

# **2020 Guilford County Farmland Protection Plan**

## **Appendices**

**Appendix A**  
**Guilford County Agriculture Economic Report**

## Guilford County Agricultural Economic Report

Agriculture and Agribusiness — defined as food, natural fiber and forestry — account for more than one-fifth of North Carolina's income and employees. The industry also contributes jobs and income in Guilford County. In 2008, Mike Walden, an economics professor at NCSU reported that total income for Agriculture and Agribusiness related industries totaled, \$2,644,862,542, 10.3% of the share of Guilford county value added income<sup>1</sup>. Total Agricultural/Agribusiness Employment was 42,585, was 11.8% share of Guilford county employment in 2008.

### Agriculture Challenges

Absence of a Cash Crop: Certainly you cannot discuss Agricultural Economics in the Piedmont of North Carolina without first talking about the challenges farmers have faced over the last decade as they adjusted away from the cash crop of tobacco and the federal allotment system<sup>1</sup>. To sit down and discuss economics with Guilford County Farmers and Guilford County Agriculture Businesses, Tobacco always emerges as the first topic of discussion. According to the Guilford County Farm Service Agent, "At its peak Guilford County had 5500 acres of tobacco grossing close to \$20.6 million when the entire farm economy in Guilford County was approximately \$60 million. Even now tobacco is still the top crop, dollar wise. In 2010 Guilford has about 2100 acres for approximately \$8.75 million annually. That's a significant drop. The only other high value crops are perishable or in the nursery industry, both are high risk with a limited time to market and few bulk buyers" Nationally tobacco acreage per farm averaged around 5 acres per farm throughout the 1980s and reached a national high of 9 acres per farm in 2002<sup>2</sup>. Guilford County had averages closer to the North Carolina average of approximately 20 acres per farm. The income from Tobacco was a significant source of income for many Guilford County farm families. Tobacco averaged around \$9,000<sup>3</sup> per acre<sup>4</sup> in 1980 (adjusted for inflation).

High Land Values: Four different farmers commented during interviews, "It seems like the only way to make money off our land these days is to plant houses". According to the Guilford County Agricultural agencies the most common crops grown are corn, soybeans, and wheat. These commodities typically bring in \$200-450 per acre<sup>5</sup>. Without a replacement cash crop that bring farms a similar rate of return on acreage that is higher than the value of the land, farmers will continue to look at the land's value as their only remaining source of income. These high land values make it exceptionally challenging for new farmers to buy into the business of farming if they do not inherit land.

Lack of Profitability: Simply put an area agribusiness man stated, "Farmers have got to make a profit to stay on their land." Factors that affect farm profitability are declining revenues from farm commodities, rising input costs such as fuel, feed, fertilizer, and equipment, and

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<sup>1</sup> <http://www.ces.ncsu.edu/depts/agecon/counties/guilford.pdf> 2008 value-added, which is the production value using inputs from Guilford County

<sup>2</sup> *Trends in U.S. Tobacco Farming* Economic Research Service/USDA

<sup>3</sup> See appendix \_\_\_ for economic graphs noting Tobacco per acre adjusted for inflation

<sup>4</sup> Note: farms were limited on production acres based on tobacco allotments. See Endnotes.

<sup>5</sup> See appendix \_\_\_ for economic graphs noting Corn, Soybean, and Wheat prices per acre in 2009

business operating expenses such as labor, maintenance, and taxes<sup>6</sup>. Most Guilford County Farmers already own their land, but land values should be a backdrop as commodity prices are analyzed. Making a profit on the land is a considerable challenge for the Guilford County agricultural sector as farm revenues have been in a state of decline over the last decade.

According to numerous business managers interviewed in the loan industry, “Farmers are having to manage their expenses, and there doesn’t seem to be enough consistency in the marketplace to adequately budget and meet debt obligations. We’ve seen profitability in all agricultural sectors decline. It is becoming very difficult to make a living farming according to what we are seeing on their record books. Those without a secondary source of income (off the farm) are really struggling.”

Charting historic trends in farm commodities and adjusting for inflation paints a bleak economic picture for the business of making profits off of the land. The average land price per acre for rural farmland sold for farmland in 2007 \$5,300 per acre<sup>7</sup>. Many farmers interviewed will tell you they expect to pay about \$6,000 - 8,000 an acre if they want to expand their operations<sup>8</sup> while expressing an intention to get \$8,000-\$10,000 an acre off of the land that they currently own.

Corn brought in an average of \$460 per acre in 2009, soybeans \$330 per acre, and wheat \$220 per acre<sup>9</sup>. “It costs about \$350-\$400 an acre of input costs for corn by the time you buy the seed and spread the fertilizer and maintain the crop through the growing season. A good crop of corn brings in about 100 bushels per acre and sells for \$4.00 a bushel. That makes the math easy. Farmers are just breaking even.” stated a milling company owner. The equipment and labor costs associated with planting, maintaining, and harvesting were challenging to fully quantify as they varied for each farm<sup>10</sup>. Farm net income is tracked as part of the Census of Agriculture. Net Income has gone from an average of \$60,000 in 1999 to \$442.00 in 2008<sup>11</sup>. Many farmers validated this trend by stating they had sought other forms of income off the farm. One mechanic stated, “I do this so I can support my farming habit.”

Livestock has also been challenged by declining revenue. One farmer stated that, “It used to be that cows were your bank account. When you needed money you sold cows. Now everybody needs money and cows aren’t worth much.” In 1973 and again in 1979 a 500 pound cow was worth over \$1700 (adjusted for inflation for 2010 dollar comparison). In 2009 a 500 pound cow sold for \$700. Cattle glutted the market when the recession hit, coupled by a

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<sup>6</sup> The heaviest burden of tax on the Guilford County farmer mentioned during interviews was the estate tax.

