

CONDUCTING A FISCAL IMPACT ANALYSIS

INTRODUCTION

Problem Statement

- Is your community's tax base growing sufficiently to pay for government services and infrastructure?
- Will the taxes generated in a "bedroom" community support the costs of services?
- Is it financially beneficial for your community to extend services to serve a small number of new homes?
- What is the ideal land use plan to keep taxes low and ensure infrastructure is maintained?

Most local governments are required to prepare balanced budgets on an annual basis. However, the overwhelming majority of these local governments are not required to conduct fiscal impact evaluations to help ensure that local officials understand the short- and long-term fiscal effects of land use and development policies as well as the impact of new development projects that are approved. For example, if a particular development proposal or land use alternative will generate more in tax revenue than it will in public service costs, the surplus revenues may enable a community to improve services or fund infrastructure maintenance/replacement backlogs. Conversely, if public service costs exceed revenues, it could increase pressure to raise taxes, find additional revenue sources, or decrease levels of service.

What is a Fiscal Impact Analysis?

A fiscal impact analysis is a tool that compares the local government costs against local government revenues associated with development policies and projects. The analysis should indicate if and when a community could face budget deficits. Local governments are then able to weigh land use policy decisions, acceptable levels of public services provided, plans for capital investments, and long-term borrowing needs, in addition to prompting local officials to evaluate current and future revenue sources.

A typical "fiscal impact analysis" is a projection of the net cash flow to the public sector resulting from development – residential, nonresidential or other. It is similar to the cash flow analysis a developer conducts in order to project costs and revenues likely to result from a proposed development. A well-prepared analysis will reflect revenue, capital costs and associated operating expenses. This is in contrast to an "economic impact analysis", which evaluates direct and indirect impacts on the overall economy; those impacts are typically new jobs, real disposable income and consumer spending.

Types of Fiscal Impact Analyses

Selecting an Appropriate Method

There are a number of standard approaches to choose from in conducting a fiscal impact analysis, ranging from a per-capita multiplier method to a case study method which relies on local interviews. One consideration in choosing an appropriate method relates to the notion of average costing. There are two basic approaches to assess the cost of services that development imposes on a local government—average costing and marginal costing.

Average costing is the simpler more common procedure. It attributes costs to new development according to average cost per unit of service in existing development times the number of units the growth is estimated to create or the demand for that unit. It does not take into account excess or deficient capacity to deliver services, and it assumes that average costs of municipal services will remain stable in the future.

Alternatively, marginal costing relies on analysis of the demand and supply relationships for public services. This procedure recognizes that excess and deficient capacity exists in communities. It views growth not in a linear manner, but as a more cyclical process in terms of the impact on expenditures.

The distinction between average and marginal costing is fundamental to fiscal impact analysis. Marginal and average costing approaches may result in dramatically different estimates of fiscal impacts for the same development. This is due to the “lumpy” nature of certain public services, like sewage treatment plants and water supply systems. When such facilities are built in a community, they are typically financed with long-term debt and built with the expectation that they will also serve future population growth in the community. Therefore, the incremental cost of providing the service to one more resident is low. However, these facilities do have a threshold level where surplus capacity is eventually depleted. It is at this point that the new development or new growth requires new infrastructure investment and the marginal cost of serving a new resident may actually be higher than the average cost. The marginal cost approach focuses on defining a community’s marginal response to a new development or land use change through careful attention to existing demand and supply relationships in a community.

What is the Role of Fiscal Impact Analysis in Achieving Quality Growth?

One of the principles of quality growth is making development decisions that are cost-effective and efficiently use public services and infrastructure. As this tool shows, the use of fiscal impact analysis leads to a better understanding for both the public and elected officials of the relationships among the various factors contributing to growth and development and increases their confidence in the fiscal soundness of land-use decisions. Using fiscal impact analysis to evaluate land use decisions may result in more consistent government revenues and thus taxation decisions. Also fiscal impact analysis may provide local governments additional financial information upon which to make balanced growth decisions.

