APPENDIX #1:
Methods & Calculations – HOW THIS STUDY WAS CONDUCTED

Counting the Costs and Benefits of Growth

A Fiscal Impact Analysis
of Growth in the
City of Charlottesville and
Albemarle County, Virginia

By Craig Evans
December 2012

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by

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Overview

How the findings were determined

The findings from this study were determined through a 12-step process:

First, a group of energetic interns were recruited from the University of Virginia to help with research;

Second, information from county and city staff was obtained by reviewing budget and source materials provided by the City of Charlottesville and Albemarle County, information compiled by the Weldon Cooper Center, and information from the U.S. Census Bureau and state and national data bases;

Third, missing information was identified and obtained through customized data base searches conducted by city and county staff, as well as through additional searches of public data bases and other published data sources;

Fourth, conflicting and/or incomplete information was reconciled through additional cross-referencing and research, and by trying various "work-arounds" to find reasonable solutions;

Fifth, a variety of time-proven and tested fiscal methodologies were entered into a computer model to, first, assemble and analyze the data gathered; second, compare and contrast numbers; and third, calculate initial results;

Sixth, initial results were reviewed to spot obvious discrepancies and control for sensitivities (i.e., looking at results that show large changes when even small changes in data inputs are made; next, reviewing and double checking all data inputs to explore and plot the range of changes that can occur; next, tracing all variables back to their sources; double checking sources; next, generating a series of results with different controls; and finally, choosing the results that show the fewest variances and are the most consistent with the inputs);

Seventh, a group of peers and PhD economists were asked to review and comment on the spreadsheets showing all cell formulas and calculations used to generate results;

Eighth, these comments were incorporated into the spreadsheets to generate final calculations;

Ninth, draft results and conclusions were written up;

Tenth, these drafts were circulated for review and comment to a group of peers, a city and county representative, and PhD economists;

Eleventh, these comments were reviewed, addressed and incorporated; and

Twelfth, results were finalized and the final write up, which you are now reading, was produced.

The study pursued nine different analyses, each of which was carried out twice–once for the City of Charlottesville and once for Albemarle County. These analyses were:

1.1 Land Use Costs: Major Categories
1.2 Land Use Costs: A Detailed Breakdown of Commercial, Industrial and Institutional Uses
1.3 Land Use Costs: With Non-local Revenues Considered
1.4 Land Use Costs: Population Only Allocations
2 Break-even Costs
3 Per Capita Costs
4 What's in the Pipeline?
5 Infrastructure Costs
6 Projections (Albemarle County only)

Here is the information examined by each analysis:

Part 1: Where the community stands now

1.1 Land use costs. How different land uses stack up with each other; ratio of revenues generated vs. expenditures required for:

- Residential (single-family, multifamily, mobile homes)
- Commercial
- Industrial
- Government/institutional
- University of Virginia
- Agriculture (county)
- Open space/recreation
- Vacant (city)

1.2 Land use costs. Which commercial and industrial uses generate the most revenue? A further breakdown of land uses. Ratio of revenues generated vs. expenditures required for different commercial, industrial and institutional uses:

- Accommodation and Food Services
- Administrative, Support, Management & Remediation Services
- Agriculture
- Arts, Entertainment and Recreation
- Construction
- Educational Services
- Finance and Insurance
- Health Care and Social Assistance
- Information
- Management
- Manufacturing
- Mining & Quarrying
- Professional Services (Accountants, Lawyers)
- Real Estate and Rental and Leasing
- Retail Stores
- Other Services
- Public Administration
- Scientific and Technical Services
- Transportation and Warehousing
- Utilities
- Wholesale Trade

2 **Break-even analysis.** What is the *break-even* price for a residential unit (price at which the revenues generated balance the expenditures required)? What is the *compensating* price (price at which sufficient revenues would be generated to make up for the shortfalls created by all land uses)?
   - Single-family homes

3 **Per capita costs**. Difference between revenues generated and expenditures required on a per capita basis for services provided through local, state and federal governments
   - List of services required by residents at local level
   - Breakdown by who provides service: local, state or federal government; utility; nonprofit groups such as churches; private businesses
   - Cost of services provided by government

Part 2: What are the implications of continued population growth?

4 **What's in the pipeline?** Current number of approved building permits
   - Residential
   - Commercial

5 **Infrastructure costs.**
   - Number of classrooms needed, number of miles of road needed, number of parking spaces needed, number of firefighters needed, etc. for each new person
   - What impact will continued growth have on current infrastructure?

   Infrastructure costs–Population Impact Points (PIPs), when capacity is reached with existing infrastructure and expansion becomes necessary to accommodate new residents
   - Current capacity of all major infrastructure systems (roads, water, sewer, fire & rescue, public safety, schools, etc.)
   - Current backlog of infrastructure needs, and the costs required to increase infrastructure standards to meet current needs
   - Capital costs and debt service necessary to provide necessary infrastructure to accommodate projected new development (current building permits)
   - Capital costs and debt service necessary to provide necessary infrastructure for different growth projections

6 **Growth projections**. Fiscal impacts of different projected growth levels:
   - Population implications/how land use cost ratios will be affected at different population levels (125,000, 150,000 and 200,000 people)

In additional, two additional analyses were carried out:

7 **Review of 1972 Urban Land Institute Study**. *The Fiscal Impact of Residential and Commercial Development in Albemarle County's Propose Hollymead Phase 1 Development: A Case Study.*
   - This study was reviewed to see how closely it was able to predict the fiscal impacts of Hollymead and to see if any conclusions could be drawn that would be of use for conducting the current study

8 **Does Population Growth Help or Hurt Local Taxpayers?**
   - This was an expansion on an investigation undertaken by Steven Allshouse, Albemarle County's Manager of Economic Analysis and Forecasting, who had explored this subject in his 2000 master's thesis study at the University of Virginia, *The Effect of Growth on Local Tax Rates: Theoretical and Empirical Evidence from Virginia Jurisdictions*.

The methodologies used to carry out each of these analyses, are described on the following pages.

Methodologies

1.1 - Land use costs: major categories

Objectives

The objectives of this section were to:

1. Take the total monies generated for and spent by the City of Charlottesville, Albemarle County, Albemarle Service Authority, and the city's and county's K-12 schools, and break down each revenue and expense item by land use (see list of land uses on page 4, above).

   "Revenue" represents all operating funds for city or county government, Albemarle Service Authority and schools and includes property taxes, fees, charges for services and other taxes. For a list of revenue items, see Section 1.1 of *Appendix #2: A Guide to the Spreadsheets*.

   Although state and federal revenue could be included on the revenue-benefits side of this analysis, the analysis focuses only on the revenue determined and controlled by local public officials. This local revenue is both the major source of total revenue, comprising approximately 70 percent of this total, and the only source tied specifically to local political decisions about taxation, economic development, and growth. (Alternate calculations, using all revenues, are reported in Section 1.3.)

2. Present the results in two ways:

   - First, to show the revenues generated and the expenses created by each land use as percentages of total revenue and of total expenses.
   - Next, present the revenues and expenses for each land use as ratios in order to show which land uses create surpluses and which create deficits.

     The resulting ratios show the amount spent for each land use to each $1.00 contributed in revenue. For example, this study found that, even adjusting for its lower land use valuation rate, only $0.20 is spent by Albemarle County government on local agricultural land uses for each $1.00 contributed in revenue.

Methodology

The results of this section were calculated by taking two years of actual revenues and expenses as reported in:

- *Adopted Fiscal Year 2010-2011 City of Charlottesville Operating & Capital Budget*
- *Adopted Fiscal Year 2009-2010 City of Charlottesville Operating & Capital Budget*
- *County of Albemarle, Virginia FY 10/11 Adopted Budget*
- *County of Albemarle, Virginia FY 09/10 Adopted Operating Budget*

Two years of budget information were used for two reasons: (1) so that results could be compared with each other, and (2) because economic census data from the U.S. Bureau of Census was not available for the most recent year that had been chosen as the base year for the study.

The revenue and expense items were taken directly from the budgets and were then allocated to each of the different land use categories using one of the following allocation methods:

- population (one set of calculations was used to determine *per capita* and *population served* allocations),
- workforce/employment (based on where people work)
- population (a second set of calculations that included workforce/employment/jobs data, was used to determine *where people spend their time)*
- taxable value
- parcels
- acreages
- share of property taxes paid
- residential only
- mobile homes only
- commercial only
- industrial only
- institutional only
- UVA only
- residential, commercial, industrial (for Charlottesville)
- residential, commercial, industrial, agriculture (for Albemarle County)

Each line item in the budget was allocated using one of these 15 allocation methods. In addition, all budget items were expressed in a *per capita resident* and *per capita population served* number.

These allocation methods are further explained in Section 1.5 below. The spreadsheets using these allocations are shown in Section 1.1 of *Appendix #2: A Guide to the Spreadsheets.* The column adjacent to each budget line item describes which allocation method was used to apportion revenues and expenses by land use.

These allocation methods were used to help answer two questions: what land use category or categories are the sources of a revenue item, and what land use category or categories incur an expense?

The allocations have resulted in a series of ratios that show the cost of services used for every dollar of revenue contributed by each land use category.

The decision as to which allocation method was "appropriate" for each line item in the budget was made by examining the descriptions contained in the Albemarle County and City of Charlottesville budget books explaining various revenue and expenditure items.

Some allocations are obvious. Real estate taxes collected were allocated by “share of property taxes paid.” Personal property taxes were allocated by “population.”

Public safety expenses for fire, police and ambulances can occur for any land use category—where people live, where people work, where people shop, in institutional and government buildings, where people play, even on vacant parcels of property. So all parcels of land potentially can incur these expenses. But, in fact, it is *people* who primarily require these services, so the allocation method used is *population*.

County employment data is used to attribute costs according to the number of people who use each land use, based on where people both live and work.

A separate calculation also was developed to determine, generally, what portion of time is spent by people in different demographic groups—pre-school children, K-12 children, stay-at-home parents, working parents, professionals, college students, and retirees—in each of the different land use categories (see Section 1.5 below). The advantage of creating this calculation is that it corrects a weakness in many other fiscal impact studies, which often attribute all-non-work-related expenses associated with a community's population to residential land uses. The calculation in this study recognizes that people spend a considerable amount of time outside of their residences and that both the revenues and expenses that can be allocated by population are distributed relatively fairly across the various land uses where people spend their time.

Elementary and secondary school expenses, on the other hand, are incurred as a result of where the source of the expense—children—lives. Hence, the allocation method used for all school expenses for school-age children is *residential land uses.*

Some allocations are not as obvious, or potentially can be allocated by more than one method, so are not as easy to assign. For this reason, seven different people (each of the interns working on the study, the project director and a Ph.D. economist) were asked to read the budget book descriptions and were polled to determine which was the most appropriate allocation method for each line item in the budgets. In each case, the question was asked: is the allocation logical, reasonable and defensible? The allocation selections were then reviewed by the Ph.D. economist and finalized.

As a control, all revenue and expense items, except for obvious categories such as real estate tax collections and school expenses, were allocated entirely by population to see to what degree results differed. As it turned out, there was very little variance, which would suggest that the allocations are a reasonable guide to accurately allocating revenue and expense items across different land use categories.

The figures used in this section are **actual** revenues and expenses. They therefore include not only expenditures for actual services rendered, but also any expenses for minimum levels of service that are required but not necessarily used, such as stand-by pay for emergency personnel and rural roads that have excess capacity compared to urban streets.

Calculations for the Land Use Costs section were carried out through a step by step process. The spreadsheets in Section 1.1 of *Appendix #2: A Guide to the Spreadsheets* list all local government, Albemarle Service Authority and school revenues and expenditures for the City of Charlottesville for 2007 and 2009 and for Albemarle County for 2008 and 2009. These revenues and expenditures were broken down into the following land use categories using the appropriate allocation, according to the source of the revenue and the cause of each expenditure:

- The *Residential* land use category includes all improved residential uses.
- The *Commercial* land use category includes all improved commercial uses.
- The *Industrial* category includes all improved industrial uses.
- The *Institutional* category includes improved institutional uses such as hospitals, churches and government buildings and facilities.
- The *UVA* category covers the University of Virginia.
- The *Agricultural* category includes all improved and unimproved agriculture uses.
- The *Open Space/Recreation* category includes publicly owned forests, parks and

recreational land; other state owned and federally owned park land, and non-agricultural acreage; subsurface, lake and pond, high-water recharge area, non-ag acreage, and buffer/conservation land.

- The *Vacant* category includes vacant residential lots, vacant commercial and industrial land and vacant institutional land.

The calculations used to apportion revenues and expenses to each of these land uses and thus generate the findings for this section of the study are described in Section 1.5 below.

Each land use category can be further broken down into more specific land uses. This has been done for commercial, industrial and institutional land uses (please see next section). The residential category also was broken down into single family homes, multi-family units and mobile homes. This allows differences between specific uses within each category to be revealed and analyzed.

For example, one quickly can see from the study's findings that multi-family homes and mobile homes create much larger deficits than single family homes. This is because the demands for services are the same on a per capita basis for each household, but the average taxable values of single family homes in Charlottesville are more than twice as high as values for multi-family units, whereas in Albemarle County, the single family home values are over five times as high. The gap is even greater between the values of single family homes and mobile homes.

The major land use categories are useful for demonstrating the basic characteristics that are shared by the specific land uses that are included under each category, and for underscoring the attributes that should be kept in mind about these categories of land use (i.e., what services are required, how much these services cost, both in the short term and long term, and how these costs potentially can be offset when land use decisions are being made).

The other analyses in this study build off of this one.

A note about school expenses

The city's budget detail shows a summary of all sources of revenue for schools as well as a line item expense for school operations. The city's budget book also devotes an entire page to school operation revenues and expenses.

The county's budget detail, however, only shows an expense item for schools, which is the local contribution for schools.

To provide a clearer picture of school revenues and expenses for the county, a budget summary from Albemarle County Schools was added to the county spreadsheets.

In both the city and county budgets, revenues that are not derived directly from local sources are not counted. Therefore, the state and federal contributions, which represent 33% (31% and 2% respectively) of total revenues for county schools and 38% (39% and 9% respectively) of total revenues for city schools, are not counted.

While there are allocation formulas for state and federal contributions based on a community's population and number of pupils enrolled in its schools, thus providing a direct per capita allocation, there is no directly derived source of revenue that is generated locally to offset this allocation. While most residents pay state and federal taxes, as *Section 2.1, Per capita costs* shows, residents of Virginia

do not pay as much in state or federal taxes and fees as they receive in services. In fact, there is a significant shortfall in both categories. Hence, trying to count money that comes into the county, which is creating deficits elsewhere, is not fiscally sound.

It may appear at first to the casual observer that school expenses are being double counted, since expense items from both the county and school budgets are shown. The school budget that has been added in the county spreadsheet to the revenue side, however, shows the local contributions for schools from the county. As a result, the expense for schools in the county budget exactly balances out, and thus is cancelled, by the revenues shown in the school budget.

This relationship has been emphasized in the spreadsheets (shown in Appendix #2) by highlighting these two line items in yellow, so it is clear what their relationship is to each other, and to show that they exactly cancel each other out.

In the budget summary from schools, only revenues derived from local sources are shown. However, the full expenses for school are shown, and broken down by major category. As a result, there is a significant budget shortfall, which appears worse than it does in the school's regular published budget, since revenues that are not derived from local sources are not shown.

The rationale for handling school expenses this way is that the costs and benefits of growth need to be measured on the local level, since all impacts are primarily local.

As shown in the spreadsheets, local revenues for schools do not balance out local costs.

Commentary

There are a variety of methods available for conducting fiscal impact analyses. Each has a shortcoming. The shortcomings of the various methods in use are described in detail in *Developments and Dollars*: *An Introduction to Fiscal Impact Analysis in Land Use Planning* by Michael L. Siegel, Public and Environmental Finance Associates, and Jutka Terris and Kaid Benfield of the Natural Resources Defense Council (available for viewing and download at:

http://www.nrdc.org/cities/smartGrowth/dd/ddinx.asp)

As Siegel states in "Chapter 3 Common Analytical Methods and Their Shortcomings":

> ***Average per capita method***
> *This is the simplest and most common method, but it also tends to be among the least reliable. It divides the existing total local budget (or individual budget categories) by the existing population (or housing units) in the jurisdiction to determine an average per-capita or per-household cost for the jurisdiction. The result is then multiplied by the expected new population or housing units associated with the proposed new development. (To account for the non-residential component of a proposal, the expected number of additional jobs must be accounted for, perhaps with an assigned per-job equivalency value that equates jobs to residents or households.) Costs and revenues are then divided by the equivalent population or housing units.*
>
> *This method is referred to as the "average" or "gross" per capita approach. It is often used for expenditures and most types of tax revenues, but not for real property tax revenues, which are usually calculated separately on the basis of the expected taxable value of the new development. Since the value of new housing and commercial space is*

frequently assumed to be higher than that of existing housing and commercial space, such an exception for property tax revenues can yield an overly optimistic outcome. The implicit (but incorrect) assumption behind such a distinction is that the only part of the local budget likely to be changed on a per capita basis by new development is the category of real property tax revenues.

Apart from this exception, the average per capita method uses the jurisdiction's current cost and revenue patterns to forecast the impact of its new population. The major shortcoming of this approach is that it fails to recognize that both cost and revenue patterns associated with new development can differ significantly from those of the existing population and development. A second shortcoming is that the average per capita method sometimes fails to "unbundle" or separate the local jurisdiction's budget into its residential and non-residential sectors. As a result, a strictly residential development would be "credited" with a share of revenues and expenditures attributable to the non-residential sector. The average per capita approach can be particularly unreliable when the new development differs significantly from the existing development pattern, such as when it introduces a new type of housing, commercial property, or neighborhood design to a community or when an exclusively or mostly commercial development is built in a predominantly residential community.

Adjusted per capita method

In a variation, the results of the average per capita approach may be adjusted up or down on the judgment of the analyst or local officials to reflect expected changes as a result of the new development. Many fiscal impact analyses use a combination of average and adjusted per capita methods.

The adjusted per capita method relies heavily on the subjective judgment of the analyst or of local officials whose advice is used to inform the particular adjustment used. To help overcome the limitations of subjectivity, some fiscal impact analyses use local income, density, or market value data to inform the adjustments. The adjustments can be somewhat more reliable when links between these variables and the affected budget categories can be demonstrated.

Disaggregated per capita method

Another step in the direction of sophistication is the so-called "disaggregated" approach. Most local governments receive revenues from, and provide services to, both the residential and non-residential (for example, commercial, industrial, or agricultural) sectors. Typically, the average or adjusted per capita method relies on the jurisdiction's aggregated, or blended, revenue and expenditures data from both sectors. But the per-unit costs and revenues from the two sectors are rarely identical.

Recognizing this, the disaggregated method "unbundles" the local budget by estimating the costs and revenues separately for each of the jurisdiction's major land use sectors. To determine the disaggregated per-unit amounts for each sector, the amounts relevant to each are then divided by the number of service units in each (for example, number of people or households in the case of the residential sector; jobs, acreage, or thousands of square feet of floor space for the non-residential sector). Some disaggregated approaches apply the resulting figures directly to the proposed new development, while others make adjustments to reflect expected differences between existing and new development for each sector.

The disaggregated method relies on various techniques (which we need not discuss here) to segregate the local government's budget into its residential and non-residential sectors. The resulting allocations can provide a reasonable estimate of these costs and revenues, but it is rarely possible to know the exact amount attributable to each sector for all revenue and expenditure categories.

Dynamic method
The most sophisticated of the four basic methods is the dynamic approach, which recognizes that, over time, significant new development can cause a change in a jurisdiction's economic, land-use, and demographic factors, and thus in its service levels, per capita costs, and per capita revenues. Dynamic methods apply statistical techniques to time-series data from the jurisdiction, or from others that have experienced a similar development pattern; alternatively, they may use cross-sectional data from multiple jurisdictions representing a variety of development patterns. On the basis of this analysis, dynamic approaches estimate how much of "this" (such as sales tax revenue per capita) a jurisdiction can expect to get from so much of "that" (such as per capita personal income, per capita market value of housing) generated by new development.

Dynamic approaches are ordinarily more data-intensive than others and require substantial time, effort, and expertise in preparing the required statistical analysis. To generate meaningful results, dynamic approaches may also require analysis of individual revenue and expenditure categories, because each one can be affected differently by the economic, demographic, and land-use characteristics of new development. Statistical approaches best capture the dynamic impact of the cumulative impacts of development on local governments. Due to their data intensity, however, they are far less common than per capita approaches.

The method used in this study is the disaggregated approach.

1.2 - Land use costs: commercial, industrial & institutional uses

Objectives

The objectives of this section were to:

1. Take the share of revenues and expenses calculated in Section 1.1 above for commercial, industrial and institutional land uses for the City of Charlottesville and Albemarle County and break down each revenue and expense item into further divisions, based upon their North American Industrial Classification System (NAICS) designations (see list of uses on the next page).
2. Present the results in two ways:
    - First, to show the revenues generated and the expenses created by each use as percentages of total revenue and of total expenses.
    - Next, present the revenues and expenses for each use as ratios in order to draw comparisons between the uses in terms of their impacts on city and county budgets.

The resulting ratios show the amount spent for each commercial, industrial and institutional use to each $1.00 contributed in revenue. For example, this study found that, only $0.33 is spent by Albemarle County government on manufacturing uses for each $1.00 contributed in revenue.

Methodology

The methodology used to carry out the calculations to produce the findings for this section are almost identical to the methodology used for Section 1.1 above, with two significant differences:

First, the land uses for which revenues and costs have been compared are subsets of the calculations for commercial, industrial and institutional land uses that were generated in Section 1.1. These subsets have been broken down according their North American Industrial Classification System (NAICS) designations, as follows:

Commercial uses

- Accommodation and Food Services
- Arts, Entertainment and Recreation
- Finance and Insurance
- Information
- Management
- Professional Services (Accountants, Lawyers)
- Real Estate and Rental and Leasing
- Retail Trade
- Other Services
- Scientific and Technical Services
- Wholesale Trade

Industrial uses

- Agriculture (which, in addition to farming, ranching, animal production and nursery operations, also takes into consideration forestry and logging along with crop services and other support activities; in this case, agriculture and its associated uses are being considered as a subset of the county's industrial uses; this ratio differs by about $0.20 from the ratio generated by agriculture strictly as a land use)
- Construction
- Manufacturing
- Mining & Quarrying
- Transportation and Warehousing
- Utilities (due to restrictions by the U.S. Census Bureau on reporting data when only a few businesses are located in a reporting jurisdiction—to avoid having confidential business and financial information revealed—much of the data for utilities was not available)

Institutional uses

- Administrative, Support, Management & Remediation Services
- Educational Services
- Health Care and Social Assistance
- Public Administration
- Unclassified

Second, the allocation methods used to break out revenue and expense items by each use are different. The allocation methods used in Section 1.2 are as follows:

- *# Establishments* (per U.S. Census Bureau data)

- *# Dealers* (per county and city data; used when incomplete data for all establishments was available from the U.S. Census Bureau)
- *# Employees/Jobs* (per U.S. Census Bureau data, except for public employees/jobs which is from the Virginia Employment Commission)
- *Payroll* (per U.S. Census Bureau data)
- *Taxable sales*(per U.S. Census Bureau data)
- *Business License Gross Receipts* (per county and city data; used when incomplete data for all establishments was available from the U.S. Census Bureau)
- *Business License Fees* (per city and county data)

These allocation methods are further explained in Section 1.5 below. The spreadsheets using these allocations are shown in Section 1.2 of *Appendix #2: A Guide to the Spreadsheets.* The column adjacent to each budget line item describes which allocation method was used to apportion revenues and expenses by NAICS use.

As in Section 1.1, each line item in the budget was allocated using the most appropriate of the seven allocation methods. The budget numbers used are the numbers derived from Section 1.1 showing the share of each revenue and expense item that was attributed to the commercial, industrial and institutional land use categories.

The calculations using these allocations resulted in a series of ratios that show the cost of services used for every dollar of revenue contributed by each NAICS use within the commercial, industrial and institutional land use categories.

The decision as to which allocation method was "appropriate" for each line item in the budget was made by examining the descriptions contained in the Albemarle County and City of Charlottesville budget books explaining various revenue and expenditure items and U.S. Bureau of Census reports on the Economic Census.

Five different people (three of the interns working on the study, the project director and a Ph.D. economist) were then were polled to determine which was the most appropriate allocation method for each line item. In each case, the questions asked were: (1) does the allocation provide complete enough data to compare the various NAICS uses in each category, or (2) if not, does the combination of two allocation methods provide relatively complete data, and (3) are the selected allocations logical, reasonable and defensible? The allocation selections were then reviewed by the Ph.D. economist and finalized.

The figures used in this section are **actual** revenues and expenses. They therefore include not only expenditures for actual services rendered, but also any expenses for minimum levels of service that are required but not necessarily used, such as stand-by pay for emergency personnel .

As with Section 1.1, the calculations for this section also were carried out through a step by step process. The spreadsheets in Section 1.2 of *Appendix #2: A Guide to the Spreadsheets* list the proportion of local government and Albemarle Service Authority revenues and expenditures for the City of Charlottesville for 2007 and for Albemarle County for 2008 that are attributed to each commercial land use, each industrial land use and each institutional land use.

These revenues and expenditures were then further broken out across the various NAICS designations.

The calculations used to determine the findings for this section of the study are laid out in detail in the spreadsheets in Section 1.2 of Appendix #2.

1.3 - Land use costs: with non-local revenues considered

Objectives

The objectives of this section were to:

1. Recalculate the findings generated in Section 1.1, but this time using all sources of revenue, including sources that are not derived from local sources,
2. Report the results in ratios in order to show which land uses create surpluses and which create deficits, and
3. Use these results for purposes of comparison to:
    - show the costs of growth, when only locally-derived revenues are counted , and
    - show how these costs can be obscured when revenues not generated by growth are used to offset the costs of growth

Methodology

The methods used to generate findings for this section are almost identical to the methods used in Section 1.1.

Since the purpose of this study is to isolate and count the localized cost of growth, the calculations in Sections 1.1 and 1.2 include only local revenues.

For the purposes of comparison—and to underscore the extent to which outside revenues mask the shortcomings of a local growth-led fiscal policy—Section 1.3 counts all revenues from all sources, including state and federal revenues that are not generated locally.

The only federal and state revenues that are counted in Sections 1.1 and 1.2 are those that are directly generated by local actions. For example, when an adult buys an alcoholic beverage, he or she pays a state beverage tax. A portion of those revenues are returned by the state each year, based upon the number of residents living in a community who helped generate the tax that was collected. In this case, the state funds were counted in the findings from Sections 1.1 and 1.2, since there is a direct connection between these revenues and the local means in which they were derived.

Payments in lieu of taxes for the University of Virginia and federal buildings and parklands located in the community also were counted in Sections 1.1 and 1.2, since these buildings and parks have a local impact and would generate property taxes if they were privately owned. Same with state payments for titling fees for mobile homes.

On the other hand, state and federal payments for social services, grants, law enforcement, highway assistance and miscellaneous assistance were not counted in the calculations carried out for Sections 1.1 and 1.2.

This section of the study counts all revenue items shown in the 2006-2007, 2007-2008 and 2008-2009 budgets for the City of Charlottesville and Albemarle County. By state law, these budgets must balance, and they do, thanks to the infusions of additional state and federal funds.

With state and federal contributions counted, single family homes move to an almost break-even position, although the residential category as a whole still generates a $0.10 deficit in both Albemarle County and the City of Charlottesville.

The ratios for commercial and industrial land use categories change only modestly as a result of counting all state and federal revenues, and remain in the same statistical relationship with each other. Hence, the more detailed breakouts for commercial and industrial uses were not repeated as part of this analysis.

The ratios for the institutional land use category, which includes state and federal buildings and services, improve, as one might expect, when all state and federal funds are counted. But they did not improve enough to eliminate the deficits that these land uses run. Consequently, a more detailed analysis also was not repeated for this category as part of this analysis.

1.4 - Land use costs: population-only allocations

Objectives

The objectives of this section were to:

1. Recalculate the findings generated in Section 1.1, but this time by allocating each of the revenue and expense items by population, except in the few cases where another allocation method is either obvious or required, such as "share of property taxes paid,"
2. Report the results in ratios in order to show which land uses create surpluses and which create deficits, and
3. Use these results for purposes of comparison to:
    - show how a different allocation method impacts the ratios and findings from Section 1.1, and
    - verify the reliability of the allocation methods chosen in Section 1.1.

Methodology

The methods used to generate findings for this section are almost identical to the methods used in Section 1.1. The only difference is that, instead of using the disaggregated approach described in Section 1.1 and Section 1.1 *Commentary*, the vast majority of revenue and expense items are allocated by population–specifically by a calculation designed to allocate costs by "where people spend their time." This allocation method is described in more detail in Section 1.5.

All expense items in this section are allocated by population, except for schools which are allocated to residential uses. Most revenue items also are allocated by population, except the following:

Revenue Item	Allocation Method
Real Estate Taxes	Property Tax Share
Delinquent Taxes	Property Tax Share
Penalty	Property Tax Share
Interest & Fees	Property Tax Share
Recordation Tax Receipts	Property Tax Share
Property Transfer Fees	Property Tax Share
Mobile Homes	Mobile Homes

Mobile Home Titling	Mobile Homes
Machinery & Tools	Industrial
Transient Room Tax	Commercial
Tourism	Commercial
State Payments in Lieu of Taxes	UVA
Collections from UVA for Services	UVA
Federal Payments in Lieu of Taxes	Recreation
Schools	Residential

1.5 – Allocation methods

Several different calculations were required to produce the findings in this study. The calculations were carried out by using a series of different methods to allocate revenues and expenses to different land uses. Each of the allocation methods is described below.

The revenue and expense items were broken down and allocated to each of the different land use categories in *Section 1.1: Land use costs: major categories* using one of the following allocation methods:

- population (one set of calculations was used to determine *per capita* and *population served* allocations),
- workforce/employment (based on where people work)
- population, including workforce/employment/jobs data (a second set of calculations was used to determine *where people spend their time)*
- taxable value
- parcels
- acreages
- share of property taxes paid
- residential only
- mobile homes only
- commercial only
- industrial only
- institutional only
- UVA only
- residential, commercial, industrial (for Charlottesville)
- residential, commercial, industrial, agriculture (for Albemarle County)

These same allocation methods were used for allocating revenues and costs in the analyses carried out in *Section 1.3: Land use costs: with non-local revenues considered* and a few selected allocation methods were used in combination with the population allocations for *Section 1.4: Land use costs: population-only allocations*.

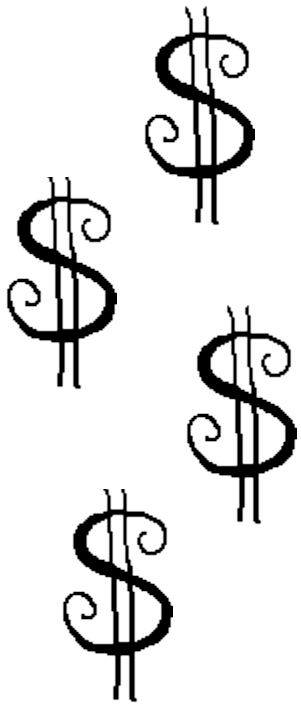
The allocation methods used for the commercial, industrial and institutional calculations are as follows:

- *# Establishments* (per U.S. Census Bureau data)
- *# Dealers* (per county and city data; used when incomplete data for all establishments was available from the U.S. Census Bureau)

- *# Employees/Jobs* (per U.S. Census Bureau data, except for public employees/jobs which is from the Virginia Employment Commission)
- *Payroll* (per U.S. Census Bureau data)
- *Taxable sales*(per U.S. Census Bureau data)
- *Business License Gross Receipts* (per county and city data; used when incomplete data for all establishments was available from the U.S. Census Bureau)
- *Business License Fees* (per city and county data)

The next page shows the allocation methods used in Sections 1.1, 1.3 and 1.4. Each of these allocation methods is then described on the subsequent pages.

The allocation methods used in Section 1.2 are shown and described in Section 1.5.6.



Allocation methods for Sections 1.1, 1.3 and 1.4 – Albemarle County – 2009

ALLOCATION METHODS - PER CAPITA POPULATION

PER CAPITA PERMANENT POPULATION	94,908	U.S. Census estimate for 2009
PER CAPITA POPULATION SERVED	109,605	Calculated. See Appendix #1

ALLOCATION METHODS - LAND USES

The percentages calculated below are used to allocate county and school revenue and expenses.
The numbers for Taxable Value, Acreages and Parcels came from the County Assessor, who provided a break down of land uses by land use code.
The Population and Workforce breakdowns are explained in Appendix #1: Calculations & Methods: How this Study was Conducted

	TOTAL LAND USES	SINGLE FAMILY RESIDENTIAL	MULTI FAMILY RESIDENTIAL	MOBILE HOMES RESIDENTIAL	TOTAL RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	UVA	AGRICULTURE	OPEN SPACE/ RECREATION
PROPERTY TAX SHARE - per tax collections	$113,264,615	$79,175,379	$3,780,054	$0	$82,955,433	$16,403,471	$2,089,227	$0	$0	$11,816,484	$0
SHARE % (from Tab 8 - Tax Collections)	100.00%	69.90%	3.34%	0.00%	73.24%	14.48%	1.84%	0.00%	0.00%	10.43%	0.00%
TAXABLE VALUE	$18,705,644,800	$10,456,553,700	$499,225,100	$0	$10,955,778,800	$2,166,377,700	$282,138,500	$3,511,628,900	$0	$1,789,720,900	$0
TAXABLE %	100.00%	55.90%	2.67%	0.00%	58.57%	11.58%	1.51%	18.77%	0.00%	9.57%	0.00%
ACREAGES	462,470.40	87,250.50	674.45	622.00	88,546.96	4,270.37	2,105.56	35,097.32	1,462.00	326,841.85	3,139.28
ACREAGE %	100.00%	18.87%	0.15%	0.13%	19.15%	0.92%	0.46%	7.59%	0.32%	70.67%	0.68%
PARCELS	43,661	36,631	257	82	36,970	1,127	158	989	1	4,499	18
PARCEL%	100.00%	83.90%	0.59%	0.19%	84.68%	2.58%	0.36%	2.27%	0.00%	10.30%	0.04%
POPULATION - WHERE PEOPLE SPEND TIME	106,283	52,235	15,641	3,028	70,904	13,408	1,373	7,899	6,277	372	6,051
POPULATION %	100.00%	49.15%	14.72%	2.85%	66.71%	12.62%	1.29%	7.43%	5.91%	0.35%	5.69%
WORKFORCE/EMPLOYMENT/JOBS	47,033	612	183	35	831	17,784	5,867	11,287	10,497	365	403
WORKFORCE/EMPLOYMENT %	100.00%	1.30%	0.39%	0.08%	1.77%	37.81%	12.47%	24.00%	22.32%	0.78%	0.86%
RESIDENTIAL - based on population		52,235	15,641	3,028	70,904	$0	$0	$0	$0	$0	$0
RESIDENTIAL %		73.67%	22.06%	4.27%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RES., COMM., IND., AG - based on taxable value	$15,194,015,900	$10,456,553,700	$499,225,100	$0	$10,955,778,800	$2,166,377,700	$282,138,500	$0	$0	$1,789,720,900	$0
RES-COMM-IND-AG %	100.00%	68.82%	3.29%	0.00%	72.11%	14.26%	1.86%	0.00%	0.00%	11.78%	0.00%
ALSO:											
MOBILE HOMES ONLY	100.00%	0.00%	0.00%	**100.00%**	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RESIDENTIAL ONLY	100.00%	0.00%	0.00%	0.00%	**100.00%**	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
COMMERICAL ONLY	100.00%	0.00%	0.00%	0.00%	0.00%	**100.00%**	0.00%	0.00%	0.00%	0.00%	0.00%
INDUSTRIAL ONLY	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**100.00%**	0.00%	0.00%	0.00%	0.00%
INSTITUTIONAL ONLY	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**100.00%**	0.00%	0.00%	0.00%
UVA ONLY	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%

Note: Each revenue and expense item listed in the county budget is allocated across each of these land uses by multiplying each budget item by the percentage associated with one of the allocation methods above—*Property Tax Share*, for example. In the case of *Property Tax Share,* $699 of a $1000 revenue item would be allocated to Single Family Residential and $145 of that revenue item would be allocated to Commercial.