<sup>7</sup> See appendix \_\_\_ for Study of Farmland Prices. Considerable variance exists in land values dependent upon a variety of factors such as proximity to services, roads, water bodies, land use, whether it was sold at auction, etc

<sup>8</sup> Interviews took place in from Nov 2009-May 2010.

<sup>9</sup> See appendix \_\_\_ for economic graphs noting Corn, Soybean, and Wheat prices per acre in 2009

<sup>10</sup> Farmers interviewed had considerable differences in equipment, age of equipment, type of equipment, etc. Farmers also use different methods for land prep and land maintenance (fertilizer costs are increasingly high, some elect to not fertilize, while others fertilize less with high prices). Gas prices were also highly variable and few farmers were able to quantify their fuel costs from year to year, but all stated they were high. Combines used for harvesting can cost \$300,000 new.

<sup>11</sup> See appendix \_\_\_ for economic graphs noting “Net income for Farming including Corporate Farms in Guilford County”

significant drought in 2007 which forced many farmers to sell when they suffered hay and forage shortages. Cattle revenues have been in decline since 2004.

There is currently only one hog operator in Guilford County, who is down from 10,000 hogs to 4,000. This operator is a contract grower with Murphy. Like poultry, Murphy owns production and packing and drives the price of large weight hogs along with Smithfield. The independents were driven out of business years ago, because competition was too fierce and North Carolina no longer has an independent slaughter facility. The only place to market independent hogs for commercial growers is Tennessee. Environmental laws make it challenging to put in new houses, so the hog industry in Guilford is not expected to grow.

Dairies in Decline: In 1985 there were \_\_\_ dairies. In 2010 there are six. “Dairy farmers are really struggling” was a common sentiment stated by farmers, agribusiness retailers, and county agricultural personnel. Bulk milk prices have been on the decline since 1985 when adjusting for inflation, with the exception of 2007 when milk prices spiked to historic highs then rapidly fell in 2008 and again in 2009 to their lowest (adjusted for inflation) amounts in 25 years. Milk prices don’t tell the entire story. Variances in fuel, feed, processing technologies, labor, cow prices, waste, etc all factor into profitability, and the lack there of. Dairy farmers complain about a variety of factors leading to their industry’s decline. Some considerable policy challenges exist on the national stage as farmers complain nationwide that there are too few choices as to where to sell their milk as two multinational conglomerates control the bulk of the milk market<sup>12</sup>. One agribusiness manager put it this way, “Some of it is poor commodity prices, some of it was just plain bad management, and some of it is inflated real estate market. You get all three of those at once, and the dairy’s don’t stand a chance”

Urban/Residential Encroachment: In many cases, farmers could make sufficient income off of a few acres of tobacco, but grain, corn, and soybeans require more land to turn a profit. Farmers in Guilford County may not have sufficient land mass to maximize their economy of scale. And it can be inefficient to run a tractor down the road to farm another 20 acres. Residential neighbors pose liabilities. Roadways are more dangerous as traffic increases. Complaints about odors from chemical or waste application pose a considerable challenge to neighbor relations. Farm ponds become liabilities for trespassing youth.

Farm infrastructure is less local. The infrastructure associated with the business of farming is dwindling. Local markets to sell commodities have closed, forcing farmers to haul their goods to other parts of North Carolina and Virginia. The only independent hog slaughter is now in Tennessee, more than a 5 hour drive for a Guilford County independent swine producer. Livestock producers must travel to Siler City or Mount Airy to sell their cattle. Grain can be sold in the county, but there is limited demand and storage, most farmers take their corn, soybeans, and small grains to Raleigh. As transportation costs increase, long distance travel to market commodities could make farming even less profitable.

Access to large animal veterinarians, parts and repair services for equipment, and farm supply retail have been identified as infrastructure to watch, but most farmers interviewed did not consider this as much of a challenge. Neighboring counties have identified large animal

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<sup>12</sup> <http://online.wsj.com/article/SB125314377665317635.html> Most recent article on anti-trust coverage from Wall Street Journal on Dean Foods and Dairy Farmers of America.

veterinarians or the lack there of as a limitation. Guilford County has a strong equine industry allowing a more consistent demand for veterinarians who can service both horses and cattle.

Farm Management: “The good old days of taking your product to market are gone. Farmers have to look at input costs, spend time analyzing federal programs, their eligibility, requirements for reporting, disaster programs, insurance, etc. It’s an expensive mix.” Farmers stated paying more attention to futures markets. Access to the internet and global marketplace sheds new light on what is coming. But with any generation, it is tough to calculate in all of the variables associated with farming, especially with respect to weather (rain, drought, frost, etc) and pests. “Few farmers like to sit down with a pen and paper and determine how to use their capital properly” stated one loan officer. “You can be broke before you know it, unless you’re willing to manage smarter. Today’s market is forcing farmers to manage their books more than ever. Profit margins are smaller, there is less tolerance for error”

Global Economy: Fertilizer retailers expressed concerns over international demand for potash, phosphate, and some chemicals. China is increasing demand on a supply that may find itself limited, which will only lead to higher fertilizer costs. High fuel costs also drive fertilizer costs higher. In recent years, fertilizer has doubled. This will continue to put increasing pressure on profit margins as the commodity pricing can be slow to show higher input costs. Larger farms have more control over input costs. Farms in excess of 600 acres are few and far between in Guilford County as opposed to Eastern North Carolina counties. “This area is so chopped up from Tobacco farming, where a man could make it off of 70 acres with 20 acres of Tobacco. That used to be enough for a family of four” stated one agribusiness retailer. “Higher volume farms have more control over input costs and can spread their input costs around.” Smaller farms may need to consolidate further, however, due to the lack of connectivity and distance between many available farms, this may not be a viable choice for many Guilford County farmers. Farmers must contend with international pricing for commodities. “Commodity prices are set and the international market doesn’t look at whether you have 50 acres or 5,000 acres, the prices are the same. 200-300 acres is a big farm around here”.

