for service for the following in 2016?

Community	Average Other Responses
Your Community	645
Contracted Community #1	132
Contracted Community #2	53
Contracted Community #3	52

Note: This number includes fire, technical rescue, and hazardous materials responses.

In asking questions nine and ten, the author attempted to observe the differences between the respondent fire departments and their contracted communities. The questions were posed to observe if there was a correlation between the number of fire calls and the number of EMS calls. Also, by inference to determine if the contracting community was larger and therefore had a larger operating budget than the community they contracted with. The results showed that by far the respondent community responded to many more incidents in their own community than they did in the contracted communities. This indicated that the respondent communities were larger and operated with a larger budget.

Research Question Three- To what extent is Franklin Township's overall budget affected by contractual emergency service fees from Kent?

Many townships, including Franklin offers significantly fewer basic services when compared to the services offered by municipal corporations such as the City of Kent. Kent operates a variety of city departments in order to provide a comprehensive service package to the

community. It operates its own police and fire departments, water reclamation and a water treatment plants and a health department. Kent also operates other departments such as a budget and finance department and community development, human resources and economic development departments. Franklin Township's budget is limited to funding the following services: parks, road department, and fire and emergency medical services. The township also contracts with the Portage County Sherriff's Office for enhanced patrol of the township, (M. Beckwith, personal communications, 2017).

The township fiscal officer has provided the following table to illustrate the burden the emergency services contract with the City of Kent is on Franklin Township's overall budget, L. Russel (personal communication, October 2, 2017).

Table 6

Franklin Township tax budget as related to annual expenses

Year	Franklin Township Tax Budget	Monies Generated by Fire Levy	Annual	
			Contracted Expenses to City of Kent	Percentage of Overall Township Budget
2013	\$3,462,795	\$376,000	\$491,930	14.2
2014	\$3,799,758	\$376,000	\$542,122	14.2
2015	\$3,960,388	\$381,000	\$530,849	13.4
2016	\$3,564,763	\$386,000	\$645,975	18.1

Note: The percentage of overall township budget is derived from dividing the Annual Contracted Expenses by the Franklin Township Budget. Adapted from email "Effects on the Township", L. Russel, (personal communications, October 2, 2017).

This table illustrates two key concepts:

- The percentage of the overall Franklin budget dedicated to emergency services from the City of Kent showed an upward spike in 2016. In fact, this number has increased 3.9 percentage points from 2013 to 2016.
- The overall Franklin Township budget has remained fairly flat, rising only \$101,968 or 2.9% since 2013, while the annual contractual emergency services expenses has risen by \$154,045 or 31.3%. The main driver of this annual increase has not been the fire department budget, but the incident volume, mainly EMS calls generated by Franklin Township's residents and businesses. The following table illustrates this increase since 2007.

Table 7

Yearly breakdown of Franklin Township fire and EMS incidents

Year	Fire Runs	EMS Runs	Total Runs
2007	103	394	497
2008	114	407	521
2009	82	351	433
2010	99	356	455
2011	86	385	471
2012	125	451	576
2013	137	367	504
2014	95	411	506
2015	108	376	484
2016	109	463	572
2017	134	485	619
Average	108.4	404	513

Note: 2017 is a projection based on incident data from January through November 2017.

These two key points led to the conclusion that the amount required from Franklin's general fund to make up for the shortfall from the monies generated from the fire levy has risen considerably since 2013. This has placed an increasing burden on the overall Franklin Township budget, affecting their ability to provide other services such as law enforcement, parks and road maintenance.

DISCUSSION

The Franklin Township Trustees have indicated they appreciate the good working relationship they have with the City of Kent, particularly with the Fire Department. They are however, unsatisfied with three items; the variations in month to month billing, the uncertainty of what the annual increase in contract pricing for the next year will be, and the lack of capital funds available to them to contribute toward the Kent Fire Department fleet.

In 2016, as described in table 5, the average monthly incident volume was 47.6. In some months, the invoices presented to Franklin Township were near or even below that average. However other month's invoices were high, exceeding the average by as much as 15 incidents, L. Russell (personal communication, January 24, 2017). This variation is obviously due to the increased incident volume during that previous month and places a strain on the ability of the township to meet their obligation to pay the monthly contractual fees. This \$35 amount translated to a 2.7% increase from 2016 to 2017, previous years' increases have been similar.