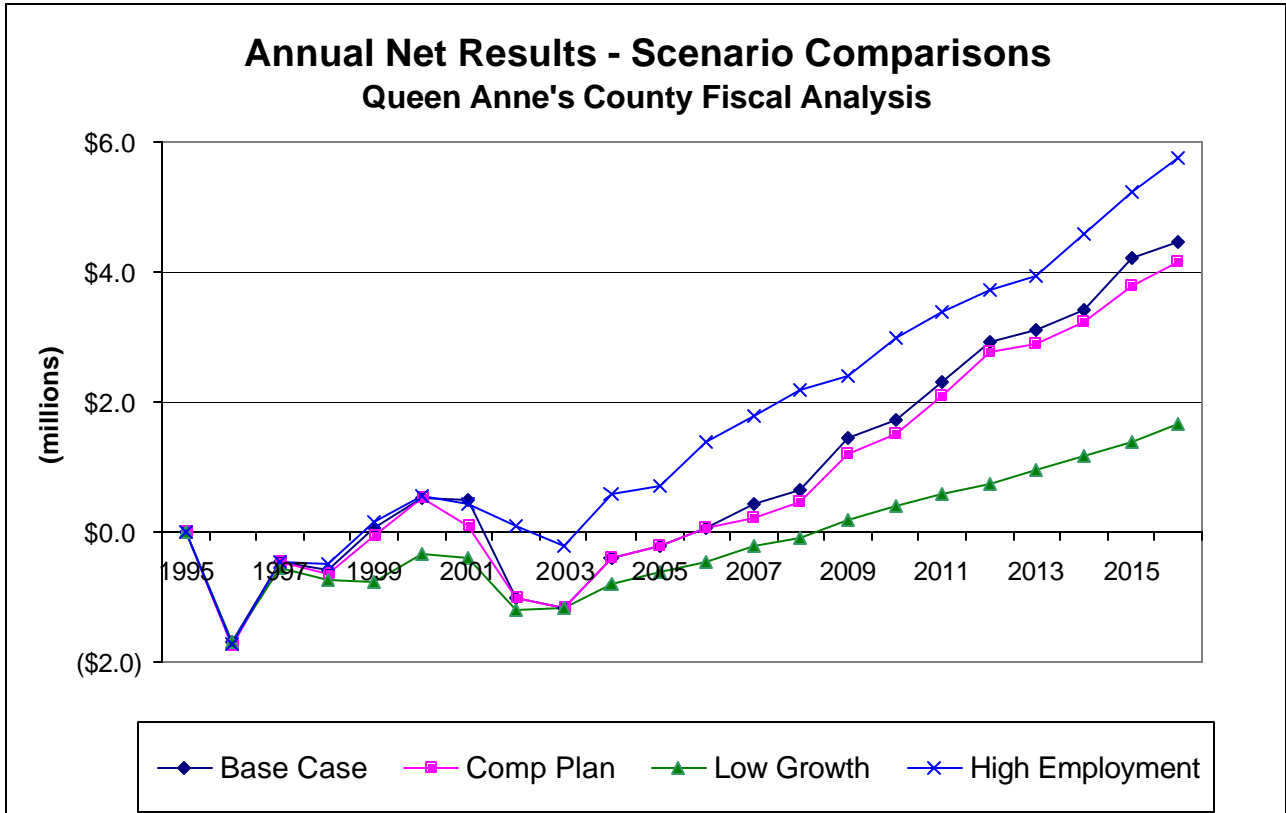
WHAT ARE THE ALTERNATIVES

The beginnings of the use of fiscal impact analysis in government decision-making can be traced to the 1930's, where it was used to examine the impacts of public housing and urban renewal programs. During the 1950's and 1960's, fiscal impact analysis began to be used for examining the impacts of private developments, as well as proposed annexation areas. By the 1980's, fiscal impact analysis had become a more common planning and land use assessment tool, used for the evaluation of rezonings, comprehensive plan amendments and economic development decisions. Today, fiscal impact analysis is employed in a variety of applications, generally related to planning and finance decision-making. Some examples of these applications are discussed below. The alternative to using fiscal impact analysis is to assume the financial soundness of government land use decisions based on past history, anecdotal data or opinion.

Planning Applications

From a planning perspective, a fiscal impact analysis directly links proposed zoning and land uses with projected population and employment growth related to residential and nonresidential development. The following examples indicate how fiscal analysis can be an effective tool for long-range planning.

Land Use Policies. Suppose a jurisdiction is considering whether or not to encourage higher density land uses or allow an overlay district in a certain subarea. If costs, as well as other factors, are to be considered, then a fiscal impact evaluation can provide valuable information to aid the decision-making process. For example, in Dublin, Ohio, the comprehensive planning process exhaustively tested two land use scenarios. An evaluation scorecard was used to match the City Council's goals against the two scenarios. Based on the fiscal results, the community ultimately chose a scenario less intensive than the two initially developed. In Queen Anne's County, Maryland, an analysis was prepared that compared future scenario-based infrastructure investments to highlight the costs of aggressively implementing the County's long-standing Smart Growth policies. The graphic below shows the annual net fiscal results (revenues minus expenditures).