Allocation methods for Sections 1.1, 1.3 and 1.4 – City of Charlottesville – 2009

ALLOCATION METHODS - PER CAPITA POPULATION

PER CAPITA PERMANENT POPULATION	42,218	U.S. Census estimate for 2009
PER CAPITA POPULATION SERVED	47,975	Calculated. See Appendix #1

ALLOCATION METHODS - LAND USES

The percentages calculated below are used to allocate city and school revenue and expenses.
The numbers for Taxable Value, Acreages and Parcels are from the City Assessor, who prvided a break down of land uses by land use code.
The Population and Workforce breakdowns are explained in Appendix #1: Calculations & Methods: How this Study was Conducted

	TOTAL LAND USES	SINGLE FAMILY RESIDENTIAL	MULTI FAMILY RESIDENTIAL	TOTAL RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	UVA	OPEN SPACE/ RECREATION	VACANT
PROPERTY TAX SHARE - per tax collections	$50,446,354	$28,096,096	$8,929,621	$37,025,717	$12,138,487	$638,546	$0	$0	$0	$643,605
SHARE % (from Tab 8 - Tax Collections)	100.00%	55.69%	17.70%	73.40%	24.06%	1.27%	0.00%	0.00%	0.00%	1.28%
TAXABLE VALUE	$5,272,453,300	$2,931,479,823	$931,695,357	$3,863,175,179	$1,266,500,797	$66,624,337	$9,000,769	$0	$0	$67,152,217
TAXABLE %	100.00%	55.60%	17.67%	73.27%	24.02%	1.26%	0.17%	0.00%	0.00%	1.27%
ACREAGES	5,040.31	2,375.83	382.58	2,758.41	624.46	89.23	13.65	240.00	987.00	321.04
ACREAGE %	100.00%	47.20%	7.60%	54.80%	12.41%	1.77%	0.27%	4.77%	19.61%	6.38%
PARCELS	14,522	9,887	2,568	12,455	1,122	59	9	1	1	876
PARCEL%	100.00%	68.08%	17.68%	85.77%	7.73%	0.41%	0.06%	0.01%	0.01%	6.03%
POPULATION	45,067	16,935	12,880	29,816	6,299	555	4,244	1,699	2,453	0
POPULATION %	100.00%	37.578479%	28.580815%	66.159295%	13.977469%	1.232039%	9.416724%	3.770795%	5.443942%	0.00%
adjusted %		37.578446%	28.580804%	66.159250%	13.977425%	1.231995%	9.416680%	3.770751%	5.443898%	0.000000%
WORKFORCE/EMPLOYMENT	34,388	231	176	407	15,698	3,186	13,355	1,709	33	0
WORKFORCE/EMPLOYMENT %	100.00%	0.67%	0.51%	1.18%	45.65%	9.26%	38.84%	4.97%	0.10%	0.00%
RESIDENTIAL - based on population		16,935	12,880	29,816	0	0	0	0	0	0
RESIDENTIAL %		56.80%	43.20%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RES., COMM., INDUS. - based on taxable value	$5,196,300,313	$2,931,479,823	$931,695,357	$3,863,175,179	$1,266,500,797	$66,624,337	$0	$0	$0	$0
RES-COMM-INDUS %	100.00%	56.41%	17.93%	74.34%	24.37%	1.28%	0.00%	0.00%	0.00%	0.00%
COMM & INDUS - based on workforce	18,884	0	0	0	15,698	3,186	0	0	0	0
COMM & INDUS %	100.00%	0.00%	0.00%	0.00%	83.13%	16.87%	0.00%	0.00%	0.00%	0.00%
INSTITUTIONAL - based on population	5,943	0	0	0	0	0	4,244	1,699	0	0
INSTITUTIONAL %	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.41%	28.59%	0.00%	0.00%
ALSO:										
COMMERICAL ONLY	100.00%	0.00%	0.00%	0.00%	**100.00%**	0.00%	0.00%	0.00%	0.00%	0.00%
INDUSTRIAL ONLY	100.00%	0.00%	0.00%	0.00%	0.00%	**100.00%**	0.00%	0.00%	0.00%	0.00%
UVA ONLY	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**100.00%**	0.00%	0.00%

Here is how each the allocation methods were designed:

1.5.1 - Population

The objectives of this allocation were to:

1. Determine the resident populations in Albemarle County and the City of Charlottesville during each budget period used in the study (2008 and 2009 for Albemarle County and 2007 and 2009 for the City of Charlottesville);
2. Calculate the *populations served*—i.e., those people receiving services—in both jurisdictions on an annual basis (factoring in college students who live here only during the academic year, parents visiting college students, tourists and commuters);
3. Determine the number of people in the workforce in each jurisdiction;
4. Determine the number of residents who commute to work outside the area and the number of people from outside the area who commute into work each weekday in Albemarle County and the City of Charlottesville;
5. Determine the number of people who work in each industry;
6. Determine how these industries are spread across the land uses in the study;
7. Determine number of K-12 students in both Albemarle County and the City of Charlottesville; and
8. Calculate population distribution by land use.

This section of the study was carried out by gathering data from the following sources, and then using this data to carry out the calculations for *Population Served* and *Distribution of Population by Land Use*. The data sources used were:

For Albemarle County:

- U.S. Census Bureau, Albemarle County Quick Facts
- University of Virginia, Data Catalog, Institutional Data
- University of Virginia, Enrollment Data, On-Grounds
- Charlottesville-Albemarle County Visitors Bureau
- Virginia Employment Commission, Quarterly Census of Employment and Wages (QCEW)
- 2000 Census, from: Virginia Employment Commission, Community Profile for Albemarle County
- Albemarle County Public Schools Adopted Budget 2010-2011, Highlights from 2008-2009
- U.S. Census Bureau, Economic Census, 2008 County Business Patterns, Albemarle County, VA

For the City of Charlottesville:

- U.S. Census Bureau, Charlottesville, VA Quick Facts
- U.S. Census Bureau, Population Estimates Program
- University of Virginia, Data Catalog, Institutional Data
- University of Virginia, Enrollment Data, On-Grounds
- Charlottesville-Albemarle County Visitors Bureau
- Virginia Employment Commission, Quarterly Census of Employment and Wages (QCEW)
- 2000 Census, from: Virginia Employment Commission, Community Profile for Charlottesville, VA
- City Schools Finance Department (CAFR), FY 09, Per Pupil Spending, Fiscal Year 2001-2010
- U.S. Census Bureau, Economic Census, Geographic Series, Charlottesville city, VA, 2007

Here is how the calculations were carried out for Albemarle County for 2009 to determine the population allocations:

Step 1:

Albemarle County Population - 2009			
Permanent Population			**94,908**
UVA Non- Resident Student Population			
Total UVA students - 2009		20,894	
# non-resident students		20,349	
Time spent in county = 65% of year		13,227	
% of UVA in Albemarle County - 86%			11,375
Annual Toursim - Visitors to County		556,417	
Time spent in county = 1.5 days/.4%			2,226
In-commuters - see line C30 below			4,934
Less out-commuters - see line C32 below			-3,886
TOTAL POPULATION SERVED			**109,557**

Step 2:

Employment by Industry		
11 - Agriculture, Forestry, Fishing & Hunting		365
21 - Mining, Quarrying, Oil & Gas Extraction		36
22 - Utilities*		6
23 - Construction		2,319
31-33 - Manufacturing		2,401
42 - Wholesale Trade		586
44-45 - Retail Trade		5,055
48-49 - Transportation and Warehousing		519
51 - Information		610
52 - Finance and Insurance		945
53 - Real Estate and Rental and Leasing		706
54 - Professional, Scientific & Technical Services		3,166
55 - Management of Companies & Enterprises		1,551
56 - Administrative Support & Waste Management		1,513
5617 - Services to buildings & dwellings	438	
5621 - Waste collection	67	
61 - Educational Services		675
62 - Health Care and Social Assistance		4,816
6216 - Home health care services	359	
71 - Arts, Entertainment and Recreation		1,164
713 - Amusement and recreation industries	403	
72 - Accommodation and Food Services		3,077
81 - Other Services (except Public Administration)		1,913
92 - Public Administration (Government) Total		15,610
Federal Government	777	
State Government	10,717	
Local Government	4,116	
99 - Unclassified		0
TOTAL Workforce		**47,033**

Step 3:

Workforce Population		47,033	
Total hours in one year:		8,760	
40 hr week times 49 weeks/yr:		1,960	
Working hours as % of total hours		22%	10,347
Workforce - Residents & Commuters			
People who live and work in the area		21,455	
Time local workers spend at work		22%	4,720
In-commuters		22,428	
Time In-commuters spend in Cville		22%	4,934
Out-commuters		17,662	
Time out-communters spend out of Cville		22%	3,886
K-12 Student Population		12,765	
Time spent in classroom			
35 weeks/6.5 hrs per day = 1,138 hrs		13%	1,659

Step 4:

EMPLOYMENT DISTRIBUTION BY LAND USE

LAND USE CATEGORY	NAICS CODES	EMPLOYMENT #	EMPLOYMENT %
Residential	5617, 50% of 5621, 6216	831	1.8%
Commercial	44-45, 51-55, 71 (less 713), 72, 81	17,784	37.8%
Industrial	21, 22, 23, 31-33, 42, 48-49	5,867	12.5%
Institutional	56, 62 (less residential), 61, 92, 99	11,287	24.0%
UVA	12,206 employees x 86%	10,497	22.3%
Agriculture	11	365	0.8%
Open/Recreation	713	403	0.9%
Vacant	0	0	0.0%
TOTALS		47,033	100.00%

Step 5:

POPULATION DISTRIBUTION BY LAND USE

Employment numbers multiplied by 23% to represent amount of time spent at work

K-12 students added to Institutional Land use for 23% of time to represent amount of time spent on that land use

Residential population reduced by workforce and K-12 students for 23% of time

LAND USE CATEGORY	NAICS CODES	POPULATION #	POPULATION %
Residential, less Employment distribution from E99	5617, 50% of 5621, 6216	80,844	85.2%
Commercial	44-45, 51-55, 71 (less 713), 72, 81	4,090	4.3%
Industrial	21, 22, 23, 31-33, 42, 48-49	1,349	1.4%
Institutional	56, 61, 62, 92, 99 + K-12 kids	8,137	8.6%
UVA			
Agriculture	11	84	0.1%
Open/Recreation	713	403	0.4%
Vacant	0	0	0.0%
SUBTOTAL - Employment & K-12 distribution		14,064	14.8%
TOTALS		94,908	100.0%

Similar calculations were then carried out for the City of Charlottesville for 2009:

Step 6:

Charlottesville City Population - 2009		
Permanent Population		**42,218**
UVA Non- Resident Student Population		
Total UVA students - 2009	20,894	
# non-resident students	20,349	
Time spent in county = 65% of year	13,227	
% of UVA in Charlottesville City - 14%		1,852
Annual Toursim - Visitors to City	147,959	
Time spent in county = 1.5 days/.4%		592
In-commuters - see line C30 below		5,399
Less out-commuters - see line C32 below		-2,085
TOTAL POPULATION SERVED		**47,975**

Step 7:

Employement by Industry		
11 - Agriculture, Forestry, Fishing & Hunting		38
21 - Mining, Quarrying, Oil & Gas Extraction		
22 - Utilities*		104
23 - Construction		1,438
31-33 - Manufacturing		705
42 - Wholesale Trade		670
44-45 - Retail Trade		3,518
48-49 - Transportation and Warehousing		231
51 - Information		1,402
52 - Finance and Insurance		862
53 - Real Estate and Rental and Leasing		438
54 - Professional, Scientific & Technical Services		2,657
55 - Management of Companies & Enterprises		345
56 - Administrative Support & Waste Management		1,079
5617 - Services to buildings & dwellings	407	
5621 - Waste collection	0	
61 - Educational Services		599
62 - Health Care and Social Assistance		3,606
6216 - Home health care services	0	
71 - Arts, Entertainment and Recreation		382
713 - Amusement and recreation industries	33	
72 - Accommodation and Food Services		4,557
81 - Other Services (except Public Administration)		1,570
92 - Public Administration (Government) Total		10,187
Federal Government	626	
State Government	6,760	
Local Government	2,801	
99 - Unclassified		
TOTAL Workforce		**34,388**

Step 8:

Workforce Population		34,388	
Total hours in one year:		8,760	
40 hr week times 49 weeks/yr:		1,960	
Working hours as % of total hours		22%	7,565
Workforce - Residents & Commuters			
People who live and work in the area		11,230	
Time local workers spend at work		23%	2,583
In-commuters		23,472	
Time in-commuters spend in Cville		23%	5,399
Out-communters		9,067	
Time out-communters spend out of Cville		23%	2,085
K-12 Student Population		4,069	
Time spent in classroom			
35 weeks/6.5 hrs per day = 1,138 hrs		13%	529

Step 9:

EMPLOYMENT DISTRIBUTION BY LAND USE

LAND USE CATEGORY	NAICS CODES	EMPLOYMENT #	EMPLOYMENT %
Residential	5617, 50% of 5621, 6216	407	1.2%
Commercial	44-45, 51-55, 71 (less 713), 72, 81	15,698	45.6%
Industrial	21, 22, 23, 31-33, 42, 48-49	3,148	9.2%
Institutional (less UVA)	56, 62 (less residential), 61, 92, 99	13,355	38.8%
UVA	12,206 employees x 14%	1,709	5.0%
Agriculture	11	38	0.1%
Open/Recreation	713	33	0.1%
Vacant	0	0	0.0%
TOTALS		34,388	100.00%

Step 10:

POPULATION DISTRIBUTION BY LAND USE

Employment numbers multiplied by 23% to represent amount of time spent at work
K-12 students added to Institutional Land use for 23% of time to represent amount of time spent on that land use
Residential population reduced by workforce and K-12 students for 23% of time

LAND USE CATEGORY	NAICS CODES	POPULATION #	POPULATION %
Residential, less Employment distribution from E99	5617, 50% of 5621, 6216	33,347	79.0%
Commercial	44-45, 51-55, 71 (less 713), 72, 81	3,611	8.6%
Industrial	21, 22, 23, 31-33, 42, 48-49	724	1.7%
Institutional	56, 61, 62, 92, 99 + K-12 kids	4,494	10.6%
UVA			0.0%
Agriculture	11	9	0.0%
Open/Recreation	713	33	0.1%
Vacant	0	0	0.0%
SUBTOTAL - Employment & K-12 distribution		8,871	21.0%
TOTALS		42,218	100.0%

Similar calculations also were carried out for 2008 for Albemarle County and for 2007 for the City of Charlottesville to: (1) provide data for the second-year calculations in Section 1.1 that were used as a comparison to the 2009 findings, and (2) serve as a basis in Section 1.2 for breaking out commercial, industrial and institutional land uses in more detail.

1.5.2 - Where people spend their time

The objective of this allocation was to:

1. Determine, generally, what portion of time is spent using different land use categories by people in different demographic groups—pre-school children, K-12 children, stay-at-home parents, working parents, professionals, college students, and retirees.

The advantage of creating this calculation is that it corrects a weakness in many other fiscal impact studies. These studies often attribute all non-work-related expenses associated with a community's population to residential land uses. This calculation recognizes that people spend a considerable amount of time outside of their residences. It makes it possible for the revenues and expenses that can be allocated by population to be distributed in a relatively fair way across the various land uses where people spend their time.

The sources of data used for the calculations were the same as used in Section 1.5.1, above. Additional data came from the 2000 Census, the 2006-2008 American Community Surveys for Albemarle County and Charlottesville, and the *County of Albemarle Information Sheet.*

Charlottesville's Downtown Mall *photos by Craig Evans*

Here is how this allocation method was designed - Albemarle County 2009 – Steps 1 through 3:

1. Where People Spend Their Time: Initial Calculation - 12 month average, including weekdays and weekends

Distribution of Hours per Day

	Residence	Travel	Classroom /studying - K-12: 13% of time - 175 days/year	Workplace - 22% of time - 240 days/year	Commercial Establishments	Institutions - except schools	Recreation Areas	TOTALS
Pre-school children (under 5)	22.25	0.00	0.00	0.00	0.50	0.25	1.00	24.00
School age children (5-19 years)	16.30	0.50	3.10	0.00	1.30	0.50	2.30	24.00
Stay-at-home moms	21.50	0.00	0.00	0.00	1.00	0.50	1.00	24.00
Working parents	14.00	0.75	0.00	5.25	2.00	1.50	0.50	24.00
Professionals	13.50	0.75	0.00	5.25	2.50	1.50	0.50	24.00
College students	13.00	0.50	4.00	0.00	3.50	1.50	1.50	24.00
Retirees (65-85 and over)	17.50	0.00	0.00	0.00	2.50	2.00	2.00	24.00
AVERAGES	16.86	0.36	1.01	1.50	1.90	1.11	1.26	24.00

2. Where People Spend Their Time: Percentages

Distribution of Hours by Percentages

	Residence	Travel	Classroom /studying	Workplace	Commercial Establishments	Institutions - except schools	Recreation Areas	TOTALS
Pre-school children (under 5)	92.7%	0.0%	0.0%	0.0%	2.1%	1.0%	4.2%	100.0%
School age children (5-19 years)	67.9%	2.1%	12.9%	0.0%	5.4%	2.1%	9.6%	100.0%
Stay-at-home moms	89.6%	0.0%	0.0%	0.0%	4.2%	2.1%	4.2%	100.0%
Working parents	58.3%	3.1%	0.0%	21.9%	8.3%	6.3%	2.1%	100.0%
Professionals	56.3%	3.1%	0.0%	21.9%	10.4%	6.3%	2.1%	100.0%
College students	54.2%	2.1%	16.7%	0.0%	14.6%	6.3%	6.3%	100.0%
Retirees (65-85 and over)	72.9%	0.0%	0.0%	0.0%	10.4%	8.3%	8.3%	100.0%
AVERAGES	**70.3%**	**1.5%**	**4.2%**	**6.3%**	**7.9%**	**4.6%**	**5.2%**	**100.0%**

3. Where People Spend Their Time: Completed, Weighted Calculation for Albemarle County

Distribution of Hours by Percentage of Time Spent in Each Land Use Category According to Percentage of Population in Each Demographic Group

Demographic Group	Residence	Travel	Classroom /studying	Workplace	Commercial Establishments	Institutions - except schools	Recreation Areas	TOTALS
Pre-school children (under 5)	5,509	0	0	0	124	62	248	5,942
School age children (5-19 years)	13,236	406	2,517	0	1,056	406	1,868	19,489
Stay-at-home moms	4,909	0	0	0	228	114	228	5,479
Working parents	11,409	611	0	4,278	1,630	1,222	407	19,559
Professionals	11,002	611	0	4,278	2,037	1,222	407	19,559
College students	13,203	508	4,062	0	3,555	1,523	1,523	24,374
Retirees (65-85 and over)	8,664	0	0	0	1,238	990	990	11,882
TOTALS	67,931	2,136	6,580	8,557	9,867	5,540	5,672	**106,283**
PERCENTAGES	**63.9%**	**2.0%**	**6.2%**	**8.1%**	**9.3%**	**5.2%**	**5.3%**	**100.0%**

Data for Steps 1, 2 and 3:

Demographic Group Definitions - Albemarle County	Number	Percent	Defined as	
Pre-school children (under 5)	5,942	5.6%	children under five	
School age children (5-19 years)	19,489	18.3%	K-12	
Stay-at-home moms	5,479	5.2%	Total population - less pre-school, K-12, workforce, college students & retirees	
Working parents	19,559	18.4%	Workforce population	39,117 split between working parents and professionals
Professionals	19,559	18.4%	Workforce population	39,117 split between working parents and professionals
College students	24,374	22.9%		
UVA			17,500	Non-resident UVA students: 20,894 x 86% - percentage of UVA campus in County
Piedmont VA Community College			5,401	Resident students - 1/2 attributed to Cville & 1/2 attirbuted to Albemarle
Blue Ridge Community College			4,883	Resident students - 1/2 attributed to Cville & 1/2 attirbuted to Albemarle
Mary Baldwin College			1,732	Resident students
Retirees (65-85 and over)	11,882	11.2%	people over 65	
TOTALS	106,283	100.0%		

Age Cohorts	Albemarle	% of Total	2009 Equivalent
Under 5 years	4,961	6.26%	5,942
5 to 9 years	5,608	7.08%	6,717
10 to 14 years	5,928	7.48%	7,100
15 to 19 years	4,735	5.98%	5,671
20 to 24 years	4,209	5.31%	5,041
25 to 29 years	5,438	6.86%	6,513
30 to 34 years	5,691	7.18%	6,817
35 to 39 years	6,514	8.22%	7,802
40 to 44 years	6,844	8.64%	8,198
45 to 49 years	6,579	8.30%	7,880
50 to 54 years	5,492	6.93%	6,578
55 to 59 years	4,108	5.18%	4,920
60 to 64 years	3,209	4.05%	3,844
65 to 69 years	2,831	3.57%	3,391
70 to 74 years	2,517	3.18%	3,015
75 to 79 years	2,101	2.65%	2,516
80 to 84 years	1,312	1.66%	1,571
85 years and over	1,159	1.46%	1,388
	79,236	100.00%	94,906

Source: 2000 Census

Housing Units	39,791
Single Family	30,374
Multi-Family	9,095
Mobile Homes	1,761
Actual Total	41,230

Step 4 – Creating the allocations for use in Sections 1.1, 1.3 and 1.4 and to generate numbers for use in Section 1.2

Allocation for Population, based on Where People Spend Their Time - 2009

	TOTAL LAND USES	SINGLE FAMILY RESIDENTIAL	MULTI FAMILY RESIDENTIAL	MOBILE HOMES RESIDENTIAL	TOTAL RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	UVA	AGRICULTURE	OPEN SPACE/ RECREATION	
WORKFORCE/EMPLOYMENT	47,033	612	183	35	831	17,784	5,867	11,287	10,497	365	403	47,033
WORKFORCE/EMPLOYMENT %	100.00%	1.30%	0.39%	0.08%	1.77%	37.81%	12.47%	24.00%	22.32%	0.78%	0.86%	100.00%
POPULATION	106,283	52,235	15,641	3,028	70,904	13,408	1,373	7,899	6,277	372	6,051	106,283
POPULATION %	100.00%	49.15%	14.72%	2.85%	66.71%	12.62%	1.29%	7.43%	5.91%	0.35%	5.69%	100.00%

Notes:

The references to columns and lines are for the spreadsheet on which calculations were done, and from which this explanation was taken:

“Total Residential" is calculated as follows from Table 3: (1) Residence Total + (2) Classroom allocation for K-12 students + (3) Workplace Total x Workforce percentage from Line 10 for Residential + (4) 1/7 of Travel Total (which is allocated equally to each of the land use categories listed here)

Breakdown by Residential Category done according to Housing Unit Allocations

"Commercial" is calculated as follows from Table 3: (1) Commercial Establishments Total + (2) Workplace Total x Workforce percentage, Line 10, for Commercial + (3) 1/7 of Travel Total

"Industrial" is calculated as follows: (1) Workplace Total from Table 4 x Workforce percentage, Line 10, for Industrial + (2) 1/7 of Travel Total from Table 3

"Institutional" is calculated as follows from Table 3: (1) Institutions Total + (2) Workplace Total x Workforce percentage, Line 10, for Institutional + (3) 1/7 of Travel Total

"UVA" is calculated as follows from Table 3: (1) Classroom allocation for College Students + (2) Workplace Total from Table 3 x Workforce percentage, Line 10, for UVA + (3) 1/7 of Travel Total

"Agriculture" is calculated as follows from Table 3: (1) Workplace Total x Workforce percentage, Line 10, for Agriculture + (2) 1/7 of Travel Total

"Open Space/Recreation" is calculated as follows from Table 3: (1) Recreation Area Total + (2) Workplace Total x Workforce percentage, Line 10, for Open Space/Recreation + (3) 1/7 Travel Total

Here is how this allocation method was designed for the City of Charlottesville (2009) – Steps 1 through 3:

1. Where People Spend Their Time: Initial Calculation - 12 month average, including weekdays and weekends

Distribution of Hours per Day

	Residence	Travel	Classroom /studying - K-12: 13% of time - 175 days/year	Workplace - 22% of time - 240 days/year	Commercial Establishments	Institutions - except schools	Recreation Areas	TOTALS
Pre-school children (under 5)	22.25	0.00	0.00	0.00	0.50	0.25	1.00	24.00
School age children (5-19 years)	16.30	0.50	3.10	0.00	1.30	0.50	2.30	24.00
Stay-at-home moms	21.50	0.00	0.00	0.00	1.00	0.50	1.00	24.00
Working parents	14.00	0.75	0.00	5.25	2.00	1.50	0.50	24.00
Professionals	13.50	0.75	0.00	5.25	2.50	1.50	0.50	24.00
College students	13.00	0.50	4.00	0.00	3.50	1.50	1.50	24.00
Retirees (65-85 and over)	17.50	0.00	0.00	0.00	2.50	2.00	2.00	24.00
AVERAGES	16.86	0.36	1.01	1.50	1.90	1.11	1.26	24.00

2. Where People Spend Their Time: Percentages

Distribution of Hours by Percentages

	Residence	Travel	Classroom /studying	Workplace	Commercial Establishments	Institutions - except schools	Recreation Areas	TOTALS
Pre-school children (under 5)	92.7%	0.0%	0.0%	0.0%	2.1%	1.0%	4.2%	100.0%
School age children (5-19 years)	67.9%	2.1%	12.9%	0.0%	5.4%	2.1%	9.6%	100.0%
Stay-at-home moms	89.6%	0.0%	0.0%	0.0%	4.2%	2.1%	4.2%	100.0%
Working parents	58.3%	3.1%	0.0%	21.9%	8.3%	6.3%	2.1%	100.0%
Professionals	56.3%	3.1%	0.0%	21.9%	10.4%	6.3%	2.1%	100.0%
College students	54.2%	2.1%	16.7%	0.0%	14.6%	6.3%	6.3%	100.0%
Retirees (65-85 and over)	72.9%	0.0%	0.0%	0.0%	10.4%	8.3%	8.3%	100.0%
AVERAGES	**70.3%**	**1.5%**	**4.2%**	**6.3%**	**7.9%**	**4.6%**	**5.2%**	**100.0%**

3. Where People Spend Their Time: Completed, Weighted Calculation for City of Charlottesville

Distribution of Hours by Percentage of Time Spent in Each Land Use Category According to Percentage of Population in Each Demographic Group

Demographic Group	Residence	Travel	Classroom /studying	Workplace	Commercial Establishments	Institutions - except schools	Recreation Areas	TOTALS
Pre-school children (under 5)	1,721	0	0	0	39	19	77	1,857
School age children (K-12)	6,273	192	1,193	0	500	192	885	9,236
Stay-at-home moms	1,276	0	0	0	59	30	59	1,424
Working parents	5,920	317	0	2,220	846	634	211	10,149
Professionals	5,709	317	0	2,220	1,057	634	211	10,149
College students	4,328	166	1,332	0	1,165	499	499	7,991
Retirees (65-85 and over)	3,108	0	0	0	444	355	355	4,262
TOTALS	28,334	993	2,525	4,440	4,110	2,365	2,299	**45,067**
PERCENTAGES	**62.9%**	**2.2%**	**5.6%**	**9.9%**	**9.1%**	**5.2%**	**5.1%**	**100.0%**

Data for Steps 1, 2 and 3:

Demographic Group Definitions - City of Charlottesville	Number	Percent	Defined as
Pre-school children (under 5)	1,857	4.1%	children under 5
School age children (5-18 years)	9,236	20.5%	K-12 students
Stay-at-home moms	1,424	3.2%	Total population - less pre-school, K-12, workforce, college students & retirees
Working parents	10,149	22.5%	Workforce population 20,297 split between working parents and professionals
Professionals	10,149	22.5%	Workforce population 20,297 split between working parents and professionals
College students	7,991	17.7%	
UVA			2,849 Non-resident UVA students: 20,349 x 14% - percentage of UVA campus in Charlottesville
Piedmont VA Community College			5,401 Resident students - 1/2 attributed to Cville & 1/2 attirbuted to Albemarle
Blue Ridge Community College			4,883 Resident students - 1/2 attributed to Cville & 1/2 attirbuted to Albemarle
Retirees (65-85 and over)	4,262	9.5%	people over 65
TOTALS	45,067	100.0%	

Age Cohorts	Cville City	% of Total	2009 Equivalent
Under 5 years	1,981	4.4%	1,857
5 to 9 years	1,920	4.3%	1,799
10 to 14 years	1,882	4.2%	1,764
15 to 19 years	6,053	13.4%	5,673
20 to 24 years	10,207	22.7%	9,769
25 to 29 years	3,694	8.2%	3,462
30 to 34 years	2,872	6.4%	2,692
35 to 39 years	2,628	5.4%	2,259
40 to 44 years	2,411	5.4%	2,259
45 to 49 years	2,235	5.0%	2,095
50 to 54 years	1,975	4.4%	1,851
55 to 59 years	1,433	3.2%	1,343
60 to 64 years	1,210	2.7%	1,134
65 to 69 years	1,133	2.5%	1,062
70 to 74 years	1,174	2.6%	1,100
75 to 79 years	969	2.2%	908
80 to 84 years	674	1.5%	632
85 years and over	598	1.3%	560
	45,049	100%	42,218

Source: 2000 Census

Housing Units	19,189
Single Family	10,899
Multi-Family	8,290
Total	19,189

Step 4 – creating the allocations for use in Sections 1.1, 1.3 and 1.4 and to generate numbers for use in Section 1.2

Allocation for Population, based on Where People Spend Their Time - 2009

	TOTAL LAND USES	SINGLE FAMILY RESIDENTIAL	MULTI FAMILY RESIDENTIAL	TOTAL RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	UVA	OPEN SPACE/ RECREATION	VACANT	
WORKFORCE/EMPLOYMENT	34,388	231	176	407	15,698	3,186	13,355	1,709	33	0	34,388
WORKFORCE/EMPLOYMENT %	100.00%	0.67%	0.51%	1.18%	45.65%	9.26%	38.84%	4.97%	0.10%	0.00%	100.00%
POPULATION	45,067	16,935	12,880	29,816	6,299	555	4,244	1,699	2,453	0	45,067
POPULATION %	100.00%	37.58%	28.58%	66.16%	13.98%	1.23%	9.42%	3.77%	5.44%	0.00%	100.00%
	142			94	20	2	13	5	8	0	142

Notes:

The references to columns and lines are for the spreadsheet on which calculations were done, and from which this explanation was taken:

"Total Residential" is calculated as follows from Table 3: (1) Residence Total + (2) Classroom allocation for K-12 students + (3) Workplace Total x Workforce percentage from Line 10 for Residential + (4) 1/7 of Travel Total (which is allocated equally to each of the land use categories listed here, excluding Vacant)

Breakdown by Residential Category done according to Housing Unit Allocations

"Commercial" is calculated as follows from Table 3: (1) Commercial Establishments Total + (2) Workplace Total x Workforce percentage, Line 10, for Commercial + (3) 1/7 of Travel Total

"Industrial" is calculated as follows: (1) Workplace Total from Table 3 x Workforce percentage, Line 10, for Industrial + (2) 1/7 of Travel Total from Table 3

"Institutional" is calculated as follows from Table 3: (1) Institutions Total + (2) Workplace Total x Workforce percentage, Line 10, for Institutional + (3) 1/7 of Travel Total

"UVA" is calculated as follows from Table 3: (1) Classroom allocation for College Students + (2) Workplace Total from Table 3 x Workforce percentage, Line 10, for UVA + (3) 1/7 of Travel Total

"Agriculture" is calculated as follows from Table 3: 1) Workplace Total x Workforce percentage, Line 10, for Agriculture + (2) 1/7 of Travel Total

"Open Space/Recreation" is calculated as follows from Table 3: (1) Recreation Area Total + (2) Workplace Total x Workforce percentage, Line 10, for Open Space/Recreation + (3) 1/7 Travel Total

Similar calculations were carried out for 2008 for Albemarle County and for 2007 for the City of Charlottesville. These calculations were used to provide data for the second-year calculations in Section 1.1 that were used as a comparison to the 2009 findings, and as a basis in Section 1.2 for breaking out commercial, industrial and institutional land uses in more detail.

Some reviewers of this study may wish to question the number of hours each demographic group spends on average in their place of residence over the course of a year, arguing that the numbers in the tables above are overstated. For example, it may seem excessive to state that college students or working professionals spend an average of 13 or 13.5 hours in their homes each day, especially considering all the time college students spend in classes, in coffee shops and the library studying, and relaxing in bars and entertainment venues.

Whether 9, 11 or 13 is the correct number of hours does not significantly change the findings of this study. The hours presented in the tables above are a guide for allocating costs across different land uses.

All costs for every person living or spending time in Albemarle County or the City of Charlottesville, eventually relate back to their dwelling or the place where they overnight since, if they did not live here, or stay here even temporarily, county and city governments would not be incurring costs to provide services for them. These costs are incurred by local governments, whether a person is spending more time in their residence, at the office, or in coffee shops and bars. That's because *costs follow people*.

The calculations above assign about two-thirds of the costs incurred by each person to their residence. When pressed to provide a "reasonable estimate" of how much time they spend in their homes over the course of a year, most people will give estimates ranging from one-third to one half during the weekdays and from three-quarters to full time on weekends. This works out to an overall average somewhere between one-half to two-thirds for most people. When all demographic groups are factored in, the average comes out at exactly two-thirds.

As part of the assumption-testing that was carried out as part of this study, five people from different age groups were asked to estimate how much time they spent in each of the land use categories covered in this study. Their estimates were higher for their residences than what the study team had originally expected. Hence, the numbers in the study were increased based on the answers received through this non-scientific informal survey.

For comparison, the original estimates, which assigned an average of 10% fewer hours to a person's residence, were tested against the final numbers used in the study. It was found that the ratios for most land use categories changed only slightly, sometimes by only 1, 2 or 3 cents, sometimes not at all.

The relationships between all but one of land uses also remained the same. In the one where the relationships did not remain the same, there was a significant change: By moving time and the costs associated with that time away from a person's residence, commercial land uses took on the brunt of the shifted costs, which added 15 percent to their costs and, thus, reduced their fiscally attractive surpluses accordingly.