With the cost of providing effective emergency services on the rise, it is important for communities such as Kent and Franklin Township to share in and help soften these increases. In a study performed from 1976-1978 at Michigan State University's Department of Agricultural Economics, Harvey (1978) found that the lowest cost of providing fire protection occurred from

communities jointly engaging in fire protection using a service agreement. Unfortunately, the determination of a fair and equitable fee structure within the parameters of these service agreements can be challenging. Harvey (1995) identified five methods for determining contract pricing: fire runs (incident volume), annual subscription fees, subscription fees plus incident volume, percentage share based on usage, and state equalized value (property values). The method most closely resembling the one utilized by Kent in determining contract pricing is the call volume method which may be described essentially as average cost pricing, where the pricing is determined by dividing the total costs of providing the services by the total number of incidents for the previous year.

Harvey (1992) goes further in describing a hybrid method he refers to as the weighted formula method. This weighted formula method considers several factors, all of which have the potential to impact demand for services, which also may be described as incident volume. This method utilizes several factors and blends them together to provide a more stable formula in determining contract pricing. He identified these factors as: population, property values, and incident volume of the contracted municipality. Mastandrea (1995) also found that when several common contractual elements were factored together, they formed the basis of a fairer and more equitable formula. Like Harvey, Mastandrea identified these factors as incident volume, population, and property valuation. Furthermore, both Harvey and Mastandrea assigned weighted values to each of the three factors and combined them into one final formula. The weighted values added importance to factors such as call volume, and reduced importance from other factors such as population. In addition, Hussey (2008) utilized a similar format to determine contract pricing. His conclusion also was that utilizing several broad factors to calculate contract pricing encouraged fairness which was accepted by all parties.

In reviewing this survey, question two focuses on how the amount charged to the other community is determined. The top three determining factors were: the budget of the fire department (43%), the number of annual incidents generated by the serviced community (40%), and the population of the serviced community (21%). Question three asked the responding fire departments: Is an annual increase included in the contract? By a fairly large margin (61%), the answer was no, however, those who responded in the affirmative indicated the increase was determined by either a flat annual percentage increase or by some other factor such as the consumer price index or the department's annual operating budget.

Presently, the Franklin Township Trustees have no plans in place for the funding of an apparatus replacement program. The current Township owned fleet consists of a 2004 Seagrave fire engine, a 2004 Chevy/RPI grass fire truck, and a 2012 Ford/Lifeline ambulance. Each one of these vehicles will require either replacement or refurbishment within the next five to ten years, based on anticipated life spans. This is a need that cannot be ignored. Table 8 illustrates this replacement schedule and details the funds needed to fully fund this capital line beginning in 2018.

Table 8*Replacement Schedule of Franklin Township owned Fleet*

Year	2012 Med Unit Cost	2004 Grass Truck Cost	2004 Fire Engine Cost	Fund Contribution	Fund Balance
2018				\$125,000	\$125,000
2019				\$125,000	\$250,000
2020				\$125,000	\$375,000
2021				\$125,000	\$500,000
2022	\$200,000			\$125,000	\$425,000
2023				\$125,000	\$550,000
2024			\$600,000	\$125,000	\$75,000
2025				\$25,000	\$100,000
2026		\$75,000		\$25,000	\$50,000
2027				\$25,000	\$75,000

Note: Fund contribution is the amount required to keep the fund balance positive. The costs are projections based on original apparatus invoices and an inflation rate of 2% and rounded up.

The most stable funding source available to Franklin Township to fund these replacement needs is through the use of property taxes. Unfortunately, the revenue from Franklin's present fire and EMS levy is inadequate not only to pay for the service fee, but for any additional funds necessary for apparatus replacement.