## **Trends in Guilford County Agriculture**

Guilford County Agribusiness retailers consistently stated a common observation; they have fewer customers, and the ones that remain have grown their businesses into larger farms. One retailer stated, “Farmers are better operators and better businessmen. They have to be. Margins are slim. You could be a below average tobacco farmer, but not anymore. The companies will cut you off if your product isn’t good.” Agricultural Retail has adjusted in some parts of the county to changes in land use, increasing market share in lawn/garden sector and away from commercial agriculture. “I get a better margin off a bag, than I do off of bulk” stated one store manager of an agribusiness retailer. Retailers state they sell to fewer farmers, but more have more mini-farms whose owners are more residential in nature looking for a “rural lifestyle”. These mini-farms are typically 10-20 acres.

Agribusinesses are doing more chemical application. Three retailers stated that this is due to the technicalities of spraying, the new advanced technologies that are cheaper to rent than buy, and many farmers don’t want to get involved in the legalities and liabilities of chemical

application. Many have too many houses nearby and see spraying as a liability they would prefer to outsource. The fertilizer technology hasn't changed much, but "farmers are getting smarter about what their soil needs for inputs" stated one applicator familiar with new GPS technology.

Agribusinesses stated they are seeing more farmers go organic. Tobacco growers can make more money growing organic tobacco. It is still less than 2% of business, but the farmers that have tried it have stated that more consumers are demanding an organic product. Two of the grainaries that supply the horse industry stated that they are seeing a trend in natural feed products. This is offering them some diversification and is meeting a niche market demand.

Strawberries are a growing market. One retailer stated they had a 15% increase in acres over the last five years.

Vegetables are also a growing market. A seed retailer stated that they sold twice as many vegetable seeds in 2009 than they did in 2008. Many customers are buying their own chickens as well. The retailers attributed this to the mini-farms and rural residential customers buying into what they term as the "rural lifestyle" purchasing trends. A market the retailers are capitalizing upon. "We used to throw out potatoes, now we order them two or three times just to keep them in stock". Another retailer stated, "We're running out of canning supplies. I'm seeing sales for canning supplies like we saw in the 1960s. Probably because of the food safety concerns. More people want to know where their food comes from, plus the recession has tightened people's pocketbooks. They'd rather grow and store their own food."

Equipment mechanics state that they consistently see old equipment. "Most farmers can't afford new equipment, so we repair tractors they purchased in the 1970s when profits allowed them to upgrade. A new piece of equipment is ten years old."

Agribusiness retailers spent a lot of time talking about the trends in technology, especially with respect to seed technology changes and the yield advances that have occurred over the past decade. "Seed technology is changing constantly. There are high oil corns, low oil corns, diabetic seeds, drought tolerant seeds, and high tech soybeans are just around the corner. We are selling less fertilizer and more high tech seeds" stated one store manager. The bulk of the seed sold in Guilford County is treated according to salesmen interviewed. Specialized equipment runs the seed through a coating mechanization that applies fungicide and insecticide directly to the seed. These protect and safeguard early seed development. Genetically modified seeds are also sold that have proprietary rights from the companies that produce them. The genetic changes in the seeds change the way the chemicals are needed to reduce pests and weeds. One seed retailer said 90% of their seed sales are genetically modified seeds. The only time they sell conventional seed is when a farmer has gotten into trouble with the seed manufacturer. One salesman said, "I used to see 80-90 bushels (corn) per acre in the 1980s, now they are getting 120".

Agribusiness retailers stated that planting trends have changed since the tobacco buyout. "I thought we were sunk after the tobacco buyout. We lost about 60% of our tobacco business that first year, but I was really surprised by how many people went into beans (soybeans). After the tobacco buyout customers went from planting 40 acres of tobacco to 300 acres of beans. We sell a lot of fertilizer for those beans". They also stated seeing wheat crops increase after the

tobacco buyout. Retailers adjusted to the changing trends. Many diversified into lawn and garden to also meet growing demands from the mini-farms or “rural lifestyle”. In Summerfield, one retailer stated, “Tobacco declined, but lawn and garden filled in the gaps”.

More farmers are developing more savvy marketing skills especially with respect to their specialty crops. A Guilford County Agricultural Agent stated that they have seen an increasing demand for marketing assistance and marketing related questions. “Specialty Crops like vineyards, cheese, fruits, and local produce must now become an expert on marketing in addition to producing. Our farmers are wearing a lot of hats to make it in today’s economy”

## **Opportunities for Agricultural Economic Growth**

Nearly all participants in agribusiness industry who were interviewed felt that the local food economy offered the most potential for future economic growth. However, few new how all farmers could respond into the various niche vegetable markets.

All interviews spent time discussing the need for farmers to diversify, but few were able to give specific examples of diversification on a large scale. There are farms that are experimenting with an ornamental landscape market, berries (blackberries, strawberries, roadside stands). Some interview participants stated having farmers ask more questions about cotton and fisheries. Cotton used to be grown in Guilford County. Chemical retailers have seen an increase in wineries. Supply retailers have seen a slight increase in vegetable demand, but more at the garden and mini-farm level than large scale changes in agriculture.

Horses were discussed frequently as an emerging market, but graineries who have sold to the horse industry for years said that the last few years have seen a considerable drop in people who have money to spend on keeping a horse fed. Some of the horse rescues have been overwhelmed. And the best horses are not selling for what they used to. Small mammals such as goats have increased and free range chickens and eggs sales are up as a secondary income for some farms. A more consistent market for vegetables and farm fresh products is needed to offer growth in the local food market place.

Technology was seen as a future opportunity for economic growth. Many agricultural technologies in seeds and chemicals are increasing yields. This is necessary as input costs increase and commodity prices stay stagnant, yield increases are the only remaining opportunity to support economic growth. However, technology often has a price in that the better seeds and chemicals are priced higher due to their higher productivity.

