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# WOODSTOCK FIRE/RESCUE DISTRICT: ECONOMIC EVALUATION

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NOVEMBER 9, 2018  
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WOODSTOCK FIRE/RESCUE DISTRICT

## Woodstock Fire/Rescue District: Economic Evaluation

**Demographics**

The Woodstock Fire/Rescue District occupies an area of approximately 85 square miles in central McHenry County, Illinois. The District is comprised of a mixture of urban and rural areas, which includes low to medium density residential, manufacturing, industrial, farming, and commercial zones. Sixteen percent (16%) of the district is annexed into the City of Woodstock. The remaining area is considered unincorporated and includes the small communities of Bull Valley, Heartland, and Greenwood.

A special census conducted in 2016 concluded that the population of the City of Woodstock was 25,528 people (City of Woodstock, 2016). Actual population for the fire district is not available, but is estimated to be approximately 40,000 people. This represents 12.9% of the total estimated population of McHenry County, which was estimated to be 309,122 people in July of 2017 (United States Census Bureau, 2017). Residents of the City of Woodstock comprise 63.8% of the estimated population of the fire district. Table 1, below, illustrates the demographic comparison between the City of Woodstock and McHenry County.

*Table 1: Demographic information of McHenry County, Illinois, and the City of Woodstock, Illinois, according to 2017 estimates by the U.S. Census Bureau.*

Race	McHenry County	City of Woodstock
White Only	80.8%	66.9%
Hispanic or Latino	13.1%	23.0%
Asian	3.0%	2.2%
Black or African American	1.7%	2.9%
American Indian and Alaska Native	0.5%	0.0%

## **Revenue Sources**

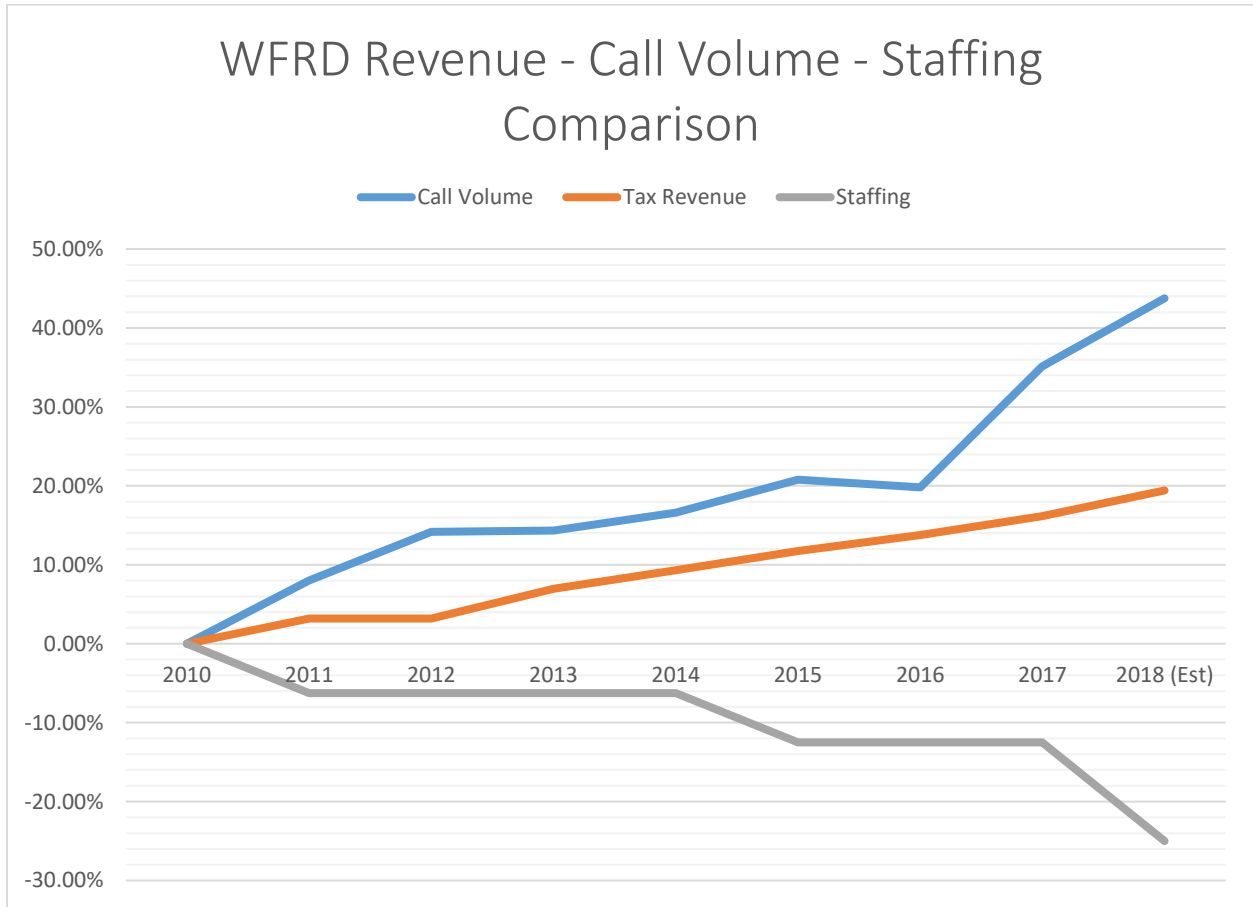
Revenue for the Woodstock Fire/Rescue District is derived primarily from property tax collections. Roughly 15% of the annual projected revenues come from ambulance billing receipts. Sales and income tax revenue is not collected by the district. Property tax revenues are determined by assessing a tax rate on the equalized assessed value of all real estate property in the district. Year-over-year tax levy increases are limited by the Property Tax Extension Limitation Law (PTELL) [35 ILCS 200/18], which limits levy increases to a percentage equal to the Consumer Price Index (CPI) of the previous year, or 5%, whichever is less, plus the value of assessments to new property. Table 2 shows the property tax revenue collected by the fire district since 2010 and the corresponding annual increase (McHenry County Clerk, 2018).