Rezoning. A rezoning changes the density or type of use for a parcel; it may also signal a change in development policy. Too often, significant rezoning cases are not sufficiently evaluated from a fiscal perspective. In these cases, a fiscal analysis can be helpful in local government-developer negotiations. For example, Washoe County, Nevada, evaluated the demands for public services and the fiscal effects of rezoning two large ranches. The two ranches were in different areas of the County, with different service levels and facility capacities. The County was able to use the results from the fiscal impact analysis to negotiate infrastructure improvements from the developer.

Annexations. Communities often perceive annexations as “cash cows” and choose to enhance their tax base in this fashion, rather than encourage redevelopment within the existing community. Annexations are attractive because of the potential for realizing instant revenues from property taxes and in many cases, sales and income taxes. Costs are rarely considered because it takes longer to ascertain the costs of increased demands for services and extension of infrastructure. Fiscal impact analysis quantifies the net revenues and net expenditures of annexation. However, in many cases, annexations generate deficits. A fiscal impact analysis can help a jurisdiction determine if it will be more cost effective to encourage redevelopment within the existing community.

Redevelopment. Using fiscal impact analysis a government can determine the fiscal benefits of encouraging redevelopment of vacant or underutilized parcels of land. A vacant strip shopping center can be evaluated to determine the amount of new taxes that could be generated if a redevelopment project was encouraged and incentives provided to a developer.

Budget and Finance Applications

There are a number of ways a fiscal impact analysis can address budget and finance questions. The following examples indicate how fiscal analysis can be an effective tool for financial planning.

Capital Improvement Programming. Capital improvement planning takes on an extra dimension with the use of fiscal analysis, which enables a local government to forecast the need for additional capital facilities given projected increases in population or employment. Fiscal analysis also clarifies the timing of infrastructure improvements by incorporating the demand for capital facilities in the near as well as the longer term. This approach can also be used to calculate the cost and timing for replacing existing infrastructure. For example, Venice, Florida used fiscal impact analysis to develop a capital improvement program that would identify existing facility deficiencies and project facility needs due to growth, as well as create a revenue development strategy to fund this plan.

Revenue Forecasting. Revenue forecasts of projected changes in revenues due to land-use or demographic changes in the community are one of the results of a fiscal impact analysis.

Fiscal Planning. Fiscal planning is different from budget planning because fiscal planning focuses on changes and uses in the two- to ten-year time frame. Fiscal planning provides a long-term perspective on the costs and revenues associated with each department and activity of a local government, offering local officials the opportunity to reconsider plans and policies.

Level of Service Changes. A growing number of local governments are finding it useful to focus policy discussions on the basic levels of public services that citizens want and are willing to pay for. Quantifying existing levels of service and the costs of different service levels through a fiscal impact analysis can help lead to more constructive discussions of changing the level of service. A fiscal impact analysis prepared in Carroll County, Maryland, indicated that a modest level of service increase for Police and Fire/EMS would eliminate any surplus from new growth. In addition, the County would need to find other revenues to pay for providing the higher level of service to the *existing* development base.

THINGS TO CONSIDER BEFORE USING/IMPLEMENTING FISCAL IMPACT ANALYSIS

How the fiscal impact analysis will be used should have a large part in determining the methodology that will be employed. Therefore, for those communities contemplating the use of fiscal impact analysis, methodology is the most important consideration, particularly since the methodology selected has a direct bearing on how cost and revenue factors are derived, and as discussed below, impacts the political acceptability and administrative complexity.

Planning and Legal Considerations

From a planning perspective, a fiscal impact analysis directly links proposed zoning and land uses with projected population and employment growth related to residential and nonresidential development, bringing a realistic sense of the cost of growth into public discussion.

Although there is no legal requirement in most states for local governments to conduct fiscal impact evaluations, many communities have used fiscal impact analysis to ensure that planning and growth management policies are “legally defensible” and can withstand the close scrutiny of legal challenges, which would likely be based on constitutional tests of “rational nexus” and “takings.” In Howard County, Maryland, it was decided to introduce fiscal impact analysis into the comprehensive plan process not only to ensure due diligence related to the cost of growth, but also because “it was a way of testing the implications of planning safely,” according to former planning director Uri Avin.