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<sup>i</sup> The Tobacco allotment program limited the quantity of tobacco grown in the United States by assigning marketing quotas to holders of tobacco allotments. Supply was managed by setting annual quotas in line with expected demand for leaf. Quotas were apportioned to allotment holders based on historical production patterns that existed in the 1930’s at the program’s inception. A tobacco quota was defined as the right to grow and market tobacco. After the 1960’s, tobacco quota owners were allowed to rent or lease quota to others. Because tobacco returns were so lucrative, a tobacco quota was a valuable capital asset. A quota for a pound of tobacco was worth the difference between the price and the economic cost of producing it. Many owners of quota did not grow tobacco. About half of the tobacco quota was used



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by the people who owned it. The other half was rented to farmers for either cash payments or shares. Without the supply limits mandated by the program, producers would have grown considerably more tobacco, pushing down market prices and returns. This quota system existed between 1938 and 2004 when it was abolished as part of a national tobacco policy change and farmers received buyouts to compensate for the loss of their asset.

Appendix B  
**Study of Guilford County Rural Property Values**

Study of Guilford County Rural Property Values  
And Property Tax Rates  
1950 to 2010

Prepared for:

The 2010 Guilford County Farmland Protection Plan

Prepared by:

Piedmont Conservation Council, Inc.

Through a Contract with William B. Peete, Natural Resources Consultant

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The Piedmont Conservation Council, Inc. (PCC) acquired a grant from the North Carolina Agricultural Development and Farmland Preservation Trust Fund in 2008 to conduct a Guilford County Farmland Preservation Plan. PCC, and its partner agencies, Guilford County Soil and Water, NC Cooperative Extension, Guilford County Farm Bureau, Piedmont Land Conservancy, and the Guilford County League of Women's Voters, collaborated to execute the plan. It was determined that a study of the evolution of agricultural land prices in Guilford County compared to the evolution of the Property Tax Rate in the county would be helpful to analyze possible stress on farming practices in the county. This report acts to survey that evolution of property values and property tax rates to provide a basis to analyze any changes in agriculture in Guilford County since 1950.

## **Rural Land Value Component**

The survey commenced by identifying sources from which to extract the data necessary to complete the analysis. Prior to this report, no database existed that lists an average value of property in Guilford County over the past six decades. Further, no list exists with Guilford County property tax rates extending back earlier than 2004. Utilization of personal interviews, property deeds, county annual budgets, microfiche records, internet sources and government pamphlets supplied the information contained within this report. Analysis of these various sources led to the conclusions regarding Guilford County property values found at the end of the document.

The first order of business was to compile a list of property values of rural tracts in Guilford County throughout the past six decades with which to calculate an average price per acre of rural land approximately every five years since 1950 with which to graph a trend in that price. From 1950 until 1959 and again from 1978 until 2007, data from the United States Census of Agriculture was used in the graph. Prior to 1992 the United States Census Bureau and after 1992 the United States Department of Agriculture's National Agricultural Statistics Service (NASS) conducted the Census. The Census is conducted by sending surveys to the nation's private landowners approximately every five years to determine the state of agriculture in our nation. The surveys are also supplemented by visits to many of our nation's farms by USDA staff. Among many things, the survey asks the landowners to reveal the appraised value of their property and buildings. Since 1950, first the Census Bureau and later NASS, have received over 85% of the surveys in each of the census years, therefore the data collected in these surveys is statistically significant due to the high return. The data is broken down by State and by County in the Report which is compiled by government agencies uninfluenced by any incentives to inflate or deflate land values, making it one of the best sources of Guilford County agricultural land prices available. The Census of Agriculture was conducted in 1950, 1954, 1959, 1964, 1969, 1974, 1978, 1982, 1987, 1992, 1997, 2002, and 2007, however, it was not possible to

obtain copies of the North Carolina and Guilford County data from the 1964, 1969, and 1974 Censuses.

In order to fill the gaps created by the lack of Census data available from 1960 to 1978, property deeds in the Guilford County Register of Deeds and microfiche records from the Guilford County Tax Department were examined to calculate average land prices. All properties in Guilford County are appraised by the Tax Department at least every eight years to determine property values. The county property tax rate is applied to the current appraised value of each property in order to collect revenue to run the County Government. The Tax Department kept rather thorough, yet incomplete, microfiche records of those property valuations in 1964 and 1972 in order to document the value of all property and assist in the subsequent valuation. Guilford County is broken into 16 townships which all differ in their property value base depending on how far each is located from the urban centers. Fourteen of the townships were considered rural in the 1964 and 1972 valuations. However, Deep River Township's records from 1964 and Washington's, Rock Creek's and Sumner's records from 1972 have gone missing and could not be used in the data collection. While these records are incomplete, and were generated by a perhaps biased government agency that is charged with the task of optimizing the tax revenue generated within the county, these appraisals do portray a consistent form of valuation throughout the county in a given year. Also, these tax valuations are the most complete record of property values of the entire county which still exist; therefore, these records are the best option as a basis of property value during that decade time period.

To calculate an average rural land price in 1964 and 1972, all properties over 40 acres in size were grouped by township as well as year. Then, three property cards from each of the available townships in these two sets of years were randomly selected, following which the appraised value of each tract and the acreage of that tract were recorded in a table. Next, a 1964 average price per acre in each township was calculated using the three properties within each township, and the same was completed using the 1972 data. Two outliers were identified following the calculations of each township's average price: Friendship Township in 1964 and Jamestown Township in 1972, likely a result of the random selection and incidentally drawing three properties with inflated values due to ideal development potential. Particularly, Jamestown Township in 1972 was a rural/urban interface, and therefore it is questionable whether it should have been considered a rural township. Finally, after excluding the outliers, an average rural land price per acre in 1964 as well as 1972 was calculated using the available township average prices.