At the same time, the overall costs associated with single family homes and residential land uses as a whole *did not change*. They remained exactly the same, producing ratios in Albemarle County of $1.00:$1.28 for single family homes and $1.00:$1.41 for the residential category as a whole, and ratios in the City of Charlottesville of $1.00:$1.24 for single family homes and $1.00:$1.37 for the residential category as a whole. What changed slightly in both cases was the *relationship between land uses*.

1.5.3 - Land use

The objectives of this series of allocations were to:

1. Gather data from the County Assessor and City Assessor on all properties in the County and City;
2. Obtain a breakdown on these properties by land use code, with information on the number of parcels, acreages and taxable values of the properties contained within each use code;
3. Use this data to determine the characteristics of each of the major land use categories used in the study; and
4. Use this data to design allocations based on ***taxable value***, ***parcels*** and ***acreages*** so that revenues and expenses could be apportioned among the various land use categories (assigning, for example, 10% of the costs of a service to a land use that makes up 10% of the taxable value of all the county's properties).

All data received from City Assessor Roosevelt Barbour was ready to be plugged into the study. There were several complications in securing information from the county, however. Budget cuts had left the County Assessor's office short staffed, which made it difficult for the office to respond to requests for specific data that were not already available in public documents. The special data searches that were requested were carried out willingly and competently, but they took time, since the requests had to be worked in around higher priority work.

Also, when the data on county land uses was first delivered, county land use codes only reported seven parcels and 149 acres in agriculture uses. Almost all agricultural lands are associated in the county with a dwelling unit. Hence, they were counted by the county within the single family home category. While the county has a little over 30,000 single family homes, county data for the 2008-2009 fiscal year indicated that they were located on 31,903 parcels that covered 235,264 acres, an average acreage of almost 7.5 acres each–obviously larger than the average home site. Taking this data on face value, it appeared that residential land uses took up a little over half of the county's land area.

Data from the U.S. Department of Agriculture's 2007 Agricultural Census indicates that there are 158,314 acres in agricultural production in Albemarle County. Obviously, some of the land designated by the county as single family home sites was indeed agricultural land.

One of the reasons agricultural lands are grouped together by the county with single family land uses is to make computations associated with the county's Land Use Value Assessment Program easier to complete. Lands qualifying for a land use valuation deferral (explained more fully below) receive preferential real estate tax treatment to facilitate agriculture pursuits.

At the request of County Assessor Bob Willingham, a programmer analyst in the County's Department of Information Technology, Chris Carlson, ran a data search and provided a spreadsheet with a breakdown of properties in the county, using state land use codes. The state land use codes have two categories for agricultural land uses–undeveloped 20 to 100 acres and undeveloped greater than 100 acres–which allows one to distinguished between major categories of agriculture.

According to the state data, residential-only uses were shown to occupy 88,000 acres, about 20% of the county's land area, while agricultural, forestry and private open space lands were shown to occupy a little over 327,000 acres, about 71% of the county's land area.

This data is a critical component of this study, since it provides the data necessary to properly breakdown major categories of land uses in the county. With 71% of the land area, agriculture

obviously is a significant element of the county's landscape. Hence, it was not possible to move forward with completion of the study until this data was secured.

All of the land uses reported in this study are based on the land use designations and data provided by the County Assessor and City Assessor. The data received from the assessors' offices included a list of use codes, from 100 to 606 for the County, and from 200 through 604 for the City. On request, parcel counts, acreages and taxable values were given for each use code. Each use code was reviewed, color coded according to the category in which it belonged, and then grouped into those categories. The categories into which the use codes were organized were: single family residential, multi-family residential (including student housing), mobile homes, commercial, industrial, institutional, University of Virginia, agriculture, open space/recreation and vacant.

The state data subsequently received from the county had the same general breakdown of land uses, except that vacant land was not broken out separately from the other categories. Hence, the vacant land category was dropped from the county analysis.

Here is how the data received from the County and City was organized for use in this study:

Albemarle County – Step 1 – Review and color coding of data received from County Assessor

Albemarle County
Taxable Parcels by Use Code
From County Assessor Bob Willingham - September 23, 2010

Usecode	Description	Count	Acreage	Taxable Land Assessment	Building Assessment
100	Bed and Breakfast	9	48.7490	$ 1,861,100.00	$ 4,056,500.00
106	Minerals Only	5	655.1040	$ 221,200.00	$ 13,400.00
200	Vacant Residential Land	8647	172523.4886	$ 806,918,100.00	$ 17,492,500.00
210	Single Family	31850	234814.3367	$ 3,964,549,200.00	$ 7,196,138,800.00
211	Multi-Family	117	89.3660	$ 8,949,300.00	$ 28,639,200.00
212	Misc. Farm Buildings	58	4074.5090	$ 5,836,300.00	$ 3,905,900.00
213	Mobile Homes	33	174.1290	$ 2,445,100.00	$ 553,700.00
214	Doublewide	36	123.0390	$ 3,328,300.00	$ 2,095,900.00
215	Multi-Family - Income	15	147.3430	$ 3,075,400.00	$ 8,322,700.00
216	Mobile Home Park	13	324.8360	$ 38,577,200.00	$ 2,520,000.00
217	Single Family-Rental	38	383.5200	$ 2,151,000.00	$ 4,367,600.00
218	Duplex	131	97.6629	$ 9,783,300.00	$ 19,483,800.00
219	Country Store	7	69.5410	$ 1,311,300.00	$ 722,400.00
220	Misc. Bldg(s)-Rural	21	398.2750	$ 5,434,600.00	$ 706,500.00
221	Industrial, Light Mfg.	4	16.4740	$ 616,800.00	$ 260,400.00
222	Quarry	2	254.4920	$ 5,159,200.00	$ 722,800.00
223	Camp(Recreational)	2	75.5420	$ 437,200.00	$ 643,900.00
224	Rental House	15	66.2520	$ 2,386,900.00	$ 2,042,400.00
225	Leasehold - Commercial	6	12.3410	$ 303,100.00	$ 85,200.00
226	Swimming Complex	3	19.0360	$ 609,500.00	$ 663,000.00
229	Winery	2	129.5470	$ 71,000.00	$ 986,200.00
230	Campground-Commercial	2	55.1000	$ 868,400.00	$ 1,570,800.00
232	TV/Radio Antennae	33	44.4960	$ 2,168,500.00	$ 6,573,500.00
235	Apartments	140	712.1880	$ 174,407,200.00	$ 769,619,400.00
250	Vacant Commercial Land	21	101.4050	$ 23,662,400.00	$ -
298	Business, Rural	6	11.3530	$ 1,664,000.00	$ 460,900.00
299	Commercial Misc Improvements	5	8.1850	$ 786,200.00	$ 34,300.00
300	Apartment(High Rise)	1	4.5000	$ 947,500.00	$ 4,416,800.00
303	Automobile Showroom	3	17.7210	$ 11,079,100.00	$ 6,823,700.00
304	Bank	25	23.8740	$ 23,577,300.00	$ 16,148,600.00
305	Barn	1	3.5000	$ 171,500.00	$ 38,600.00
306	Bowling Alley	1	5.7310	$ 3,145,500.00	$ 1,476,600.00
311	Clubhouse	15	774.9520	$ 13,812,900.00	$ 11,609,900.00

Color codes to organize land use designations:
Residential
Single Family
Multi-Family
Mobile Home
Student Housing
Commercial
Industrial
Institutional
Open Space/Recreation
Agriculture
Vacant

313	Convalescent Hospital	2	16.3140	$	5,715,000.00	$	9,620,400.00			
314	Country Club	4	977.3790	$	51,131,300.00	$	27,911,800.00			
318	Department Store	5	42.9260	$	23,358,600.00	$	6,214,900.00			
319	Discount Store	3	16.3550	$	9,542,600.00	$	11,241,800.00			
321	Dormitory	1	1.8560	$	295,600.00	$	2,018,300.00			
322	Fire Station (Staff)	1	2.0000	$	597,600.00	$	2,676,200.00			
323	Fraternal Building	1	2.6440	$	317,300.00	$	281,000.00			
324	Fraternity House	4	0.0000	$	-	$	3,004,000.00			
328	Storage Hangar	1	1.0000	$	81,700.00	$	82,200.00			
329	Hangar, Maint. & Office	1	3.7270	$	91,300.00	$	123,600.00			
330	Home For The Elderly	8	128.1540	$	26,415,400.00	$	177,319,800.00			
331	Hospital	3	233.9360	$	20,236,800.00	$	33,208,000.00			
336	Laundromat	1	0.3410	$	294,100.00	$	181,600.00			
339	Lumber Storage Shed Horizonta	2	18.7020	$	2,162,500.00	$	1,194,600.00			
340	Market	2	16.3000	$	307,400.00	$	180,800.00			
341	Medical Office	43	48.4700	$	17,406,100.00	$	28,646,600.00			
342	Mortuary	4	3.0200	$	1,509,900.00	$	1,430,600.00			
343	Motel	3	9.3060	$	5,943,200.00	$	8,708,700.00			
344	Office Building	439	459.1340	$	165,845,900.00	$	366,734,000.00			
349	Fast Food Restaurant	12	12.9680	$	12,714,800.00	$	4,375,900.00			
350	Restaurant	30	32.0960	$	27,188,100.00	$	13,954,700.00			
353	Retail Store	114	403.8440	$	90,698,400.00	$	77,516,700.00			
356	Classroom -Elem/2nd Sch	1	17.2280	$	285,600.00	$	2,175,800.00			
365	Elementary Sch (Entire)	1	1.6080	$	394,000.00	$	1,197,700.00			
380	Theaters, Cinema	1	6.3540	$	2,241,900.00	$	2,292,800.00			
381	Veterinary Hospital	10	24.6040	$	4,112,800.00	$	4,940,500.00			
386	Mini-Warehouse	11	47.0410	$	16,042,100.00	$	23,520,000.00			
387	Transit Warehouse	5	13.8330	$	5,640,600.00	$	1,554,800.00			
392	Industrial Engineering	1	4.8630	$	1,559,100.00	$	3,953,000.00			
406	Storage Warehouse	38	171.4030	$	38,156,800.00	$	24,801,100.00			
407	Dist. Warehouse	12	59.4880	$	13,200,100.00	$	19,523,000.00			
408	Service Station	2	1.5080	$	775,900.00	$	184,000.00			
409	T-Hanger	28	0.0000	$	50,000.00	$	739,600.00			
410	Automotive Center	2	4.2050	$	2,600,000.00	$	933,500.00			
412	Neighborhood Shopping Ctr.	44	99.8050	$	52,245,700.00	$	63,705,700.00			
413	Comm. Shopping Ctr.	5	48.7860	$	23,494,800.00	$	33,965,700.00			
414	Regional Shopping Ctr.	2	31.0260	$	12,726,800.00	$	94,101,300.00			
416	Tennis Club, Indoor	1	12.1410	$	3,257,800.00	$	11,894,400.00			
418	Health Club	1	2.2560	$	567,500.00	$	2,544,300.00			
419	Convenience Market	30	46.7250	$	11,422,900.00	$	6,036,900.00			
423	Mini-Lube Garage	2	1.2420	$	1,330,900.00	$	778,800.00			
424	Group Care Home	1	8.0000	$	285,200.00	$	332,600.00			
426	Day Care Center	11	16.7100	$	4,248,300.00	$	4,274,700.00			
431	Outpatient Surgical Center	1	14.4070	$	4,518,500.00	$	20,071,700.00			
432	Restroom Building	3	30.7250	$	2,110,200.00	$	241,000.00			
435	Car Wash, Drive-Thru	2	1.3070	$	1,053,500.00	$	290,200.00			
436	Car Wash, Automatic	1	0.9390	$	932,600.00	$	564,500.00			
443	Central Bank	4	12.0860	$	10,300,200.00	$	16,530,500.00			
444	Dental Ofc/Clinic	2	0.2840	$	185,000.00	$	364,500.00			
446	Supermarket	4	9.5320	$	2,688,400.00	$	10,108,100.00			
447	Cold Storage Facilities	3	87.9640	$	1,069,800.00	$	3,215,400.00			
451	Muti Resid - Senior Citizen	1	2.2700	$	204,000.00	$	1,911,800.00			
455	Auto Dealership, Complete	13	54.3920	$	38,899,900.00	$	26,167,500.00			
458	Warehouse Discount Store	5	38.4690	$	20,330,800.00	$	12,224,700.00			
459	Mixed Retail w/Res Units	2	4.8790	$	1,023,600.00	$	8,857,500.00			
470	Equipment (Shop) bldg	3	31.1130	$	255,200.00	$	552,600.00			
471	Lt Comm Utiltiy Bldg	2	1.4460	$	694,700.00	$	308,000.00			
472	Equipment Shed	1	6.0350	$	316,200.00	$	58,800.00			
481	Museum	1	6.7090	$	735,600.00	$	2,124,600.00			
490	Kennels	3	6.2090	$	1,500,800.00	$	777,400.00			
494	Industrial Light Manufact	37	1039.3220	$	40,367,000.00	$	53,170,000.00			
495	Industrial Heavy Manufact	1	60.9600	$	917,100.00	$	3,157,200.00			
496	Laboratories	1	7.1000	$	2,152,600.00	$	5,023,200.00			
499	Dry Cleaners/Laundry	1	0.5800	$	341,100.00	$	450,800.00			
520	Greenhouse, Modified Hoop	1	9.9510	$	330,700.00	$	281,400.00			
522	Greenhouse, Straight Wall	1	3.7630	$	60,500.00	$	160,400.00			
528	Service Repair Garage	34	79.5880	$	24,644,700.00	$	8,446,800.00			
531	Mini-Mart Conven Store	16	23.8370	$	12,947,800.00	$	9,252,900.00			
534	Warehouse Showroom Store	1	1.2860	$	994,600.00	$	227,800.00			
542	Motel Rm, 1Sty, Double Row	1	17.2990	$	274,200.00	$	137,400.00			
543	Motel Rm, 1 Sty, Single Row	2	7.3470	$	1,402,100.00	$	26,200.00			
556	Bulk Oil Storage	1	1.3100	$	929,000.00	$	194,000.00			
571	Passenger Terminal	14	11.4890	$	614,200.00	$	3,155,300.00			
582	Post Office, Branch	7	2.9260	$	714,600.00	$	1,576,000.00			

586	Roadside Market	2	34.6200	$ 224,000.00	$ 244,100.00				
594	Hotel, Full Service	6	67.2340	$ 20,267,700.00	$ 57,540,100.00				
595	Hotel, Limited Service	3	9.4780	$ 6,313,200.00	$ 16,963,100.00				
597	Mixed Retail/Office Units	2	0.8210	$ 493,500.00	$ 6,847,600.00				
601	Vacant Residential R1-R15	81	867.2330	$ 78,870,400.00	$ 107,700.00				
602	Vacant Office CO	5	76.2790	$ 4,501,900.00	$ -				
603	Vacant Industrial, LI, HI, PDI	50	727.8130	$ 58,620,400.00	$ 2,700,700.00				
604	Vacant Commercial, CI,HC,PDN	133	321.8340	$ 131,478,500.00	$ 1,191,900.00				
605	Vacant Village Residential	1	0.7100	$ 42,000.00	$ -				
606	Neighborhood Model District	14	80.5790	$ 24,628,200.00	$ -				
		42626	423072.0112	$ 6,275,757,000.00	$ 9,468,495,700.00				

Albemarle County – Step 2 – Grouping of data by category

Use code	Use Code Description	Number of Parcels	Acreage	Taxable Land Assessment	Taxable Building Assessment
	Residential				
	Single Family				
210	Single Family	31,850	234,814.3367	$ 3,964,549,200.00	$ 7,196,138,800.00
217	Single Family-Rental	38	383.5200	$ 2,151,000.00	$ 4,367,600.00
224	Rental House	15	66.2520	$ 2,386,900.00	$ 2,042,400.00
		31,903	235,264.1087	$ 3,969,087,100.00	$ 7,202,548,800.00
	Multi-Family				
218	Duplex	131	97.6629	$ 9,783,300.00	$ 19,483,800.00
211	Multi-Family	117	89.3660	$ 8,949,300.00	$ 28,639,200.00
215	Multi-Family - Income	15	147.3430	$ 3,075,400.00	$ 8,322,700.00
451	Muti Resid - Senior Citizen	1	2.2700	$ 204,000.00	$ 1,911,800.00
235	Apartments	140	712.1880	$ 174,407,200.00	$ 769,619,400.00
300	Apartment(High Rise)	1	4.5000	$ 947,500.00	$ 4,416,800.00
321	Dormitory	1	1.8560	$ 295,600.00	$ 2,018,300.00
324	Fraternity House	4	0.0000	$ -	$ 3,004,000.00
		410	1055.1859	$ 197,662,300.00	$ 837,416,000.00
	Student Housing	combined with Multi-Family, above			
	Mobile Homes				
213	Mobile Homes	33	174.1290	$ 2,445,100.00	$ 553,700.00
214	Doublewide	36	123.0390	$ 3,328,300.00	$ 2,095,900.00
216	Mobile Home Park	13	324.8360	$ 38,577,200.00	$ 2,520,000.00
		82	622.0040	$ 44,350,600.00	$ 5,169,600.00
	Total Residential	**31,986**	**235,887.97**	**$ 4,013,733,300**	**$ 7,209,736,700**

Commercial							
100	Bed and Breakfast	9	48.7490	$	1,861,100.00	$	4,056,500.00
219	Country Store	7	69.5410	$	1,311,300.00	$	722,400.00
225	Leasehold - Commercial	6	12.3410	$	303,100.00	$	85,200.00
232	TV/Radio Antennae	33	44.4960	$	2,168,500.00	$	6,573,500.00
298	Business, Rural	6	11.3530	$	1,664,000.00	$	460,900.00
299	Commercial Misc Improvements	5	8.1850	$	786,200.00	$	34,300.00
303	Automobile Showroom	3	17.7210	$	11,079,100.00	$	6,823,700.00
304	Bank	25	23.8740	$	23,577,300.00	$	16,148,600.00
306	Bowling Alley	1	5.7310	$	3,145,500.00	$	1,476,600.00
311	Clubhouse	15	774.9520	$	13,812,900.00	$	11,609,900.00
314	Country Club	4	977.3790	$	51,131,300.00	$	27,911,800.00
318	Department Store	5	42.9260	$	23,358,600.00	$	6,214,900.00
319	Discount Store	3	16.3550	$	9,542,600.00	$	11,241,800.00
323	Fraternal Building	1	2.6440	$	317,300.00	$	281,000.00
328	Storage Hangar	1	1.0000	$	81,700.00	$	82,200.00
329	Hangar, Maint. & Office	1	3.7270	$	91,300.00	$	123,600.00
336	Laundromat	1	0.3410	$	294,100.00	$	181,600.00
340	Market	2	16.3000	$	307,400.00	$	180,800.00
341	Medical Office	43	48.4700	$	17,406,100.00	$	28,646,600.00
342	Mortuary	4	3.0200	$	1,509,900.00	$	1,430,600.00
343	Motel	3	9.3060	$	5,943,200.00	$	8,708,700.00
344	Office Building	439	459.1340	$	165,845,900.00	$	366,734,000.00
349	Fast Food Restaurant	12	12.9680	$	12,714,800.00	$	4,375,900.00
350	Restaurant	30	32.0960	$	27,188,100.00	$	13,954,700.00
353	Retail Store	114	403.8440	$	90,698,400.00	$	77,516,700.00
380	Theaters, Cinema	1	6.3540	$	2,241,900.00	$	2,292,800.00
381	Veterinary Hospital	10	24.6040	$	4,112,800.00	$	4,940,500.00
408	Service Station	2	1.5080	$	775,900.00	$	184,000.00
409	T-Hanger	28	0.0000	$	50,000.00	$	739,600.00
410	Automotive Center	2	4.2050	$	2,600,000.00	$	933,500.00
412	Neighborhood Shopping Ctr.	44	99.8050	$	52,245,700.00	$	63,705,700.00
413	Comm. Shopping Ctr.	5	48.7860	$	23,494,800.00	$	33,965,700.00
414	Regional Shopping Ctr.	2	31.0260	$	12,726,800.00	$	94,101,300.00
416	Tennis Club, Indoor	1	12.1410	$	3,257,800.00	$	11,894,400.00
418	Health Club	1	2.2560	$	567,500.00	$	2,544,300.00
419	Convenience Market	30	46.7250	$	11,422,900.00	$	6,036,900.00
423	Mini-Lube Garage	2	1.2420	$	1,330,900.00	$	778,800.00
426	Day Care Center	11	16.7100	$	4,248,300.00	$	4,274,700.00
431	Outpatient Surgical Center	1	14.4070	$	4,518,500.00	$	20,071,700.00
432	Restroom Building	3	30.7250	$	2,110,200.00	$	241,000.00
435	Car Wash, Drive-Thru	2	1.3070	$	1,053,500.00	$	290,200.00
436	Car Wash, Automatic	1	0.9390	$	932,600.00	$	564,500.00
443	Central Bank	4	12.0860	$	10,300,200.00	$	16,530,500.00
444	Dental Ofc/Clinic	2	0.2840	$	185,000.00	$	364,500.00
446	Supermarket	4	9.5320	$	2,688,400.00	$	10,108,100.00
455	Auto Dealership, Complete	13	54.3920	$	38,899,900.00	$	26,167,500.00
458	Warehouse Discount Store	5	38.4690	$	20,330,800.00	$	12,224,700.00
459	Mixed Retail w/Res Units	2	4.8790	$	1,023,600.00	$	8,857,500.00
470	Equipment (Shop) bldg	3	31.1130	$	255,200.00	$	552,600.00
490	Kennels	3	6.2090	$	1,500,800.00	$	777,400.00
499	Dry Cleaners/Laundry	1	0.5800	$	341,100.00	$	450,800.00
528	Service Repair Garage	34	79.5880	$	24,644,700.00	$	8,446,800.00
531	Mini-Mart Conven Store	16	23.8370	$	12,947,800.00	$	9,252,900.00
534	Warehouse Showroom Store	1	1.2860	$	994,600.00	$	227,800.00
542	Motel Rm, 1Sty, Double Row	1	17.2990	$	274,200.00	$	137,400.00
543	Motel Rm, 1 Sty, Single Row	2	7.3470	$	1,402,100.00	$	26,200.00
586	Roadside Market	2	34.6200	$	224,000.00	$	244,100.00
594	Hotel, Full Service	6	67.2340	$	20,267,700.00	$	57,540,100.00
595	Hotel, Limited Service	3	9.4780	$	6,313,200.00	$	16,963,100.00
597	Mixed Retail/Office Units	2	0.8210	$	493,500.00	$	6,847,600.00
		1023	3788.2470	$	736,916,600.00	$	1,018,855,700.00
	Total Commercial	**1,023**	**3,788.25**	**$**	**736,916,600**	**$**	**1,018,855,700**

Use code	Use Code Description	Number of Parcels	Acreage	Taxable Land Assessment	Taxable Building Assessment
Industrial					
106	Minerals Only	5	655.1040	$ 221,200.00	$ 13,400.00
221	Industrial, Light Mfg.	4	16.4740	$ 616,800.00	$ 260,400.00
222	Quarry	2	254.4920	$ 5,159,200.00	$ 722,800.00
339	Lumber Storage Shed Horizonta	2	18.7020	$ 2,162,500.00	$ 1,194,600.00
386	Mini-Warehouse	11	47.0410	$ 16,042,100.00	$ 23,520,000.00
387	Transit Warehouse	5	13.8330	$ 5,640,600.00	$ 1,554,800.00
392	Industrial Engineering	1	4.8630	$ 1,559,100.00	$ 3,953,000.00
406	Storage Warehouse	38	171.4030	$ 38,156,800.00	$ 24,801,100.00
407	Dist. Warehouse	12	59.4880	$ 13,200,100.00	$ 19,523,000.00
447	Cold Storage Facilities	3	87.9640	$ 1,069,800.00	$ 3,215,400.00
471	Lt Comm Utiltiy Bldg	2	1.4460	$ 694,700.00	$ 308,000.00
472	Equipment Shed	1	6.0350	$ 316,200.00	$ 58,800.00
494	Industrial Light Manufact	37	1039.3220	$ 40,367,000.00	$ 53,170,000.00
495	Industrial Heavy Manufact	1	60.9600	$ 917,100.00	$ 3,157,200.00
496	Laboratories	1	7.1000	$ 2,152,600.00	$ 5,023,200.00
556	Bulk Oil Storage	1	1.3100	$ 929,000.00	$ 194,000.00
		126	2445.5370	$ 129,204,800.00	$ 140,669,700.00
	Total Industrial	**126**	**2,445.54**	**$ 129,204,800**	**$ 140,669,700**
Institutional					
313	Convalescent Hospital	2	16.3140	$ 5,715,000.00	$ 9,620,400.00
322	Fire Station (Staff)	1	2.0000	$ 597,600.00	$ 2,676,200.00
330	Home For The Elderly	8	128.1540	$ 26,415,400.00	$ 177,319,800.00
331	Hospital	3	233.9360	$ 20,236,800.00	$ 33,208,000.00
356	Classroom -Elem/2nd Sch	1	17.2280	$ 285,600.00	$ 2,175,800.00
365	Elementary Sch (Entire)	1	1.6080	$ 394,000.00	$ 1,197,700.00
424	Group Care Home	1	8.0000	$ 285,200.00	$ 332,600.00
481	Museum	1	6.7090	$ 735,600.00	$ 2,124,600.00
571	Passenger Terminal	14	11.4890	$ 614,200.00	$ 3,155,300.00
582	Post Office, Branch	7	2.9260	$ 714,600.00	$ 1,576,000.00
		39	428.3640	$ 55,994,000.00	$ 233,386,400.00
	Total Institutional	**39**	**428.36**	**$ 55,994,000**	**$ 233,386,400**
Agriculture					
212	Misc. Farm Buildings	58	4074.5090	$ 5,836,300.00	$ 3,905,900.00
220	Misc. Bldg(s)-Rural	21	398.2750	$ 5,434,600.00	$ 706,500.00
229	Winery	2	129.5470	$ 71,000.00	$ 986,200.00
305	Barn	1	3.5000	$ 171,500.00	$ 38,600.00
520	Greenhouse, Modified Hoop	1	9.9510	$ 330,700.00	$ 281,400.00
522	Greenhouse, Straight Wall	1	3.7630	$ 60,500.00	$ 160,400.00
		84	4619.5450	$ 11,904,600.00	$ 6,079,000.00
	Total Agriculture	**84**	**4,619.55**	**$ 11,904,600**	**$ 6,079,000**
Open Space/Recreation					
223	Camp(Recreational)	2	75.5420	$ 437,200.00	$ 643,900.00
226	Swimming Complex	3	19.0360	$ 609,500.00	$ 663,000.00
230	Campground-Commercial	2	55.1000	$ 868,400.00	$ 1,570,800.00
		7	149.6780	$ 1,915,100.00	$ 2,877,700.00
	Total Open Space/Recreation	**7**	**149.68**	**$ 1,915,100**	**$ 2,877,700**

Use code	Use Code Description	Number of Parcels	Acreage	Taxable Land Assessment	Taxable Building Assessment
	Vacant				
200	Vacant Residential Land	8647	172523.4886	$ 806,918,100.00	$ 17,492,500.00
250	Vacant Commercial Land	21	101.4050	$ 23,662,400.00	$ -
601	Vacant Residential R1-R15	81	867.2330	$ 78,870,400.00	$ 107,700.00
602	Vacant Office CO	5	76.2790	$ 4,501,900.00	$ -
603	Vacant Industrial, LI, HI, PDI	50	727.8130	$ 58,620,400.00	$ 2,700,700.00
604	Vacant Commercial, CI,HC,PDM	133	321.8340	$ 131,478,500.00	$ 1,191,900.00
605	Vacant Village Residential	1	0.7100	$ 42,000.00	$ -
606	Neighborhood Model District	14	80.5790	$ 24,628,200.00	$ -
		8952	174699.3416	$ 1,128,721,900.00	$ 21,492,800.00
	Total Vacant	**8,952**	**174,699.34**	**$ 1,128,721,900**	**$ 21,492,800**
	TOTAL - All Land Uses	**42,217**	**422,018.68**	**6,078,390,300**	**$ 8,633,098,000**

Albemarle County – Step 3 – Calculation of initial allocations based on data received

Initial Allocations - County Info on Taxable Parcels by Land Use Code

Based on data from County Assessor

SINGLE-FAMILY RESIDENTIAL			
Taxable Value	$11,171,635,900		
Acreage	235,264.11	% of County:	50.87%
Parcel Count	31,903		
MULTI-FAMILY RESIDENTIAL			
Taxable Value	$2,313,900		
Acreage	1.86	% of County:	0.00%
Parcel Count	1		
MOBILE HOMES			
Taxable Value	$49,520,200		
Acreage	622.00	% of County:	0.13%
Parcel Count	82		

TOTAL RESIDENTIAL			
Taxable Value	$11,223,470,000		
Acreage	235,887.97	% of County:	51.01%
Parcel Count	31,986		
COMMERCIAL			
Taxable Value	$1,755,772,300		
Acreage	3,788.25	% of County:	0.82%
Parcel Count	1,023		
INDUSTRIAL			
Taxable Value	$269,874,500		
Acreage	2,445.54	% of County:	0.53%
Parcel Count	126		
INSTITUTIONAL			
Taxable Value	$289,380,400		
Acreage	428.36	% of County:	0.09%
Parcel Count	39		
AGRICULTURE			
Taxable Value	$17,983,600		
Acreage	4,619.55	% of County:	1.00%
Parcel Count	84		
		Ag Census %:	**37.51%**
OPEN SPACE/ RECREATION			
Taxable Value	$4,792,800		
Acreage	149.68	% of County:	0.03%
Parcel Count	7		
		% of County:	**0.58%**
VACANT			
Taxable Value	$1,150,214,700		
Acreage	174,699.34	% of County:	37.78%
Parcel Count	8,952		
TOTAL			
Taxable Value	$14,711,488,300		
Acreage	422,018.68	% of County:	91.25%
Parcel Count	42,217		

Albemarle County – Step 4 – Request and receipt of state data from County

State Codes
Data provided by Chris Carlson Programmer Analyst, Information Technology County of Albemarle

State Code	Description	Count	Total Deed Acres	Land Tax Assessment	Improvements Assessment	Taxable Value	Land Market Assessment
01	Single Family Resid (Urban)	19,477	10,811.43	$ 1,900,540,600	$ 3,657,123,700	$ 5,557,664,300	$ 1,907,708,600
2A	Single Fam Res up to 5 acres	12,242	30,535.37	$ 1,425,009,200	$ 1,791,433,700	$ 3,216,442,900	$ 1,461,920,800
2B	Single Fam Res 5.1 to 20 acres	4,912	45,903.70	$ 835,112,000	$ 847,334,500	$ 1,682,446,500	$ 1,068,228,000
	Subtotal	**36,631**	**87,250.50**	**$ 4,160,661,800**	**$ 6,295,891,900**	**$ 10,456,553,700**	**$ 4,437,857,400**
03	Multi-Family Residential	**257**	**674.45**	**$ 126,970,800**	**$ 372,254,300**	**$ 499,225,100**	**$ 127,962,400**
4A	Com For Business or Retailing	**1,127**	**4,270.37**	**$ 909,240,800**	**$ 1,257,136,900**	**$ 2,166,377,700**	**$ 942,263,400**
4B	Industrial	**158**	**2,105.56**	**$ 148,198,000**	**$ 133,940,500**	**$ 282,138,500**	**$ 148,497,900**
05	Ag/Undev 20.1 to 100 Acres	3,611	137,367.79	$ 513,966,200	$ 732,612,800	$ 1,246,579,000	$ 1,640,808,800
06	Ag/Devel over 100 Acres	888	189,474.06	$ 210,107,000	$ 333,034,900	$ 543,141,900	$ 1,107,279,900
	Subtotal	**4,499**	**326,841.85**	**$ 724,073,200**	**$ 1,065,647,700**	**$ 1,789,720,900**	**$ 2,748,088,700**
71	Federal Government	13	15,305.47	$ 34,117,400	$ 70,876,200	$ 104,993,600	$ 34,117,400
72	State Government	181	3,865.09	$ 382,227,000	$ 1,830,492,100	$ 2,212,719,100	$ 382,227,000
73	Regional Government	2	15.98	$ 4,164,000	$ 41,976,500	$ 46,140,500	$ 4,164,000
74	Local Government	255	8,674.91	$ 177,027,500	$ 196,355,400	$ 373,382,900	$ 177,027,500
75	Multiple Government	11	423.15	$ 6,916,900	$ 4,968,400	$ 11,885,300	$ 6,916,900
76	Religious	264	682.63	$ 47,567,400	$ 109,403,800	$ 156,971,200	$ 47,567,400
77	Charitable	63	349.40	$ 28,859,600	$ 64,817,300	$ 93,676,900	$ 28,859,600
78	Educational	88	4,529.84	$ 134,583,300	$ 363,916,400	$ 498,499,700	$ 134,583,300
79	Other	107	1,182.33	$ 9,437,500	$ 1,697,300	$ 11,134,800	$ 9,437,500
7V	Veterans Exemption	5	68.52	$ 713,500	$ 1,511,400	$ 2,224,900	$ 713,500
	Subtotal	**989**	**35,097.32**	**$ 825,614,100**	**$ 2,686,014,800**	**$ 3,511,628,900**	**$ 825,614,100**
	TOTALS	**43,661**	**456,240**	**$ 6,894,758,700**	**$ 11,810,886,100**	**$ 18,705,644,800**	**$ 9,230,283,900**

Albemarle County – Step 5 – Calculation of allocations based on state data

2nd Allocations

Actual numbers received from State

SINGLE-FAMILY RESIDENTIAL			
Taxable Value	$10,456,553,700		
Acreage	87,250.50	% of County:	18.87%
Parcel Count	36,631		
MULTI-FAMILY RESIDENTIAL			
Taxable Value	$499,225,100		
Acreage	674.45	% of County:	0.15%
Parcel Count	257		
MOBILE HOMES			
Taxable Value	$49,520,200		
Acreage	622.00	% of County:	0.13%
Parcel Count	82		

University of Virginia	
UVAF Real Estate Taxes	$1,537,929
Payment in lieu of Taxes	$119,611
Acreage in County	1,462.00
Parcels	5,848.00

Data provided by UVA

Albemarle County Parks & Recreation		
Name	Land Acres	Water Acres
Beaver Creek Lake	115.0	104.0
Chris Greene Lake	120.0	62.0
*Darden Towe	110.0	
Dorrier Park	2.0	
Charlotte Y. Humphris Park	23.0	
Mint Springs Valley	502.0	8.0
Simpson Park	13.6	
Totier Creek	144.0	66.0
Walnut Creek	480.0	45.0
*Ivy Creek Natural Area	215.0	
*Ragged Mountain Natural Area	980.0	
Totals	**2,704.6**	**285.0**