Political Considerations

Gaining the support of the citizenry, as well as the development and business community is an integral part of the planning process. A well-prepared fiscal impact analysis can go a long way in increasing the confidence of both elected officials and the general public for a proposed plan. However, an analysis prepared using a methodology inappropriate to the situation, faulty assumptions, or a “black-box” approach, can significantly erode the public’s trust and confidence in the plan.

Another political consideration is that the fiscal results of an analysis may not be what are expected. For example, there is an overwhelming perception that new growth, particularly new residential development, does not pay for itself. While many studies have found that new residential development does not pay for itself, studies in Maryland counties conclude, to the surprise of many, that new residential growth can pay for itself or is fiscally neutral. This is primarily because of Maryland’s aggressive local revenue structure, reflecting not only property taxes, but also income and transfer taxes.

Administrative Considerations

Regardless of the methodology employed, it is necessary to obtain specific data on levels of service, geographic service boundaries and cost and revenue factors. Whether this information is prepared by a consultant or in-house, this data and its sources need to be reviewed to ensure they are reasonable and reflect reality. The analysis should be maintained and updated regularly if it is to be used on an on-going basis. Assumptions and data should be reviewed on a regular basis to ensure that it continues to accurately reflect reality and current trends.

Financial Considerations

The cost of preparing a fiscal impact analysis is influenced by numerous variables. These variables include who prepares the analysis (staff or a consultant), the methodology employed, as well as the application of the analysis (rezoning, land use plan, etc.). In general, a community can contract with a consultant to prepare a simplistic, average cost analysis for \$10,000 to \$35,000, depending on the scope. More complex analyses, such as evaluations of various land use scenarios in conjunction with a comprehensive plan, generally range from \$40,000 to \$150,000, depending on the scope and type of methodology employed. For communities

interested in performing their own analyses, there are several computerized fiscal impact applications/models available. These range from simplistic, “off the shelf” packages in the \$1,000 to \$5,000 range, to sophisticated applications developed specifically for a community.

LESSONS LEARNED

The use of fiscal impact analysis has obvious benefits. There are, however, lessons to be learned from other local governments’ experiences.

- Ensure that the analysis outputs are fully explainable. All those involved in the development of the fiscal impact analysis need to understand the structure and details of the model. Failure to do so may erode political and public trust and confidence in the analysis.
- Ensure that the chosen methodology is appropriate to the analysis and the jurisdiction. Provide a rationale for selection of service levels and associated cost and revenue factors.
- The valuation data and scenario assumptions should be achievable.
- Do not overlook the political consequences of fiscal impact analysis. It does not provide the “answer” to policy questions. It can be a useful tool, but it can also be a source of contention in communities with substantial tensions regarding the costs of growth.
- Complexity is less important than utility. The analysis can range from a spreadsheet with a few key variables to complex multivariate analyses. Develop what you have the capacity to create and maintain using key indicators important to the community. It is the introduction of market factors and their interaction with demographic and fiscal factors that provides a more dynamic view of a community.
- It is important to acknowledge that fiscal issues are only one concern when evaluating land use decisions, as virtually all communities will have contributors and recipients. Non-fiscal issues such as the environment, housing affordability, jobs/housing balance and quality of life must also be considered. The emphasis should be on achieving an appropriate mix of land uses.

IMPLEMENTATION GUIDELINES

Who Will Prepare the Analysis?

Once a community has decided to complete a fiscal impact analysis, the first step is determining who is responsible for preparing the analyses. Implementation of a fiscal impact analysis program can occur in a variety of ways. The first option is for local government to prepare its own fiscal impact analyses. Under this option local government staff, usually planning and/or finance department personnel, are responsible for all aspects of the analysis, from data collection to interpretation and presentation of the results. In many cases local government staffs lack the time, resources and expertise to prepare a fiscal impact analysis on its own.

Therefore, a second option is hiring an outside consulting firm to prepare fiscal impact analyses. Although more costly, a consulting firm can bring experience, an enhanced level of sophistication to an analysis through design of a model, developing cost/revenue factors and interpreting results. For local governments interested in using fiscal impact analysis to evaluate specific development proposals, a third option is to require the applicant to submit a fiscal impact analysis of the proposed development's impacts. However, since the analysis is being prepared by, or for the applicant, it is often necessary for a local government to spend substantial staff resources or contracting with a consulting firm to review the analysis.