Ideally, to obtain a more statistically significant average, more than three properties in each township in both valuation years should have been utilized to calculate the average prices. Hundreds and perhaps thousands of 40 acre plus tracts existed in each township during these two years, indicating that three properties is a very small sample size; however, three properties from each township had to suffice due to the availability of resources. At the time of this study, only one microfiche reader was available in Guilford County's government complex and the

competition for its use limits any one person's use of the machine. Further, these microfiche records were available from the vault for only a limited time thanks to the enormous generosity of the Tax Department and the extraction of such data from microfiche is quite burdensome and time consuming. As for other complications, efforts were made to pull the same three properties in each township in 1964 as would be pulled in 1972 to keep the subject properties consistent, but it was impossible. Since properties frequently changed ownership or fragmented, and even in some cases properties expanded, it was too difficult to find three tracts in each township that remained the same from 1964 to 1972. Such resulting error is most likely evident in that price calculated in 1964 when compared to the price provided in the 1959 Census of Agriculture. There is no indication by U.S. Treasury records that inflation or recession caused an obvious decrease in property value from 1959 to 1964, but our calculation indicates that happened. Still we confirm our use of the microfiche records since it is the best record at our disposal and does not significantly skew the trend in prices from 1950 to 2010.

Various property deeds were also pulled from the Register of Deeds database search in the years from 1950 through 1980 to supplement the Tax Department data, but these records are organized by the last name of the property owner and not by the property size and location. Thus, this was an ineffective method to find properties to use in the calculations. Also, many of the deeds lacked information on the exact sale price of the property during the year that it changed hands. Only a few of the properties which were pulled included a record of the excise tax stamp paid when recording the property transfer. When there was record of the tax stamp paid, it could be used to determine the value of the land in the year it was sold, assuming the property was sold at fair market value. In such a case, the excise tax was \$1.10 per \$1000 of the sale of the property from 1950 to 1969, \$1 per \$1000 from 1969 to 1991 and \$2 per \$1000 from 1991 to at least 2010. Since this method was quickly determined to be an inaccurate calculation of property value, it was only used so much as to offer some assurance that the other methods were accurate in their calculations. The deeds which were pulled are included in the appendix simply for reference. Purely just for the purpose of mention, one such deed indicates that a 155+ acre property in the Rock Creek area was merely worth twelve dollars and eighty-seven cents per acre in 1949.

Interviews with various Guilford County Tax Department employees also supplemented the calculations of land prices in the late 1960s, 1970s, and early 1980s, but only for accuracy assurance. Alan Myrick, the current Assistant Assessor of Real Estate was truly helpful in sharing all possible resources available to him which indicated land base rates during this period to the present, as well as to glance at the calculations and share his professional opinion. Also, Al Welmon, the former Director of the Appraisal Division of the Tax Department for much of the 1970s and 1980s, generally confirmed those property calculations relating to his era during a telephone interview.

From 1988 on, the Guilford County Tax Department either began to calculate, or at least still has record, base land rates in each township during each of the property reevaluation years.

Since 1988, the Tax Department still considers seven of the 16 townships to be primarily rural in nature, and has provided the average price per acre within those seven townships for the years 1988, 1996, and 2004 for this study. Then, an average price per acre for the county was calculated using these seven base rates.

Using the average price per acre in each of the years that the Census for Agriculture is available, the two years of averages calculated using microfiche data, as well as the years which base rates were available, a table was generated comparing the year and average rural land price per acre in that year. Then, the data in this table was graphed on a scatter plot to display the following trend in land prices from 1950 to 2007 indicated by Chart 1. Next, the prices were adjusted for inflation using multipliers, provided by the United State Department of Treasury database, so that all of the prices in the table would reflect the purchase power of the 2010 dollar. This purchase power indicates a more direct comparison in land prices from 1950-2007 shown by Chart 2 which includes a linear trend-line that highlights the correlation.