*Table 2: Actual tax revenue collected per year with associated year over year increases.*

Budget Year	Taxes Collected	Year/Year Increase
2010	\$5,150,031.81	
2011	\$5,314,323.09	3.1901%
2012	\$5,314,343.50	0.0004%
2013	\$5,507,875.57	3.6417%
2014	\$5,629,778.91	2.2133%
2015	\$5,754,163.22	2.2089%
2016	\$5,859,644.17	1.8336%
2017	\$5,982,704.43	2.1001%

From 2010 through 2017, property tax revenues increased by 16.17%, all while requests for service (call volume) increased 35.13%, an average of 4.39% per year. In that same time, the district mandated the use of a wireless communication system for fire alarms which resulted in a decrease of nuisance alarms related to telephone line failure. Despite a dramatic increase in service requests, minimum staffing has decreased from 16 firefighters in 2010 to only 12 firefighters in 2018, representing a 25% decline in staffing levels. Further, the district has opted not to fill, or has completely eliminated, the deputy chief, division chief, and administrative captain positions. The inverse relationship in call volume and staffing is related to several economic factors, including declines in property values, a substantial reduction in new home construction, stagnant population growth, and increased operating expenses.

Figure 1: The relationship between tax revenue, call volume, and staffing between 2010 and 2018. The graph excludes all data (revenue, staffing, and calls) related to the IGA with the Village of Lakewood.



Increases in call volume disproportionate to increases in operating revenue impacts the District’s financial condition in multiple ways. An increase in call volume results in a rapid accumulation of miles and engine hours on the District’s fleet. This transcends historical vehicle maintenance and replacement needs, resulting in a sharp increase in fleet maintenance and immediate needs for vehicle replacement. Beyond fleet specific expenses, wear and tear on equipment, replacement of supplies, and other tangible expenses are increased in relation to an increased call volume.

Increases in operational expenses due to call volume, coupled with increases in operating expenses attributed to state and federal mandates, rising personnel expenses, insurance expenses, and other miscellaneous expenses has forced the District to reduce minimum staffing levels, a controllable expense, to offset other uncontrollable expenses.