* = jointly owned by City of Charlottesville and Albemarle County

TOTAL RESIDENTIAL			
Taxable Value	$11,005,299,000		
Acreage	88,547	% of County:	19.15%
Parcel Count	36,970		
COMMERCIAL			
Taxable Value	$2,166,377,700		
Acreage	4,270.37	% of County:	0.92%
Parcel Count	1,127		
INDUSTRIAL			
Taxable Value	$282,138,500		
Acreage	2,105.56	% of County:	0.46%
Parcel Count	158		
INSTITUTIONAL			
Taxable Value	$3,511,628,900		
Acreage	35,097.32	% of County:	7.59%
Parcel Count	989		
UVA			
Taxable Value	$1,657,540		
Acreage	1,462.00	% of County:	0.32%
Parcel Count	5,848		
AGRICULTURE			
Taxable Value	$1,789,720,900		
Acreage	326,841.85	% of County:	70.67%
Parcel Count	4,499		
PARKS/ RECREATION			
Taxable Value	$4,792,800		
Acreage	3,139.28	% of County:	0.68%
Parcel Count	18		
TOTAL		adjusted #:	
Taxable Value	$18,705,644,800	$0	
Acreage	456,240	% of County:	98.65%
Parcel Count	43,661		
Miles of road	1,035.0		
Acres	6,690.30	% of County:	1.45%
		TOTAL:	100.10%

Parks/Recreation Adjustment: Original County data + parcels and acreages from "Albemarle County Parks & Recreation" Table above

Roads	Miles	Width	Acres
Data from Virginia Department of Transportation Mileage Tables http://mileagetables.virginiadot.org/			
Interstate	31.2	112	423.56
Frontage roads	3.64	48	21.18
Primary roads	146.57	72	1,279.16
Secondary roads	853.6	48	4,966.40
Total	1035.01		6,690.30

Albemarle County – Step 6 – Adjustment of allocations to represent 100%
Also adjusted for uses that do not pay property taxes

Final Allocations - from State Codes
Adjusted to 100%

SINGLE-FAMILY RESIDENTIAL			
Taxable Value	$10,456,553,700		
Acreage	87,250.50	% of County:	18.87%
Parcel Count	36,631	83.71%	
MULTI-FAMILY RESIDENTIAL			
Taxable Value	$499,225,100		
Acreage	674.45	% of County:	0.15%
Parcel Count	257	0.59%	
MOBILE HOMES			
Taxable Value	$0		
Acreage	622.00	% of County:	0.13%
Parcel Count	82	0.19%	

TOTAL RESIDENTIAL			
Taxable Value	$10,955,778,800		
Acreage	88,547	% of County:	19.15%
Parcel Count	36,970	84.68%	
COMMERCIAL			
Taxable Value	$2,166,377,700		
Acreage	4,270.37	% of County:	0.92%
Parcel Count	1,127	2.58%	
INDUSTRIAL			
Taxable Value	$282,138,500		
Acreage	2,105.56	% of County:	0.46%
Parcel Count	158	0.36%	
INSTITUTIONAL			
Taxable Value	$3,511,628,900		
Acreage	35,097.32	% of County:	7.59%
Parcel Count	989	2.27%	
UVA			
Taxable Value	$0		
Acreage	1,462.00	% of County:	0.32%
Parcel Count	1	0.00%	
AGRICULTURE			
Taxable Value	$1,789,720,900		
Acreage	326,841.85	% of County:	70.67%
Parcel Count	4,499	10.30%	
PARKS/ RECREATION			
Taxable Value	$0		
Acreage	3,139.28	% of County:	0.68%
Parcel Count	18	0.04%	
TOTAL			99.78%
Taxable Value	$18,705,644,800		
Acreage	462,470	% of County:	100.00%
Parcel Count	43,661	100.00%	

Multi-Family Units Incur More Costs than Single-Family

Category	*Housing Units*	*Av. Taxable Value per Unit*
Total Housing Units	41,604	$264,525
Single family	30,374	$344,260
Multi-family	9,095	$54,890
Mobile home	1,761	$28,120

Calculations to Determine Tax Revenues Based on Taxable Values

Category	*Orig. % of Total*	*% Paying Property Taxes*	*Adjusted %*
Single family	55.90%	55.90%	68.82%
Multi-family	2.67%	2.67%	3.29%
Mobile home	0.00%	0.00%	0.00%
Total Residental	58.57%	58.57%	72.11%
Commercial	11.58%	11.58%	14.26%
Industrial	1.51%	1.51%	1.86%
Institutional	18.77%	0.00%	0.00%
UVA	0.00%	0.00%	0.00%
Agriculture	9.57%	9.57%	11.78%
Parks/Recreation	0.00%	0.00%	0.00%
TOTAL	**100.00%**	**81.23%**	**100.00%**

City of Charlottesville – Step 1 – Review and color coding of data received from City Assessor

Data from City Assessor Roosevelt Barbour, September 22, 2010

Use Code	Use Code Description	Number of Parcels	Deeded Acreage	Taxable Value
200	Vacant Land	873	319.6419	66,433,400
201	Condominium	1,377	1.0990	283,158,700
210	Single Family	8,339	2,097.8873	2,508,104,200
211	Duplex	862	182.8859	221,772,600
212	Single Family - 1 Conversion	798	199.7391	252,513,400
213	Single Family - 2 Conversion	57	16.9200	20,398,000
214	Single Family - 3 Conversion	21	4.9500	8,640,600
218	Single Family Attached	672	56.3286	141,377,600
219	Apartments 1-10 Units	174	48.2270	83,147,900
220	Apartment over 20 Units	50	106.5051	227,892,400
221	Retail	10	8.3550	15,770,900
222	Office	111	6.6241	59,626,700
223	Commercial	145	105.0082	120,594,900
224	Multiple Commercial Use	73	52.4260	119,563,800
226	TRIPLEX	1	0.2250	600,500
300	Apartment 11-20 Units	51	26.5240	76,350,100
303	Automobile Showroom	1	1.4570	1,331,500
304	Bank	20	10.7060	38,091,000
309	Church	4	0.4470	922,700
311	Clubhouse	2	10.3410	3,740,100
319	Discount Store	1	0.2320	1,419,300
321	Dormitory	1	0.2340	1,043,900
324	Fraternity\Sorority House	47	15.9740	35,733,800
326	Storage Garage	1	-	198,000
332	Hotel	7	18.1720	82,052,800
336	Laundromat	3	1.8380	1,172,200
340	Market	23	16.5235	17,212,800
341	Medical Office	53	8.8357	36,142,800
342	Mortuary	4	0.5720	2,464,700
343	Motel	14	20.1384	45,461,000
344	Office Building	276	137.9901	287,456,400
345	Parking Structure	62	15.8117	34,387,100
349	Fast Food Restaurant	13	9.2941	12,032,800
350	Restaurant	67	22.4362	51,002,700
353	Retail Store	90	26.8596	67,926,800
356	Classroom (Elem/2nd Sch)	2	2.7010	3,354,200
367	Arts & Crafts Bl (College)	1	0.1640	982,400
380	Theatres, Cinema	5	7.7040	16,524,600
381	Veterinary Hospital	1	0.2280	956,200
384	Barber Shop	4	0.3990	791,400
386	Mini-warehouse	1	6.5700	2,071,600
391	Material Storage Building	2	1.9050	637,600
392	Industrial Engineering	4	3.2980	7,519,500
405	Skating Rink	1	0.7290	6,547,000
406	Storage Warehouse	35	29.2770	22,118,500
407	Dist Warehouse	10	10.1300	12,150,100
410	Automotive Center	3	0.7500	980,700
412	Neighborhood Shopping Ctr	13	21.7563	30,016,600
413	Comm Shopping Ctr	3	42.2370	87,362,100
414	Regional Shopping Ctr	2	18.7680	12,585,900
418	Health Club	1	-	6,319,800
424	Group Care Home	12	10.1013	19,467,900
446	Supermarket	2	10.8170	10,257,600
455	Auto Dealership, Complete	1	0.6560	829,100
459	Mixed Retail w/Res Units	25	4.5745	35,471,300
472	Equipment Shed	1	5.1290	1,020,800
483	Fitness Center	4	0.8930	4,224,900
494	Industrial Light Manufacturing	7	38.0460	22,116,900
528	Service Repair Garage	46	28.3228	29,574,000
534	Warehouse Showroom Store	1	1.3848	1,042,100
551	Rooming House	5	0.9070	1,853,700
552	Recretional Enclosure	1	6.5180	802,200
571	Parking Lot	23	6.7348	8,427,900
603	Vacant Industrial(M1,M3,PMD)	1	0.1240	85,300
604	Vacant Commercial (B1-B3)	2	1.2750	623,300
		14,522	3,813.3080	5,272,453,300

Color codes to or
land use designatic
Residential
Single Fa
Multi-Fa
Mobile H
Student H
Commercial
Industrial
Institutional
Open Space/Recrea
Agriculture
Vacant

City of Charlottesville – Step 2 – Grouping of data by category

Use Code	Use Code Description	Number of Parcels	Deeded Acreage	Taxable Value
	Residential			
	Single Family			
210	Single Family	8,339	2,097.8873	$ 2,508,104,200
218	Single Family Attached	672	56.3286	$ 141,377,600
212	Single Family - 1 Conversion	798	199.7391	$ 252,513,400
213	Single Family - 2 Conversion	57	16.9200	$ 20,398,000
214	Single Family - 3 Conversion	21	4.9500	$ 8,640,600
		9,887	2,375.8250	$ 2,931,033,800
	Multi-Family 1			
211	Duplex	862	182.8859	$ 221,772,600
201	Condominium	1,377	1.0990	$ 283,158,700
226	TRIPLEX	1	0.2250	$ 600,500
		2,240	184.2099	$ 505,531,800
	Multi-Family 2			
219	Apartments 1-10 Units	174	48.2270	$ 83,147,900
300	Apartment 11-20 Units	51	26.5240	$ 76,350,100
220	Apartment over 20 Units	50	106.5051	$ 227,892,400
321	Dormitory	1	0.2340	$ 1,043,900
324	Fraternity\Sorority House	47	15.9740	$ 35,733,800
551	Rooming House	5	0.9070	$ 1,853,700
		328	198.3711	$ 426,021,800
	Total Residential	**$ 12,455**	**$ 2,758**	**$ 3,862,587,400**
	Commercial			
221	Retail	10	8.3550	$ 15,770,900
222	Office	111	6.6241	$ 59,626,700
223	Commercial	145	105.0082	$ 120,594,900
224	Multiple Commercial Use	73	52.4260	$ 119,563,800
303	Automobile Showroom	1	1.4570	$ 1,331,500
304	Bank	20	10.7060	$ 38,091,000
319	Discount Store	1	0.2320	$ 1,419,300
326	Storage Garage	1	-	$ 198,000
332	Hotel	7	18.1720	$ 82,052,800
336	Laundromat	3	1.8380	$ 1,172,200
340	Market	23	16.5235	$ 17,212,800
341	Medical Office	53	8.8357	$ 36,142,800
342	Mortuary	4	0.5720	$ 2,464,700
343	Motel	14	20.1384	$ 45,461,000
344	Office Building	276	137.9901	$ 287,456,400
345	Parking Structure	62	15.8117	$ 34,387,100
349	Fast Food Restaurant	13	9.2941	$ 12,032,800
350	Restaurant	67	22.4362	$ 51,002,700
353	Retail Store	90	26.8596	$ 67,926,800
380	Theatres, Cinema	5	7.7040	$ 16,524,600

Use Code	Use Code Description	Number of Parcels	Deeded Acreage	Taxable Value
381	Veterinary Hospital	1	0.2280	$ 956,200
384	Barber Shop	4	0.3990	$ 791,400
405	Skating Rink	1	0.7290	$ 6,547,000
410	Automotive Center	3	0.7500	$ 980,700
412	Neighborhood Shopping Ctr	13	21.7563	$ 30,016,600
413	Comm Shopping Ctr	3	42.2370	$ 87,362,100
414	Regional Shopping Ctr	2	18.7680	$ 12,585,900
418	Health Club	1	-	$ 6,319,800
424	Group Care Home	12	10.1013	$ 19,467,900
446	Supermarket	2	10.8170	$ 10,257,600
455	Auto Dealership, Complete	1	0.6560	$ 829,100
459	Mixed Retail w/Res Units	25	4.5745	$ 35,471,300
472	Equipment Shed	1	5.1290	$ 1,020,800
483	Fitness Center	4	0.8930	$ 4,224,900
528	Service Repair Garage	46	28.3228	$ 29,574,000
534	Warehouse Showroom Store	1	1.3848	$ 1,042,100
571	Parking Lot	23	6.7348	$ 8,427,900
		1,122	624.4641	$ 1,266,308,100
	Total Commercial	**1,122**	**624.46**	**$ 1,266,308,100**
	Industrial			
386	Mini-warehouse	1	6.5700	$ 2,071,600
391	Material Storage Building	2	1.9050	$ 637,600
392	Industrial Engineering	4	3.2980	$ 7,519,500
406	Storage Warehouse	35	29.2770	$ 22,118,500
407	Dist Warehouse	10	10.1300	$ 12,150,100
494	Industrial Light Manufacturing	7	38.0460	$ 22,116,900
		59	89.2260	$ 66,614,200
	Total Industrial	**59**	**89.23**	**$ 66,614,200**
	Institutional			
309	Church	4	0.4470	$ 922,700
311	Clubhouse	2	10.3410	$ 3,740,100
356	Classroom (Elem/2nd Sch)	2	2.7010	$ 3,354,200
367	Arts & Crafts Bl (College)	1	0.1640	$ 982,400
		9	13.6530	$ 8,999,400
	Total Institutional	**9**	**13.65**	**$ 8,999,400**
	Open Space/Recreation			
552	Recreational Enclosure	1	6.5180	$ 802,200
		1	6.5180	$ 802,200
	Total Open Space/Recreation	**1**	**6.52**	**$ 802,200**

Use Code	Use Code Description	Number of Parcels	Deeded Acreage	Taxable Value
Vacant				
200	Vacant Land	873	319.6419	$ 66,433,400
603	Vacant Industrial(M1,M3,PMD)	1	0.1240	$ 85,300
604	Vacant Commercial (B1-B3)	2	1.2750	$ 623,300
		876	321.0409	$ 67,142,000
Total Vacant		**876**	**321.04**	**$ 67,142,000**
	TOTAL - All Land Uses	**14,522**	**3,813.31**	**$ 5,272,453,300**

City of Charlottesville – Step 3 – Calculation of final allocations based on data received

SINGLE-FAMILY RESIDENTIAL		
Taxable Value	$2,931,479,823	55.60%
Acreage	2,375.83	47.14%
Parcel Count	9,887	68.08%
MULTI-FAMILY RESIDENTIAL		
Taxable Value	$931,695,357	17.67%
Acreage	382.58	7.59%
Parcel Count	2,568	17.68%

University of Virginia	
UVAF Real Estate Taxes	$291,745
Payment in lieu of Taxes	$31,926
Acreage in Cville	240.00
Parcels	?
Charlottesville Parks & Recreation	

See next page, left hand column

TOTAL RESIDENTIAL		
Taxable Value	$3,863,175,179	73.27%
Acreage	2,758.41	54.73%
Parcel Count	12,455	85.77%
COMMERCIAL		
Taxable Value	$1,266,500,797	24.02%
Acreage	624.46	12.39%
Parcel Count	1,122	7.73%
INDUSTRIAL		
Taxable Value	$66,624,337	1.26%
Acreage	89.23	1.77%
Parcel Count	59	0.41%
INSTITUTIONAL		
Taxable Value	$9,000,769	0.17%
Acreage	13.65	0.27%
Parcel Count	9	0.06%
UVA		
Taxable Value	$0	0.00%
Acreage	240.00	4.76%
Parcel Count	1	
OPEN SPACE/ RECREATION		
Taxable Value	$0	0.00%
Acreage	987.00	19.58%
Parcel Count	1	0.01%
VACANT		
Taxable Value	$67,152,217	1.27%
Acreage	321.04	6.37%
Parcel Count	876	6.03%
TOTAL		
Taxable Value	$5,272,453,300	100.00%
Acreage	5,040.31	100.00%
Parcel Count	14,522	100.00%

Charlottesville Parks & Recreation	
Name	**Land Acres**
Azalea Park	23.00
Bailey Park	0.33
Belmont Park	3.10
Downtown Mall	20.00
Fifeville Park	0.66
Forest Hills Park	7.35
Greenbrier Park	28.30
Greenleaf Park	14.00
Jackson Park	0.40
Jordan Park	3.10
Lee Park	1.04
McGuffey Park	1.10
McIntire Park	135.40
Meade Park	5.20
Meadowcreek Gardens	20.00
Northeast Park	4.80
Pen Park	280.00
Quarry Park	9.10
Riverview Park / Rivanna Trail	26.60
Rives Park	4.30
Starr Hill Park	0.40
Tonsler Park	7.40
Washington Park	9.25
Schenk's Greenway	6.50
Charlottesville Skateboard Park	2.70
Subtotal	**614.03**
Longwood cul-de-sac	4.40
Park development and expansion	50.00
Playgrounds, other	318.57
Totals	**987.00**

Calculations for Adjust for 100% - Taxable Value

Category	*Orig. % of Total*	*Adjusted %*
Single family	55.59%	55.60%
Multi-family	17.67%	17.67%
Total Residental	73.26%	73.27%
Commercial	24.02%	24.02%
Industrial	1.26%	1.26%
Institutional	0.17%	0.17%
UVA	0.00%	0.00%
Parks/Recreation	0.00%	0.00%
Vacant	1.27%	1.27%
TOTAL	**99.98%**	**100.00%**

Calculations to Determine Tax Revenues Based on Taxable Values

Category	*Orig. % of Total*	*% Paying Property Taxes*	*Adjusted %*
Single family	55.59%	55.59%	61.45%
Multi-family	17.67%	9.59%	10.60%
Total Residental	73.26%	65.18%	72.05%
Commercial	24.02%	24.02%	26.55%
Industrial	1.26%	1.26%	1.40%
Institutional	0.17%	0.00%	0.00%
UVA	0.00%	0.00%	0.00%
Parks/Recreation	0.02%	0.00%	0.00%
Vacant	1.27%	1.27%	1.41%
TOTAL	**98.73%**	**90.46%**	**100.00%**

Multi-Family Units Incur More Costs than Single-Family

Category	*Housing Units*	*Av. Taxable Value per Unit*
Total Housing Units	17,591	$219,610.89
Single family	9,992	$293,347.21
Multi-family	7,599	$122,583.94

1.5.4 - Share of property taxes paid

The objectives of this allocation were to:

1. Determine which land uses do not pay property taxes, and
2. Determine the proportion of property taxes paid by each remaining land use category.

Information for these calculations came from the 2008-2009 budget actuals for Albemarle County and the City of Charlottesville as well as from the offices of the County Assessor and City Assessor.

Both assessors' offices were asked if they could provide a breakdown of real estate tax collections by land use categories. Neither of the offices could. Consequently, the breakdowns were calculated.

Albemarle County collected $113,264,615 in real estate taxes for fiscal 2008-2009. The City of Charlottesville collected $50,446,354.

Land uses that do not pay property taxes (mobile homes, institutional land uses, the University of Virginia campus, and public recreation lands) were set aside.

The amount of taxes collected from each of the remaining land use categories was calculated by multiplying its total taxable value by the tax rate (for Albemarle County, this was $0.68 per $100 assessed valuation in 2008 and $0.71 per $100 assessed valuation in 2009; for the City of Charlottesville, the tax rate was $0.95 per $100 of assessed valuation). Since Albemarle County's tax rates for the two years differed, half the revenues were calculated at the lower tax rate and another half were calculated at the higher rate, then results from the two calculations were combined.

The calculations showed collections that were shy of the actual amounts collected. These results were designated "Calculation #1."

To adjust for the difference, another calculation was made to determine what percentage of the county's total taxable value was represented by each land use category. The results from Calculation #1 were then multiplied by this percentage. The resulting dollar amount for each land use category was then added to the results for these categories from Calculation #1. When this was done and the amounts were totaled, they equaled the total amount of tax collections.

The percentage that each land use contributed to the total amount of tax collections was then used to allocate the line item amounts related to property taxes in the county and city budgets by "share of property taxes paid."

The calculations used to generate this allocation formula are shown below in Section 1.5.5.

1.5.5 - Adjusting for agriculture's land use value assessment rate

Virginia law allows *eligible* land in agricultural, horticultural, forest or open space to be taxed upon the land's value in *use* (use value) as opposed to its *market* value. High tax rates sometimes force landowners to intensify their land uses so they can pay the taxes. The use value assessment helps to prevent lands from being forced out of open space uses prematurely. When lands are developed, they lose their eligibility for the use value assessment. As a result, the tax treatment is sometimes called a *deferral*.

The objectives of the calculations in this section were to:

1. Take into account the land use value assessment rate for which some open space, forestry and agricultural lands qualify,
2. Calculate to what degree this deferral affects the total taxes owed by and collected from these properties,
3. Subtract this amount from the amount of property taxes owed by qualifying properties,
4. Determine the cost of the land use value assessment program in terms of lost tax revenues to the public.

The use value of eligible lands is calculated annually by the State Land Evaluation and Advisory Council (SLEAC), in cooperation with the Department of Agricultural and Applied Economics at Virginia Tech, Virginia Department of Forestry, and Department of Conservation and Recreation.

Information on the 2008-2009 and current taxable values of properties participating in the Land Use Value Assessment Program, the property tax rates paid by these properties, and the amount that other property owners contribute to this program was provided by County Assessor Bob Willingham.

Tax rates in Albemarle County include a 12.8% surcharge that non-qualifying properties pay to support the Land Use Value Assessment Program. This surcharge pays for the tax reductions that eligible property owners enjoy, which lower property tax rates on eligible properties by 9 to 9.5 cents per year. **The total cost of this program to the county is zero.** The surcharge paid by non-qualifying land owners—which generated $1.9 million in 2007-2008 and $2 million in 2008-2009—reduced tax rates for eligible lands by 8.89 cents per $100 assessed valuation in 2007-2008 and 9.29 cents per $100 assessed valuation in 2008-2009.

To think of this as a handout from one group of taxpayers to another is incorrect. It's actually the landowners paying the surcharge who receive the greatest benefit. Some of these benefits come in the form of viewscapes, pastoral settings, open space, and the health- and flavor- benefits of locally-grown produce. Some come in the form of environmental services, such as water recharge, water filtration, habitats for wildlife, and absorption of air pollution.

As this study shows, even with their reduced property tax rates, the owners of qualifying lands in agriculture, forestry and open space HELP TO SUBSIDIZE the uses that owners of residential properties choose to pursue on their properties. This is because agricultural (and other use value) land uses generate a large surplus–larger than any other type of land use, except perhaps for vacant land. This contrasts with the $1.41 deficit that is created by residential land uses.

Here are the calculations that were used to determine the portions of tax collections paid by each land use category:

Albemarle County 2007-2008

2007-2008

Land Use Category	Assessed Value	% of Value Qualifying for Land Use Value Rate	x Regular Tax Rate	Redcuced rate for Land Use Value Deferral	Taxes Owed	% of Taxes Owed	Adjustment #1	Adjustment #2	EffectiveTaxes Collected	% of Taxes
Actual Collections									**$108,363,663**	
Single family	$10,456,553,700	3.57%	$0.68/$0.71 per $100 of assessed value	see agriculture below	$72,673,048	69.87%		$3,044,539	$75,717,587	69.87%
Multi-Family	$499,225,100	0.00%	$0.68/$0.71 per $100	N/A	$3,469,614	3.34%		$145,355	$3,614,969	3.34%
Mobile Homes	$49,520,200	0.00%	N/A	N/A	$0.00	0.00%		$0	$0	0.00%
Commercial	$2,166,377,700	0.00%	$0.68/$0.71 per $100	N/A	$15,056,325	14.48%		$630,764	$15,687,089	14.48%
Industrial	$282,138,500	0.00%	$0.68/$0.71 per $100	N/A	$1,960,863	1.89%		$82,148	$2,043,010	1.89%
Institutional	$3,511,628,900	0.00%	N/A	N/A	$0.00	0.00%		$0	$0	0.00%
UVA	$1,657,540	0.00%	N/A	N/A	$0.00	0.00%		$0	$0	0.00%
Agriculture	$1,789,720,900	100.00%	land use value	$0.6061	$10,846,604	10.43%	$1,604,136	$454,404	$11,301,007	10.43%
Recreation	$4,792,800	0.00%	N/A	N/A	$0.00	0.00%		$0	$0	0.00%
TOTALS	$18,705,644,800				$104,006,454	100.00%			$108,363,663	100.00%

Discrepancy: owed vs collected — all properties: **$4,357,209**

land use value adjustment — **ag lands: $1,604,136**

land use value adjustment — **all eligible lands: $1,923,122**

taxes generated by elible lands: regular tax rate: $15,034,535

taxes generated by elible lands: land use rate: $13,111,412

Albemarle County 2008-2009

2008-2009

Land Use Category	Assessed Value	% of Value Qualifying for Land Use Value Rate	x Regular Tax Rate	Redcuced rate for Land Use Value Deferral	Taxes Owed	% of Taxes Owed	Adjustment #1	Adjustment #2	EffectiveTaxes Collected	% of Taxes
Actual Collections									**$113,264,615**	
Single family	$10,456,553,700	3.57%	$0.71/$0.742 per $100 of assessed value	see agriculture below	$75,914,580	69.90%		$3,260,799	$79,175,379	69.90%
Multi-Family	$499,225,100	0.00%	$0.71/$0.742 x $100	N/A	$3,624,374	3.34%		$155,680	$3,780,054	3.34%
Mobile Homes	$49,520,200	0.00%	N/A	N/A	$0.00	0.00%		$0	$0	0.00%
Commercial	$2,166,377,700	0.00%	$0.71/$0.742 x $100	N/A	$15,727,902	14.48%		$675,569	$16,403,471	14.48%
Industrial	$282,138,500	0.00%	$0.71/$0.742 x $100	N/A	$2,003,183	1.84%		$86,044	$2,089,227	1.84%
Institutional	$3,511,628,900	0.00%	N/A	N/A	$0.00	0.00%		$0	$0	0.00%
UVA	$1,657,540	0.00%	N/A	N/A	$0.00	0.00%		$0	$0	0.00%
Agriculture	$1,789,720,900	100.00%	land use value	$0.6331	$11,329,828	10.43%	$1,681,757	$486,656	$11,816,484	10.43%
Recreation	$4,792,800	0.00%	N/A	N/A	$0.00	0.00%		$0	$0	0.00%
TOTALS	$18,705,644,800				$108,599,868	100.00%			$113,264,615	100.00%

Discrepancy: owed vs collected — all properties: **$4,664,747**

land use value adjustment — **ag lands: $1,681,757**

land use value adjustment — **all eligible lands: $2,009,652**

taxes generated by elible lands: regular tax rate: $15,705,140

taxes generated by elible lands: land use rate: $13,695,488

City of Charlottesville 2007-2008

2006-2007							
Land Use Category	Assessed Value	x Tax Rate	Taxes Owed	% of Taxes Owed	Adjustment	Taxes Collected	% of Taxes
Actual Collections						**$43,610,928**	
Single family	$2,931,033,800	$0.95 per $100 of assessed value	$27,844,821	55.69%	-$3,555,715	$24,289,106	55.69%
Multi-Family	$931,553,600	$0.95 per $100	$8,849,759	17.70%	-$1,130,093	$7,719,667	17.70%
Commercial	$1,266,308,100	$0.94 per $100	$12,029,927	24.06%	-$1,536,192	$10,493,735	24.06%
Industrial	$66,614,200	$0.95 per $100	$632,835	1.27%	-$80,811	$552,023	1.27%
Institutional	$8,999,400	N/A	$0	0.00%	$0	$0	0.00%
UVA	$0	N/A	$0	0.00%	$0	$0	0.00%
Recreation	$802,200	N/A	$0	0.00%	$0	$0	0.00%
Vacant	$67,142,000	$0.95 per $100	$637,849	1.28%	-$81,452	$556,397	1.28%
TOTALS	$5,272,453,300		$49,995,191	100.00%		$43,610,928	100.00%

Discrepancy:
owed vs collected: ($6,384,263)

City of Charlottesville 2008-2009

2008-2009							
Land Use Category	Assessed Value	x Tax Rate	Taxes Owed	% of Taxes Owed	Adjustment	Taxes Collected	% of Taxes
Actual Collections						**$50,446,354**	
Single family	$2,931,033,800	$0.95 per $100 of assessed value	$27,844,821	55.69%	$251,275	$28,096,096	55.69%
Multi-Family	$931,553,600	$0.95 per $100	$8,849,759	17.70%	$79,861	$8,929,621	17.70%
Commercial	$1,266,308,100	$0.94 per $100	$12,029,927	24.06%	$108,560	$12,138,487	24.06%
Industrial	$66,614,200	$0.95 per $100	$632,835	1.27%	$5,711	$638,546	1.27%
Institutional	$8,999,400	N/A	$0	0.00%	$0	$0	0.00%
UVA	$0	N/A	$0	0.00%	$0	$0	0.00%
Recreation	$802,200	N/A	$0	0.00%	$0	$0	0.00%
Vacant	$67,142,000	$0.95 per $100	$637,849	1.28%	$5,756	$643,605	1.28%
TOTALS	$5,272,453,300		$49,995,191	100.00%		$50,446,354	100.00%

Discrepancy:
owed vs collected: $451,163

1.5.6 – Commercial, industrial and institutional allocation methods

The objectives of these allocations were to:

1. Gather U.S. Census Bureau *Economic Census* and *County Business Patterns* data for Albemarle County and the City of Charlottesville,
2. Gather business license fee and gross receipts data from Albemarle County and the City of Charlottesville,
3. Use this data to create a series of allocations, the purpose of which was to make it possible to accurately apportion each line item revenue and expense listed in the county and city budgets,
4. Use the allocations to determine how much each commercial, industrial and institutional use contributes in revenues and how much each use costs in the services it requires, and
5. Generate ratios showing the relationships between the different uses within each category.

The allocation methods used for the commercial, industrial and institutional calculations are as follows:

- *# Establishments* (per U.S. Census Bureau, 2008 County Business Patterns data)
- *# Dealers* (per county and city data; used when incomplete data for all establishments was available from the U.S. Census Bureau)
- *# Employees/Jobs* (per U.S. Census Bureau, 2008 County Business Patterns data, except for public employees/jobs which is from the Virginia Employment Commission)
- *Payroll* (per U.S. Census Bureau, 2008 County Business Patterns data)
- *Taxable sales*(per U.S. Census Bureau data)
- *Business License Gross Receipts* (per county and city data; used when incomplete data for all establishments was available from the U.S. Census Bureau)
- *Business License Fees* (per city and county data)

All businesses are identified and grouped by their North American Industry Classification System (NAICS) codes.

Here is how each of these allocation methods was designed: **Step 1 was to gather U.S Census data**:

Geographic Area	NAICS Code	Meaning of NAICS code	Year	Number of Establishments	Number of Employees	1st Quarter Payroll ($1000)	Annual Payroll ($1000)
Albemarle County, VA	11	Agriculture, forestry, fishing and hunting	2008	15	28	157	639,000
Albemarle County, VA	21	Mining, quarrying, and oil and gas extraction	2008	3	43	685	2,287,000
Albemarle County, VA	22	Utilities	2008	2	a	D	D
Albemarle County, VA	23	Construction	2008	360	3,000	28,632	101,022,000
Albemarle County, VA	31-33	Manufacturing	2008	63	1,293	13,433	53,279,000
Albemarle County, VA	42	Wholesale trade	2008	83	1,400	18,254	74,620,000
Albemarle County, VA	44-45	Retail trade	2008	362	6,549	41,591	167,267,000
Albemarle County, VA	48-49	Transportation and warehousing	2008	47	872	8,101	25,281,000
Albemarle County, VA	52	Finance and insurance	2008	189	3,226	S	215,747,000
Albemarle County, VA	53	Real estate and rental and leasing	2008	151	664	5,315	23,763,000
Albemarle County, VA	54	Professional, scientific, and technical services	2008	306	3,392	63,164	250,247,000
Albemarle County, VA	55	Management of companies and enterprises	2008	20	467	7,883	26,426,000
Albemarle County, VA	56	Administrative and Support and Waste Mang and Remediation	2008	158	3,082	17,597	76,551,000
Albemarle County, VA	61	Educational services	2008	51	692	4,840	21,398,000
Albemarle County, VA	62	Health care and social assistance	2008	271	4,513	42,949	215,423,000
Albemarle County, VA	71	Arts, entertainment, and recreation	2008	39	1,247	7,741	37,274,000
Albemarle County, VA	72	Accommodation and food services	2008	152	2,879	9,562	41,383,000
Albemarle County, VA	81	Other services (except public administration)	2008	209	1,795	16,283	72,029,000
Albemarle County, VA	99	Industries not classified	2008	5	8	70	313,000

U.S. Census Bureau, 2008 County Business Patterns

Step 2 – Organize numbers to generate allocations for # of Establishments, # Employees/Jobs, & Payroll
from U.S. Census Bureau 2008 County Business Patterns data, above. Allocations are by industry NAICS codes.