The Process to Implementing Impacts¹

This section takes you through the steps of fiscal impact estimation. The method used here is a hybrid per-capita multiplier and case study approach. It allows for a quick calculation, but acknowledges that a straight average-costing approach is not ideal and builds in a marginal cost dimension.

To use the per capita multiplier method, which is used to calculate all costs and revenues, with the exception of the property taxes, state shared revenues and capital costs associated with the development, you will basically translate population into service costs. The method first requires you to calculate current public service costs on a per-unit basis—per capita and per employee. Service costs are initially apportioned between residential and non-residential development to allow for a more precise accounting of costs. Development costs are then estimated by multiplying per capita costs by the total number of people associated with the development and per employee costs, by the number of workers associated with the development.

Points to Remember

- **Development results in increased demand for services:** New residents and new workers demand local services and their expectations may be different from those of the existing population and workforce.
- **Fiscal Impacts vary with the type of the development, the location of development, community services, existing service capacity and local policy:** The type of development—commercial, residential, industrial—has different implications for a community's fiscal balance sheet. The nature of the development—compact residential near central facilities versus sprawling rural residential—matters to the fiscal outcome. A community that must extend public services to new developments will incur greater expenditures.
- **The fiscal impact method used to make estimates matters to the final results:** Different methods may produce different results. Be aware of the assumptions driving the method.
- **Impacts are Cumulative:** The impact of a single development may be insignificant to a community's fiscal position; however, the impact of development after development may

¹ Excerpted from *Community Guide to Development Impact Analysis*, by Mary M. Edwards Wisconsin Land Use Research Program. Program on Agricultural Technology Studies. University of Wisconsin–Madison. March 2000.

be substantial. Over time, development has broad effects on revenues, expenditures and the tax base.

- **Development affects different groups in different ways:** The distributional impacts are not easily incorporated into standard fiscal impact analysis, but new development may provide greater benefits to some groups. It is important to think about how different groups may be affected and how these impacts may vary over time.

Again, the most significant limitation of the straight per capita multiplier approach is that it does not account for excess or deficient capacity. It also assumes that the cost of services for new development is the same as existing; and this is not fully justified in all cases. The modified model detailed here requires you to calculate the operating per-capita costs and revenues associated with development and then to examine your capital facilities using a case study approach to allow for issues of capacity.

This model allows you to examine the fiscal impacts of development if that development were in place in your community today. This approach is intended to make the estimates more meaningful and understandable to citizens and to lessen the need to make assumptions regarding your future fiscal situation. Typical fiscal impact analysis which estimates the future impact of a proposed development requires numerous assumptions as to a community's future fiscal situation. It requires assumptions as to how your community will grow, how property values will change, how much tax revenue will be generated by the development, the timing of the development and how the community will change with the development. It also requires an estimate of a baseline scenario or a assumed future without the development to allow for a comparison with and without development. In contrast, the method detailed below allows you to use your current budget and minimize assumptions that must be made.

The process entails nine steps. The analysis is straight-forward and data requirements are minimal. You must begin by describing the development and its potential impacts in terms of new population and new employees. Then, you will estimate the expenditures associated with the development using per capita averages as a way to make estimations. Then, you will estimate revenues to be generated by the development using various approaches. Lastly, you will estimate the net fiscal impact on your community.

STEPS

- STEP 1** Determine population and employment changes associated with the development.
- STEP 2** Disaggregate budgets into categories of service expenditure (e.g., general gov't, police).
- STEP 3** Allocate costs to residential and non-residential land uses.
- STEP 4** Divide residentially-associated costs by total population to derive a per capita estimate of service costs. Divide nonresidential costs by local employees for a per employee estimate of non-residential service costs.
Calculate Total Costs Associated with Development:
- STEP 5**
 - A.** Calculate the residentially-induced costs associated with development by multiplying the per capita estimate of current service costs by the population increase.
 - B.** Calculate nonresidential costs associated with development by multiplying the

per employee estimate of service costs by the employment increase associated with the development.

C. Calculate annual debt service costs

- STEP 6** Disaggregate budgets into categories of revenue (e.g., license fees, taxes, intergovernmental revenue).
- STEP 7** Allocate revenues, except shared revenues and property taxes, to residential and non-residential uses, and estimate revenues associated with development using the same process as was used to estimate costs.
- STEP 8** Estimate property taxes, state shared revenue and total revenues associated with the development
- STEP 9** Compare estimated revenues and costs and determine net fiscal impact on your community.