## **Socioeconomics**

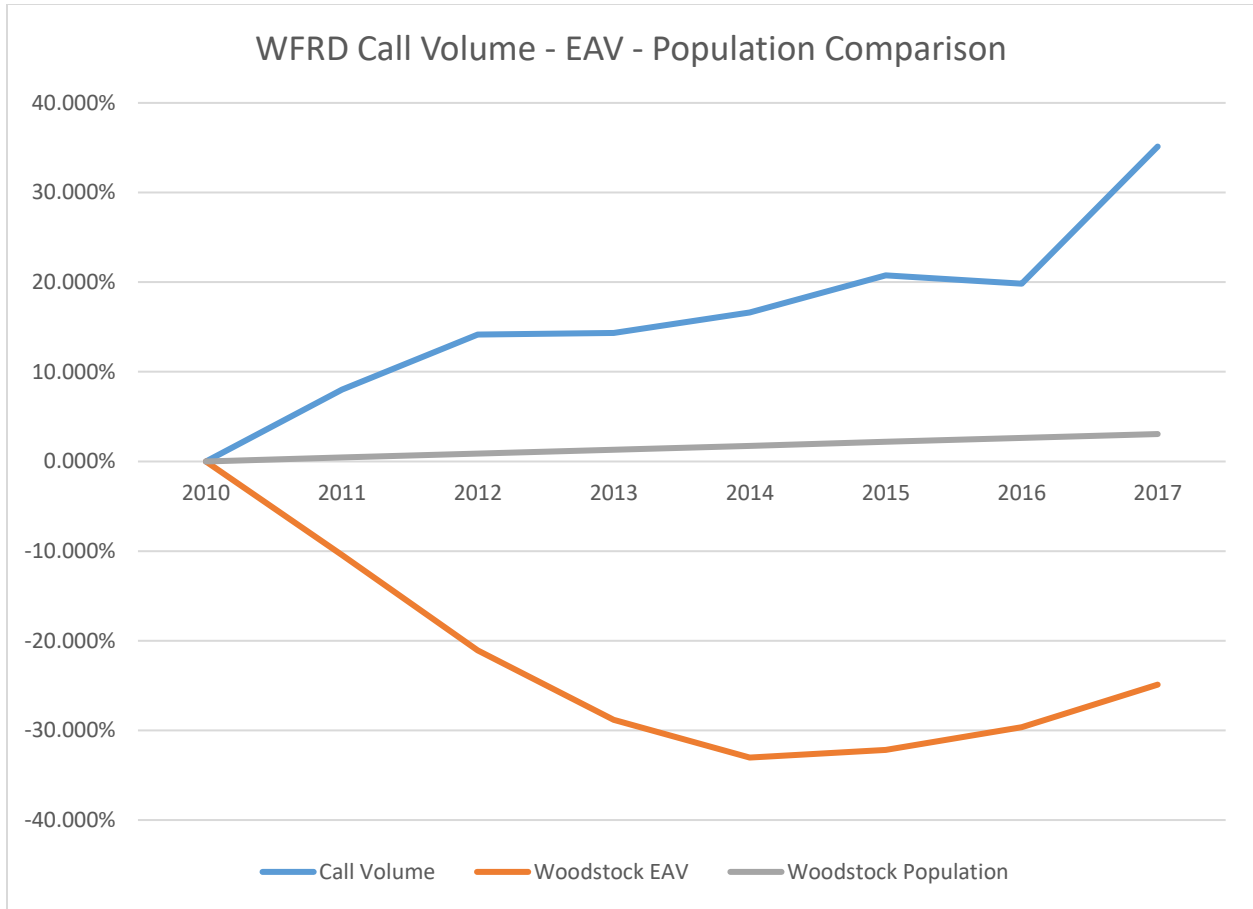
Direct correlations have been established between economic conditions of a community and 911 use. “Our study suggests poverty is a positive, strong, and enduring predictor of ambulance contacts at the neighborhood level” (Seim, English, & Sporer, 2017). An evaluation of a community’s population and equalized assessed value is representative of a community’s overall wealth. Comparative to other fire districts, the study suggests that lower wealth would be attributed to higher call volumes. In order to compare other fire districts, the equalized assessed value (EAV) of a geographic location was divided by the population (capita) that resides within it, which results in an assessed value per individual (EAV/Capita). A low EAV/Capita represents a higher density residential population amid lower land values. These circumstances are frequently attributed to low income or impoverished regions. A ratio of EAV/Capita to Call Volume was then established.