Chart 1: Average Rural Land Price per Acre in Guilford County 1950-2007

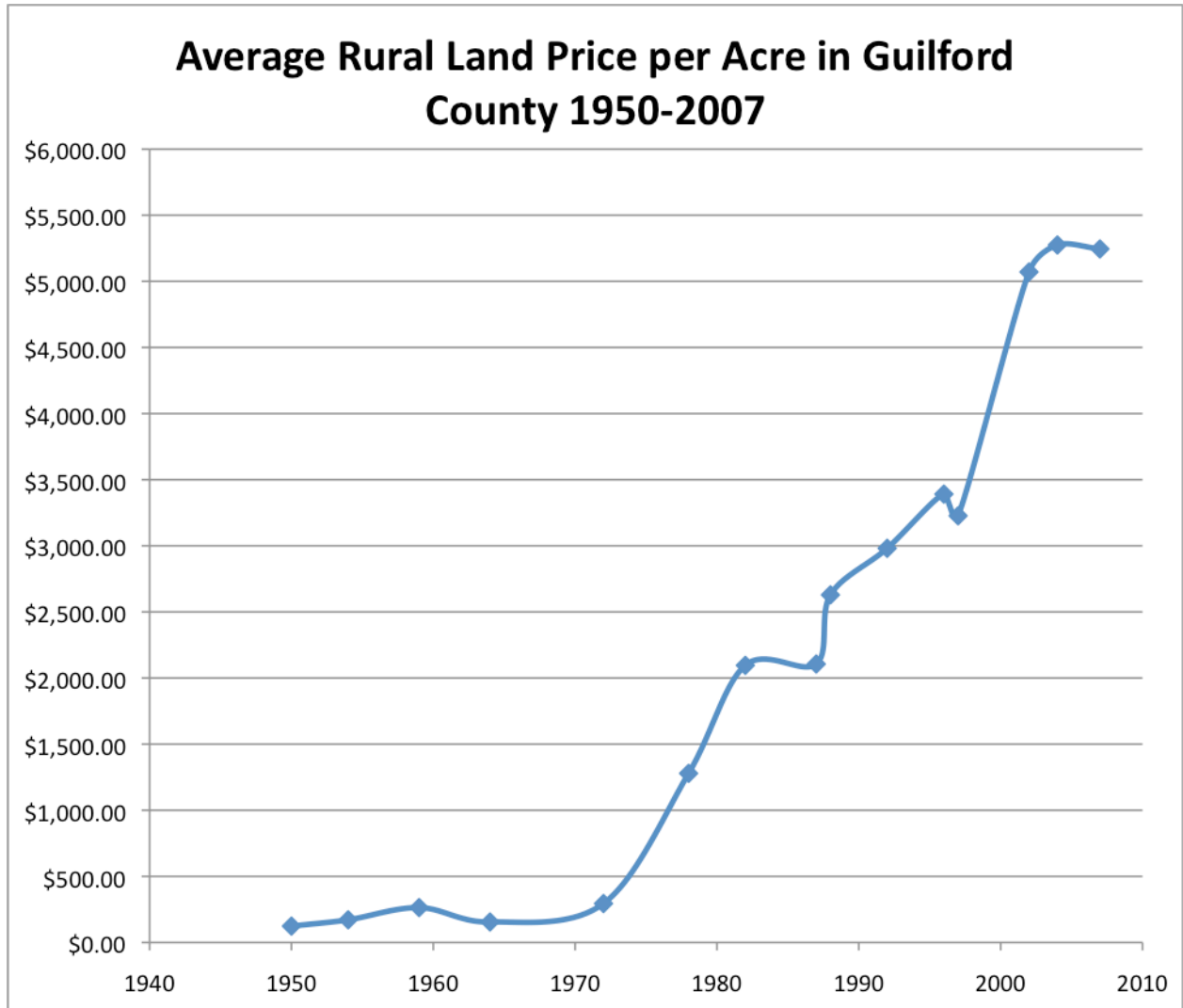
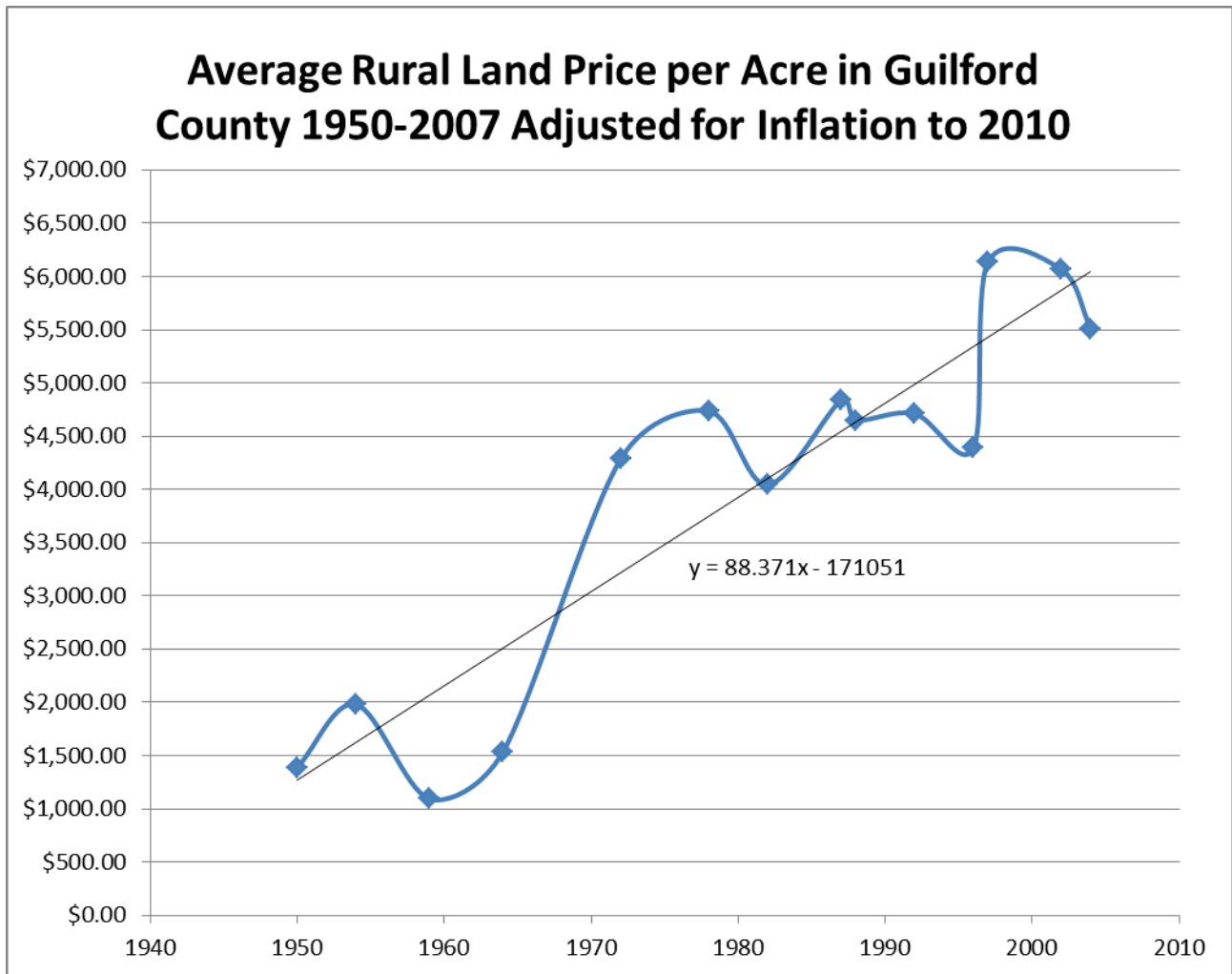




Chart 2: Average Rural Land Price per Acre in Guilford County 1950-2007 Adjusted for Inflation to Compare Purchase Power of 2010 U.S. Dollar.