CAUTIONARY INFORMATION

Fiscal impacts are only one type of impact associated with development, and further-more, fiscal impact analysis has a number of limitations to keep in mind:

- **The Interaction of Land Uses:** A major limitation of fiscal impact analysis is that it does not capture the interactions among land uses when development occurs. For example, a commercial development may show a net positive fiscal impact, yet it may also generate costs outside of the development that are not necessarily captured in the fiscal analysis—costs such as increased traffic congestion around the area leading to higher expenditures for street maintenance and repair. Development also affects property values in adjacent properties which are not included in the final analysis.
- **Fiscal Impacts on Other Jurisdictions:** Standard approaches to fiscal impact analysis are typically designed to examine the effects of development on a single unit of government. Development has impacts beyond your community, but there is no formal mechanism to precisely estimate these costs.
- **The Cumulative Impacts of Development:** Cumulative impacts are not necessarily considered in standard approaches to fiscal impact analysis. Whereas, a single development may have a slight effect on a community’s fiscal balance sheet, a series of developments over time may significantly impact revenues and expenditures and tax base.

EXAMPLE DEVELOPMENT SCENARIO

An example development scenario for the “Town of Anywhere” is provided throughout this chapter to illustrate the nine-step technique used in assessing fiscal impacts. Characteristics of the development scenario for the Town of Anywhere include:

1. A mixed-use development comprised of 100 two- and three-bedroom single family homes and 50,000 square feet of retail space.
2. The value of the development is estimated at \$8 million.
3. **New Residents:** Using the demographic multipliers found in the appendix for “other metro areas,” the estimated new population associated with the development is 248 persons.
4. **New Employees:** In this example, there are 70 employees associated with the retail portion of the development.

STEP 1: CALCULATE THE NUMBER OF NEW RESIDENTS AND/OR EMPLOYEES

The first step in the analysis is to estimate the new population and employees associated with the development. If you know the numbers, use these numbers. If not, refer to Table 2.1 in the appendix which includes demographic information by housing type and use these demographic averages to project residents associated with the new development.

| <i>EXAMPLE: Calculating Number of New Residents</i> | | | | |
|--|------|------|-----|-------|
| | 2br | 3br | 4br | total |
| a) number of housing units | 60 | 40 | | 100 |
| b) persons per unit | 2.11 | 3.03 | | |
| new residents (a x b) | 127 | 121 | | 248 |

NEW EMPLOYEES

A number of studies have shown that the employment intensity of nonresidential development prompts public service expenditures, so a nonresidential development with more employees than another will generate more costs to the local unit. This is the rationale behind using per-employee estimates to calculate the costs associated with non-residential development.

If the developer has provided an estimate of the number of employees associated with the development, use this figure, or use the estimates based on national data. (For further information on employees by establishment, go to the U.S. Census Bureau’s web site to locate the 1992 Economic Census Results at: www.Census.gov/epcd/www/92result.html/. The results from the 1997 Economic Census are also provided for some categories of employment.)

STEP 2: DISAGGREGATE BUDGETS INTO CATEGORIES OF SERVICE EXPENDITURES DISCUSSION QUESTIONS

You will now begin to estimate the costs associated with the development. Beginning with expenditures, the initial step is to disaggregate the budget into service categories. The following service categories represent major services provided by a generalized local governments. A more precise breakdown of service categories may be used.

EXAMPLE: Current Budget Figure

Town of Anywhere: 1999 Expenditures

| Expenditure | Amount |
|--------------------------|---------------|
| General Government | \$275,000 |
| Law Enforcement | 400,000 |
| Fire Protection | 300,000 |
| Inspection | 150,000 |
| Public Works | 204,000 |
| Conservation/Development | 135,000 |
| Health/Human Services | 45,000 |
| Culture/Recreation | 185,000 |
| Debt Service | 200,000 |

TOTAL \$1,894,000

STEP 3: ALLOCATE COSTS TO RESIDENTIAL USES AND NON-RESIDENTIAL USES

The portion of costs associated with residential uses is generally estimated using one of two methods: either through local knowledge; or through the use of property value data and parcel data as a fall-back method. For example, if you know that all expenditures for health and human services are associated with residents only, then allocate all of these costs to residential land uses. If expenditures are associated with both population and workers in the community, use the fall-back method to allocate costs.