The millage rate for an individual township fire department has been shown historically to be a good indicator of the amount of revenue required for fire and EMS services for a particular township (Gaines, 2013). The property tax rate (millage) is one factor in determining the tax revenues brought in. The other factor is the total taxable property value of that township, and is a combination of the number of structures, and properties and their value. There exists an

indirect, but strong relationship between the number of structures in a township and the total population served and gives a good indicator of workload. This workload will often dictate the size and operating budget of the fire department.

Table 6 examines the tax revenues generated by the Franklin Township fire levy. As noted previously, and illustrated in this table, this amount has remained steady and has not kept up with the contracted expenses from Kent. The 3.42 mill levy was established in 2005, replacing an older 4.8 mill levy. Presently the effective millage, which considers the age of the levy is only 2.67 mills. The average millage rate funding fire and EMS departments throughout Portage County is 4.7 mills. When the data group is narrowed to similar and relevant fire departments, such as ones that provide a staffed presence and advanced life support EMS, the average millage rate jumps to 6.08 mills, which is 2.66 mills higher than Franklin's rate as indicated in table 2. When comparing Franklin's millage rate to others, it is obvious that the Franklin Township property owners are paying significantly less in property taxes than their counterparts in other townships throughout the county for fire and emergency medical services.

RECOMMENDATIONS

The contract for emergency services between the City of Kent and Franklin Township has areas where improvement and changes should be considered to promote equity and economic development.

The first recommendation is to change the method used to calculate the service fee. The present service fee calculation is far too restrictive, using only the budget and the run volume of the fire department as variables. In developing a strategy to calculate the price for emergency services to Franklin Township, it is apparent that a weighted formula utilizing relevant factors

would be prudent and appropriate. Population, incident volume and property valuation were put forth by other authors, however, property valuation has little to no bearing when dealing with EMS, the largest component of Franklin’s incident volume. A more robust formula utilizing population and using a three-year average of incident data in a weighted share would be more prudent. This weighted share would be calculated annually utilizing:

- The latest U.S. Census Bureau data – 40%
- Incident volume average for the previous three years – 60%

Incident volume, which is most relevant and therefore should be given greater weight, has a year to year variation. This variation will be limited by applying a three-year running average to the data. This will help reduce the monthly variations in the invoice, thus alleviating the uncertainty of what the bill will be. By applying these weighted values, the need for the \$35 cap most likely will be eliminated. The following table illustrates how the new contract calculations may look. The incident volume is based on a three-year average of 2014-2016. The population numbers are taken from the 2016 U.S. Census estimates.

Table 9

Calculations of total weighted share

	Franklin Twp.	Total Service District	Percentage of total	Weighted Factor	Weighted Share
Population	5,510	35,959	15.3%	40%	6.1%
Incident Volume	520	3,890	13.4%	60%	8.0%
				Total	14.1%

Note: Population adapted from United States Census Data (U.S. Census Bureau, 2016). Incident volume (Year End Statistics Report for 2016, 2017). Weighted share equals the percentage of total column multiplied by the weighted factor.

The total weighted share of 14.1% represents the percent that Franklin Township should be contributing toward the cost of operating the Kent Fire Department and may be expressed:

Present year fire department operating budget multiplied by the total weighted share

For example, a calculation for 2017 would be as follows:

$$\$5,236,209 \times 14.1\% = \$738,305$$

This annual fee would then be divided by twelve and billed monthly as is done presently.

Using this weighted formula which factors in both population and incident volume is a fair and equitable method of determining contract pricing. In fact, this amount is within 4% of the gross amount billed for 2017 before subtracting ambulance collection fees, and will remain more stable, avoiding peaks and valleys in the years to come.

The second recommendation is to put into place a plan to properly fund the replacement of the apparatus fleet owned by Franklin Township. As indicated in the discussion section of this report, Franklin Township's property tax rate for fire and EMS was 2.66 mills lower than other similar townships. Utilizing the JEDD funds to keep this property tax millage low has proven wise over the years. However, there are no capital reserve funds available to maintain an adequate township fleet. Utilizing an increase in this stable source of revenue would be the most logical method of funding an apparatus replacement program. Table 8 describes the amount necessary to fund these capital expenditures for the next decade. The amounts indicated in the table could either be a separate, specific tax levy for these capital outlays or the present levy could be replaced at a higher amount and the increased amount utilized for the capital expenses.