This evaluation metric is representative of the entire district. In truth, we tend to see high-density, low-value residential pockets that impact the overall wealth of the community. For instance, a low-income pocket of a community is more likely to be represented by apartment complexes than farmland. Therefore, communities will likely have high-density, low-income pockets that excessively use the 911 system. For taxing districts, such as the Woodstock Fire/Rescue District, that derive the majority of its operating revenue from property taxes tied to property value, the district can predict high demand for service with disproportionately low operating revenue.

The graph on the following page illustrates the relationship between the district’s EAV and call volume between 2010 and 2017. Note that the population remained relatively constant during the time period, thereby decreasing the EAV per capita each year, which corresponded to increased call volumes.

# WOODSTOCK FIRE/RESCUE DISTRICT: ECONOMIC EVALUATION

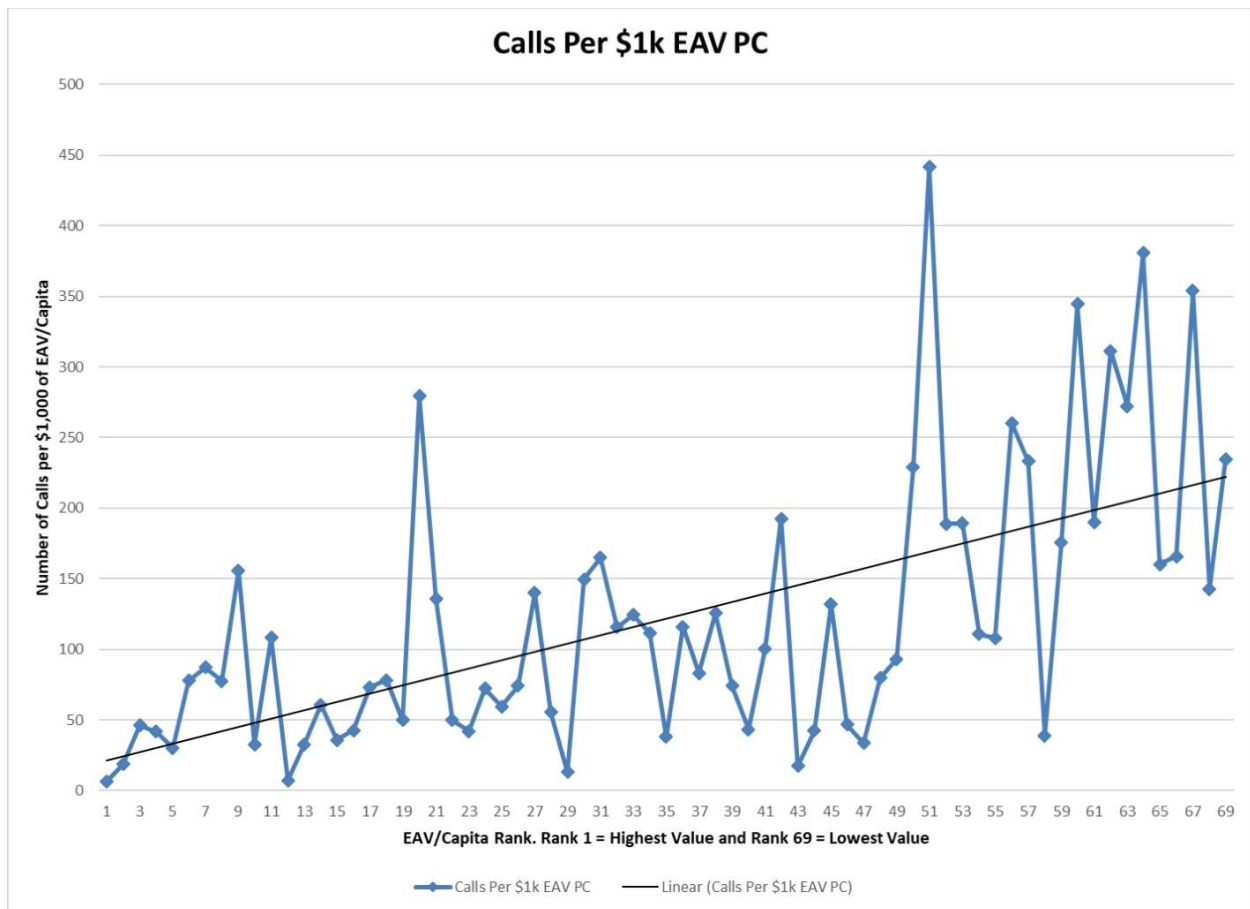
Figure 2: Comparative analysis of call volume, total equalized assessed value, and population for the Woodstock Fire/Rescue District between 2010 and 2017.