In using the fall-back method, the residential share of all service costs is estimated by dividing the residential property value and number of parcels by total value and total number of parcels, respectively. These two results are averaged and this value is applied to local costs to determine the residential share of costs.

EXAMPLE: Calculating Residential Parameters

Town of Anywhere:
1999 Assessed Value and Number of Parcels

Assessed Value

| | |
|------------------------------|------------|
| Total Assessed Value | 60,000,000 |
| Residential Assessed Value | 30,000,000 |
| Residential Value Percentage | 50.00% |

Parcels

| | |
|-------------------------------|--------|
| Total Parcels | 1500 |
| Residential Parcels | 660 |
| Residential Parcel Percentage | 44.00% |

| | |
|--|-----------------|
| Estimated Share of Residentially- | 47.00% |
| Associated Costs and Revenues | $((.44+.50)/2)$ |

QUESTIONS TO CONSIDER

- What are the major spending categories that development will impact?
- Are there any new services that will be necessary to serve the development?
- Will the development prompt any change in the delivery of the existing level of services?
- Will any additional staff be required to provide the same level of service?
- Will development affect service quality, such as police and fire response time?
- Will the development be served by new sewer and water lines, existing lines or septic systems?
- Do user fees and charges cover the costs of such services?

Once you have calculated the portion of costs associated with residential and non-residential uses, you can apply the proportion to the appropriate service categories to derive residentially-associated costs for each service category.

In the example below, total costs are multiplied by .47 to estimate residentially-associated costs and the remainder represents those costs associated with non-residential uses. Note that in the example, costs for expenditures of conservation/development, health and human services and

culture and recreation, were allocated completely to residential uses. This is assumed to be based on local knowledge of how these expenditures are spent. This may or may not be appropriate for your community. Use your own judgment in allocating costs.

EXAMPLE: Estimating Residential and Non-Residential Costs

Town of Anywhere: 1999 Residential vs. Non-Residential Costs

| Expenditure | Total | Residential | Non-Residential |
|--------------------------|------------------|--------------------|------------------------|
| General Government | \$275,000 | \$129,250 | \$145,750 |
| Law Enforcement | 400,000 | 188,000 | 212,000 |
| Fire Protection | 300,000 | 141,000 | 159,000 |
| Inspection | 150,000 | 70,500 | 79,500 |
| Public Works | 204,000 | 95,880 | 108,120 |
| Conservation/Development | 135,000 | 135,000 | 0 |
| Health/Human Services | 45,000 | 45,000 | 0 |
| Culture/Recreation | 185,000 | 185,000 | 0 |
| Debt Service | 200,000 | see Step 5c | |
| TOTAL | 1,894,000 | 989,630 | 704,370 |

STEP 4: DERIVE PER CAPITA ESTIMATES AND PER WORKER ESTIMATES OF EXPENDITURES

To estimate per capita and per worker figures, divide the residentially-associated expenditures and non-residentially associated expenditures by total population and total workforce in the community, respectively. In the following example, assume that the population of the Town of Anywhere is 5,500 and the number of workers in the town is 3,500.

EXAMPLE: Estimating Per Capita and Per Worker Costs

Town of Anywhere: 1999 Per-Capita and Per-Worker Costs

| Expenditure | Per Capita | Per-Worker |
|--------------------|-------------------|-------------------|
| General Government | 23.50 | 41.64 |
| Law Enforcement | 34.18 | 60.57 |
| Fire Protection | 25.64 | 45.43 |
| Inspection | 12.82 | 22.71 |
| Public Works | 17.43 | 30.89 |

| | | |
|--------------------------|-----------------|-----------------|
| Conservation/Development | 24.55 | 0 |
| Health/Human Services | 8.18 | 0 |
| Culture/Recreation | 33.64 | 0 |
| Debt Service | | |
| TOTAL | \$179.93 | \$201.25 |

STEP 5: CALCULATE TOTAL COSTS ASSOCIATED WITH DEVELOPMENT

A. Operating Costs

Apply the total per capita and per employee costs to the estimated population and workforce associated with the development to derive the total operating costs associated with development.