ALLOCATIONS BY NAICS CODE									
For Tab 12a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
# of Establishments	362	0	189	151	306	20	39	152	209
# of Employees	1,400	0	3,226	664	3,392	467	1,247	2,879	1,795
Payroll	$74,620,000	$0	$215,747,000	$23,763,000	$250,247,000	$26,426,000	$37,274,000	$41,383,000	$72,029,000

For Tab 12a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
# of Establishments %	14.23%	0.00%	7.43%	5.94%	12.03%	0.79%	1.53%	5.97%	8.22%
# of Employees %	3.89%	0.00%	8.96%	1.85%	9.43%	1.30%	3.47%	8.00%	4.99%
Payroll %	5.15%	0.00%	14.88%	1.64%	17.26%	1.82%	2.57%	2.86%	4.97%

For Tab 12b Industrial:	**11**	**21**	**22**	**23**	**31-33**	**42**	**48-49**
# of Establishments	15	3	2	360	63	83	47
# of Employees	28	43	a	3,000	1,293	1,400	872
Payroll	$639,000	$2,287,000	D	$101,022,000	$53,279,000	$74,620,000	$25,281,000

For Tab 12b Industrial:	**11**	**21**	**22**	**23**	**31-33**	**42**	**48-49**
# of Establishments %	0.59%	0.12%	0.08%	14.15%	2.48%	3.26%	1.85%
# of Employees %	0.08%	0.12%	N/A	8.34%	3.59%	3.89%	2.42%
Payroll %	0.04%	0.16%	N/A	6.97%	3.68%	5.15%	1.74%

For Tab 12c Institutional:	**56**	**61**	**62**	**92**	**99**
# of Establishments	158	51	271	0	5
# of Employees	3,082	692	4,513	15,610	8
Payroll	$76,551,000	$21,398,000	$215,423,000	$0	$313,000

For Tab 12c Institutional:	**56**	**61**	**62**	**92**	**99**
# of Establishments %	6.21%	2.00%	10.65%	0.00%	0.20%
# of Employees %	8.56%	1.92%	12.54%	43.38%	0.02%
Payroll %	5.28%	1.48%	14.86%	0.00%	0.02%

Step 3 – Gather Business License Data from Albemarle County and organize by NAICS category

Classification of License	Gross Receipts	Tax
11 Agriculture, forestry, fishing and hunting		
	$0.00	$0.00
21 Mining, quarrying, and oil and gas extraction		
	$0.00	$0.00
22 Utilities		
UTILITY COMPANY	$44,578,708.91	$222,893.57
	$44,578,708.91	**$222,893.57**
23 Construction		
DEVELOPER	$24,438,544.00	$39,075.92
CONTRACTOR	$797,159,876.94	$1,209,501.22
ELECTRICAL CONTRACTOR	$26,047,688.11	$41,041.01
PLUMBER	$15,441,826.05	$23,989.57
SPECULATIVE BUILDER	$51,606,459.00	$81,666.33
CONTRACTOR/GOV RATE	$24,817,488.94	$10,001.89
CONTRACTOR P/Y	$34,342,904.19	$44,594.48
CONTRACTOR FEDERAL P/Y	$633,566.18	$2,146.25
WELDING	$105,000.00	$0.00
	$974,593,353.41	**$1,452,016.67**
31-33 Manufacturing		
BLACKSMITH OR WHEELWRIGHT	$516,530.00	$1,147.13
ENGRAVING	$25,000.00	$0.00
JOB PRINTER, BOOKBINDING, ETC	$2,420,251.23	$8,603.90
BREWERY LICENSE	$1.00	$1,000.00
FRUIT DISTILLER'S LICENSE	$1.00	$500.00
SIGN PRINTING	$92,061.62	$0.00
	$3,053,844.85	**$11,251.03**
42 Wholesale trade		
DAIRY PRODUCTS	$138,742.14	$0.00
FARM EQUIPMENT	$6,660,811.00	$13,321.62
HOG, GRAIN, FEED, SEED	$2,667,770.00	$5,335.54
LUMBER GOODS	$25,613,056.00	$51,226.11
WHOLESALE BEER LICENSE	$23,146,772.00	$11,573.39
WHOLESALE WINE DISTRIBUTOR'S LIC	$0.00	$50.00
WHOLESALE MERCHANTS	$94,148,871.49	$48,169.59
CHEMICALS	$931,030.00	$465.52
ELECTRICAL, PLUMBING GOODS	$19,103,006.69	$9,508.53
LUMBER AND CONSTRUCTION MATERIALS	$45,049,831.65	$22,524.92
MACHINERY, EQUIPMENT AND SUPPLIES	$6,025,986.00	$3,003.02
METALS AND METAL WORK	$458,303.00	$229.15
PAPER AND PAPER PRODUCTS	$6,211,097.14	$3,073.65
PETROLEUM AND PETROLEUM PRODUCTS	$6,994,614.78	$2,388.18
SOFT DRINKS	$0.00	$0.00
TOBACCO AND TOBACCO PRODUCTS	$1,459,365.00	$729.68
OTHER WHOLESALE MERCHANDISE	$46,845,109.55	$22,818.73
WHOLESALE P/Y	($3,171,468.22)	($7,991.18)
PEDDLING - FOOD/SUPPLIES	$23,002.00	$250.00
	$282,305,900.22	**$186,676.45**

Classification of License	Gross Receipts	Tax
44-45 Retail trade		
RETAIL OFF-PREMISES BEER AND WINE	16,480,237.57	$31,313.25
RETAIL OFF-PREMISES BEER LICENSE	$438,699.00	$851.09
RETAIL MERCHANTS	$14,390,512.96	$26,639.17
AUTOMOTIVE ACCESSORIES	$36,958,230.29	$73,775.83
ANTIQUES	$1,358,043.94	$1,978.28
AUTO SALES, MOTOR VEHICLE DEALERS	$281,697,448.86	$563,197.04
BOOKS, STATIONERY	$3,125,890.44	$6,140.49
BUILDING MATERIALS	$90,935,869.88	$181,871.74
DEPARTMENT STORES	$132,241,827.02	$264,473.65
DRAPERY, CURTAIN, UPHOLSTERY	$763,856.99	$1,339.03
GAS STATION	$138,461,824.70	$215,993.33
FAMILY CLOTHING	$4,255,739.82	$8,511.47
FLOOR COVERING	$5,928,801.24	$11,727.79
FLORISTS	$2,700,527.51	$3,210.89
FUEL, ICE	$21,334,718.06	$27,061.23
FURNITURE	$32,081,827.72	$54,722.00
GARDEN SUPPLIES	$4,803,972.00	$9,505.56
GENERAL STORES	$2,134,588.37	$4,269.18
GIFT, NOVELTY, SOUVENIR	$6,148,924.67	$12,343.83
HARDWARE	$706,428.60	$1,412.86
JEWELRY	$6,930,581.64	$13,715.96
MEN AND BOY'S CLOTHING	$3,675,103.57	$7,350.10
MOTORCYCLE	$23,337,290.00	$4,667.49
MUSICAL INSTRUMENT	$3,122,160.96	$5,907.86
OFFICE, STORE, APPLIANCE SUPPLY	10,869,341.18	$21,759.30
OPTICAL	4,385,175.97	$8,770.34
ALL OTHER CLOTHING	$11,951,562.34	$23,575.16
PAINT, GLASS, WALLPAPER	$3,273,731.39	$6,547.46
PHOTOGRAPHIC SUPPLY EQUIPMENT	$817,123.00	$1,634.25
RADIO & OTHER HOUSEHOLD APPLIANCES	$25,500,923.32	$50,907.27
SECONDHAND STORES, OTHER THAN JUNK	$138,432.20	$276.86
SCIENTIFIC, MEDICAL, SUPPLIES	$2,425,615.40	$5,441.56
SHOES	$9,827,093.48	$19,464.18
SPORTING GOODS	$18,773,355.78	$36,907.34
USED CARS	$8,500.00	$0.00
VARIETY STORES	$4,769,827.48	$9,539.66
OTHER RETAIL MERCHANTS	$248,691,878.34	$491,193.75
RETAIL P/Y	($256,074,724.48)	**($530,956.67)**
DIRECT RETAIL SALES	$166,707,739.81	$166,729.92
PAWNBROKER	$1.00	$250.00
ITINERANT VENDOR	$14.00	$2,750.00
SHOWS AND SALES - 7 DAY PERIOD	$3.00	$150.00
SHOWS AND SALES - 365 DAY PERIOD	$5.00	$1,892.46
PEDDLING	$2.00	$1,000.00
DRUGS	$24,272,429.83	$48,544.91
AUTOMOTIVE	$56,612,484.22	$28,266.68
CLOTHING, FURNISHINGS	$3,043,064.00	$1,518.07
FURNITURE AND HOUSE FURNISHINGS	$193,715.42	$96.86
GROCERIES AND FOODS	$17,292,598.91	$8,572.14
HARDWARE	$1,548,693.86	$774.35
JEWELRY	$11,041.00	$0.00
	1,189,052,733.26	**1,937,584.97**

Classification of License	Gross Receipts	Tax
48-49 Transportation and warehousing		
AIRLINE PASSENGER CARRIER	$838,437.00	$3,018.37
HAULING OF SAND, GRAVEL OR DIRT	$1,193,805.92	$2,471.84
HAULING OR TRANSFER	$11,783,723.33	$43,142.62
PACKING, CRATING, SHIPPING ETC	$95,000.00	$342.00
STORAGE, ALL TYPES	$5,810,240.58	$18,028.44
TOWING SERVICES	$456,057.49	$766.28
TRANSPORTATION SERVICES	$4,479,528.76	$15,955.70
TAXICABS	$77,001.00	$0.00
TRAVEL BUREAUS OR TOUR AGENTS	$17,764,645.66	$64,333.42
	$42,498,439.74	**$148,058.67**
52 Finance and insurance		
FINANCIAL SERVICE	$10,478,443.72	$54,923.16
CHATTEL MORTGAGE FINANCING	$13,528.53	$0.00
CONSUMER FINANCING	$6,999,397.61	$40,596.49
INSTALLMENT FINANCING	$514,401.91	$2,983.53
INVENTORY FINANCING	$94,783.00	$0.00
LOAN OR MORTGAGE BROKER	$3,114,985.00	$17,892.91
LOAN OR MORTGAGE COMPANY	$15,900,736.32	$93,006.04
STOCKBROKER	$605,587.72	$3,483.41
OTHER FINANCIAL SERVICE	$4,373,120.00	$24,503.19
TAX CONSULTANT	$1,466,761.00	$4,060.35
	$43,561,744.81	**$241,449.08**
53 Real estate and rental and leasing		
RENTAL/LEASING EQUIPMENT (92)	$19,374,643.79	$32,889.94
VENDING MACHINES MAKING SALES	$1,324,512.73	$2,023.45
APPRAISER OF REAL ESTATE	$4,506,100.57	$17,943.52
R/E AGENTS,BROKERS AND MANAGERS	$17,118,329.49	$93,615.79
REAL ESTATE SELLING AGENTS	$25,648,149.36	$94,696.04
RENTAL AGENTS FOR REAL ESTATE	$1,369,687.00	$7,264.99
OTHER REAL ESTATE SERVICE	$623,680.91	$3,344.95
RENTING OF NONTRANSIENT FACILITIES	$9,676,156.47	$19,310.31
RENTAL OF HOUSES	$7,165,040.50	$8,363.10
RENTAL OF APARTMENTS	$62,846,456.23	$137,030.85
RENTAL OF COMMERCIAL FACILITIES	$58,979,384.71	$107,939.20
RENTAL P/Y	($1,284,809.84)	($15,957.73)
RENTING CARS AND/OR AIRPLANES	$2,862,116.00	$10,303.62
RENTING OR LEASING PERSONAL PROP	$6,363,020.42	$22,084.70
MOBILE HOME PARKS	$2,228,829.04	$6,933.27
RENTING OR LEASING PERSONAL PROP	$6,363,020.42	$22,084.70
U-DRIVE-IT FIRM OR BUSINESS	$3,726,781.36	$13,098.31
BROKERS AND COMMISSION MERCHANT`S	$2,382,679.73	$5,794.29
	$231,273,778.89	**$588,763.30**

Classification of License	Gross Receipts	Tax
54 Professional, scientific, and technical services		
PROFESSIONAL SERVICES	$28,071,439.41	$156,168.97
ARCHITECT	$3,183,839.72	$14,462.68
ATTORNEY	$16,403,644.23	$89,913.75
CERTIFIED PUBLIC ACCOUNTANT	$18,845,370.90	$56,373.33
CONSULTANT	$387,444.63	$1,954.52
ENGINEER	$18,469,267.91	$105,715.92
LAND SURVEYOR	$3,384,956.48	$19,632.75
PRACTITIONER OF THE HEALING ARTS	$103,569,697.78	$542,862.31
VETERINARIAN	$14,651,493.65	$83,502.00
ADVERTISING AGENCIES	$29,819,236.00	$107,094.58
DRAFTING SERVICES	$263,629.00	$0.00
PHOTOGRAPHIC SERVICES	$3,799,937.34	$11,075.73
SCIENTIFIC RESEARCH & DEV SERVICE	$13,760,090.89	$49,047.04
INTERIOR DECORATING	$2,809,797.72	$7,470.28
PERSONNEL SERVICES	$51,315,567.00	$95,671.75
BUSINESS SERVICES	$138,941,169.45	$497,743.49
LABOR SERVICE	$581,059.79	$2,091.81
SERVICE P/Y	$23,769,563.10	($12,683.64)
TRANSLATOR OF FOREIGN LANGUAGES	$137,590.00	$0.00
	$472,164,795.00	**$1,828,097.27**
55 Management of companies and enterprises		
HOLDING COMPANIES	$136,292.00	$490.65
	$136,292.00	**$490.65**
56 Administrative, Support, Waste Mgmt and		
AUCTIONEERS AND COMMON CRIERS	$39,780.00	$0.00
COLLECTION AGENTS OR AGENCIES	$687,322.00	$2,474.36
DETECTIVES AND WATCHMEN	$478,687.00	$1,606.00
HOUSE CLEANING SERVICE	$3,043,821.48	$8,670.33
JANITOR SERVICE	$5,876,809.24	$16,723.46
NURSES AND PHYSICANS REGISTRIES	$1,583,046.29	$5,698.97
MAIL AND MESSENGER SERVICES	$2,977,311.57	$11,214.60
RUG CLEANING	$1,005,318.42	$2,569.64
SECRETARIAL SERVICE	$67,747.02	$0.00
SEPTIC TANK CLEANING	$290,576.00	$977.85
LOCKSMITH	$337,887.00	$879.50
TREE SERVICES	$5,023,268.61	$16,745.84
BONDSMEN	$1.00	$150.00
LICENSE FEE	0	$104,362.71
LICENSE FEE P/Y	$67,739.95	$1,698.03
	$21,479,315.58	**$173,771.29**
61 Educational services		
DANCE STUDIOS AND SCHOOLS	$565,767.00	$1,804.56
DAY NURSERY	$92,000.00	$0.00
INSTRUCTORS, TUTORS, ETC	$3,939,515.34	$9,708.76
MUSIC TEACHER	$365,839.71	$586.81
PRIVATE SCHOOLS	$857,193.00	$3,085.89
	$5,820,315.05	**$15,186.02**
62 Health care and social assistance		
DENTIST	$52,579,872.78	$267,411.97
SURGEON	$11,414,396.92	$58,541.54
AMBULANCE SERVICES	$872,355.00	$3,140.48
CHILD CARE	$11,767,641.81	$35,227.87
NURSING AND PERSONAL CARE FACILITY	$54,815,836.82	$182,039.04
PRIVATE HOSPITALS	$13,438,434.00	$48,378.36
	$144,888,537.33	**$594,739.26**

Classification of License	Gross Receipts	Tax
71 Arts, entertainment, and recreation		
AMUSEMENTS	$2,390,191.99	$7,865.42
BOWLING ALLEY	$1,370,825.00	$4,934.97
CABLE TELEVISION	$11,145,965.00	$40,126.20
GOLF DRIVING RANGE	$2,363,414.00	$8,508.29
MINIATURE GOLF	$139,652.00	$502.75
MOVIE THEATER	$1,811,197.07	$6,520.31
BOOKING AGENTS OR CONCERT MANAGERS	$78,404.00	$0.00
COMMERCIAL SPORTS	$1,052,007.00	$3,787.23
SCULPTOR	$5,405.00	$0.00
TAXIDERMIST	$135,787.65	$0.00
CHARTERED CLUBS	$24,014,931.00	$86,453.38
	$44,507,779.71	**$158,698.55**
72 Accommodation and food services		
RETAIL ON-PREMISES BEER AND WINE	$9,578,350.87	$17,524.79
MIXED BEVERAGES SEATING 50 TO 100	$845,187.72	$3,873.92
MIXED BEVERAGES SEATING 100 TO 150	$453,998.01	$2,875.53
MIX BEVERAGES SEATING MORE THAN 150	$2,820,289.15	$8,599.38
BAKERIES, CATERERS	$15,139,781.96	$29,806.56
CONFECTIONERY	$90,488.00	$0.00
DELICATESSEN	$11,270,156.98	$19,630.56
DRY GOODS STORES	$1,446,354.00	$2,892.71
FRUIT STORES, VEGETABLE MARKETS	$748,509.35	$1,371.70
GROCERY	$223,137,773.17	$437,381.09
RESTAURANTS AND NIGHTCLUBS	130,237,360.49	$230,376.78
HOTELS AND TRANSIENT FACILITIES	$45,515,321.15	$150,340.56
SODA FOUNTAIN	$1,531,876.38	$3,197.29
	$442,815,447.23	**$907,870.87**
81 Other services (except public administration)		
CUSTOM TAILOR	$88,204.31	$0.00
REPAIR SERVICE	$1,117,355.76	$2,558.80
PERSONAL SERVICES	$1,312,393.65	$2,443.31
AIRPLANE REPAIR	$581,951.16	$2,095.02
ANIMAL HOSP, GROOMING OR LODGING	$3,327,808.21	$11,458.13
BARBER, BEAUTY AND HAIRDRESSING SER	$19,019,598.81	$30,877.08
CLOTHES, HATS, CARPET OR RUG REPAIR	$37,723.72	$0.00
FUNERAL SERVICES AND CREMATORIES	$1,883,570.00	$6,780.85
FURNITURE, UPHOLSTERING, REPAIR OF	$270,275.30	$925.02
GUNSMITH, GUN REPAIRING	$126,830.55	$402.59
LAUNDRY, CLEANING AND GARMENT SER	$2,811,709.08	$9,428.25
PIANO TUNING	$230,542.00	$479.31
RADIOS, TELEVISIONS, APPLIANCE REPR	$4,449,906.17	$15,856.22
WASHING AND CLEANING OF AUTOMOBILES	$1,875,646.00	$6,117.49
WATCHES, CLOCK, REPAIR OF	$70,000.00	$0.00
OTHER BUS, REPR, OR PERSONAL SERV	$99,382,561.29	$315,016.71
COIN MACHINE OPERATORS	$3.00	$400.00
	$136,586,079.01	**$404,838.78**

Step 4 – Organize numbers to generate allocations for Business Licenses, Gross Receipts & Fees (Tax)

ALLOCATIONS BY BUSINESS LICENSE DATA									
For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
Gross Receipts	$1,189,052,733	$0	$43,561,745	$231,273,779	$472,164,795	$136,292	$44,507,780	$442,815,447	$70,000
Tax	$1,937,585	$0	$241,449	$588,763	$1,828,097	$491	$158,699	$907,871	$0

For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
Gross Receipts %	27.75%	0.00%	1.02%	5.40%	11.02%	0.00%	1.04%	10.33%	0.00%
Tax %	20.33%	0.00%	2.53%	6.18%	19.18%	0.01%	1.66%	9.52%	0.00%

For Tab 2b Industrial:	**11**	**21**	**22**	**23**	**31-33**	**42**	**48-49**
Gross Receipts	$0	$0	$44,578,709	$974,593,353	$3,053,845	$282,305,900	$42,498,440
Tax	$0	$0	$222,894	$1,452,017	$11,251	$186,676	$148,059

For Tab 2b Industrial:	**11**	**21**	**22**	**23**	**31-33**	**42**	**48-49**
Gross Receipts %	0.00%	0.00%	1.04%	22.74%	0.07%	6.59%	0.99%
Tax %	0.00%	0.00%	2.34%	15.23%	0.12%	1.96%	1.55%

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
Gross Receipts	$21,479,316	$5,820,315	$144,888,537	$0	$0
Tax	$173,771	$15,186	$594,739	$0	$0

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
Gross Receipts %	0.50%	0.14%	3.38%	0.00%	0.00%
Tax %	1.82%	0.16%	6.24%	0.00%	0.00%

Step 5 – Gather data on # Dealers & Taxable Sales from Albemarle County and organize by NAICS category

NAICS Code	Meaning of NAICS Code	# of Dealers	Amount ($)
11	**Agriculture, forestry, fishing and hunting**	**19**	**$4,710,554**
111	Crop Production	14	$3,749,127
115	Support Activities for Agriculture and Forestry	5	$961,427
21	**Mining, quarrying, and oil and gas extraction**	**0**	**$0**
22	**Utilities**	**0**	**$0**
23	**Construction**	**26**	**$10,726,123**
237	Heavy and Civil Engineering Construction	6	$4,258,185
238	Specialty Trade Contractors	20	$6,467,938
31-33	**Manufacturing**	**60**	**$13,687,059**
312	Beverage and Tobacco Product Manufacturing	15	$3,358,535
315	Apparel Manufacturing	5	$7,468
321	Wood Product Manufacturing	8	$2,077,819
323	Printing and Related Support Activities	5	$3,055,318
327	Nonmetallic Mineral Product Manufacturing	5	$738,104
334	Computer and Electronic Product Manufacturing	6	$1,096,717
339	Miscellaneous Manufacturing	16	$3,353,098
42	**Wholesale trade**	**79**	**$35,824,865**
421	Wholesale Trade, Durable Goods	7	$5,162,382
423	Merchant Wholesalers, Durable Goods	52	$26,086,085
424	Merchant Wholesalers, Nondurable Goods	14	$2,302,812
425	Wholesale Electronic Markets and Agents and Brokers	6	$2,273,586
44-45	**Retail trade**	**725**	**$906,794,263**
441	Motor Vehicle and Parts Dealers	29	$33,432,311
442	Furniture and Home Furnishings Stores	71	$36,673,249
443	Electronics and Appliance Stores	25	$21,286,885
444	Building Material and Garden Equipment and Supplies Dealers	36	$167,758,050
445	Food and Beverage Stores	67	$208,172,075
446	Health and Personal Care Stores	19	$5,867,457
447	Gasoline Stations	28	$20,755,820
448	Clothing and Clothing Accessories Stores	83	$56,279,266
451	Sporting Goods, Hobby, Book, and Music Stores	99	$33,936,017
452	General Merchandise Stores	22	$253,085,425
453	Miscellaneous Store Retailers	169	$32,561,507
454	Nonstore Retailers	77	$36,986,201
48-49	**Transportation and warehousing**	**0**	**$0**
52	**Finance and insurance**	**0**	**$0**
53	**Real estate and rental and leasing**	**170**	**$19,362,870**
531	Real Estate	16	$1,539,681
532	Rental and Leasing Services	154	$17,823,189
54	**Professional, scientific, and technical services**	**82**	**$7,262,925**
541	Professional, Scientific, and Technical Services	82	$7,262,925
55	**Management of companies and enterprises**	**0**	**$0**
56	**Administrative and Support and Waste Mang and Remediation Srvs**	**23**	**$1,108,273**
561	Administrative and Support Services	23	$1,108,273
61	**Educational services**	**9**	**$16,607,272**
611	Educational Services	9	$16,607,272
62	**Health care and social assistance**	**26**	**$1,727,619**
621	Ambulatory Health Care Services	17	$679,973
623	Nursing and Residential Care Facilities	9	$1,047,646
71	**Arts, entertainment, and recreation**	**23**	**$7,582,330**
711	Performing Arts, Spectator Sports, and Related Industries	13	$679,071
713	Amusement, Gambling, and Recreation Industries	10	$6,903,259
72	**Accommodation and food services**	**199**	**$141,351,524**
721	Accommodation	33	$56,105,741
722	Food Services and Drinking Places	166	$85,245,783
81	**Other services (except public administration)**	**102**	**$22,573,101**
811	Repair and Maintenance	38	$15,871,059
812	Personal and Laundry Services	47	$3,174,347
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	11	$3,319,821
814	Private Households	6	$207,874
99	**Industries not classified**	**9**	**$142,857**
511	Publishing Industries	9	$142,857

Step 6 – Organize numbers to generate allocations for #Dealers & Taxable Sales

ALLOCATIONS BY TAXABLE SALES									
For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
# Dealers	725	0	0	170	82	0	23	199	102
Taxable Sales	$906,794,263	$0	$0	$19,362,870	$7,262,925	$0	$7,582,330	$141,351,524	$22,573,101

For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
# Dealers %	42.45%	0.00%	0.00%	9.95%	4.80%	0.00%	1.35%	11.65%	5.97%
Taxable Sales %	72.23%	0.00%	0.00%	1.54%	0.58%	0.00%	0.60%	11.26%	1.80%

For Tab 2b Industrial:	**11**	**21**	**22**	**23**	**31-33**	**42**	**48-49**
# Dealers	19	0	0	26	60	79	0
Taxable Sales	$4,710,554	$0	$0	$10,726,123	$13,687,059	$35,824,865	$0

For Tab 2b Industrial:	**11**	**21**	**22**	**23**	**31-33**	**42**	**48-49**
# Dealers %	1.11%	0.00%	0.00%	1.52%	3.51%	4.63%	0.00%
Taxable Sales %	0.38%	0.00%	0.00%	0.85%	1.09%	2.85%	0.00%

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
# Dealers	23	9	26	0	9
Taxable Sales	$1,108,273	$16,607,272	$1,727,619	$0	$142,857

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
# Dealers %	1.35%	0.53%	1.52%	0.00%	0.53%
Taxable Sales %	0.09%	1.32%	0.14%	0.00%	0.01%

Step 7 – Generate Allocations:

1.5.6.1 – Allocations for Albemarle County Commercial Uses

ALLOCATION METHODS

(The percentages calculated here are used to allocate county revenue and expenses)

Black text: from NAICS data Blue text: from County data	44-45 RETAIL TRADE	52 FINANCE & INSURANCE	53 REAL ESTATE	54 PROF, SCI & TECH SERVICES	55 MANAGEMENT	71 ARTS, ENTRTAIN RECREATION	72 ACCOMMODATION & FOOD SERVICES	81 OTHER SERVICES	TOTAL
# of Establishments	362	189	151	306	20	39	152	209	1,428
# of Establishments %	14.23%	7.43%	5.94%	12.03%	0.79%	1.53%	5.97%	8.22%	56.13%
adjusted - % of Total	25.35%	13.24%	10.57%	21.43%	1.40%	2.73%	10.64%	14.64%	100.00%
# of Employees	1,400	3,226	664	3,392	467	1,247	2,879	1,795	15,070
# of Employees %	3.89%	8.96%	1.85%	9.43%	1.30%	3.47%	8.00%	4.99%	41.88%
adjusted - % of Total	9.29%	21.41%	4.41%	22.51%	3.10%	8.27%	19.10%	11.91%	100.00%
Payroll	$74,620,000	$215,747,000	$23,763,000	$250,247,000	$26,426,000	$37,274,000	$41,383,000	$72,029,000	$741,489,000
Payroll %	5.15%	14.88%	1.64%	17.26%	1.82%	2.57%	2.86%	4.97%	51.16%
adjusted - % of Total	10.06%	29.10%	3.20%	33.75%	3.56%	5.03%	5.58%	9.71%	100.00%
Taxable Sales	$906,794,263	$0	$19,362,870	$7,262,925	$0	$7,582,330	$141,351,524	$22,573,101	$1,104,927,013
Taxables Sales %	72.23%	0.00%	1.54%	0.58%	0.00%	0.60%	11.26%	1.80%	88.01%
adjusted - % of Total	82.07%	0.00%	1.75%	0.66%	0.00%	0.69%	12.79%	2.04%	100.00%
# Dealers	725	0	170	82	0	23	199	102	1,301
Dealers %	42.45%	0.00%	9.95%	4.80%	0.00%	1.35%	11.65%	5.97%	76.17%
adjusted - % of Total	55.73%	0.00%	13.07%	6.30%	0.00%	1.77%	15.30%	7.84%	100.00%
Business License Gross Receipts	$1,189,052,733	$43,561,745	$231,273,779	$472,164,795	$136,292	$44,507,780	$442,815,447	$70,000	$2,423,582,571
Business License Gross Receipts %	27.75%	1.02%	5.40%	11.02%	0.00%	1.04%	10.33%	0.00%	56.55%
adjusted - % of Total	49.06%	1.80%	9.54%	19.48%	0.01%	1.84%	18.27%	0.00%	100.00%
Business License Fees	$1,937,585	$241,449	$588,763	$1,828,097	$491	$158,699	$907,871	$0	$5,662,955
Business License Fees%	20.33%	2.53%	6.18%	19.18%	0.01%	1.66%	9.52%	0.00%	59.40%
adjusted - % of Total	34.22%	4.26%	10.40%	32.28%	0.01%	2.80%	16.03%	0.00%	100.00%
Retail Trade; Arts, Ent. Rec; Accommodation									
(ratio based on # establishments)	65.46%	0%	0%	0%	0%	7.05%	27.49%	0%	100.00%
(ratio based on taxable sales) alternate	76.56%	0%	0%	0%	0%	2.43%	21.01%	0%	100.00%
Arts, Ent. Rec; Accommodation									
(ratio based on payroll)	0%	0%	0%	0%	0%	47.39%	52.61%	0%	100.00%

1.5.6.2 – Allocations for Albemarle County Industrial Uses

ALLOCATION METHODS

(The percentages calculated here are used to allocate county revenue and expenses)

Black text: from NAICS data Blue text: from County data	11 AGRICULTURE	21 MINING, QUARRYING	23 CONSTRUCTION	31-33 MANUFACTURING	42 WHOLESALE TRADE	48-49 TRANSPORTATION	TOTAL
# of Establishments	15	3	360	63	83	47	571
# of Establishments %	0.59%	0.12%	14.15%	2.48%	3.26%	1.85%	22.44%
adjusted - % of Total	2.63%	0.53%	63.05%	11.03%	14.54%	8.23%	100.00%
# of Employees	28	43	3,000	1,293	1,400	872	6,636
# of Employees %	0.08%	0.12%	8.34%	3.59%	3.89%	2.42%	18.44%
adjusted - % of Total	0.42%	0.65%	45.21%	19.48%	21.10%	13.14%	100.00%
Payroll	$639,000	$2,287,000	$101,022,000	$53,279,000	$74,620,000	$25,281,000	$257,128,000
Payroll %	0.04%	0.16%	6.97%	3.68%	5.15%	1.74%	17.74%
adjusted - % of Total	0.25%	0.89%	39.29%	20.72%	29.02%	9.83%	100.00%
Taxable Sales	$4,710,554	$0	$10,726,123	$13,687,059	$35,824,865	$0	$64,948,601
Taxables Sales %	0.38%	0.00%	0.85%	1.09%	2.85%	0.00%	5.17%
adjusted - % of Total	7.25%	0.00%	16.51%	21.07%	55.16%	0.00%	100.00%
# Dealers	19	0	26	60	79	0	184
Dealers %	1.11%	0.00%	1.52%	3.51%	4.63%	0.00%	10.77%
adjusted - % of Total	10.33%	0.00%	14.13%	32.61%	42.93%	0.00%	100.00%
Business License Gross Receipts	$0	$0	$974,593,353	$3,053,845	$282,305,900	$42,498,440	$1,302,451,538
Business License Gross Receipts %	0.00%	0.00%	22.74%	0.07%	6.59%	0.99%	30.39%
adjusted - % of Total	0.00%	0.00%	74.83%	0.23%	21.67%	3.26%	100.00%
Business License Fees	$0	$0	$1,452,017	$11,251	$186,676	$148,059	$1,798,003
Business License Fees%	0.00%	0.00%	15.23%	0.12%	1.96%	1.55%	18.86%
adjusted - % of Total	0.00%	0.00%	80.76%	0.63%	10.38%	8.23%	100.00%

Note: The percentages given by U.S. Census data for each industrial use represent the percentage of all businesses in the County; the "adjusted % of Total" was calculated using these percentages so that the percentages given for each of the seven uses listed here would add up to 100%. The resulting percentages are used to allocate each revenue and expense item in the Albemarle County 2007-2008 budget. For example, a $1000 revenue item in the budget would be apportioned as follows using the # Establishment allocation method above:

$1000	$26	$5	$630	$110	$145	$82	$1000

1.5.6.3 – Allocations for Albemarle County Institutional Uses

ALLOCATION METHODS

(The percentages calculated here are used to allocate county revenue and expenses)

Black text: from NAICS data Blue text: from County data	56 ADMINISTRATIVE SUPPORT	61 EDUCATIONAL SERVICES	62 HEALTH CARE & SOCIAL ASSISTNC	92 PUBLIC ADMINISTRATION	99 UNCLASSIFIED	TOTAL
# of Establishments	158	51	271	30	5	515
# of Establishments %	6.21%	2.00%	10.65%	0.00%	0.20%	19.06%
adjusted - % of Total	30.68%	9.90%	52.62%	5.83%	0.97%	100.00%
# of Employees	3,082	692	4,513	15,610	8	23,905
# of Employees %	8.56%	1.92%	12.54%	43.38%	0.02%	66.43%
adjusted - % of Total	12.89%	2.89%	18.88%	65.30%	0.03%	100.00%
Payroll	$76,551,000	$21,398,000	$215,423,000	$0	$313,000	$313,685,000
Payroll %	5.28%	1.48%	14.86%	0.00%	0.02%	21.64%
adjusted - % of Total	24.40%	6.82%	68.67%	0.00%	0.10%	100.00%
Taxable Sales	$1,108,273	$16,607,272	$1,727,619	$0	$142,857	$19,586,021
Taxables Sales %	0.09%	1.32%	0.14%	0.00%	0.01%	1.56%
adjusted - % of Total	5.66%	84.79%	8.82%	0.00%	0.73%	100.00%
# Dealers	23	9	26	0	9	67
Dealers %	1.35%	0.53%	1.52%	0.00%	0.53%	3.92%
adjusted - % of Total	34.33%	13.43%	38.81%	0.00%	13.43%	100.00%
Business License Gross Receipts	$21,479,316	$5,820,315	$144,888,537	$0	$0	$172,188,168
Business License Gross Receipts %	0.50%	0.14%	3.38%	0.00%	0.00%	4.02%
adjusted - % of Total	12.47%	3.38%	84.15%	0.00%	0.00%	100.00%
Business License Fees	$173,771	$15,186	$594,739	$0	$0	$783,697
Business License Fees%	1.82%	0.16%	6.24%	0.00%	0.00%	8.22%
adjusted - % of Total	22.17%	1.94%	75.89%	0.00%	0.00%	100.00%
Edu.Service; Health Care & Soc.Assist.% (ratio based on # establishments)	0.00%	15.84%	84.16%	0.00%	0.00%	100.00%

Step 8 - Gather U.S. Census Bureau, 2007 Economic Census data for the City of Charlottesville

Geographic Area	NAICS Code	Meaning of NAICS code	Year	Total Revenue	Number of Establishments	Number of Employees	Annual Payroll ($1000)
Charlottesville, VA	11	Agriculture, forestry, fishing and hunting	2007				
Charlottesville, VA	21	Mining, quarrying, and oil and gas extraction	2007				
Charlottesville, VA	22	Utilities	2007				
Charlottesville, VA	23	Construction	2007				
Charlottesville, VA	31-33	Manufacturing	2007	677,065,000	51	1,589	79,121,000
Charlottesville, VA	42	Wholesale trade	2007	203,434,000	55	473	20,433,000
Charlottesville, VA	44-45	Retail trade	2007	699,395,000	349	3,880	78,133,000
Charlottesville, VA	48-49	Transportation and warehousing	2007				
Charlottesville, VA	51	Information (City only)	2007	N	62	1,135	73,212,000
Charlottesville, VA	52	Finance and insurance	2007				
Charlottesville, VA	53	Real estate and rental and leasing	2007	86,496,000	98	557	19,663,000
Charlottesville, VA	54	Professional, scientific, and technical services	2007	D	296	h	D
Charlottesville, VA	55	Management of companies and enterprises	2007				
Charlottesville, VA	56	Administrative, Support, Waste Mgmt, Remediation Srvs	2007	47,237,000	86	830	20,028,000
Charlottesville, VA	61	Educational services	2007	D	20	c	D
Charlottesville, VA	62	Health care and social assistance	2007	1,339,657,000	190	10,090	449,382,000
Charlottesville, VA	71	Arts, entertainment, and recreation	2007	D	36	e	D
Charlottesville, VA	72	Accommodation and food services	2007	303,579,000	261	5,617	85,805,000
Charlottesville, VA	81	Other services (except public administration)	2007	295,858,000	165	1,389	42,813,000
Charlottesville, VA	92	Public Administration	2007				
Charlottesville, VA	99	Industries not classified	2007				

Step 9 – Organize numbers to generate allocations for # of Establishments, # Employees/Jobs, & Payroll for the City of Charlottesville

ALLOCATIONS BY NAICS CODE									
For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
# of Establishments	349	62	0	98	296	0	36	261	165
# of Employees	3,880	1,135	0	557	h	0	e	5,617	1,389
Employees per VA Commisn	5,055	1,402	862	438	2,657	345	382	4,557	1,570
Payroll	$78,133,000	$73,212,000	$0	$19,663,000	D	$0	D	$85,805,000	$42,813,000
Gross Reciepts	$699,395,000	N	$0	$86,496,000	D	$0	D	$303,579,000	$295,858,000