The need is long-term, and the only long-term solution comes from property taxes. It is understood that placing a property tax levy on the ballot which increases taxes is often unpopular with voters straddled with already high property taxes. The Kent Fire Department should take an

active role in providing information to township officials and voters so they may make informed decisions on the future of their contracted emergency services.

REFERENCES

- Carey, J. (2005) Replacement Levy vs. Renewal Levy. Retrieved from
<http://smallbusiness.chron.com/replacement-levy-vs-renewal-levy-78900.html>
- City of Kent Budget and Finance Department (2016, December). *2017 Annual Budget*.
 Retrieved from <https://www.kentohio.org/dep/budget.asp>
- City of Kent Budget and Finance Department (2017, March) *Calculation of Fire Service Incident Rates for 2017*.
- City of Kent Budget and Finance Department (2017, May) *Capital Assets Listing 2017*.
- City of Kent Fire Department (2017, March). *Year End Statistics Report for 2016*.
- City of Kent Record of Ordinance 2003-130. (2017, March) *An Ordinance Providing for Approval of the Kent-Franklin Joint Economic Development Contract*.
- Dudovskiy, J. (2016). An Ultimate Guide to Writing a Dissertation in Business Studies: A Step-by Step Assistance. Retrieved from:
<http://researchmethodology.net/researchphilosophy/interpretivism/>
- Federal Communications Commission. (2017). *911 Master PSAP Registry* Retrieved from:
<https://www.fcc.gov/general/9-1-1-master-psap-registry>
- Franklin Township (2016, December). *Monthly Emergency Services Billing Data*.
- Gaines, G. (2013). Get Your Fair Share, *Fire Chief.com*, 22(1), 20-26. Retrieved from
<http://www.firechief.com/management>
- Galen M., Jackson K. (2008). Ohio Real Estate Blog. *Joint Economic Development Districts (JEDDs)*. Retrieved from <http://ohiorelaw.com/2008/07/joint-economic-development-districts.html>

- Gotherman, J.E., Babbit, H.W. & Lang, J.F. (2015, December). Local Government Law-Municipal. *Baldwin's Ohio Practice*. Ch. 34:3.
- Hange, C. G. (1999, October 27). Fire protection levy could double Franklin Township taxes *Daily Kent Stater*, pp 2.
- Harvey, L.R. (1978). The Organizational and Provision of Fire Protection Services by Municipal Governments in Hillsdale, Jackson, and Lenawee Counties (Michigan), Department of Agricultural Economics, Michigan State University, May 1978.
- Harvey, L.R. (1992). Outline of the Legal Aspects of implementing an Intergovernmental Agreement. Department Agricultural Economics, Michigan State University, August 1992.
- Harvey, L.R. (1995). Buying and Selling Fire Protection, Michigan State University, Department of Agricultural Economics, pp 1-13.
- Hussey, J.A. (2008). Determination of an Equitable Fee Structure for Contract Areas Served by the Granville Township Fire Department. Ohio Fire Executive paper, pp. 21-24.
- Insurance Services Office, Inc., (2014). *Public Protection Classification Summary Report, Kent Inc., Franklin TS, Sugar Bush Knolls, Ohio*.
- International Association of Fire Chiefs (IAFC). (2015). *Cost Recovery for Fire-Based Emergency Response Service*. Retrieved January 3, 2017 from <https://www.iafc.org/topics-and-tools/departments-administration/cost-recovery-for-fire-based-emergency-response-services>
- Mastandrea, T.P. (1995). The Cost of Providing Emergency Services – What is it based on? National Fire Academy EFO Paper, pp. 33-37.