## Property Tax Component

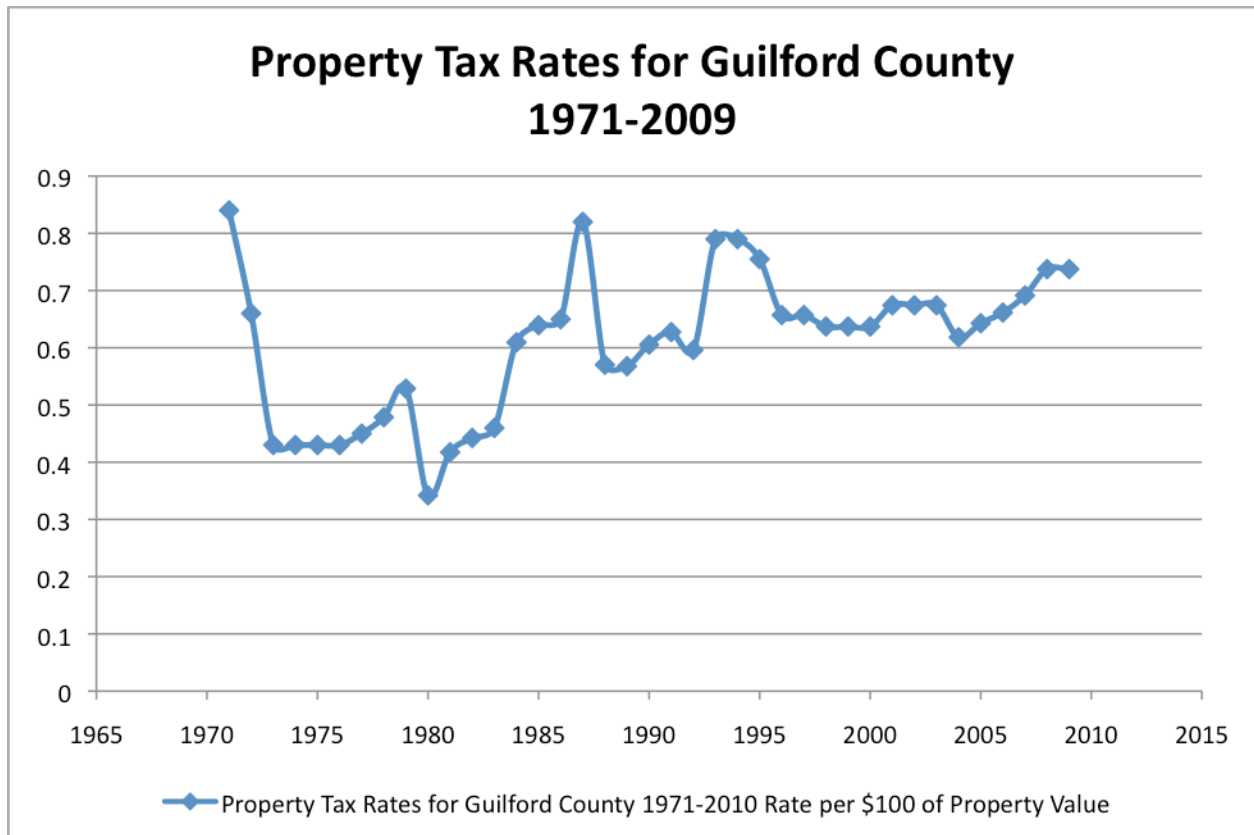
This study also sought to compare property tax rates in Guilford County from 1950-2010 to the average rural land prices per acre during this time. Further we sought the possibility of finding a correlation between rural land prices and the rising cost to the local governments when providing services to newly annexed rural land. Following the release of the conclusions found in the Cost of Community Services Study completed as part of the Guilford County Farmland Protection Plan, PCC and its partners noted that the ability to place a value on annexation per acre could enhance the argument for sustaining the agricultural sector in the County. Ultimately, these efforts were found inconclusive, since several variables were discovered which have

affected the flux in tax rates, which will require further study to isolate and individually analyze. Additionally, it was not possible at the present time to find accurate records of the countywide property tax rates between 1950 and 1970. While current resources prohibited the ability to calculate a direct correlation between tax rate and rate of annexation, this study did not disprove a correlation either. Still, based solely on a visual comparison of tax rates and rate of annexation, as well as a objective application of the findings in the Cost of Community Services Study, one can speculate that there is a correlation in the rise in the countywide property tax vs. the general increase in annexation in the past four decades.

Chart 3 below displays a scatter plot of the Guilford County countywide tax rate from 1971 until 2010. Neither the Guilford County Budget Office, Guilford County Commissioners Staff, Greensboro or Guilford Public Libraries, Guilford County Tax Office nor NC State Archives admitted to holding copies of Guilford County property tax rate records or copies of Guilford County annual budgets prior to the year 1970. Countless internet searches and library catalogue searches as well as library database searches came up empty as well.

Chart 3:

Guilford County Property Tax Rates per \$100 of Property Value by Fiscal Year 1971- 2010



As evident by the graph in Chart 3, the tax rates have been all over the board in the past four decades. The many variables that likely conjointly influence the flux in that rate include, but are not necessarily limited to: the eight year cycles of property appraisal reevaluation by the county tax department, inflation/deflation, increases/decreases in population, changes in additional special property taxes (i.e. for special school districts, fire districts, municipal property taxes), consolidation of county programs, creation of new county programs, authorization of new taxes which offset what would otherwise cause an increase to the property tax.

The most notable modification to the Guilford County Government in the past forty years which caused a significant change in the property tax was the merger of the Greensboro Public Schools and the Guilford County Schools in 1993. Prior to the merger, the county levied a countywide base property tax as well as levied special school district property taxes on certain parts of the county which utilized the Guilford County Schools. Following the merger, the county levied an equal school property tax on everyone since every county citizen now used the County Schools. The portion of property tax which now supported schools was added to the countywide base property tax. Thus, that school portion of the tax increased at first, but has decreased in time since the population which shares the burden to fund the schools, has significantly increased.