WOODSTOCK FIRE/RESCUE DISTRICT: ECONOMIC EVALUATION

A comparative analysis was performed in April of 2017, evaluating the EAV per capita metric in other fire districts in the State of Illinois. Municipal fire departments were excluded since portions of their operating revenue may be derived from sales tax, local income tax, or other sources. The evaluation found an obvious correlation between EAV per capita and call volume in other fire districts in Illinois. When plotted as a ratio of EAV/Capita to Call Volume, there is a distinct trend line showing that communities with lower wealth (lower EAV/Capita), tend to have higher call volumes. Coincidentally, of 69 Illinois fire districts evaluated, the Woodstock Fire/Rescue District ranked 29<sup>th</sup> for EAV, but 10<sup>th</sup> for call volume. The ranking of 56<sup>th</sup> for EAV per capita, compared to 10<sup>th</sup> for call volume, demonstrates a clear inverse relationship, supporting the idea that low-income populations result in an increased demand for service.

Figure 3: The correlation between call volume and EAV per capita results in a trend line that suggests districts with lower land value compared to population density results in a disproportionate increase in call volume.



WOODSTOCK FIRE/RESCUE DISTRICT: ECONOMIC EVALUATION

The data is further represented by the chart below. The chart lists WFRD in addition to the top three, bottom three, and middle three departments, by ranking of EAV per Capita.

Acknowledging occasional outliers, the top three ranked districts average 23.73 calls per \$1,000 of EAV per capita. Conversely, the bottom three ranked districts in the same category average 243.70 calls per \$1,000 of EAV per capita. Further supporting the trend are the middle three districts, with an average of 91.47 calls per \$1,000 of EAV per capita.

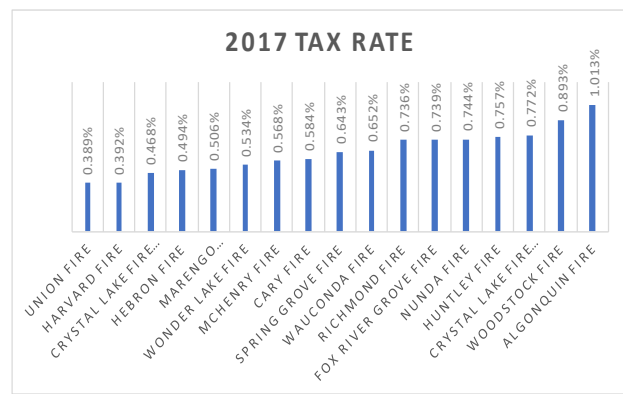
Local FPD	EAV	NFIRS Total Call Volume	Call Rank Amongst Group	Year of NFIRS Analyzed	Population	EAV Per Capita	EAV Per Cap Rank	Calls Per \$1k EAV PC
Byron FPD	\$632,318,612.00	1162	59	2015	3600	\$175,644.06	1	6.6
Coal City FPD	\$788,500,320.00	1547	53	2015	9500	\$83,000.03	2	18.6
Lincolnshire-Riverwoods FPD	\$1,135,725,627.00	3077	27	2015	16989	\$66,850.65	3	46.0
Lemont FPD	\$1,076,179,103.00	3350	20	2015	40000	\$26,904.48	33	124.5
West Chicago FPD	\$736,505,142.00	2995	28	2015	27507	\$26,775.19	34	111.9
Hampshire FPD	\$181,914,187.00	1017	62	2015	6800	\$26,752.09	35	38.0
Woodstock FPD	\$616,457,352.00	4281	10	2015	37500	\$16,438.86	56	260.4
North Maine FPD	\$261,880,328.00	3311	23	2015	28000	\$9,352.87	67	354.0
Beach Park FPD	\$122,153,287.00	1291	57	2015	13500	\$9,048.39	68	142.7
East Joliet FPD	\$123,925,803.00	1614	50	2015	18000	\$6,884.77	69	234.4
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Total								