- Morton, L.W., Chen, Y.C. & Morse, R.S. (2008, March) Small Town Civic Structure and Interlocal Collaboration for Public Services. *City & Community 7:1 pp 49-51*.
- National Association of Emergency Medical Services Physicians (NAEMSP), Ethics Committee, (1993), *Ethical Challenges in Emergency Medical Services*. Retrieved from:
<https://pdfs.semanticscholar.org/2cc4/3caa9ebded394cddb6282e05fab08503778b.pdf>
- Ohio Division of EMS (2016). Certification Education Renewal Requirements.
Retrieved from: <http://codes.ohio.gov/oac/4765-8>
- Portage County Abstract of Tax Rates (2016). Retrieved February 4, 2017 from:
<https://www.portagecountyauditor.org/>
- Schrader A.J. (2016). Understand How Joint Economic Development Districts Work. Ohio State Bar Association, *Law You Can Use*. Retrieved from:
<https://www.ohioabar.org/ForPublic/Resources/LawYouCanUse/Pages/LawYouCanUse-376.aspx>
- Schlags M. (2008, September). What do you call them...ICS & NIMS Tanker vs. Tender Definitions...What's the Difference? *Fire Rescue Magazine*. Retrieved from:
<http://my.firefighternation.com/forum/topics/889755:Topic:2401939>
- Smith, G.E. (1993), *Township Laws of Ohio*. Cleveland, Ohio Conway Greene Publishing Company.
- Sullivan, M. & Sobul, M. (2010). Property Tax and School Funding (Tax Research Series No. 1). Ohio Department of Taxation. Retrieved from:
https://www.tax.ohio.gov/portals/0/research/Property_Taxation_School_Funding_2012C.pdf.

U.S. Census Bureau. (2016). *Ohio Quick Facts: Kent, OH*. Retrieved December 17, 2016 from:

<https://quickfacts.census.gov>

U.S. Department of Agriculture (USDA) (2016, August). *Rural Fire Department Resources for Local Officials*. Retrieved January 15, 2017 from:

<https://www.nal.usda.gov/ric/rural-fire-department-resources-local-officials>

505 Ohio Rev. Code § 505.38 (2007). Retrieved August 12, 2017 from

<http://codes.ohio.gov/orc/505.38>

715 Ohio Rev. Code § 715.02 (2003). Retrieved August 4, 2017 from

<http://codes.ohio.gov/orc/715.02>

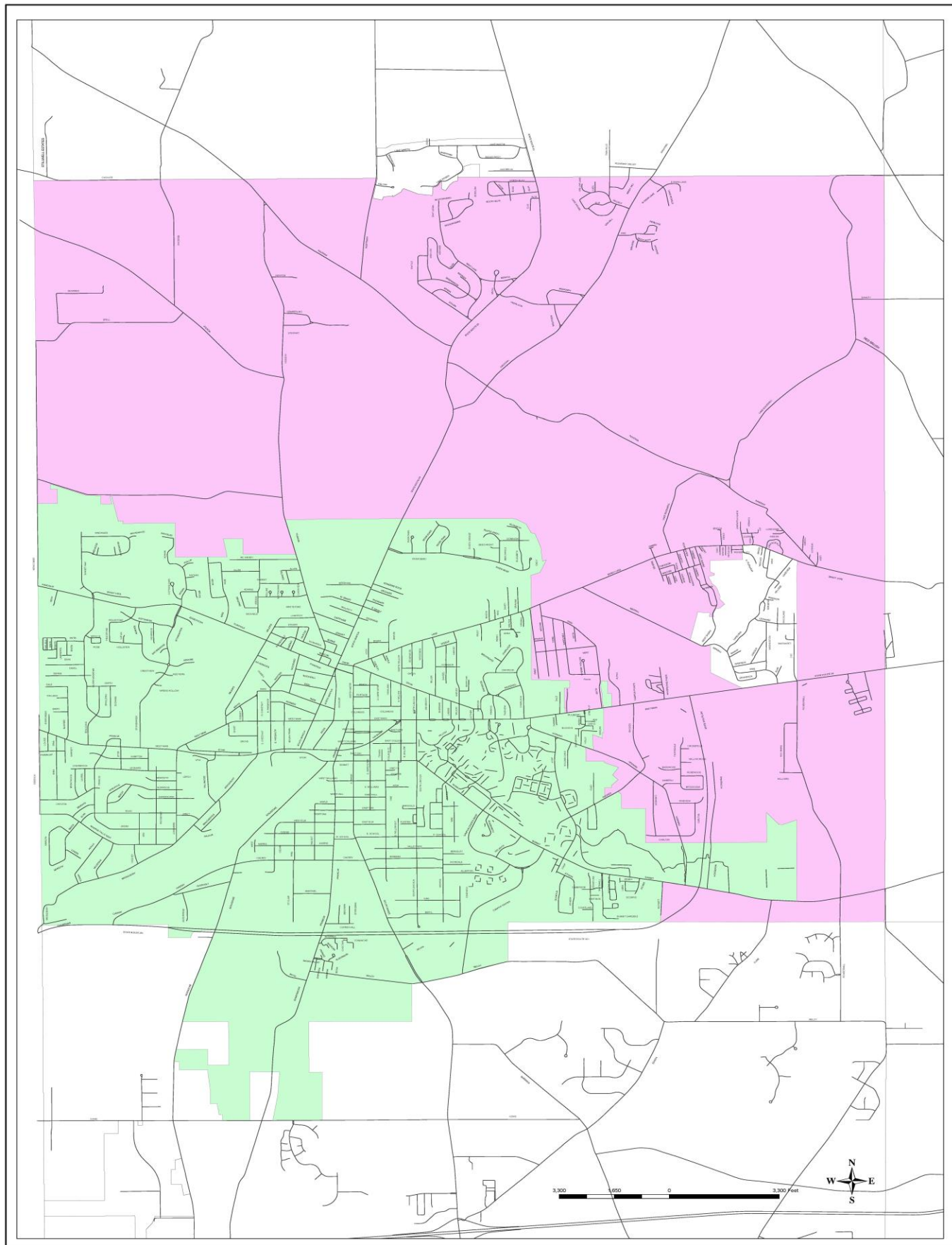
715 Ohio Rev. Code § 715.72 (2016). Retrieved September 14, 2017 from