For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
# of Establishments %	20.91%	3.71%	0.00%	5.87%	17.74%	0.00%	2.16%	15.64%	9.89%
# of Employees %	15.18%	4.44%	0.00%	2.18%	N/A	0.00%	N/A	21.98%	5.43%
% Employees per VA Comm.	14.70%	4.08%	2.51%	1.27%	7.73%	1.00%	1.11%	13.25%	4.57%
Payroll %	9.00%	8.43%	0.00%	2.26%	N/A	0.00%	N/A	9.88%	4.93%
Gross Reciepts %	19.15%	N/A	0.00%	2.37%	N/A	0.00%	N/A	8.31%	8.10%

For Tab 2b Industrial:	**21**	**22**	**23**	**31-33**	**42**	**48-49**
# of Establishments	0	0	0	51	55	0
# of Employees	0	0	0	1,589	473	0
Employees per VA Commisn	0	104	1,438	705	670	231
Payroll	$0	$0	$0	$79,121,000	$20,433,000	$0
Gross Reciepts	$0	$0	$0	$677,065,000	$203,434,000	$0

For Tab 2b Industrial:	**21**	**22**	**23**	**31-33**	**42**	**48-49**
# of Establishments %	0.00%	0.00%	0.00%	3.06%	3.30%	0.00%
# of Employees %	0.00%	0.00%	0.00%	6.22%	1.85%	0.00%
% Employees per VA Comm.	0.00%	0.30%	4.18%	2.05%	1.95%	0.67%
Payroll %	0.00%	0.00%	0.00%	9.11%	2.35%	0.00%
Gross Reciepts %	0.00%	0.00%	0.00%	18.54%	5.57%	0.00%

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
# of Establishments	86	20	190	0	0
# of Employees	830	c	10,090	0	0
Employees per VA Commisn	1,079	599	3,606	10,187	0
Payroll	$20,028,000	D	$449,382,000	$0	$0
Gross Reciepts	$47,237,000	D	$1,339,657,000	$0	$0

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
# of Establishments %	5.15%	1.20%	11.38%	0.00%	0.00%
# of Employees %	3.25%	N/A	39.48%	0.00%	0.00%
% Employees per VA Comm.	3.14%	1.74%	10.49%	29.62%	0.00%
Payroll %	2.31%	N/A	51.74%	0.00%	0.00%
Gross Reciepts %	1.29%	N/A	36.68%	0.00%	0.00%

Step 10 – Gather Business License Data and organize by NAICS category – City of Charlottesville

Classification of License	Gross Reciepts	Tax
Plumber	$150,000.00	$265.00
31-33 Manufacturing		
Contractor	$251,708,987.05	$405,739.46
Brewery - 2005	$0.00	$1,102.73
Engravers	$0.00	$39.00
Sign Painter	$175,322.00	$526.00
	$251,884,309.05	**$407,407.19**
42 Wholesale Trade		
Wholesale Merchant	$155,614,397.43	$243,598.41
Wholesale Peddler	$0.00	$310.00
Wholesale Wine	$0.00	$100.00
Manufacturers Agent	$245,821.42	$884.98
	$155,860,218.85	**$244,893.39**
44-45 Retail Trade		
Retail Merchant	$574,710,886.95	$1,063,486.13
Peddler	$125.00	$2,721.18
Itinerant Merchant	$0.00	$625.00
Show & Sale	$0.00	$350.00
Coin Operated Retail	$2,985,148.01	$5,959.11
Wine & Beer Off - 2005	$300.00	$6,044.97
Wine & Beer Off	$0.00	$210.06
Beer Off - 2005	$0.00	$310.21
Optician	$344,055.00	$688.00
Printer	$16,688,851.37	$33,426.00
Outside Agents	$599,177.92	$1,798.00
Commission Merchant	$2,180,307.16	$7,596.71
Pawnbroker	$137,030.48	$493.22
	$597,645,881.89	**$1,123,708.59**
48-49 Transportation and Warehousing		
Hauling	$526,240.11	$1,617.00
Towing Motor Vehicles	$671,363.00	$2,014.00
Parcel Delivery	$128,547.89	$404.00
Taxicab, Limousine, or Ambulance	$1,339,801.13	$3,217.00
Moves, packs,crates, ships or storage of	$100,000.00	$332.00
Travel Agent/Tour Guide	$789,170.00	$2,296.47
Airplane/Helicopter Rental	$149,075.00	$447.22
	$3,704,197.13	**$10,327.69**
51 Information		
Book Publishers	$7,277,253.00	$3,970.38
Computer Service	$8,000.00	$39.00
Cable/Electric/Telephone Utility	$18,166,489.56	$90,758.41
Prep Of Technical Manuals	$187,076.95	$561.00
	$25,638,819.51	**$95,328.79**
52 Finance and Insurance		
Chattel Mortgage Financing		
Loan Or Mortgage Company	$1,760,695.90	$10,888.62
Stockbroker	$12,817,279.13	$64,086.00
Investment Counselor	$65,607,633.28	$327,897.00
Chattel Mortgage Financing		
All Other Financial Services	$27,033,099.60	$132,944.78
	$107,218,708	**$535,816**
53 Real Estate, Rental and Leasing		
Real Estate	$22,477,850.85	$127,910.83
Rental Or Leasing Tpp	$5,586,826.50	$16,736.48
Rental Of Storage Space	$0.00	$38.71
	$28,064,677.35	**$144,686.02**

Classification of License	Gross Reciepts	Tax
54 Professional, Scientific and Technical Services		
Architect	$26,037,719.37	$150,497.41
Attorney	$48,035,858.05	$276,644.00
CPA	$13,391,164.10	$77,565.00
Engineer	$5,575,536.17	$32,750.02
Land Surveyor	$3,962,446.05	$22,982.00
Veterinarians	$2,127,372.40	$12,338.78
Any Other Professional	$1,404,006.53	$6,159.58
Research & Development(qual fed appro	$6,008,693.33	($20,277.00)
Advertising Agent	$894,552.14	$1,692,779.51
Animal hospitals, grooming serv	$1,354,617.45	$4,113.57
Research	$111,947.00	$192.59
Research & Analytical Lab	$375,828.08	($3,138.00)
Consultant	$30,298,475.08	$968.84
Graphic Designer	$3,819,229.61	($4,625.99)
Interior Designer, Decorator	$762,692.98	$2,778.00
Landscape Architects/Designers	$6,311,473.72	$22,570.00
Consultant (T C Qual)	$1,985,786.66	($47,158.88)
Drafting	$343,706.00	$1,019.00
Collection Agency	$0.00	$35.00
Employment Agency	$1,460,509.00	$5,249.00
Tax Return Prep Bookkeeping	$3,879,435.15	$13,342.47
	$158,141,048.87	**$2,246,784.90**
55 Mangement of Companies and Enterprises		
	$0	**$0**
56 Administrative and Support and Waste Management and Remediation Services		
Office/HouseJanitorial Cleaning	$9,515,468.79	$28,185.00
Mailing Service	$2,446,852.16	$7,220.89
Yard & Garden Care & Mnt Service	$1,122,038.84	$3,108.00
Detective/Security	$350,300.00	$1,457.00
Telephone Answering	$345,870.00	$1,038.00
Auctioneers	$718,219.67	$2,625.00
Bondsmen	$50,000.00	$35.00
Court Reporter	$375,299.00	$1,351.00
Tree Surgeon	$1,553,630.00	$4,605.00
Exterminators	$3,247,636.00	$8,137.00
	$19,725,314.46	**$57,761.89**
61 Educational Services		
School of Instruction	$5,302,469.13	$14,701.40
	$5,302,469.13	**$14,701.40**
62 Health Care and Social Assistance		
Hospitals-Nursing-Adult Care	$12,516,118.00	$40,327.00
Optometrist	$840,016.39	$4,871.49
Physician, Psychiatrist, Surgeons	$58,728,051.93	$340,797.00
Physical or Occupational Therapist	$1,173,456.51	$6,259.00
Psychologist,Counselors, Social Worker	$6,397,248.04	$32,943.00
Child Care Center	$2,909,244.68	$8,342.00
Dentist	$11,098,934.13	$65,210.00
	$93,663,069.68	**$498,749.49**

Classification of License	Gross Reciepts	Tax
71 Arts, Entertainment and Recreation		
Amusement & Recreation	$2,148,103.00	$8,587.00
Motion Picture Theatre	$2,560,916.50	$9,219.44
Skating Rink	$412,771.00	$1,643.79
Theatrical Performances	$65,473.13	$236.00
Photographer	$1,231,985.41	$3,581.96
Coin Operated Amusements	$35,513.50	$105.00
Health Club	$3,388,021.54	$8,461.69
Booking Agents	$656,533.00	$2,363.00
	$10,499,317.08	**$34,197.88**
72 Accommodation and Food Services		
Restaurant	**$127,937,446.40**	$257,328.99
Bakery	$2,148,014.54	$4,383.65
Beer On	$0.00	$500.06
Wine & Beer On	$150.00	$10,220.63
Wine & Beer On & Off	$0.00	$1,178.13
Beer On & Off - 2005	$0.00	$200.01
Wine & Beer On & Off (after 2005)	$0.00	$3,857.47
Mixed Beverages (up to 100)	$0.00	$7,716.30
Mixed Beverages (100-150)	$0.00	$3,799.38
Mixed Beverages (over 150)	$0.00	$5,922.34
Caterers	$3,244,875.56	$9,768.54
Hotels Or Tourist Home	$27,108,400.70	$81,358.73
	$160,438,887.20	**$386,234.23**
81 Other Services (except public administration)		
Coin Machine Operator	$0.00	$300.00
Power Washing	$1,510,308.90	$4,346.39
Laundries-Dry Cleaners Etc	$4,701,317.78	$11,734.28
Barbers/Cosmetologists	$8,523,914.48	$20,465.47
Misc Business/Personal Service	$36,863,797.62	$70,710.13
Repair	$26,564,657.33	$79,642.07
Reproduction Service	$460,740.55	$1,502.63
Shoe Makers Repair	$86,102.87	$286.00
Tabulation & Typing Service	$561,946.15	$1,680.97
Tailor	$724,053.37	$2,042.66
Parking Lot	$3,905,695.87	$11,752.82
Furniture Repair	$360,352.65	$1,038.00
Undertaker	$3,204,375.00	$9,680.00
Holistic-Spa-Massage-Reflexology	$1,396,536.36	$3,542.00
	$88,863,798.93	**$218,723.42**

Step 11 – Organize numbers to generate allocations for Business Licenses, Gross Receipts & Fees (Tax) for the City of Charlottesville

ALLOCATIONS BY BUSINESS LICENSE DATA									
For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
Gross Receipts	$597,645,882	$25,638,820	$107,218,708	$28,064,677	$158,141,049	$0	$10,499,317	$160,438,887	$88,863,799
Tax	$1,123,709	$95,329	$535,816	$144,686	$2,246,785	$0	$34,198	$386,234	$218,723

For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
Gross Receipts %	35.01%	1.50%	6.28%	1.64%	9.27%	0.00%	0.62%	9.40%	5.21%
Tax %	25.95%	2.20%	12.37%	3.34%	51.89%	0.00%	0.79%	8.92%	5.05%

For Tab 2b Industrial:	**21**	**22**	**23**	**31-33**	**42**	**48-49**
Gross Receipts	$0	$0	$0	$251,884,309	$155,860,219	$3,704,197
Tax	$0	$0	$0	$407,407	$244,893	$10,328

For Tab 2b Industrial:	**21**	**22**	**23**	**31-33**	**42**	**48-49**
Gross Receipts %	0.00%	0.00%	0.00%	14.76%	9.13%	0.22%
Tax %	0.00%	0.00%	0.00%	9.41%	5.66%	0.24%

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
Gross Receipts	$19,725,314	$5,302,469	$93,663,070	$0	$0
Tax	$57,762	$14,701	$498,749	$0	$0

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
Gross Receipts %	1.16%	0.31%	5.49%	0.00%	0.00%
Tax %	1.33%	0.34%	11.52%	0.00%	0.00%

Step 12 – Gather data on # Dealers & Taxable Sales and organize by NAICS category – Charlottesville

NAICS Classification	Meaning of NAICS Code	# of Dealers	Amount ($)
11	**Agriculture, forestry, fishing and hunting**	**0**	**$0**
21	**Mining, quarrying, and oil and gas extraction**	**0**	**$0**
22	**Utilities**	**0**	**$0**
23	**Construction**	**20**	**$6,987,069**
238	Specialty Trade Contractors	20	$6,987,069
31-33	**Manufacturing**	**34**	**$12,740,054**
311	Food Manufacturing	6	$1,037,017
315	Apparel Manufacturing	5	$757,739
323	Printing and Related Support Activities	8	$7,380,731
339	Miscellaneous Manufacturing	15	$3,564,567
42	**Wholesale trade**	**78**	**$48,565,725**
421	Wholesale Trade, Durable Goods	5	$5,934,714
422	Wholesale Trade, Nondurable Goods	5	$9,281,284
423	Merchant Wholesalers, Durable Goods	54	$27,378,282
424	Merchant Wholesalers, Nondurable Goods	14	$5,971,445
44-45	**Retail trade**	**561**	**$452,592,519**
441	Motor Vehicle and Parts Dealers	20	$13,258,928
442	Furniture and Home Furnishings Stores	49	$26,185,780
443	Electronics and Appliance Stores	11	$36,943,352
444	Building Material and Garden Equipment and Supplies Dealers	18	$20,785,414
445	Food and Beverage Stores	75	$165,872,024
446	Health and Personal Care Stores	16	$16,461,131
447	Gasoline Stations	27	$15,814,214
448	Clothing and Clothing Accessories Stores	89	$45,576,633
451	Sporting Goods, Hobby, Book, and Music Stores	71	$29,309,923
452	General Merchandise Stores	9	$20,981,121
453	Miscellaneous Store Retailers	137	$40,960,089
454	Nonstore Retailers	39	$20,443,910
51	**Information (City only)**	**13**	**$623,260**
511	Publishing Industries	13	$623,260
52	**Finance and insurance**	**0**	**$0**
53	**Real estate and rental and leasing**	**98**	**$19,348,279**
532	Rental and Leasing Services	98	$19,348,279
54	**Professional, scientific, and technical services**	**52**	**$5,196,826**
541	Professional, Scientific, and Technical Services	52	$5,196,826
55	**Management of companies and enterprises**	**0**	**$0**
56	**Administrative and Support and Waste Mang and Remediation Srvs**	**15**	**$1,763,097**
561	Administrative and Support Services	15	$1,763,097
61	**Educational services**	**0**	**$0**
62	**Health care and social assistance**	**14**	**$174,903**
621	Ambulatory Health Care Services	14	$174,903
71	**Arts, entertainment, and recreation**	**17**	**$2,471,207**
711	Performing Arts, Spectator Sports, and Related Industries	9	$1,839,558
713	Amusement, Gambling, and Recreation Industries	8	$631,649
72	**Accommodation and food services**	**248**	**$189,870,033**
721	Accommodation	19	$44,463,375
722	Food Services and Drinking Places	229	$145,406,658
81	**Other services (except public administration)**	**102**	**$17,636,408**
811	Repair and Maintenance	45	$13,834,810
812	Personal and Laundry Services	51	$2,520,999
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	6	$1,280,599
92	**Public Administration**	**0**	**$0**
99	**Industries not classified**	**65**	**$58,305,472**
0	No NAICS Information	65	$58,305,472

Step 13 – Organize numbers to generate allocations for #Dealers & Taxable Sales for the City of Charlottesville

ALLOCATIONS BY TAXABLE SALES									
For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
# Dealers	561	13	0	98	52	0	17	248	102
Taxable Sales	$452,592,519	$623,260	$0	$19,348,279	$5,196,826	$0	$2,471,207	$189,870,033	$452,592,519

For Tab 2a Commercial:	**44-45**	**51**	**52**	**53**	**54**	**55**	**71**	**72**	**81**
# Dealers %	40.39%	0.94%	0.00%	7.06%	3.74%	0.00%	1.22%	17.85%	7.34%
Taxable Sales %	50.51%	0.07%	0.00%	2.16%	0.58%	0.00%	0.28%	21.19%	50.51%

For Tab 2b Industrial:	**21**	**22**	**23**	**31-33**	**42**	**48-49**
# Dealers	0	0	20	34	78	
Taxable Sales	$0	$0	$6,987,069	$12,740,054	$48,565,725	

For Tab 2b Industrial:	**21**	**22**	**23**	**31-33**	**42**	**48-49**
# Dealers %	0.00%	0.00%	1.44%	2.45%	5.62%	0.00%
Taxable Sales %	0.00%	0.00%	0.78%	1.42%	5.42%	0.00%

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
# Dealers	15	0	14	0	65
Taxable Sales	$1,763,097	$0	$174,903	$0	$58,305,472

For Tab 2c Institutional:	**56**	**61**	**62**	**92**	**99**
# Dealers %	1.08%	0.00%	1.01%	0.00%	4.68%
Taxable Sales %	0.20%	0.00%	0.02%	0.00%	6.51%

Step 14 – Generate Allocations for the City of Charlottesville

1.5.6.4 - Allocations for City of Charlottesville Commercial Uses

ALLOCATION METHODS

(The percentages calculated here are used to allocate city revenue and expenses)

Black text: from NAICS data Blue text: from Clty data	44-45 RETAIL TRADE	51 INFORMATION	52 FINANCE & INSURANCE	53 REAL ESTATE	54 PROF, SCI & TECH SERVICES	71 ARTS, ENTRTAIN RECREATION	72 ACCOMMODATION & FOOD SERVICES	81 OTHER SERVICES	TOTAL
# of Establishments	349	62	0	98	296	36	261	165	1,267
# of Establishments %	20.91%	3.71%	0.00%	5.87%	17.74%	2.16%	15.64%	9.89%	75.91%
adjusted - % of Total	27.55%	4.89%	0.00%	7.73%	23.36%	2.84%	20.60%	13.02%	100.00%
# of Employees	5,055	1,402	862	438	2,657	382	4,557	1,570	16,923
# of Employees %	14.70%	4.08%	2.51%	1.27%	7.73%	1.00%	1.11%	13.25%	45.65%
adjusted - % of Total	29.87%	8.28%	5.09%	2.59%	15.70%	2.26%	26.93%	9.28%	100.00%
Payroll	$78,133,000	$73,212,000	$0	$19,663,000			$85,805,000	$42,813,000	299,626,000
Payroll %	9.00%	8.43%	0.00%	2.26%	N/A	N/A	9.88%	4.93%	34.50%
adjusted - % of Total	26.08%	24.43%	0.00%	6.56%	0.00%	0.00%	28.64%	14.29%	100.00%
Gross Receipts	$699,395,000.00		$0.00	$86,496,000.00			$303,579,000.00	$295,858,000.00	1,385,328,000
Gross Receipts %	19.15%	N/A	0.00%	2.37%	N/A	N/A	8.31%	8.10%	37.93%
adjusted - % of Total	50.49%	0.00%	0.00%	6.24%	0.00%	0.00%	21.91%	21.36%	100.00%
Taxable Sales	$452,592,519	$623,260	$0	$19,348,279	$5,196,826	$2,471,207	$189,870,033	$452,592,519	1,122,694,643
Taxables Sales %	50.51%	0.07%	0.00%	2.16%	0.58%	0.28%	21.19%	50.51%	125.31%
adjusted - % of Total	40.31%	0.06%	0.00%	1.72%	0.46%	0.22%	16.91%	40.31%	100.00%
# Dealers	561	13	0	98	52	17	248	102	1,091
Dealers %	40.39%	0.94%	0.00%	7.06%	3.74%	1.22%	17.85%	7.34%	78.55%
adjusted - % of Total	51.42%	1.19%	0.00%	8.98%	4.77%	1.56%	22.73%	9.35%	100.00%
Business License Gross Receipts	$597,645,882	$25,638,820	$107,218,708	$28,064,677	$158,141,049	$10,499,317	$160,438,887	$88,863,799	1,176,511,139
Business License Gross Receipts %	35.01%	1.50%	6.28%	1.64%	9.27%	0.62%	9.40%	5.21%	68.93%
adjusted - % of Total	50.80%	2.18%	9.11%	2.39%	13.44%	0.89%	13.64%	7.55%	100.00%
Business License Fees	$1,123,709	$95,329	$535,816	$144,686	$2,246,785	$34,198	$386,234	$218,723	4,785,480
Business License Fees%	25.95%	2.20%	12.37%	3.34%	51.89%	0.79%	8.92%	5.05%	110.52%
adjusted - % of Total	23.48%	1.99%	11.20%	3.02%	46.95%	0.71%	8.07%	4.57%	100.00%
Retail Trade; Arts, Ent. Rec; Accommodation and Food Service %									
(ratio based on # establishments)	54.02%	0%	0%	0%	0%	5.57%	40.40%	0%	100.00%
(ratio based on taxable sales)	70.18%	0%	0%	0%	0%	0.38%	29.44%	0%	100.00%

1.5.6.5 – Allocations for City of Charlottesville Industrial Uses

ALLOCATION METHODS

Black text: from NAICS data Blue text: from City data	23 CONSTRUCTION	31-33 MANUFACTURING	42 WHOLESALE TRADE	48-49 TRANSPORTATION
# of Establishments	0	51	55	0
# of Establishments %	0.00%	3.06%	3.30%	0.00%
adjusted - % of Total	0.00%	48.11%	51.89%	0.00%
# of Employees	1,438	705	670	231
# of Employees %	4.18%	2.05%	1.95%	0.67%
adjusted - % of Total	47.24%	23.16%	22.01%	7.59%
Payroll	$0	$79,121,000	$20,433,000	$0
Payroll %	0.00%	9.11%	2.35%	0.00%
adjusted - % of Total	0.00%	79.48%	20.52%	0.00%
Gross Receipts	$0	$677,065,000	$203,434,000	$0
Gross Receipts %	0.00%	18.54%	5.57%	0.00%
adjusted - % of Total	0.00%	76.90%	23.10%	0.00%
Taxable Sales	$6,987,069	$12,740,054	$48,565,725	$0
Taxables Sales %	0.78%	1.42%	5.42%	0.00%
adjusted - % of Total	10.23%	18.66%	71.11%	0.00%
# Dealers	20	34	78	0
Dealers %	1.44%	2.45%	5.62%	0.00%
adjusted - % of Total	15.15%	25.76%	59.09%	0.00%
Business License Gross Receipts	$0	$251,884,309	$155,860,219	$3,704,197
Business License Gross Receipts %	0.00%	14.76%	9.13%	0.22%
adjusted - % of Total	0.00%	61.22%	37.88%	0.90%
Business License Fees	$0	$407,407	$244,893	$10,328
Business License Fees%	0.00%	9.41%	5.66%	0.24%
adjusted - % of Total	0.00%	61.48%	36.96%	1.56%

Note: The percentages given by U.S. Census data for each industrial use represent the percentage of all businesses in the City; the "adjusted % of Total" was calculated using these percentages so that the percentages given for each of the four uses listed here would add up to 100%. The resulting percentages are used to allocate each revenue and expense item in the City of Charlottesville 2006-2007 budget, which was used so the numbers would match up with numbers from the 2007 Economic Census. For example, a $1000 revenue item in the budget would be apportioned as follows using the # Establishment allocation method above:

$1000	$0	$481	$519	$0

1.5.6.6 – Allocations for City of Charlottesville Institutional Uses

ALLOCATION METHODS

Black text: from NAICS data Blue text: from Clty data	56 ADMINISTRATIVE SUPPORT	61 EDUCATIONAL SERVICES	62 HEALTH CARE & SOCIAL ASSISTNC	92 PUBLIC ADMINISTRATION
# of Establishments	86	20	190	30
# of Establishments %	5.15%	1.20%	11.38%	0.00%
adjusted - % of Total	26.38%	6.13%	58.28%	9.20%
# of Employees	1,079	599	3,606	10,187
# of Employees %	3.14%	1.74%	10.49%	29.62%
adjusted - % of Total	6.97%	3.87%	23.31%	65.85%
Payroll	$20,028,000	$0	$449,382,000	$0
Payroll %	2.31%	0.00%	51.74%	0.00%
adjusted - % of Total	4.27%	0.00%	95.73%	0.00%
Gross Receipts	$47,237,000	$0	$1,339,657,000	$0
Gross Receipts %	1.29%	0.00%	36.68%	0.00%
adjusted - % of Total	3.41%	0.00%	96.59%	0.00%
Taxable Sales	$1,763,097	$0	$174,903	$0
Taxables Sales %	0.20%	0.00%	0.02%	0.00%
adjusted - % of Total	90.98%	0.00%	9.02%	0.00%
# Dealers	15	0	14	0
Dealers %	1.08%	0.00%	1.01%	0.00%
adjusted - % of Total	51.72%	0.00%	48.28%	0.00%
Business License Gross Receipts	$19,725,314	$5,302,469	$93,663,070	$0
Business License Gross Receipts %	1.16%	0.31%	5.49%	0.00%
adjusted - % of Total	16.62%	4.47%	78.91%	0.00%
Business License Fees	$57,762	$14,701	$498,749	$0
Business License Fees%	1.33%	0.34%	11.52%	0.00%
adjusted - % of Total	10.11%	2.57%	87.31%	0.00%
Edu.Service; Health Care & Soc.Assist.% (ratio based on # establishments)	0%	9.52%	90.48%	0.00%

2 – Break-even analysis

Objectives

The objectives of this section were to:

1. Calculate the "break-even" taxable value of a single family home: the value at which that home generates sufficient real estate taxes at the current tax rate to pay for all the services required by the household and its residents so that the dwelling is entirely revenue-neutral; and
2. Calculate the "compensating" taxable value and numbers of single-family homes at that value that are required to make the entire residential category and all land uses revenue-neutral.

Methodology

A previous study that calculated a break-even price for single family homes in Albemarle County was reviewed. The value calculated in this study, $634,970, was a little over four times the average taxable of a home at the time the calculation was done—$154,788. Data from Section 1.1 was then analyzed and a calculation was designed to determine the current break-even costs for single family homes.

The break-even cost was calculated, first, by taking the final revenue shortfall after all revenues and expenses had been allocated to the various categories of land uses and, second, by dividing this dollar amount by the number of single family homes in the city, then the county. The resulting number represented the additional tax collections that would be required per single family home to make the city and county budgets revenue neutral. This dollar amount was then divided by current tax rates to find the taxable value that would be required to pay for all services used by residents in the community.

The resulting value was **$634,350** for the City of Charlottesville. **This is 2.16 times the city's average taxable value of a single family home**, which currently stands at $293,347.

In Albemarle County, the break-even price was **$668,761. This is 1.94 times the county's average taxable value of a single family home**, which currently stands at $344,260.

The shortfalls between revenues collected versus expenses required were then reviewed to determine how many houses at what value would be required to close the gap. This "compensating price" calculation was carried out by, first, subtracting the total revenue amount from the total expense amount after all land use allocations had been completed. Next, the resulting dollar amount was divided by the current tax rate. The resulting number was then divided by 2,000 for both the City of Charlottesville and Albemarle County.

For the City of Charlottesville, **it would require 2,000 homes at an average taxable value of $1.537 million to bring the current stock of residences in the city up to the point where all residences and all land uses would be revenue-neutral**.

For Albemarle County**, it would require 2,000 homes at an average taxable value of $2.713 million to bring the current stock of residences up to the point where all residences and all land uses would be revenue-neutral**. This assumes that no other houses at a lower taxable value would be built.

These numbers help to demonstrate how deficient the current mix of residential uses is in generating revenues from local sources to pay for the services that are required by local resident. These numbers also demonstrate how impossible it will be for either the City of Charlottesville or Albemarle County to ever "build their way" out of this dilemma.

A table showing how the calculations were carried out is shown on the next page:

Here is how the break-even calculations were carried out for Albemarle County:

Ratio of Revenues to Expenses 2008-2009 Budget Actuals		Break Even Analysis - Residential Category	Number and price of homes necessary to balance budget
		budget shortfall:	Total tax short fall that needs to be closed:
		$73,134,382	$73,134,382
	TOTAL	number of single family homes:	
		30,374	If this number of units is built:
TOTAL REVENUE:	$306,857,745	% of housing:	2,000
		73.01%	Homes will have to be priced at:
PERCENT OF TOTAL:	100.00%	Average taxable value:	$2,713,286
		$344,260	Taxes paid per house
TOTAL EXPENSES:	$379,992,127	Average real estate taxes paid:	$36,567
		$2,554.41	
PERCENT OF TOTAL:	100.00%	Amount property taxes have to increase to eliminate shortfall:	This number of units will have to be built
		$2,407.80	2,010
		Total real estate taxes:	If homes are priced at
REVENUE	$1.00	$4,962.20	$2,700,000
TO	to	Equivalent value of house:	Taxes paid per house
EXPENSES	$1.24	$668,761	$36,388

Here is how the break-even calculations were carried out for the City of Charlottesville:

Ratio of Revenues to Expenses 2008-2009 Budget Actuals		Break Even Analysis - Residential Category	Number and price of homes necessary to balance budget
		budget shortfall:	Total tax short fall that needs to be closed:
		$32,368,318	$32,368,318
	TOTAL	number of single family homes:	
		9,992	If this number of units is built:
TOTAL REVENUE:	$190,805,218	% of housing:	2,000
		56.80%	Homes will have to be priced at:
PERCENT OF TOTAL:	100.00%	Average taxable value:	$1,537,495
		$293,347	Taxes paid per house
TOTAL EXPENSES:	$223,173,537	Average real estate taxes paid:	$16,184
		$2,786.80	
PERCENT OF TOTAL:	100.00%	Amount property taxes have to increase to eliminate shortfall:	This number of units will have to be built
		$3,239.52	2,050
		Total real estate taxes:	If homes are priced at
REVENUE	$1.00	$6,026.32	$1,500,000
TO	to	Equivalent value of house:	Taxes paid per house
EXPENSES	$1.17	$634,350	$15,789

3 – Per capita costs

Objectives

The objectives of this section were to:

1. Break down each budget item from local government, Albemarle Service Authority and K-12 schools into *per capita resident* and *per capita population served* numbers.

   (*Per capita resident* counts permanent residents, using U.S. Census Bureau population data; *per capita population served* counts the amount of time that people from various groups spend in the county, adjusting for people who commute into and out the county for work, college students who live in the county only during the academic year, and tourists who visit the county.)

2. Use state and federal data to calculate *per capita resident* shares of revenues and expenses generated at the state and federal levels.

3. Generate a list of the services required from local, state and federal local governments; from private entities such as utilities; from nonprofit organizations such as churches; and from private sector businesses such as retail shops, segregating the private entity uses into required services (such as food, shelter, heat, light and trash pickup) from desired services (such as entertainment facilities and nearby specialty shops).

Methodology

Data for the local analysis was obtained from the City of Charlottesville, Albemarle County, Albemarle County Service Authority, Charlottesville City Schools, Albemarle County Public Schools, Weldon Cooper Center for Public Service, Charlottesville Visitor's Center, Virginia Employment Commission, U.S. Census Bureau, and University of Virginia, Piedmont Virginia Community College, Blue Ridge Community College and Mary Baldwin College enrollment data.

Data for the state and federal analyses was obtained from the Tax Foundation.

Data for the list of services required was obtained from all the sources listed above, as well as yellow page listings and data base searches.

Findings were generated by dividing all local budget items for both revenues and expenses by the number of per capita permanent residents and, again, by the per capita population served. State and federal numbers were derived by dividing revenue and expense items by the number of per capita permanent residents in the City of Charlottesville and by the number of per capita permanent residents in Albemarle County.

4 – What's in the pipeline?

Objectives

The objectives of this section were to:

1. Calculate the number of active building permits for residential units and additional commercial space that have been approved and are ready to be built, and
2. Determine the fiscal impacts that the new residential units and additional commercial space will have on current budgets and the land use ratios generated in Section 1.1.

Methodology

This section was made easy by reports prepared by staff in the City of Charlottesville and Albemarle County at the urging of the Piedmont Environmental Council. A build out analysis, conducted by the Charlottesville Department of Neighborhood Services, was released in November 2011. The number of approved housing units and commercial space were calculated by Albemarle County staff and reported during discussion at a February 2012 Board of Supervisors meeting.

5 – Infrastructure costs

Objectives

The objectives of this section were to gather quantitative information on all the various aspects and categories of infrastructure, including:

- Current capacity;
- Number of people served;
- Whether the level of service provided is adequate;
- Whether there is surplus capacity and, if so, how many additional people can be served;
- Whether there is insufficient capacity and, if so, how large the deficit is; and
- What the estimated per capita cost is of bringing infrastructure facilities with inadequate capacity up to grade to provide adequate levels of service. In other words:
  - ✓ **Is there a backlog of unmet needs? If so, how large is the backlog and what will it cost to fulfill those unmet needs?**

The biggest surprise in this study is that **no one in the county could provide specific answers to these questions.**

The city fared better, since it has had a stable population for 35 years and therefore is not playing catch up. The City was focusing on the costs of upgrading its extensive network of sidewalks at the time this study was being conducted. While the City at least knew what needed to be done and how much it was going to cost, like the County, it did not have sufficient funds to meet this need.

Methodology

Three different University of Virginia interns—Stewart Walker, a civil and environmental engineering student; Caitlyn Campbell, a Commerce major, and Selena Hilton-Aragon, a candidate for a Master's degree in Urban and Environmental Planning—attempted to gather information for this section at

different times over the course of the 2010-2011 academic year. Neither Stewart nor Caitlyn were successful and Stewart resigned his internship to devote full time attention to his classes.

County officials initially indicated that the study's infrastructure questions could be answered by reading the county's Capital Improvements Program and the Capital Needs Assessment, as well as its Comprehensive Plan and the Master Plans that have been prepared for Crozet and Places 29.

One intern after another tried doing this, and came back with more questions than answers. The interns and project director met six times with county staff, exchanged numerous emails and pored over all of the documents made available. Selena finally concluded that the information being sought simply was not available.

Here is what Selena said about her experience in trying to gather data: "I set out to find quantitative data on infrastructure requirements and performance for current and future populations. The data I was seeking was expected to describe both minimum and optimal service levels of service for everything from schools to fire and rescue, from parks and recreation to judicial buildings.

"Initially I familiarized myself with a cost of growth study out of Florida, with a format and methods similar to what we were seeking to utilize. I also read through the Albemarle and Charlottesville Comprehensive Plans in search of the information required. I visited with the Charlottesville Public Works office and had a meeting with Gary O'Connell from the Albemarle County Sewer Authority. I also met with Mark Graham from the Albemarle County Department of Community Development. These meetings helped me gain knowledge of how the county and city function, but did not assist in the acquisition of quantitative data.

"The sources of information I explored to the greatest degree were the Neighborhood Plans for Albemarle County where some of the necessary information was outlined. This information consisted of some quantitative data, number of police officers per 1000 residents, for example. But it was hard to connect this information with any specific measures or performance standards. This made the study very difficult to perform through quantitative analysis."

6 – Growth projections

Objectives

The objectives of this section were to:

1. Calculate the fiscal impact of adding more people to Albemarle County, particularly in light of the fact that the county has 7,700 residential units and over 1 million square feet of commercial space in the pipeline that already are approved but not yet built, and
2. Create fiscal impact cost projections for populations 125,000, 150,000 and 200,000 people.

Methodology

The budget, calculations and ratios for Albemarle County's 2008-2009 fiscal year were used as the basis for the projections.