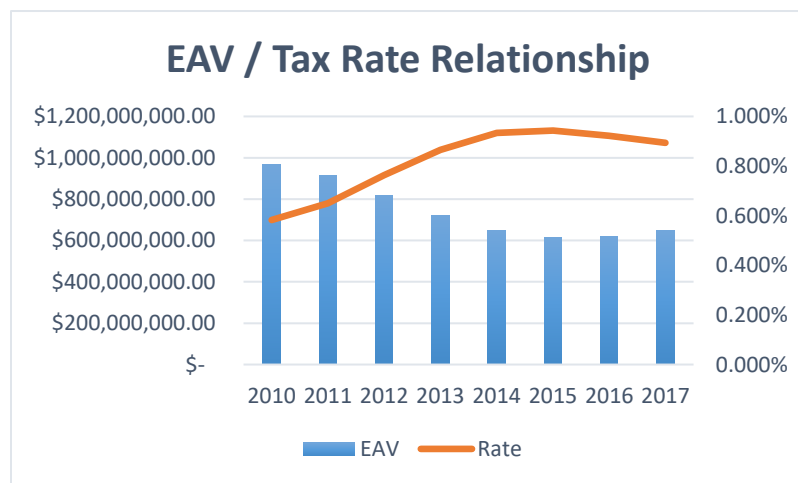
**Other Revenue**

One additional source of revenue for the District is from impact fees tied to new construction building permits. In 2006, prior to the recession of the real estate market, the City of Woodstock issued 314 new residential building permits, 8 commercial permits, and 1 industrial permit. Since 2006, the number of building permits issued decreased annually, to a low in 2017 of 44 residential, 0 commercial, and 0 industrial. The number of permits issued corresponded to \$80,779 in impact fees to the Woodstock Fire/Rescue District in 2006, compared to \$12,785 in 2017 (Limbaugh, 2018).

Further, the value of new construction and building additions can be inferred to represent a similar increase in assessed value of real property within the District. The applicable tax rate is assessed on the new growth and increases the District’s tax revenues outside PTELL limitations. In 2006, the total value of new property, including additions, was \$39,589,960. The corresponding tax rate during that time was 0.4866%. This equates to a tax revenue increase of \$192,644 to the tax district in 2006. Conversely, the total value of new property in 2017 was \$3,091,315 with an associated tax rate of 0.9132%, totaling \$28,229 in new tax revenues (McHenry County Clerk, 2018).



The decline in the real estate market had further effects on the District, including its inherent tax rate. The Woodstock Fire/Rescue District has the second highest tax rate of all fire districts in McHenry County. The significant decline in real estate property values (EAV) while tax revenue remained flat or saw modest increases, resulted in a skewed tax rate.



**Findings:**

The Woodstock Fire/Rescue District is generally undercapitalized to meet the industry standard for fire, rescue, and emergency services. NFPA 1201 now refers to fire departments as Fire and Emergency Services Organizations (FESO) and lists a multitude of common services provided, including, save lives, prevent or mitigate fires, injuries, and emergencies, extinguish fire, minimize damage to property and the environment, protect critical infrastructure, perform emergency medical services, protect the community from other hazardous situations, perform response to and mitigation of events of terrorism, perform rescue services, and perform other community-related services (Carter & Rausch, 2017). The cost to render these services, coupled with annual expenses increased in excess of CPI, results in an unsustainable economic condition.

In an attempt to reduce and control expenses, staffing levels have been reduced by 25% in the past eight years, administrative positions have not been filled, and critical capital expenditures have been avoided. In order to meet community expectations for fire protection and emergency medical services, WFRD must increase operating revenues.

Report Submitted By: Scott Wessel on November 9, 2018

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