<http://codes.ohio.gov/orc/715.72>

4765 Ohio Rev. Code § 4765.011 (2017). Retrieved August 12, 2017 from

<http://codes.ohio.gov/orc/4765.011>

APPENDIX 1 – Franklin Township Map



APPENDIX 2 – Agreement for Fire Protection and Emergency Medical Services

2011 Franklin Twp Final 6_2_2011

AGREEMENT

THIS AGREEMENT entered into this _____ day of _____, 2011, by and between the CITY OF KENT, OHIO, hereinafter referred to as the "CITY" and the FRANKLIN TOWNSHIP, OHIO, hereinafter referred to as the "TOWNSHIP," for purposes of contracting for the provision of fire, emergency medical, rescue and assisting fire inspection services by the CITY for the TOWNSHIP, and defining the terms and conditions for providing those services.

NOW, THEREFORE, in consideration of the promises of the parties herein, it is mutually agreed as follows:

1. The CITY shall answer all calls concerning fire, rescue and emergency medical related incidents as received from any person in those portions of Franklin Township outside the corporate limits of the City of Kent, Ohio, and the Villages of Brady Lake and Sugar Bush Knolls, Ohio. In responding to such incidents, the CITY shall make use of CITY Fire Department personnel and equipment as may be necessary and available under the circumstances.
2. This Agreement for fire protection and emergency medical services of the TOWNSHIP by the CITY shall be in force from January 1, 2011, through December 31, 2020.
3. During the period of this agreement, the TOWNSHIP shall make payment for these services which fees shall be calculated by the following process:
 - a. **The CITY shall determine an average cost per incident in January of each year, based on the approved total Fire Department budget for the current fiscal year, divided by the total number of incident responses during the previous calendar year. The rate will be determined by the following calculation:**
 - (1). The anticipated personnel and operating and capital expenses as defined in the City's budget will be summed, excluding engine reserve and capital building debt funds.
 - (2). The sum determined in item (1) will be divided by the number of service incidents that were responded to by the fire department during the preceding calendar year. The resulting figure will be the service rate for the new year, to be applied on monthly billing statements.
 - b. **The new rate for the beginning of the service year will not increase more than \$35.00 per incident in each new service year, unless the cost to the TOWNSHIP becomes eight-and-one-half percent (8.5%) or more below the average per incident cost to the CITY. If that occurs, the parties agree to meet to renegotiate the billing rate procedures in this agreement.**
 - c. **The CITY will notify the TOWNSHIP of the new rate by February 1st of each calendar year, or as soon as the rate can be calculated after the final City budget has been adopted.**