Revenue items that are not tied to and directly influenced by per capita population changes were identified and removed from the analysis. These revenue items are:

- Machinery and Tools
- Business Licenses
- Bank Franchise Fees
- Interest on the use of money and property
- Sale of surplus property

It could be argued that increases in population may bring about increases in the first three items.

The first item, however, is tied specifically to industrial land uses and increases only as specific types of uses within this category in crease.

While the next two items, the number of businesses applying for licenses and the number of banks locating in the community, are likely to increase as the population increases, these are an *indirect*, not a direct result of per capita increases.

Learning from the projections contained in a 1972 Urban Institute study

Trying to project revenues from existing revenue items is fraught with difficulty, as can be seen in results from the 1972 Urban Institute study on Hollymead Phase 1 (see Section 7, below). Of all the revenue and expense items considered by the 1972 study, the largest discrepancy was in its projection of the revenues that would be generated from business licenses and fees.

With the advantage of 40 years of hindsight, it can be seen that most of the projections in this study were relatively accurate in terms of estimating relationships between revenues and expenses. The study predicted that there would be a significant shortfall between revenues and expenses and the development would generate a deficit.

That part of the projection was correct. What was incorrect was the extent of the shortfall. After 40 years of growth and adjustment, *the shortfall is 60 percent greater than estimated.*

The major reason the projection was off was because the study underestimated the extent of both revenues and expenses. However, it only understated revenues *by 16 percent*, while it understated expenses *by 182 percent*!

The largest understatement was in its projection of revenues from business licenses and fees. As with all other revenue and expense items considered in the study, these were projected forward using a per capita formula. Because the study assumed these fees would change in proportion to per capita population growth, it did not account for factors influencing these items outside the development, and therefore underestimated the value of revenues from business licensing and fees by *a whopping 415 percent*!

Note that the study did not *overestimate* these fees, it *underestimated* them. That means more fees were generated than estimated by the 1972 projections. Even so, the development today is running a shortfall that is 60 per cent greater than estimated.

The point is, revenues from these licenses and fees are not tied specifically to per capita population growth in any one specific locality, jurisdiction or development. Other external factors also have an influence—sometimes an outside influence—on these revenue items. These external factors could just as easily *depress* these revenues as increase them. The point that is important to remember in the context of this study is that revenues from these fees are not tied to individual per capita rates. They respond instead to the larger market economy.

On the other hand, all of the expenses included in the 1972 study were directly related to the development and to providing the services that are both required and desired by its residents today. All of these expenses were consistently understated by the 1972 study by an average factor of almost two to one.

In the case of the 1972 study, the county grew, business boomed, and the growth and revenues in commercial land uses far outpaced the study's projections. Nevertheless, *the shortfall between revenues and expenses for residential development was 60 percent greater than projected*!

Adjusting for differences in revenues and expenses over time

To help correct for the disparity in the projections from the 1972 study, all items that are not directly influenced by per capita growth rates have been removed from the projections carried out by this study.

The projections use linear progressions, based on current actual per capita revenue and cost numbers, to project the impacts of growth with the addition of 25,000 new residents, 50,000 new residents and a doubling of population with 100,000 new residents.

For the reasons given previously in this study, only the revenues that are derived locally are counted.

Any linear progression will yield the same relative result at any future point in time, since all factors are held constant in these types of progressions. Not counting revenue items that are not directly influenced by per capita population growth helps to account for differences that will occur over time.

Data from the linear progressions were then combined with projections contained in the county's proffer documents.

Proffers are voluntary offers by a landowner to perform an act, contribute money or donate land in order to mitigate the impacts of new development that result from a rezoning.

Considerable thought has gone into developing a series of legally defensible proffer documents for the county to use in projecting the cost impacts of new residential and commercial developments.

The county's proffer documents, which are reviewed and updated as necessary by the County's Fiscal Impact Advisory Committee, contain estimates of the costs incurred by adding new single family, single family attached, multi-family and mobile home units. The proffer documents also contain estimates of how budget revenues will be impacted by the addition of new residents.

Considerable backup documentation exists for the proffers. They also have been reviewed extensively by legal counsel to ensure they are legally defensible and do not leave the county open to lawsuits.

In a word, they are extremely *conservative*.

How the county's proffer documents were developed

The county's proffer calculation methodology was not, and is not, intended to be a cost of growth study. The purpose of the calculations was to derive dollar amounts that would reflect only the types of costs that would be allowed for inclusion in the calculation under Virginia law. In practice, this meant that the county's Fiscal Impact Advisory Committee (FIAC) faced two major constraints: (1) *operating* costs associated with new development could *not* be included in the calculation; and (2) only infrastructure costs that appeared at the time in the County's Capital Improvement Program/Capital Needs Assessment (CIP/CNA) document could be included in the calculation. The Fiscal Impact Advisory Committee was aware at the time that the proffer calculation methodology was developed that these constraints might leave out several important costs associated with new development

Weaknesses in the County's proffer documents

The county's proffer documents suffer from several major weaknesses. For example: (1) they do not include costs for all of infrastructure that will be required by a new development; and (2) they do not take into consideration Population Impact Points–the points at which the addition of a few more people requires major upgrades in expensive infrastructure facilities, such as wastewater treatment facilities.

With this said, this study nevertheless used the proffer documents as the basis for its projections.

For the purposes of projecting costs forward, this study used the estimated costs cited in the proffer documents for a single family dwelling unit (or SFD), since this provides a very conservative (and therefore significantly understated) cost projection. Even so, one can readily see that the costs add up quickly.

The proffer documents show non-transportation costs for SFDs of $18,714 plus transportation costs of $3,827 for a total combined cost of $22,541 per dwelling unit. Similar costs are broken out for single family attached town houses (SFA/TH), multi-family residences (MF) and mobile homes (MH). For SFA/THs the cost is $15,584, for MFs the cost is $13,835 and for MHs the cost is $20,651 per unit.

This study uses $22,541 as the cost that is incurred for the infrastructure necessary to support a new dwelling unit with an average of 2.27 people, the U.S. Census Bureau per capita density for Albemarle County at the time the proffer calculations were made. When rounded, this number results in a per capita cost of $10,000 (or $22,700 with 2.27 people per household).

Adjusting for the proffer's weaknesses

To overcome the weaknesses in the proffer documents, three changes were made.

- **First,** the proffer documents make optimistic projections that revenues increase by 4% per year as new residents are added to the County. In addition, the proffer documents project that these increases can be used to pay down the debt service required by new infrastructure. However, as the projections from the 1972 study show, predictions like this are fraught with difficulty, especially when they are based on what may seem like optimistic projections of revenues from commercial land uses.

  As shown in this study, every person already in the county creates a deficit in the amount of revenues generated versus the expenditures made, not just at the local level, but at the state and federal levels as well.

  For the reasons described above, items that are not influenced by per capita increases were not included in the revenue projections. Also, only the revenues that are derived locally are counted.

- **Second,** the proffer documents assume that current levels of federal and state revenue will remain constant, and will be available to offset ever increasing per capita deficits in locally generated revenue. Given the current anti-tax environment and acceptance of devolution (the passing on of *greater* fiscal responsibility to local governments from the jurisdictions above them), such implied federal and state capacity is very unlikely to materialize.

- **Third,** the proffer documents only count expenses for the services provided to residents by the county, showing costs for courts, fire stations, police, parks, recreational facilities, libraries, and schools, thus leaving out water, sewer and waste disposal, which are not provided by the county. Also missing are detention and correction facilities, human service facilities, health

facilities, and other government and public works facilities, as well as utility extensions for gas, electricity and Internet.

Some critics of the proffer documents have stated that its cost estimates—which work out on a household basis to be about $10,000 per person for facilities that will be required over a 20-year period and paid for with bonded debt over that period—probably pay only for the costs of expanding schools.

To account for other infrastructure costs not included in the proffer documents, the proffer document average of $10,000 per person was doubled in this study to $20,000 per person. Instead of charging this as a one-time fee, the cost has been spread out as a cost of $1,000 per person per year for 20 years, the period over which bonded debt would be paid down, with a 5% financing charge added. Even with this adjustment, the costs still are most likely understated.

Here is how the projections were carried out:

Please see the next page.

FY '09 ACTUAL REVENUE

FROM "County of Albermarle, Virginia FY 10/11 Adopted Budget"
"General Fund Revenue Summary," p. 69

REVENUES		FY '09 Per Capita Rates x population numbers				
		94,908	125,000	150,000	200,000	FY' 09 Per Capita Rates
	TAXES					
CURRENT GENERAL PROPERTY	Real Estate	$113,264,615	$149,176,854	$179,012,225	$238,682,967	$1,193.41
	Public Service Tax	$1,667,514	$2,196,224	$2,635,469	$3,513,959	$17.57
	Local Personal Property	$20,946,006	$27,587,250	$33,104,700	$44,139,600	$220.70
	Machinery and Tools	$652,132	$858,900	$1,030,680	$1,374,240	$6.87
	Mobile Homes	$66,201	$87,191	$104,629	$139,506	$0.70
NON-CURRENT GENERAL PROPERTY	Delinquent	$1,231,109	$1,621,451	$1,945,741	$2,594,321	$12.97
	Penalty	$764,612	$1,007,044	$1,208,452	$1,611,270	$8.06
	Interest & Fees	$712,512	$938,425	$1,126,109	$1,501,479	$7.51
OTHER LOCAL	Penalty and Interest	$113,102	$148,963	$178,755	$238,340	$1.19
	Sales Tax	$11,974,379	$15,771,035	$18,925,242	$25,233,656	$126.17
	Consumer Utility Tax	$8,619,450	$11,352,375	$13,622,851	$18,163,801	$90.82
	Utility Consumption Tax	$319,444	$420,728	$504,874	$673,166	$3.37
	Business License	$9,608,468	$12,654,976	$15,185,972	$20,247,962	$101.24
	Short Term Rental	$87,435	$115,158	$138,189	$184,252	$0.92
	Vehicle Registration	$3,534,531	$4,655,207	$5,586,248	$7,448,331	$37.24
	Bank Franchise	$604,515	$796,186	$955,423	$1,273,897	$6.37
	Clerk Fees	$1,704,117	$2,244,433	$2,693,319	$3,591,092	$17.96
	Transient Occupancy	$805,093	$1,060,360	$1,272,432	$1,696,576	$8.48
	Food & Beverage	$5,446,576	$7,173,494	$8,608,193	$11,477,591	$57.39
	Audit Revenues	$235,831	$310,605	$372,726	$496,968	$2.48
	PERMITS AND FEES					
	Inspection Related Fees	$853,193	$1,123,711	$1,348,453	$1,797,937	$8.99
	Other Development Fees	$451,035	$594,042	$712,851	$950,468	$4.75
	Animal License	$37,083	$48,841	$58,609	$78,145	$0.39
	Land Use	$10,867	$14,313	$17,175	$22,900	$0.11
	Solicitors	$770	$1,014	$1,217	$1,623	$0.01
	Fire/Rescue	$63,400	$83,502	$100,202	$133,603	$0.67
	Cab Fee	$20	$26	$32	$42	$0.00
	Courts	$18,620	$24,524	$29,428	$39,238	$0.20
	REVENUE FROM THE USE OF MONEY AND PROPERTY					
	Interest	$256,933	$338,397	$406,077	$541,436	$2.71
	Sale of Surplus	$11,432	$15,057	$18,068	$24,091	$0.12
	Rent	$381,708	$502,734	$603,281	$804,375	$4.02
	CHARGES FOR SERVICES					
	Fees of Clerk	$280,608	$369,579	$443,495	$591,326	$2.96
	Police and Sherriff	$597,639	$787,129	$944,555	$1,259,407	$6.30
	Administration Fees	$292,739	$385,556	$462,668	$616,890	$3.08
	Parks & Recreation	$333,787	$439,619	$527,543	$703,391	$3.52
	EMS Cost Recovery	$0	$0	$0	$0	$0.00
	Service & Sales	$44,295	$58,339	$70,007	$93,343	$0.47
	Court Fees	$162,468	$213,981	$256,777	$342,369	$1.71
	OTHER LOCAL REVENUE					
	Payments in Lieu of Taxes	$90,436	$119,110	$142,932	$190,576	$0.95
	Recovered Costs	$196,433	$258,715	$310,458	$413,944	$2.07
	Fines and Forfeitures	$547,798	$721,486	$865,783	$1,154,377	$5.77
	Miscellaneous	$882	$1,162	$1,394	$1,859	$0.01
	Donations	$4,882	$6,430	$7,716	$10,288	$0.05
	TOTAL LOCAL REVENUES:	**$186,994,670**	**$246,284,125**	**$295,540,950**	**$394,054,600**	**$1,970.27**
TRANSFERS	**TRANSFERS**					
$273,222	Sec 8 Reimb					
$0	HUD Grant Fund					
	CIP - Storage Facility Lease	$0	$0	$0	$0	$0.00
	CIP - JAUNT	$0	$0	$0	$0	$0.00
	CIP - Project Management	$0	$0	$0	$0	$0.00
	Stormwater - Project Management	$0	$0	$0	$0	$0.00
	Safe & Drug Free Schools	$12,558	$16,540	$19,848	$26,464	$0.13
	School Resource Officer	$232,852	$306,681	$368,017	$490,690	$2.45
	Family Support	$188,795	$248,655	$298,386	$397,848	$1.99
	Proffers	$0	$0	$0	$0	$0.00
	Contribution Fund	$5,000	$6,585	$7,902	$10,537	$0.05
	Tourism	$653,736	$861,013	$1,033,215	$1,377,620	$6.89
	Other Funds	$0	$0	$0	$0	$0.00
	TOTAL TRANSFERS:	**$1,092,941**	**$1,439,474**	**$1,727,369**	**$2,303,159**	**$11.52**

REVENUES		FY '09 Per Capita Rates x population numbers				
		94,908	125,000	150,000	200,000	FY' 09 Per Capita Rates
STATE REVENUE	NON-CATEGORICAL AID					
$481,395	In Lieu of Personal Property					
$14,960,670	PPTR					
$2,642	SPCA Sterilization Fund					
$19	Recovered Costs					
	Mobile Home titling	$39,649	$52,220	$62,664	$83,552	$0.42
	CATEGORICAL AID - SHARED EXPENSES					
$475,375	Commonwealth Attorney					
$370,911	Clerk of Circuit Court					
$550,000	Sheriff					
$58,283	Registrar					
$517,990	Director of Finance					
	CATEGORICAL AID					
$2,376,476	Social Services					
$0	CSA Administration					
$493,450	Recordation Tax					
$2,198,668	Law Enforcement					
$312,230	EMS & Fire Service					
$5,000	Misc. Grants					
$17,000	Misc. State Revenue					
$280,265	Medicaid Reimbursement					
	Payments in Lieu of Taxes - State	$119,157	$156,938	$188,325	$251,100	$1.26
	TOTAL STATE REVENUES:	**$158,806**	**$209,158**	**$250,989**	**$334,653**	**$1.67**
FEDERAL REVENUE	CATEGORICAL AID					
$3,850,881	Social Services					
$34,141	Grants					
$59,640	Law Enforcement (COPS)					
$256,029	Medicaid Reimbursement					
	OTHER FEDERAL					
$233,801	ARRA					
	Payments in Lieu of Taxes - Federal	$33,748	$44,448	$53,338	$71,117	$0.36
	TOTAL FEDERAL REVENUES:	**$33,748**	**$44,448**	**$53,338**	**$71,117**	**$0.36**
ALBEMARLE COUNTY SERVICE AUTHORITY	**WATER & SEWER**					
	Operating Income	**$18,964,507**	**$24,977,487**	**$29,972,985**	**$39,963,980**	**$199.82**
ALBEMARLE COUNTY SCHOOLS	**SCHOOL REVENUES**					
Albemarle Schools 2009-20010 Budget	Local School Revenue	$1,487,079	$1,958,580	$2,350,296	$3,133,727	$15.67
"Overview" pp. A-35	State Revenue					
	Federal Revenue					
From Line 243, below	Local Revenue	$97,725,994	$128,711,481	$154,453,777	$205,938,370	$1,029.69
	One-Time Use of Fund Balance	$0	$0	$0	$0	$0.00
	Recurring Use of Fund Balance	$0	$0	$0	$0	$0.00
	CIP & Other Transfers	$400,000	$526,826	$632,191	$842,922	$4.21
	TOTAL SCHOOL REVENUES:	**$99,613,073**	**$131,196,887**	**$157,436,264**	**$209,915,019**	**$1,049.58**
	ADJUSTED REVENUES (LESS NON-PER-CAPITA INCOME)	$295,724,265	$389,488,063	$467,385,676	$623,180,902	$3,113.88

	REVENUE					
	TOTAL LOCAL COUNTY REVENUES BY LAND USE:	$186,994,670	$246,284,125	$295,540,950	$394,054,600	$1,970.27
	TOTAL TRANSFERS BY LAND USE:	$1,092,941	$1,439,474	$1,727,369	$2,303,159	$11.52
	ALLOCABLE STATE REVENUES	$158,806	$209,158	$250,989	$334,653	$1.67
	ALLOCABLE FEDERAL REVENUES	$33,748	$44,448	$53,338	$71,117	$0.36
	SERVICE AUTHORITY TOTALS BY LAND USE:	$18,964,507	$24,977,487	$29,972,985	$39,963,980	$199.82
	TOTAL SCHOOL REVENUES:	$99,613,073	$131,196,887	$157,436,264	$209,915,019	$1,049.58
	TOTA REVENUE:	**$306,857,745**	**$404,151,580**	**$484,981,896**	**$646,642,528**	**$3,233.21**
	PERCENT OF TOTAL:	100.00%	100.00%	100.00%	100.00%	100.00%

FY '09 ACTUAL EXPENDITURES

FROM "County of Albermarle, Virginia FY 10/11 Adopted Operating Budget"
"General Fund Expenditures," p. 71

EXPENDITURES		Based on FY '09 Per Capita Rates				
		FY' 09 Actual Revenue	Population: 125,000	Population: 150,000	Popualtion: 200,000	FY' 09 Per Capita Rates
DEPARTMENTAL EXPENSES	**JUDICIAL**					
	Clerk of the Circuit Court	$653,762	$861,047	$1,033,256	$1,377,675	$6.89
	Commonwealth Attorney	$893,685	$1,177,041	$1,412,449	$1,883,266	$9.42
	Sheriff	$1,894,358	$2,494,993	$2,993,991	$3,991,988	$19.96
	Circuit Court	$108,853	$143,366	$172,040	$229,386	$1.15
	General District Court	$18,716	$24,650	$29,580	$39,440	$0.20
	Magistrate	$3,820	$5,031	$6,037	$8,050	$0.04
	Juvenile Court	$56,659	$74,624	$89,548	$119,398	$0.60
	GENERAL GOV'T ADMINISTRATION					
	Board of Supervisors	$639,155	$841,809	$1,010,170	$1,346,894	$6.73
	County Executive	$1,264,806	$1,665,832	$1,998,998	$2,665,331	$13.33
	Human Resources	$616,173	$811,540	$973,848	$1,298,464	$6.49
	County Attorney	$887,861	$1,169,371	$1,403,245	$1,870,993	$9.35
	Finance Department	$4,020,479	$5,295,232	$6,354,278	$8,472,371	$42.36
	Information Technology	$2,251,305	$2,965,115	$3,558,138	$4,744,184	$23.72
	Voter Registration & Elections	$537,483	$707,900	$849,480	$1,132,640	$5.66
	PUBLIC SAFETY					
	Police Department	$12,051,218	$15,872,237	$19,046,684	$25,395,579	$126.98
	Fire/Rescue Department	$6,410,639	$8,443,228	$10,131,873	$13,509,165	$67.55
	Volunteer Fire/Rescue	$1,576,060	$2,075,773	$2,490,928	$3,321,237	$16.61
	TJEMS	$21,184	$27,901	$33,481	$44,641	$0.22
	Forest Fire Extinction	$17,621	$23,208	$27,850	$37,133	$0.19
	City Fire Contract	$707,221	$931,456	$1,117,747	$1,490,330	$7.45
	Inspections	$1,102,134	$1,451,582	$1,741,898	$2,322,531	$11.61
	Emergency Communications Center	$2,008,069	$2,644,757	$3,173,709	$4,231,612	$21.16
	Regional Jail	$3,094,448	$4,075,589	$4,890,707	$6,520,942	$32.60
	Community Attention Home	$60,149	$79,220	$95,064	$126,752	$0.63
	Fire/Rescue Tax Credit	$57,738	$76,045	$91,254	$121,672	$0.61
	Juvenile Detention Home	$751,547	$989,836	$1,187,803	$1,583,738	$7.92
	Offender Aid Restoration	$164,235	$216,308	$259,570	$346,093	$1.73
	SPCA Shelter Contribution	$175,992	$231,793	$278,151	$370,869	$1.85
	VJCCCA	$0	$0	$0	$0	$0.00
	PUBLIC WORKS					
	General Services	$3,233,152	$4,258,271	$5,109,925	$6,813,234	$34.07
	RSWA Contribution	$876,350	$1,154,210	$1,385,052	$1,846,736	$9.23
	Facilities Development	$656,888	$865,164	$1,038,197	$1,384,263	$6.92
	HUMAN SERVICES					
	Social Services	$10,390,767	$13,685,315	$16,422,378	$21,896,504	$109.48
	Health Department	$806,739	$1,062,528	$1,275,033	$1,700,044	$8.50
	Region 10	$566,276	$745,822	$894,987	$1,193,316	$5.97
	HIV/AIDS Services Group	$4,861	$6,402	$7,683	$10,244	$0.05
	African American Teaching Fellows	$0	$0	$0	$0	$0.00
	ARC Infant Development Program	$8,970	$11,814	$14,177	$18,903	$0.09
	Boys & Girls Club	$13,887	$18,290	$21,948	$29,264	$0.15
	BRMC- Latino Lay Health Promoter	$5,613	$7,393	$8,871	$11,828	$0.06
	Charlottesville Free Clinic	$9,819	$12,932	$15,519	$20,692	$0.10
	Children, Youth & Family Services	$97,614	$128,564	$154,277	$205,702	$1.03
	Commission on Children & Families	$250,292	$329,651	$395,581	$527,441	$2.64
	Computers 4 Kids	$12,935	$17,036	$20,443	$27,258	$0.14
	Focus- Teensight	$0	$0	$0	$0	$0.00
	Teen Pregnancy Contingency	$0	$0	$0	$0	$0.00
	Foothills Child Advocacy Center	$0	$0	$0	$0	$0.00
	JABA	$280,478	$369,408	$443,289	$591,052	$2.96
	Jefferson Area CHIP	$158,572	$208,850	$250,620	$334,159	$1.67
	Jeff. Area United Transit Network	$725,492	$955,520	$1,146,624	$1,528,832	$7.64
	Legal Aid Justice Center	$38,494	$50,699	$60,839	$81,119	$0.41
	Madison House	$10,370	$13,658	$16,390	$21,853	$0.11
	Music Resource Center	$6,335	$8,344	$10,012	$13,350	$0.07
	Northwester Va. Health Systems	$4,723	$6,220	$7,465	$9,953	$0.05
	Piedmont CASA	$8,925	$11,755	$14,106	$18,808	$0.09
	Piedmont Va. Community College	$23,475	$30,918	$37,102	$49,469	$0.25
	Piedmont Workforce Network	$13,805	$18,182	$21,818	$29,091	$0.15
	SARA	$23,690	$31,201	$37,442	$49,922	$0.25
	SHE	$89,974	$118,502	$142,202	$189,603	$0.95
	Tax Relief for the Elderly/Disabled	$946,687	$1,246,848	$1,496,218	$1,994,957	$9.97
	TJ Area Coalition for the Homeless	$0	$0	$0	$0	$0.00
	United Way Child Scholarship	$106,632	$140,441	$168,530	$224,706	$1.12
	United Way Information & Referral	$12,875	$16,957	$20,349	$27,132	$0.14
	Urban Vision	$25,220	$33,216	$39,860	$53,146	$0.27
	Bright Stars Transfer	$794,092	$1,045,871	$1,255,045	$1,673,393	$8.37
	Comprehensive Services Act Trans.	$2,636,432	$3,472,352	$4,166,823	$5,555,763	$27.78

EXPENDITURES		Based on FY '09 Per Capita Rates				
		FY' 09 Actual Revenue	Population: 125,000	Population: 150,000	Popualtion: 200,000	FY' 09 Per Capita Rates
	COMMUNITY DEVELOPMENT					
	Community Development	$4,846,225	$6,382,793	$7,659,352	$10,212,469	$51.06
	Office of Housing	$816,618	$1,075,539	$1,290,647	$1,720,862	$8.60
	VPI Extension Service	$181,222	$238,681	$286,417	$381,890	$1.91
	Soil & Water Conservation	$95,917	$126,329	$151,595	$202,126	$1.01
	AHIP	$416,328	$548,331	$657,997	$877,330	$4.39
	Alliance for Community Choice in Transp.	$6,500	$8,561	$10,273	$13,697	$0.07
	Charlottesville Community Bikes	$0	$0	$0	$0	$0.00
	CTS - Bus Contract	$678,372	$893,460	$1,072,152	$1,429,536	$7.15
	CVSBDC	$7,800	$10,273	$12,328	$16,437	$0.08
	MACAA	$170,635	$224,737	$269,685	$359,580	$1.80
	Piedmont Housing Alliance	$113,396	$149,350	$179,220	$238,960	$1.19
	Planning District Commission	$108,292	$142,628	$171,153	$228,204	$1.14
	Planning District Transit Authority Plan	$35,909	$47,294	$56,753	$75,671	$0.38
	Streamwatch	$10,816	$14,245	$17,094	$22,793	$0.11
	Charlottesville Comm. Design Center	$0	$0	$0	$0	$0.00
NON-DEPARTMENTAL EXPENSES	**NON-DEPARTMENTAL**					
	City/County Revenue Sharing	$13,633,950	$17,956,798	$21,548,157	$28,730,876	$143.65
	Refunds	$216,234	$284,794	$341,753	$455,671	$2.28
	Tr to School Operations	$97,545,994	$128,474,409	$154,169,291	$205,559,055	$1,027.80
INFRASTRUCTURE PAYMENTS	Tr to School Debt Service - Existing	$12,913,103	$17,007,395	$20,408,874	$27,211,833	$136.06
$24,700,620	Tr to School Debt Service - Projected	$0	$0	$0	$0	$0.00
	Tr to Gen Govt Debt Service - Existing	$1,896,444	$2,497,740	$2,997,288	$3,996,384	$19.98
	Tr to Gen Govt Debt Service - Projected	$0	$0	$0	$0	$0.00
	Transfer to School CIP	$1,000,000	$1,317,065	$1,580,478	$2,107,304	$10.54
	Transfer to General Govt. CIP	$8,091,073	$10,656,469	$12,787,762	$17,050,350	$85.25
	Transfer to Storm Drainage	$800,000	$1,053,652	$1,264,382	$1,685,843	$8.43
	Transfer to Vehicle Replacement Fund	$46,000	$60,585	$72,702	$96,936	$0.48
	Board Reserve	$0	$0	$0	$0	$0.00
	Job Development Fund	$0	$0	$0	$0	$0.00
	Salary Reserves	$0	$0	$0	$0	$0.00
	Additional Anticipated Salary Savings	$0	$0	$0	$0	$0.00
	Revenue Shortfall Contingency	$0	$0	$0	$0	$0.00
	Early Retirement	$735,347	$968,500	$1,162,200	$1,549,600	$7.75
	VERIP One-Time Payout	$0	$0	$0	$0	$0.00
	TOTAL GENERAL FUND EXPENDITURES:	**$215,447,884**	$283,758,856	$340,510,627	$454,014,170	**$2,270.07**
ALBEMARLE COUNTY SERVICE AUTHORITY	**WATER & SEWER**					
	Operating Expenses	**$15,805,202**	**$20,816,478**	**$24,979,773**	**$33,306,364**	**$166.53**
ALBEMARLE COUNTY SCHOOL EXPENSES	**INSTRUCTION**					
Albemarle Schools 2009-2010 Budget	Staffing	$99,065,474	$130,475,663	$156,570,796	$208,761,061	$1,043.81
"Overview" pp. A-35	Operating	$10,183,493	$13,412,322	$16,094,786	$21,459,715	$107.30
	Capital	$1,192,148	$1,570,136	$1,884,164	$2,512,218	$12.56
	SB Reserve	$0	$0	$0	$0	$0.00
	ADMIN, ATTENDANCE AND HEALTH					
	Staffing	$10,185,313	$13,414,719	$16,097,662	$21,463,550	$107.32
	Operating	$896,010	$1,180,103	$1,416,124	$1,888,165	$9.44
	Capital	$80,367	$105,849	$127,018	$169,358	$0.85
	TRANSPORTATION					
	Staffing	$7,269,810	$9,574,812	$11,489,774	$15,319,699	$76.60
	Operating	$1,723,902	$2,270,491	$2,724,589	$3,632,785	$18.16
	Capital	$297,296	$391,558	$469,870	$626,493	$3.13
	BUILDING SERVICES					
	Staffing	$7,443,353	$9,803,379	$11,764,055	$15,685,407	$78.43
	Operating	$5,521,009	$7,271,527	$8,725,833	$11,634,444	$58.17
	Capital	$232,933	$306,788	$368,145	$490,861	$2.45
	TECHNOLOGY					
	Staffing	$0	$0	$0	$0	$0.00
	Operating	$0	$0	$0	$0	$0.00
	Capital	$0	$0	$0	$0	$0.00
	TRANSFERS	$4,647,932	$6,121,628	$7,345,954	$9,794,605	$48.97
	TOTAL SCHOOL FUND EXPENSES	**$148,739,041**	**$195,898,977**	**$235,078,773**	**$313,438,363**	**$1,567.19**

EXPENSES					
TOTAL COUNTY EXPENSES BY LAND USE, INCLUDING NON-DEPARTMENTAL TRANSFERS:	$215,447,884	$283,758,856	$340,510,627	$454,014,170	$2,270.07
SERVICE AUTHORITY EXPENSES BY LAND USE:	$15,805,202	$20,816,478	$24,979,773	$33,306,364	$166.53
TOTAL SCHOOL EXPENSES:	$148,739,041	$195,898,977	$235,078,773	$313,438,363	$1,567.19
TOTAL EXPENSES:	**$379,992,127**	**$500,474,311**	**$600,569,173**	**$800,758,897**	**$4,003.79**
PERCENT OF TOTAL:	100%	100%	100%	100%	100%

POPULATION ADJUSTMENTS				
Infrastructure increases ($1000/person/yr x 20 yrs = $20,000/person)		$25,000,000	$50,000,000	$100,000,000
Interest on bonds @ 5%/year		$1,250,000	$2,500,000	$5,000,000
TOTAL ADJUSTED EXPENSES:	**$379,992,127**	**$526,724,311**	**$653,069,173**	**$905,758,897**
Percent Increase:	100.0000%	105.2450%	108.7417%	113.1126%

Here is a summary of findings, from above:

Albemarle County	2008-09 Population 94,908	With Population of 125,000	With Population of 150,000	With Population of 200,000
County				
TOTAL PER CAPITA REVENUE	$3,113.88	$3,113.88	$3,113.88	$3,113.88
TOTAL PER CAPITA EXPENSES	$4,003.79	$4,213.79	$4,353.79	$4,528.79
DIFFERENCE: REVENUES LESS EXPENSES	($889.92)	($1,099.91)	($1,239.91)	($1,414.91)

Here is how the various land uses compare with each other with numbers from the 2008-2009 budget:

Please see next page:

Ratios generated from 2008-2009 Albemarle County budget, using actual revenues and expenses, with a population of 94,908:

PER CAPITA COMPARISON BETWEEN PRINCIPAL LAND USES - 2009
SHOWING HOW MUCH IT COSTS TO PROVIDE SERVICES TO EACH LAND USE FOR EVERY $1 OF REVENUE GENERATED BY THAT LAND USE
Per capita permanent population: 94,908

	SINGLE FAMILY	MULTI-FAMILY	MOBILE HOMES	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	UVA	AGRICULTURE	RECREATION	TOTAL
TOTAL REVENUE:	$2,055.09	$383.86	$66.94	$2,505.89	$336.25	$53.23	$86.09	$66.94	$142.05	$42.76	$3,233.21
PERCENT OF TOTAL:	63.56%	11.87%	2.07%	77.50%	10.40%	1.65%	2.66%	2.07%	4.39%	1.32%	100.00%
TOTAL EXPENSES:	$2,629.91	$752.14	$144.33	$3,526.39	$170.91	$23.18	$131.68	$69.01	$27.81	$54.82	$4,003.79
		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
PERCENT OF TOTAL:	65.69%	18.79%	3.60%	88.08%	4.27%	0.58%	3.29%	1.72%	0.69%	1.37%	100.00%
REVENUE TO EXPENSES	**$1.00 to $1.28**	**$1.00 to $1.96**	**$1.00 to $2.16**	**$1.00 to $1.41**	**$1.00 to $0.51**	**$1.00 to $0.44**	**$1.00 to $1.53**	**$1.00 to $1.03**	**$1.00 to $0.20**	**$1.00 to $1.28**	**$1.00 to $1.24**

	RESIDENTIAL WITH RECREATION	RESIDENTIAL WITH INSTITUTIONS & RECREATION	SINGLE-FAMILY RESIDENTIAL ON A FARM
TOTAL REVENUE:	$2,548.65	$2,634.74	$328.45
PERCENT OF TOTAL:	78.8%	81.5%	10.2%
TOTAL EXPENSES:	$3,581.20	$3,712.88	$266.34
PERCENT OF TOTAL:	89.4%	92.73%	6.7%
REVENUE TO EXPENSES	**$1.00 to $1.41**	**$1.00 to $1.41**	**$1.00 to $0.81**

Projected ratios, with population of 125,000:

COMPARISON BETWEEN PRINCIPAL LAND USES WITH A POPULATION OF 125,000
SHOWING HOW MUCH IT COSTS TO PROVIDE SERVICES TO EACH LAND USE FOR EVERY $1 OF REVENUE GENERATED BY THAT LAND USE

	SINGLE FAMILY	MULTI-FAMILY	MOBILE HOMES	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	UVA	AGRICULTURE	RECREATION	TOTAL
TOTAL REVENUE:	$247,566,149	$46,241,569	$8,063,506	$301,871,223	$40,506,551	$6,412,593	$10,371,099	$8,064,031	$17,111,844	$5,150,722	$389,488,063.44
PERCENT OF TOTAL:	63.56%	11.87%	2.07%	77.50%	10.40%	1.65%	2.66%	2.07%	4.39%	1.32%	100.00%
TOTAL EXPENSES:	$345,980,891	$98,949,379	$18,988,116	$463,918,386	$22,484,318	$3,049,652	$17,323,072	$9,079,089	$3,658,250	$7,211,544	$526,724,310.65
PERCENT OF TOTAL:	65.69%	18.79%	3.60%	88.08%	4.27%	0.58%	3.29%	1.72%	0.69%	1.37%	100.00%
REVENUE TO EXPENSES	**$1.00 to $1.40**	**$1.00 to $2.14**	**$1.00 to $2.35**	**$1.00 to $1.54**	**$1.00 to $0.56**	**$1.00 to $0.48**	**$1.00 to $1.67**	**$1.00 to $1.13**	**$1.00 to $0.21**	**$1.00 to $1.40**	**$1.00 to $1.35**