Further, the property tax has historically shown a significant flux during those years immediately around the tax department's reevaluations because it typically takes a few years to reappraise each property and determine what tax rate will need to be levied to the new basis of total county property value in order to fund that year's budget. According to the 1972 County Budget, the property rate approved by the Commission did not need to be fully levied because the reevaluation increased the tax base enough so that a fraction of the approved rate sufficed to run the government the following year.

These variables all likely contribute to the effect on the property tax rate, so it is improbable to identify one variable with the most direct effect. Similarly, the costs of annexation are difficult to calculate as each municipality levies additional property tax on top of the countywide rate which helps to offset the costs of extending services to newly annexed property. Ultimately, it is the municipalities' responsibility, not the county's, to extend many services to new residents, so annexation does not likely have a direct effect on the county's budget. It is not uncommon for the City of Greensboro's supplemental property tax to decrease in the same year as Jamestown's supplemental property tax increases, while High Point's remains the same as the previous year, or any combination of that thereof, so it is obvious many variables are at play. Also these municipalities are privy to additional revenue streams authorized by the State government such as ABC tax and highway trust fund money which offsets some of the costs that would otherwise be compensated by a property tax increase<sup>1</sup>. Therefore, unless given the time to analyze each of the dozen or more municipalities' annexation

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<sup>1</sup> North Carolina General Statutes. <http://ncleg.net>

rates, each annual supplemental property tax, and each of their additional revenue streams, then a proper calculation of cost of annexation is not obtainable.

## **Conclusions**

First, it is obvious that rural land prices in Guilford County have seen a dramatic rise in the past six decades. Not only have prices increased approximately \$1500 per acre per decade since 1970, but even when adjusted for inflation, price still increase in slope by a multiplier of \$88 per year. As shown in other sections of the Guilford Farmland Protection Plan, revenues for agricultural product sales are on the decline while costs of production are on the rise, all contributing to a decrease in the profit margins for our county's farmers.

Second, while a correlation between the decrease in farmland and the flux in property tax rates could not be identified, many variables which act to influence the change in property tax have been identified and a plan needs to be devised to isolate those variables. It should be noted that while the countywide tax rate has shown no regular trend over the course of the last four decades, there has been a gradual increase over the last two decades even after the merger of the Guilford County schools and two appraisal reevaluations. Further study should be initiated.

## **Sources:**

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<http://www.co.guilford.nc.us/departments/rod/contact.php>

United States Census of Agriculture: 1950, Volume 1 Counties and State Economic Areas Part 16 North and South Carolina; Prepared under the supervision of Ray Hurley, Chief, Agriculture Division, Bureau of the Census (pp. XIII, XIV, & 63) United States Government Printing Office 1952, Washington, D.C.

[http://www.agcensus.usda.gov/Publications/Historical\\_Publications/1950/vol1%20North%20South%20Carolina/41656297v1p16.pdf](http://www.agcensus.usda.gov/Publications/Historical_Publications/1950/vol1%20North%20South%20Carolina/41656297v1p16.pdf)

United States Census of Agriculture: 1954, Volume 1 Counties and State Economic Areas Part 16 North and South Carolina; Prepared under the supervision of Ray Hurley, Chief, Agriculture Division, Bureau of the Census (pp. n19 & 64) United States Government Printing Office 1957, Washington, D.C. <http://www.archive.org/details/unitedstatescens116unit>

United States Census of Agriculture: 1959, Final Report-Volume 1- Part 26- North Carolina Counties; Prepared under the supervision of Ray Hurley, Chief, Agriculture Division, Bureau of the Census (pp. XVII & 171) United States Government Printing Office 1962, Washington, D.C. <http://www.archive.org/details/uscensusofagricul2527unit>

United States Census of Agriculture: 1982, Final Report-Volume 1- Part 26- North Carolina Counties; Prepared under the supervision of Agriculture Division, Bureau of the Census (p. 125) United States Government Printing Office 1985, Washington, D.C. <http://usda.mannlib.cornell.edu/usda/AgCensusImages/1982/01/33/122/Table-01.pdf>

United States Census of Agriculture: 1992, Volume 1- Chapter 2- County Level Data, North Carolina; Prepared by United States Department of Agriculture, National Agricultural Statistics Service (p. 250) United States Government Printing Office 1995, Washington, D.C. [http://www.agcensus.usda.gov/Publications/1992/Volume\\_1\\_Chapter\\_2\\_County\\_Tables/North\\_Carolina/nc2\\_06.pdf](http://www.agcensus.usda.gov/Publications/1992/Volume_1_Chapter_2_County_Tables/North_Carolina/nc2_06.pdf)

United States Census of Agriculture: 2002, Volume 1- Chapter 2- County Level Data, North Carolina; Prepared by United States Department of Agriculture, National Agricultural Statistics Service (p. 302) United States Government Printing Office 2005, Washington, D.C. [http://www.agcensus.usda.gov/Publications/2002/Volume\\_1\\_Chapter\\_2\\_County\\_Level/North\\_Carolina/st37\\_2\\_008\\_008.pdf](http://www.agcensus.usda.gov/Publications/2002/Volume_1_Chapter_2_County_Level/North_Carolina/st37_2_008_008.pdf)

United States Census of Agriculture: 2007, Volume 1- Chapter 2- County Level Data, North Carolina; Prepared by United States Department of Agriculture, National Agricultural Statistics Service (p. 353) United States Government Printing Office 2010, Washington, D.C. [http://www.agcensus.usda.gov/Publications/2007/Full\\_Report/Volume\\_1\\_Chapter\\_2\\_County\\_Level/North\\_Carolina/st37\\_2\\_008\\_008.pdf](http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1_Chapter_2_County_Level/North_Carolina/st37_2_008_008.pdf)