2011 Franklin Twp Final 6_2_2011

- d. **The TOWNSHIP shall acknowledge and authorize the new rate and return by March 1st, a signed Agreement which shall be considered an addendum to this Agreement.**
- e. **If the CITY collects monies from ambulance billing for ambulance responses to the TOWNSHIP, the amount charged to the TOWNSHIP will be reduced by the net amount collected. This adjustment shall be calculated into the monthly billing for the previous month's service, but will not include overdue payments which have been transferred to a collection agency.**
- f. In the event of the failure of a levy placed on a future ballot by Franklin Township, to provide the necessary revenues to meet the obligations of this contract, the parties agree to confer to determine the means to adjust the level of service and costs. No adjustments will be considered that are intended to reduce response capabilities in a manner that the Fire Chief determines will impact the safety of the department's personnel.
- g. **The CITY shall provide for telephone answering and fire dispatch communications for the TOWNSHIP (excluding primary E9-1-1 service) via established communication systems**
- 4. The CITY will be responsible for personal injury and damage to its personnel and equipment, while going to or from and while responding to the TOWNSHIP fire, emergency and other related calls, and shall save said TOWNSHIP free and harmless from any liability by virtue thereof.
- 5. The CITY shall be an independent contractor servicing the Township, and as such, pay for CITY personnel withholding and any other taxes, retirement, insurance plans, unemployment compensation, and workers' compensation as may be required by law, but not limited thereto.
- 6. The CITY shall have the authority to use any and all current and future TOWNSHIP equipment for fire and emergency medical services.
- 7. **Maintenance, upkeep and replacement of Franklin Township owned vehicles;**
 - a. **The CITY shall provide maintenance and upkeep and pay the cost of repair of TOWNSHIP fire and emergency rescue apparatus and equipment in the CITY's control and housed in the CITY's fire stations, to a maximum cost of \$500.00 per breakdown incident. The TOWNSHIP will be responsible for major repairs of over \$500. The TOWNSHIP shall provide apparatus insurance coverage as required by law for the vehicles which are owned by the TOWNSHIP.**
 - b. **Franklin Township will continue to provide its currently owned vehicles - an engine, a grass fire truck and an ambulance. The Township agrees to negotiate with the City over sharing the cost if any of these vehicles need to be replaced to the extent that the expense may exceed current fire fund**

2011 Franklin Twp Final 6_2_2011

availability for the Township. Current projections call for replacement of the ambulance in 2012, and grass fire truck in 2018. The Township further agrees to discuss participation with the City for sharing the cost of any major vehicle purchases (in excess of \$600,000) necessitated by wear and tear, irreparable damage or obsolescence.

8. Plan review and fire inspection responsibilities;
 - a. The TOWNSHIP acknowledges that from time to time, it receives plans of new commercial, industrial and sub-division construction for zoning or other inspection or review. The TOWNSHIP agrees it shall provide copies of any and all plans for new construction to the FIRE CHIEF for purposes of planning for necessary fire protection equipment in the new facility, planning for effective fire suppression deployment, and review for fire safety hazards.
 - b. The City further agrees to assist in the review, training and coordination of inspections by a fire inspector hired by the Township, with duties that may be defined in a separate Memo of Understanding between the Township and the Fire Chief.
 - c. The Township may designate the Kent Fire Chief as the Township's Fire Protection Officer for purposes of meeting fire response requirements, which duties shall be defined and limited within the fire inspection Memo of Understanding.
9. **NOTIFICATIONS AND REPORTS**
 - a) **The TOWNSHIP shall continue to furnish two (2) current maps whenever they are updated, showing all TOWNSHIP roads and further will promptly notify the City Fire Department of all closed or impassable roads in the TOWNSHIP:**
 - b) **The CITY shall furnish monthly reports of all calls answered or responded to, in the TOWNSHIP not later than 30 days after that month.**
 - c) **The CITY shall furnish a monthly billing activity report of emergency ambulance service.**
10. The CITY and the TOWNSHIP do hereby agree that this Agreement is made pursuant to Resolution of the TOWNSHIP No. _____ Dated ____ Jun 2011, and Ordinance of the CITY No. _____ dated ____ Jun 2011.
11. The parties further agree that this Agreement supersedes any other Agreement between the parties, replacing an agreement in force from January 1, 2001, through December 31, 2009, and temporary service agreements through 2010-2011, and that the terms agreed to in this document will be applied retroactively to January 1, 2011. If the term of this agreement is exceeded and no notice to sever has been issued by one of the parties to the other, the terms of this agreement will continue on a month-to-month basis until a new agreement can be prepared, authorized and executed.