	RESIDENTIAL WITH RECREATION	RESIDENTIAL WITH INSTITUTIONS & RECREATION	SINGLE-FAMILY RESIDENTIAL ON A FARM
TOTAL REVENUE:	$307,021,945	$317,393,044	$39,566,094
PERCENT OF TOTAL:	78.8%	81.5%	10.2%
TOTAL EXPENSES:	$471,129,930	$488,453,001	$35,038,717
PERCENT OF TOTAL:	89.4%	92.73%	6.7%
REVENUE TO EXPENSES	**$1.00 to $1.53**	**$1.00 to $1.54**	**$1.00 to $0.89**

Projected ratios, with population of 150,000:

COMPARISON BETWEEN PRINCIPAL LAND USES WITH A POPULATION OF 150,000
SHOWING HOW MUCH IT COSTS TO PROVIDE SERVICES TO EACH LAND USE FOR EVERY $1 OF REVENUE GENERATED BY THAT LAND USE

	SINGLE FAMILY	MULTI-FAMILY	MOBILE HOMES	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	UVA	AGRICULTURE	RECREATION	TOTAL
TOTAL REVENUE:	$297,079,378	$55,489,883	$9,676,207	$362,245,468	$48,607,861	$7,695,112	$12,445,319	$9,676,837	$20,534,213	$6,180,867	$467,385,676.13
PERCENT OF TOTAL:	63.56%	11.87%	2.07%	77.50%	10.40%	1.65%	2.66%	2.07%	4.39%	1.32%	100.00%
TOTAL EXPENSES:	$428,971,000	$122,684,273	$23,542,777	$575,198,050	$27,877,610	$3,781,169	$21,478,341	$11,256,882	$4,535,751	$8,941,370	$653,069,172.78
PERCENT OF TOTAL:	65.69%	18.79%	3.60%	88.08%	4.27%	0.58%	3.29%	1.72%	0.69%	1.37%	100.00%
REVENUE TO EXPENSES	**$1.00 to $1.44**	**$1.00 to $2.21**	**$1.00 to $2.43**	**$1.00 to $1.59**	**$1.00 to $0.57**	**$1.00 to $0.49**	**$1.00 to $1.73**	**$1.00 to $1.16**	**$1.00 to $0.22**	**$1.00 to $1.45**	**$1.00 to $1.40**

	RESIDENTIAL WITH RECREATION	RESIDENTIAL WITH INSTITUTIONS & RECREATION	SINGLE-FAMILY RESIDENTIAL ON A FARM
TOTAL REVENUE:	$368,426,334	$380,871,653	$47,479,313
PERCENT OF TOTAL:	78.8%	81.5%	10.2%
TOTAL EXPENSES:	$584,139,420	$605,617,761	$43,443,420
PERCENT OF TOTAL:	89.4%	92.73%	6.7%
REVENUE TO EXPENSES	**$1.00 to $1.59**	**$1.00 to $1.59**	**$1.00 to $0.91**

Projected ratios, with population of 200,000:

COMPARISON BETWEEN PRINCIPAL LAND USES WITH A POPULATION OF 200,000
SHOWING HOW MUCH IT COSTS TO PROVIDE SERVICES TO EACH LAND USE FOR EVERY $1 OF REVENUE GENERATED BY THAT LAND USE

	SINGLE FAMILY	MULTI-FAMILY	MOBILE HOMES	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	UVA	AGRICULTURE	RECREATION	TOTAL
TOTAL REVENUE:	$396,105,838	$73,986,510	$12,901,609	$482,993,957	$64,810,482	$10,260,149	$16,593,759	$12,902,449	$27,378,951	$8,241,155	$623,180,901.50
PERCENT OF TOTAL:	63.56%	11.87%	2.07%	77.50%	10.40%	1.65%	2.66%	2.07%	4.39%	1.32%	100.00%
TOTAL EXPENSES:	$594,951,218	$170,154,061	$32,652,100	$797,757,379	$38,664,195	$5,244,204	$29,788,878	$15,612,467	$6,290,752	$12,401,022	$905,758,897.04
PERCENT OF TOTAL:	65.69%	18.79%	3.60%	88.08%	4.27%	0.58%	3.29%	1.72%	0.69%	1.37%	100.00%
REVENUE TO EXPENSES	**$1.00 to $1.50**	**$1.00 to $2.30**	**$1.00 to $2.53**	**$1.00 to $1.65**	**$1.00 to $0.60**	**$1.00 to $0.51**	**$1.00 to $1.80**	**$1.00 to $1.21**	**$1.00 to $0.23**	**$1.00 to $1.50**	**$1.00 to $1.45**

	RESIDENTIAL WITH RECREATION	RESIDENTIAL WITH INSTITUTIONS & RECREATION	SINGLE-FAMILY RESIDENTIAL ON A FARM
TOTAL REVENUE:	$491,235,112	$507,828,871	$63,305,750
PERCENT OF TOTAL:	78.8%	81.5%	10.2%
TOTAL EXPENSES:	$810,158,401	$839,947,279	$60,252,828
PERCENT OF TOTAL:	89.4%	92.73%	6.7%
REVENUE TO EXPENSES	**$1.00 to $1.65**	**$1.00 to $1.65**	**$1.00 to $0.95**

7 - Previous Fiscal Impact Studies

There never has been a rigorous and comprehensive cost-benefit analysis for the entire county or city. Although a few previous analyses produced critical and reliable findings, on which a sound and comprehensive cost-benefit analysis could be based or begun, none are comprehensive or recent enough to offer a reliable estimate of the merits or demerits of a growth-led public finance strategy. Among the more prominent previous studies are the following:

City of Charlottesville

Although there have been a number of project-specific fiscal impact studies for proposed developments over the years, there have been very few citywide studies. In talking with city department heads and searching data, only two were located:

Economic Development Strategy and Fiscal Impact Analysis for Downtown and Other Commercial Corridors in Charlottesville, Virginia
By Robert Charles Lesser & Co (RCLco), in Washington, DC, date not available.

Jefferson Area Eastern Planning Initiative
Produced by the Thomas Jefferson Planning District Commission (TJPDC) with a grant from Federal Highways Administration (FHWA) Transportation & Community & System Preservation (TCSP) Program, September 2001.

Albemarle County

Because of its continued growth over the past three decades, Albemarle County has accumulated a large number of project-specific fiscal impact studies for proposed developments. Like the City of Charlottesville, however, very few countywide studies have been done. Prior studies related in some manner to this study are described below, starting on the next page.

Albemarle County, south of Crozet *photo by Craig Evans*

Muller and Dawson, The Fiscal Impact of Residential and Commercial Development (1972)

In 1972, the Urban Institute commissioned a study of the Hollymead Phase 1 development, authored by Thomas Muller and Grace Dawson and entitled *The Fiscal Impact of Residential and Commercial Development: A Case Study.*

Ultimately, this study estimated the difference between the county revenues generated by the proposed residential and commercial development of Hollymead Phase I and the county expenditures likely to be incurred as a result of the development. The authors meant it to be used as a "prototype for evaluating the net fiscal effect of a proposed project."

Using Albemarle County's actual receipts for fiscal year 1972, Muller and Dawson estimated the revenues generated from real estate taxes, personal property taxes, fees, state revenues, sales taxes, and more. They then estimated all operating expenditures and capital expenditures directly linked to Hollymead Phase I.

The final results of this revenue-expenditure analysis indicated that total county expenditures associated with the Hollymead development would exceed county revenues from the development.

In an effort to gauge the value and accuracy of the study's estimates, UVA intern Clark Belote used recent data to update the Urban Institute analysis in 2011. Although the Hollymead development did not actually manifest into Phase I and Phase II as originally planned, Steven Allshouse, Albemarle County's Manager of Economic Analysis and Forecasting, provided estimates of the comparable data.

Methodology

In an effort to gauge the value and accuracy of the study's estimates, the 1972 study figures were updated to 2009 dollars. County data was then obtained on the current revenues and expenditures associated with the development.

The comparable data showed that some estimates made by the study were incorrect, with some projections underestimating impacts, and some projections overestimating impact. Other factors that occurred—how the build out actually occurred, for example—were not anticipated by the study.

The new data, illustrated in the table on the next page, showed that, in the aggregate, the Urban Institute estimates proved remarkably accurate; their prediction of an ongoing cost-revenue deficit conformed very closely to the estimates generated by this study's updated cost-benefit analysis.

Results

The 1972 study predicted that projected revenues of $601,241 would have to almost double—increasing by $501,501—to close the shortfall with estimated expenditures.

As the updated analysis **r**evealed, while the actual shortfall between revenues and expenditures is 60 percent greater than that estimated in the 1972 study, the *magnitude* of the shortfall, a little less than twice the revenues generated by the development, was very close to that estimated in the 1972 analysis. As the table below reveals, although 1972 the analysis underestimated revenues by **16 percent**, it underestimated expenses by **182 percent!**

Hollymead Phase I -- Estimated Actuals (04-08-11)	Estimated $ Value		Number Value	Total $ Value		1972 Study Projection (in 2009 $)	1972 Study Projection Total Value	Difference Projection vs. Acutals
REVENUES								
Residential								
Annual Real Property Tax	$464,800			$464,800		$342,577	$342,577	($122,223)
Annual Household Income -- Average	$89,234					$96,896		
Personal Property Tax *per Household*	$276	(a)	238	$65,635		$529	$125,902	$60,267
Total Subdivision Population		(a)	502					
Density *per Dwelling Unit*			2.11					
Commercial								
Real Property Tax *per Acre*	$6,693		9.167	$61,351		$8,651	$79,304	$17,953
Personal Property Tax *per Acre*	$4,648		9.167	$42,608		$3,444	$31,571	($11,037)
Utility Tax *per Acre*	$2,267		9.167	$20,784		$708	$6,490	($14,293)
Fees/Licensing Revenues	$63,956			$63,956		$15,397	$15,397	($48,559)
TOTAL REVENUES				**$719,134**			**$601,241**	($117,893)
OPERATING EXPENDITURES								
Residential								
No. of Public School Pupils		(b)	154					
Education *per Pupil - Gross*	$11,225		154	$1,728,654		$6,145	$946,330	($782,324)
Library	$16,412			$16,412		$13,278	$13,278	($3,134)
Solid Waste	$1,194			$1,194		$6,336	$6,336	$5,142
Parks & Recreation	$12,017			$12,017		$1,397	$1,397	($10,620)
Utilities	N/A							
Per-Capita Law Enforcement	$89		502	$44,524		$34	$17,068	($27,456)
Per-Capita Fire & Rescue	$65		502	$32,515		$43	$21,586	($10,929)
Per-Capita Health & Welfare	$126		502	$63,477		$25	$12,550	($50,927)
Per-Capita Prison	$23		502	$11,524		$12	$6,024	($5,500)
Commercial								
Law Enforcement	$28,914			$28,914		$7,427	$7,427	($21,487)
Prison	$7,484			$7,484		$2,243	$2,243	($5,241)
Fire & Rescue	$21,116			$21,116		$9,495	$9,495	($11,621)
General Government	$23,384			$23,384		$48,353	$48,353	$24,969
Solid Waste	$775			$775		$5,358	$5,358	$4,583
Utilities	N/A							
TOTAL OPERATING EXPENDITURES				**$1,991,992**			**$1,097,445**	($894,547)
CAPITAL EXPENDITURES								
Park (Recreation)	N/A							
School -- 2011 Assessed Value of Structures	$15,975,000	(c)	238	$3,356			$3,356	$0
School -- 2011 Assessed Value of Land	$9,240,800	(c)	238	$1,941			$1,941	$0
TOTAL CAPITAL EXPENDITURES				**$5,297**			**$5,297**	**$0**
TOTAL - SURPLUS (DEFICIT)				**($1,278,156)**			**($501,501)**	**$776,655**

Chart Notes

(a) Albemarle County average—or Albemarle County average multiplied by the 238 dwelling units in the subdivision. Density is 2.11 individuals per dwelling unit.

(b) Actual count from Albemarle County Public Schools.

(c) This figure represents the FY 2011 assessed values for 2801, 2771, 2773, and 2775 Powell Creek Drive. The annual cost is calculated by taking total amount, dividing by number of dwelling units, 238, and dividing by 20, the number of years over which bonded debt will be paid out.

(d) Applicable data covers the following streets, assumed to be **Phase I** of the Hollymead subdivision: Easy Lane; Derby Lane; Goldentree Place; Hollymead Drive; Insurance Lane; Lamkin Way; Maiden Lane; Poes Lane; Powell Creek Drive [Schools Only]; Ravens Place; Redwing Lane; Robin Lane; Sourwood Place; Tinkers Cove; White Oak Lane; and Woodburn Road. The total commercial acreage accounted for is 9.167

Tamara Vance, Fiscal Impact of Major land Uses, Albemarle County (1984)

Undertaken at the behest of the Piedmont Environmental Council, and based on the county budget from the 1983-84 budget year, this study identified revenues and expenditure tied to three major land uses in the region: residential; industrial/commercial; and what the author referred to as "farm, forest, and open space."

Based on allocation estimates from Albemarle County staff, the author allocated estimated budget portions to each of the major land use categories.

Concluding that residential use "is being subsidized by the other two major land uses," Vance estimated that for every dollar of revenue generated**:**

- Residential land use required $1.16 in public service costs,
- Industrial/commercial land use required $0.48 in public service costs; and
- Farm/forest/open space land use required $0.21 in public service costs.[1]

The study also reported changing land use patterns in Albemarle County, drawing on the acreage recorded in the 1970, 1977, and 1982 Comprehensive Plans**.**

From 1970-1977:

- Residential land use increased by 957 acres per year,
- Industrial/commercial land use increased by 27 acres per year, and
- Farm/forest/open space land use decreased by 1,247 acres per year.

From 1977-1982:

- Residential land use increased by 1,032 acres per year,
- Industrial/commercial land use increased by 620 acres per year, and
- Farm/forest/open space land use decreased by 1,634 acres per year.

Like other successive studies, this one exploded the myth that residential growth "expands the tax base" in a manner likely to improve fiscal capacity and the financing of essential public services.

Steven Allshouse, The Effect of Growth on Local Tax Rates (1995)

On a more project-specific level, the county contracted with Tischler & Associates, Inc**.** of New Jersey to develop a fiscal impact planning tool, known as the *Cost-Revenue Impact Model* (CRIM), which was completed in June 1995.

[1] Tamara Vance, Piedmont Environmental Council, "Fiscal Impact of Major Land Uses, Albemarle County," June 1984.

The CRIM has been used as the basis for most of the project specific fiscal impact studies that have been conducted by the county since 1995.

In addition, the methodology and parameter values in the CRIM were used as the basis of a master's thesis produced by Steven Allshouse, the county's current Manager of Economic Analysis and Forecasting.

The thesis, *The Effect of Growth on Local Tax Rates: Theoretical and Empirical Evidence from Virginia Jurisdictions,* attempted to measure the net fiscal impact of growth in Albemarle on a countywide basis. The Allshouse study set out to test correlations between tax rates and county population growth.

Allshouse investigated the correlation between percentage changes in population and percentage changes in real estate taxes over different time periods. He ran ordinary least squares regression analyses with *population percentage change* as the independent variable and *real estate tax rate percentage change* as the dependent variable for Virginia counties, independent cities, and for both combined, from 1980 to 1993.[2]

For most of these analyses there was no discernible relationship between the two variables, with very weak r and R-squared figures. Here r is the correlation coefficient, indicative of the strength of relationship, while the square of that value indicates how responsible the change in the independent variable (population growth) was for change in the dependent variable (real estate tax).

Allshouse concluded that the results of his 12 different regressions, "generally do *not* support the theory that changes in population result in changes in tax rates."[3]

To update this analysis, comparable data was compiled by UVA intern Clark Belote for 15 subsequent years (1993 to 2008).

In addition, per capita personal income was included over the same time period as an additional variable. This was done to demonstrate the possibility that such income gains might be substantial enough to offset the costs of growth without major changes in the local property tax rate.

As in the original work, population changes were arrayed against the tax rate percentage for counties, cities, and for both combined. These changes were illustrated with scatter plot diagrams and trendlines. Personal income per capita for select counties in the same years (1993 -2008) were then arrayed against population change.

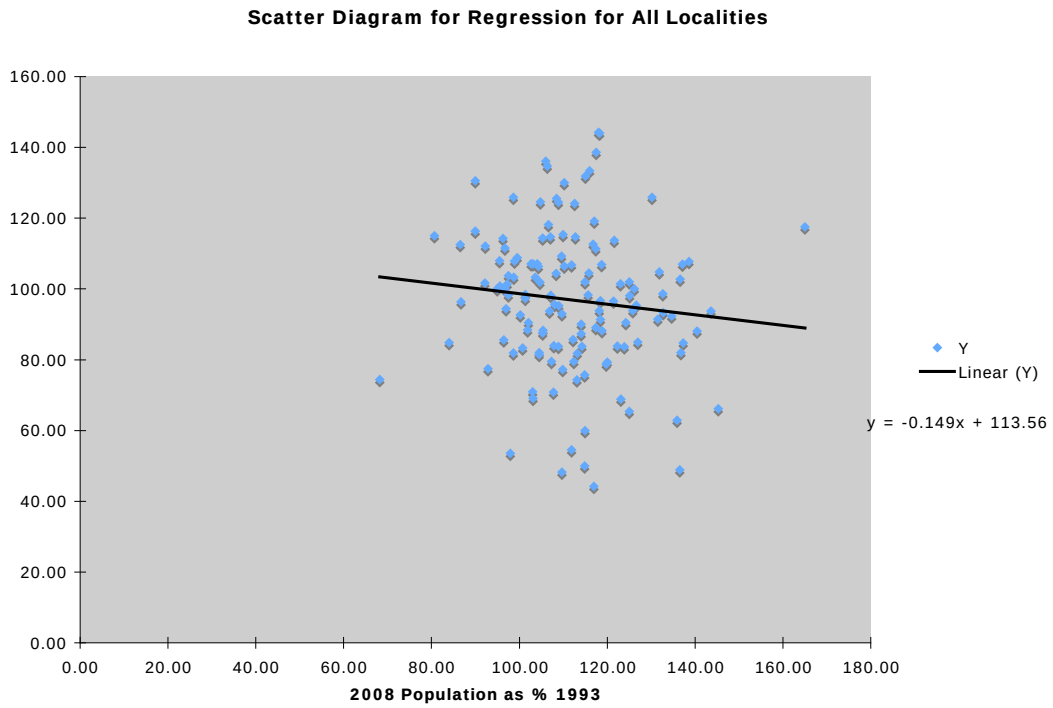
The results of the analysis indicated minimal, or non-existent, relationships between population and tax rates.

All three regressions produced an inconclusive negative correlation coefficient, indicating that for Virginia localities since 1993, tax rates have generally decreased while population has increased.

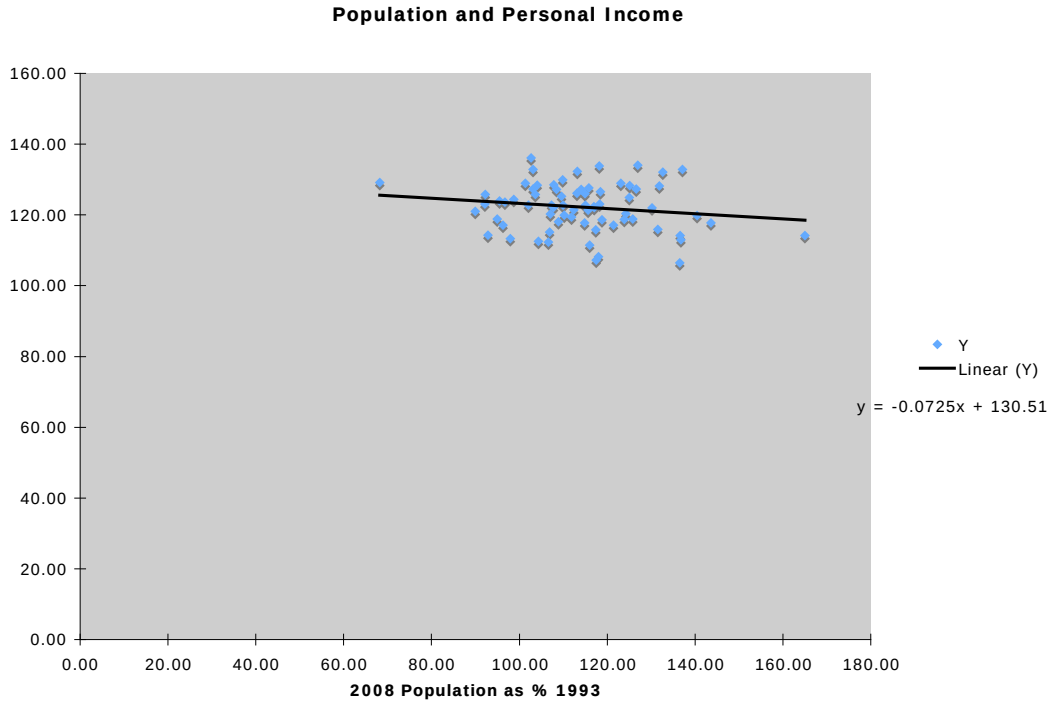
Virtually all counties had an increase in population, while the majority had a decrease in real estate tax rates.

In the case of Albemarle County, population increased by 23.04% while its real estate tax rate increased by just one penny per $100 assessed value.

[2] Steven Allshouse, "The Effect of Growth on Local Tax Rates: Theoretical and Empirical Evidence from Virginia Jurisdictions, 2000."
[3] Ibid, p. 58.



Much like the regression analysis for population and tax rates, there was no significant correlation between personal income and population growth. This analysis produced a correlation coefficient of -.0725 and an R-squared value of .027. The scatter plot can be seen below.



The two dependent variables here serve as proxies for potential costs and benefits to local communities. An increase in tax rates might suggest, for example, that higher costs of growth are being passed on to the taxpayer. Conversely, an increase in personal income might suggest that growth is providing an economic benefit to residents that may be sufficient to offset the new costs of growth. Because these proxies are so weak—especially in a period of rapidly changing land values (where tax rates are less significant) and increasingly uneven income distribution—it is difficult to draw such a conclusion with any confidence.

Although few of the statistical analyses undertaken in this study proved the existence of reliable correlations, it is important to recognize that these analyses centered on tax *rates*. These rates are less and less reliable as an indicator of a local government's fiscal posture in an era of rising real estate speculation and accelerated population growth. Moreover, any correlation between population and taxation that examines the relationship in any of the years since 1970 also ought to acknowledge in this period a rising tendency to bury costs, privatize former public services, and to let existing services and infrastructure decline, especially on a per capita basis.[4]

Allshouse, Aggregate Development in Albemarle County (2000)

In May 2000, Allshouse issued a revision of his July 1999 report entitled, "Aggregate Development in Albemarle County: A Preliminary Examination of the Fiscal Impact of Growth." He predicted that a large deficit would emerge if growth was to continue at its then-current pace.

The principal aim of the study was to test hypotheses about potential land use combinations that might balance the costs of development with the revenues such development might generate.

As Allshouse stated, "the County's Cost Revenue Impact Model (CRIM) and other similar average cost fiscal impact models assume fixed parameter values as well as linear cost and revenue functions. Given these two assumptions, I showed, mathematically, that is was possible that, if a community had the 'right' mix of new development, this mix of development would render a neutral fiscal impact. The conclusion was that, under certain conditions, the assumptions contained in an average cost fiscal impact model could render scenarios in which growth would pay for itself."

Allshouse also noted, however, that "in practice this assumption likely does not hold true; as population increases, we typically would not expect that per-capita costs and revenues would remain fixed. This point serves as a caveat about my previous theoretical conclusion regarding the mix of development, but does leave open the possibility that growth could pay for itself, depending on how the various parameter values change with increases in population. The CRIM-generated results that I derived in my aggregate development report of May 2000, therefore, should be treated with caution."

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[4] In large measure, it is this difference (between rates and total tax bills), along with the tendency to bury significant costs, that explains the contrast between Allshouse's findings and the highly regarded theory and analysis of Eben Fodor, illustrated in *Better Not Bigger: How to Take Control of Urban Growth and Improve Your Community* (Gabriola Island, BC, Canada: New Catalyst Books, 1999). A key part of Fodor's analysis is his contention that "growth-first" strategies have such a large cost that higher tax rates (mostly on the poorest taxpayers via regressive local tax structures) are an inevitable consequence of their adoption. At first, the two views held by Fodor and Allshouse may not seem compatible. But one can see how Fodor's contention may correspond more closely with the Allshouse analysis if one recognizes that, while Allshouse focuses solely on tax rates, Fodor takes the next step, adjusting for the way in which rates now mean much less than the total tax bills and broadens the definition of taxation so that it includes *all* payments rendered for public structures, services, and civilizing amenities (fees for public school sports teams and parks, excises placed on goods and services, traffic fines not connected to safety, new local option sales taxes, etc.).

Assessing the potential for local growth that continued at the same pace as the most recently measured decade-and-a-half, Allshouse concluded:

> *"Between 1984 and 1997, Albemarle County's population grew from 59,300 to 77,500…this increase of [18,200 or] roughly thirty percent coincided with the construction of…11,162 new housing units, and 6,998,000 square feet of new nonresidential development."*
>
> *"This level and mix of residential and nonresidential development, if replicated between the years 1999 and 2012, potentially would have serious fiscal implications for Albemarle County."*

Indeed, using the CRIM (the Cost Revenue Impact Model compiled for the county by Tishler & Associates of Bethesda, Maryland) and basing his analysis on the assumption that the residential and nonresidential construction that took place during this time period would be replicated exactly during the years between 1999 and 2012, Allshouse noted:

> *"The most striking outcome [of this experiment] is the chronic and increasing net fiscal deficit that would result from market-driven development….By 2012, the yearly shortfall resulting from growth would equal $14,569,000. The magnitude of this hypothetical deficit is fairly large. Albemarle County's [entire] fiscal year (FY) 1998/1999 operating budget was $134,889,551. A growth-related shortfall of $14,569,000 would have been equivalent to about 11% of the County's operating budget. This means that, in order just to maintain present levels of service, Albemarle's FY 2011/2012 budget would have to be 11% larger than the County's FY 98/99 budget."*

Adjusting for inflation, Allshouse concluded that the county would require 4 percent annual increases in revenue just to "avoid deterioration in local public services." Although the county did realize something very close to this 4 percent threshold, without having raised property tax rates, only extraordinary real estate inflation—which generated much more revenue with essentially stable rates—made this possible.

Free Enterprise Forum, Local Government Spending Index (2011)

A more recent study from the Free Enterprise Forum, which attempted to illustrate public spending trends in the region over the last 20 years, also was correlated to population changes. Published in January 2011, the report included a *Local Government Spending Index* (LGSI), an objective measure of local spending modeled after the economic methodology used to calculate the Consumer Price Index. Focusing exclusively on operating budgets (excluding capital budgets), the report found that Albemarle County real per capita spending increased 75% over the study period (1990-2009), which placed it second for the region behind the City of Charlottesville (81%). By comparison Louisa, Greene, Fluvanna, and Nelson all had increases between 43% and 58%. Since 2005, Albemarle has the highest real per capita spending increase of any locality in the study.[5]

Over the study period:

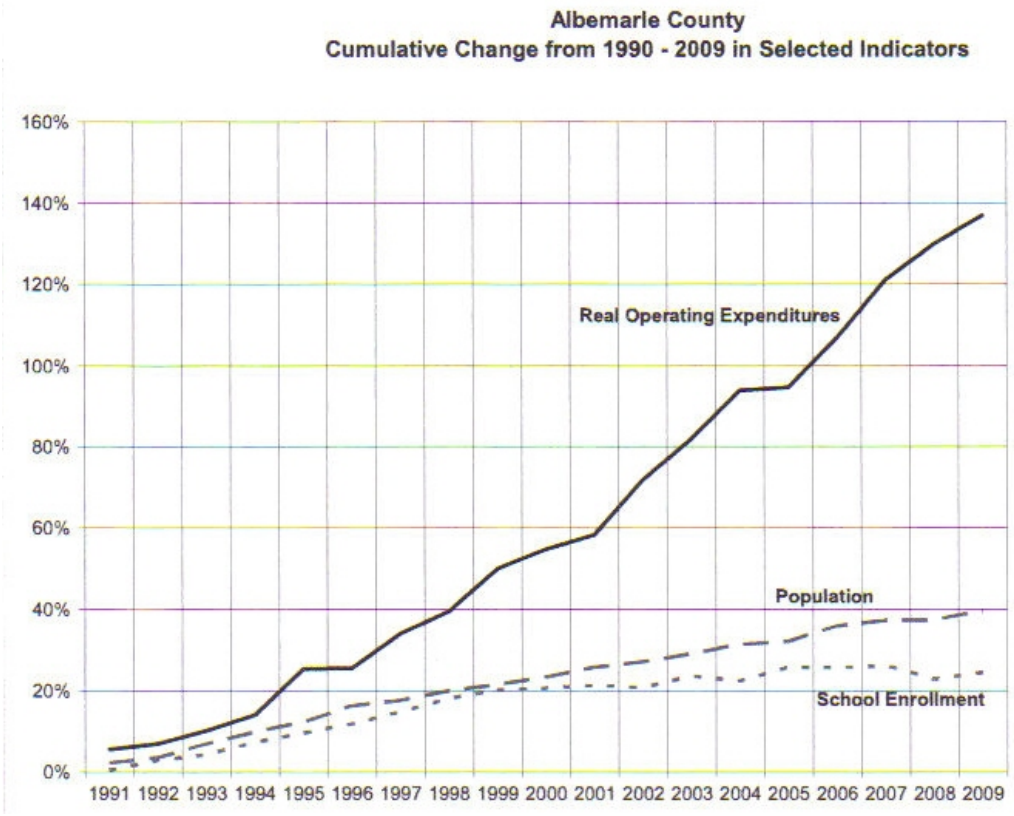
- Albemarle averaged an inflation-adjusted increase in operating expenditures of 4.64% per year.
- Total county spending adjusted for inflation increased by over 136%
- During the same period, population and school enrollment increased by only 39.7% and 24.5% respectively, as seen in the figure below.

[5] Williamson and Des Rocher, *Choices and Decisions: The Free Enterprise Forum Local Government Spending Index (LGSI)*, January 2011.

- Inflation-adjusted per capita spending increased 75.43%.[6]

Clearly, all spending increases exceeded population growth.

The Free Enterprise Forum analysis was primarily designed to illustrate how a theoretically inefficient local government spends more than it should. Yet it serves instead as an illustration of how—in an era of buried costs, increasingly regressive taxation, and public service degradation—a fairly wealthy county, such as Albemarle County, may feel compelled to make up some of the difference between funding and needs by raising revenue faster than population increases would seem to merit.



As part of the OSPS study, UVA intern Clark Belote updated the Free Enterprise Forum analysis. In Belote's analysis, detailed data was only available for fiscal years 1994 through 2009. The budget data summarized in the table below reaffirmed the general trends and conclusions found in the Free Enterprise Forum study. Inflation-adjusted total revenues over the 16-year time period increased 126.99% and total expenditures increased 129.19%. Meanwhile, per capita revenue only increased 79.14% compared to a per capita expenditures increase of 116.65%.

Reflecting the tendency for service erosion to reach deeper levels in school budgets versus public safety, road maintenance, or general government, the subtotal for school expenditures increased 77.06%, while general government operational expenditures increased 128.53%. All adjusted for inflation, property tax revenues increased 110.93%, state revenues 98.66%, and federal revenues 1,210.53%. The largest federal increase came between 2002 to 2003, which mostly reflects the relatively small amount of federal revenue in the county's budget and the relatively large infusion of federal money associated with the enactment of the *No Child Left Behind Act of 2001*, signed into law in January 2002.

[6] Ibid.

Albemarle County Budget Change

	Real % Change 1994 to 2009
Property Taxes	110.93%
Other Local Revenue	104.63%
State Revenue	98.66%
Federal Revenue	1,210.53%
Total Revenue	**126.99%**
General Government Expenditures	128.53%
Total School Expenditures	77.06%
Total Expenditures	**129.19%**
Per Capita Revenues	**79.14%**
Per Capita Expenditures	**116.65%**

Other Virginia Analyses

Richard Calderon, "Fiscal Analysis of Rural Land Use," (1982)

Undertaken by the Loudoun County Department of Planning at a time in which Loudoun County proved to be undergoing rapid development, this study concluded that residential land use in the county was necessarily subsidized by other land uses, including industrial and commercial property and farmland.[7]

American Farmland Trust (1994-2005)

Averaging the findings of six studies undertaken throughout Virginia from 1994 to 2005, The American Farmland Trust reported that, even in the absence of any capital costs, most residential development results in a fiscal net loss to localities, generating an estimated $1.18 in public services costs for every $1.00 in associated revenue increases.

Undertaken by the Piedmont Environmental Council, the Valley Conservation Council, and the American Farmland Trust in the counties of Clarke (1994), Augusta (1997), Northampton (1999), Frederick (2003), Culpeper (2003), and Bedford (2005), these six studies were based on the Cost of Community Services (COCS) model developed by the American Farmland Trust in the 1980s. As of May 2012, the COCS model had been used in 151 fiscal impact studies in communities throughout the United States.

Much like the cost-of-growth analysis presented here, these studies found that, compared to residential development, farmland and commercial and industrial properties require much lower levels of public service for each dollar of associated revenue. The recognition of this pressure is one reason this cost-of-growth analysis includes a novel "hybrid" land use categorization (in section 1.4), in which distinct land use categories such as *residential and recreational* or *residential and agricultural* are combined (alongside the distinct, non-combined calculations). This is done to illustrate what happens both in realistic situations (additional recreational land use coming into play because additional residents demand it) and in situations where farms increasingly become sites of residential expansion.

[7] Richard Calderon, "Fiscal Analysis of Rural Land Use," Department of Planning, Loudoun County, Virginia, 1982.

In the other two categories associated with positive revenue-to-cost ratios—*industrial* and *commercial* land uses—these fiscal advantages prevail only if such land uses can be expanded without also expanding residential populations in any significant way.[8]

Kurt Stephenson, et al, "The Influence of Residential Development Patterns on Local Government Costs and Revenues," (2001)

Darrell Bosch, Vinod K. Lohani, Randy L. Dymond, David F. Kibler, and Kurt Stephenson, "Hydrologic and Fiscal Impacts of Residential Development: A Virginia Case Study." (2003)

Undertaken by Kurt Stephenson and associates at the Department of Agricultural and Applied Economics at Virginia Tech University, these studies isolate residential costs and revenues, underscoring the way in which such development cannot generate revenues equal to its costs, and in the second study, also the way in which attendant environmental costs (often ignored or deferred) mount in tandem with the increasing fiscal deficits connected to residential development in Virginia.[9]

[8] Due to the nearly endless possible combinations illustrating the wide variety of possible industry outputs, profitability, labor intensity, and employee recruitment characteristics, the authors of this analysis made no attempt to produce hybrid cost-benefit ratios in the industrial and commercial categories.

[9] Kurt Stephenson, et al, "The Influence of Residential Development Patterns on Local Government Costs and Revenues," Blacksburg, Virginia Polytechnic Institute and State University, 2001; Darrell Bosch, Vinod K. Lohani, Randy L. Dymond, David F. Kibler, and Kurt Stephenson, "Hydrologic and Fiscal Impacts of Residential Development: A Virginia Case Study." *Journal of Water Resources Planning and Management* 129 (March/April 2003) 2: 107-114.