2011 Franklin Twp Final 6_2_2011

- 12. The parties recognize that a process of evaluation for the "blending of services" is continuing within several fire jurisdictions within Portage County. Further, it is recognized that some recommended changes may impact the level or manner of service that is provided by the Kent Fire Department as a part of that effort. In this regard, the parties agree to the following:
 - a) One member of the Township Board of Trustees will participate with the PAFERS committee as the service proposals are considered, and will regularly report the results to the other members of the Board.
 - b) The parties agree to meet and review any service and/or financial consequences of any proposed changes that are being considered.
 - c) If the impact appears to have an adverse effect on either party to this agreement, the agreement can be ended by invoking the severability article of this agreement.

13. Severability. Either party to this agreement may move to sever the agreement by submitting a "notice to sever fire service agreement" in writing to the other party. The severing of the agreement will then take place on the first day of the month, after twenty-four calendar months after the notice is received

IN WITNESS WHEREOF, the City of Kent, Portage County, Ohio, has caused to affix hereto its corporate name by the City Manager and said Franklin Township, Portage County, Ohio, has caused to be hereunto affixed its corporate name by the Trustees of said Township this _____ day of _____, 2011.

Signed in the Presence of:	For the FRANKLIN TOWNSHIP
_____	By: _____ Keith Benjamin, Trustee
_____	By: _____ Mark Beckwith, Trustee
_____	By: _____ Gary Falstad, Trustee
	For the CITY OF KENT
_____	By: _____ Dave Ruller, City Manager

Approved as to Form:

APPENDIX 3 – Fire Department Survey

The following questions were included in the survey and were distributed to fire departments throughout Ohio. The questions were distributed through the use of a web-based survey tool called Survey Monkey. The survey was sent to six hundred and forty-one different fire departments. One hundred and fifty-six fire departments replied with answers to all ten questions.

1. Does your department currently provide fire protection and/or emergency medical services to other communities through a contract?
 - a. Yes
 - b. No
 - c. I Don't Know
2. Is the amount charged to the other community determined by: (please check all that apply)
 - a. Number of annual incidents generated by the serviced community
 - b. Population of the serviced community
 - c. Size in square miles of the serviced community
 - d. Budget of your fire department
3. In an annual rate increase included in the contract?
 - a. Yes
 - b. No
 - c. If yes how is the rate increase calculated?
4. Are capital funds addressed in the contract?
 - a. Yes

- b. No
 - c. If yes, how is the rate increased calculated?
5. Do you charge for EMS ambulance transport to the hospital?
- a. Yes
 - b. No
6. How are the ambulance transport fees addressed in the contract?
7. Please check all services that are provided to the contracted community:
- a. Dispatching services
 - b. EMS
 - c. Fire
 - d. Fire Prevention
 - e. Fire Education
 - f. Technical Rescue
 - g. Hazardous Material Response
 - h. Other (please specify)
8. What is the duration of the contract?
- a. Less than one year
 - b. 1 to 3 years
 - c. 4 to 6 years
 - d. 7 or more years
9. What is the number of EMS calls for the following in 2016:
- a. Your community
 - b. Contracted community #1

- c. Contracted community #2 (if applicable)
- d. Contracted community #3 (if applicable)

10. What is the number of all other calls for service for the following in 2016:

- a. Your community
- b. Contracted community #1
- c. Contracted community #2 (if applicable)
- d. Contracted community #3 (if applicable)