| EXAMPLE: Calculating Total Operating Costs | |
|---|--------------------|
| Town of Anywhere: 1999 Total Costs of Development | |
| Residential Costs | Amount |
| a. Per-Capita Costs | \$179.93 |
| b. Population of Development | 248 |
| Total (a x b) | \$44,623.32 |
| Non-Residential Costs | |
| c. Per-Employee Costs | \$201.25 |
| d. Workers in Development | 70 |
| Total (c x d) | \$14,087.40 |
| TOTAL | \$58,710.72 |

B. Capital Costs

In growing communities, it is often necessary to invest in capital facilities to accommodate new development. New streets, water and sewer systems and schools may be needed to serve additional population. Because large capital projects such as sewage treatment plants are often financed by debt paid through user fees and charges to new residents, they are often not explicitly included in traditional fiscal impact studies which focus on operating budgets. Furthermore, many of these initial capital investments are required to be paid for by the developer. It is important to understand the long-term consequences of development in terms of capital improvements and facilities.

| List of Capital Investment Items to Consider in Accommodating New Development | |
|--|--|
| <ul style="list-style-type: none"> • Streets, roads and sidewalks • Street Lighting • Street and road repairs • Traffic signals • Parking lots • Parking meters • City halls, courthouses • Libraries • Major building rehabilitation • Jails • Tennis courts | <ul style="list-style-type: none"> • Playground equipment • Recreation buildings • Heavy equipment • Police and fire stations • Fire trucks • Police and fire radio systems • Police cars • Water and sewer treatment plants • Storm sewers • Sewer and water mains • Solid waste sites and equipment |

The following allows you to identify whether the proposed development is expected to generate a need for additional capital facilities or improvements. The impact of such expenditures on residents—new and existing—depends on how the capital investment is financed. If it is to be financed through a bond issue, the annual debt payment should be included as an expenditure when the total impacts of development are calculated. This section follows a case-study approach intended to assist in estimating annual debt service expenditures associated with the new development.

IDENTIFICATION OF FACILITIES AND IMPROVEMENTS NECESSARY TO ACCOMMODATE GROWTH

The identification of infrastructure facilities necessary to accommodate the new development should occur in a systematic manner. This information can be identified in a number of ways. One would be to contact department heads for their expertise on necessary capital improvements to serve new development. Another would be to analyze any support documentation the community may have, such as a capital improvement plan. Special studies can be conducted to identify needs. Lastly, to determine the physical quantities of needed capital investments, a standard for each service or facility may be useful. Ideally, this would be based on a community-needs assessment, but the existing standard of provision is an appropriate alternative. Once these service standards are established, the need for new capital facilities can be determined using the following formula:

$$\text{Needed Improvements} = \text{Service Standard} * \text{Demand Unit}$$

Where the demand unit is associated with the new development, in terms of residents or school age children. For example, your community may have an existing standard for park land, such as 1 of acre of park land per 100 residents. If the development includes 200 new residents, 2 acres

of park land are necessary to maintain current service standards for parks in the community. This method is useful if the goal is to maintain your current level of services to residents.

PROJECT COSTS OF NECESSARY INFRASTRUCTURE OR CAPITAL FACILITIES AND DETERMINE ANNUAL DEBT

Once you have determined the need for new capital investment, project the costs using staff expertise and/or local records. The following table provides a frame-work to determine the need for new capital investment and the annual debt service cost to the community.

For those items to be financed through a bond issue, calculate the annual debt payment using your community’s current debt policy guidelines.

In many cases, development will not generate new capital investment, as the developer is often required to pay for capital facilities such as roads and sewers. However, in this example, the development generated a need for a new library branch. The annual debt service is estimated to be about \$105,000. This illustrates the problem of local capacity in estimating fiscal impacts. Due to this particular development, the community finds itself at the point where surplus capacity in the library system is used up, and new investment in a library branch is required to maintain the current standard of service for residents. In terms of the fiscal analysis, the development is held to be responsible for generating the new library, although the library will not only benefit the entire community, but it just happened that this particular development and not the previous one or the one proposed for next year, generated the need for the new library branch. Because fiscal impact analysis is intended to estimate the net fiscal impact of the development on the community’s balance sheet, the debt service should be included in the final calculation. However, it is more useful and informative to illustrate the analysis under two different scenarios—with and without the debt service of the new library.

| EXAMPLE: Estimating Capital Costs of Development | | | | | |
|---|-------------|--------------------------|-----------------------------|----------------------|----------------------------|
| Infrastructure Need | Cost | Method of Finance | Length of Bond Issue | Interest Rate | Annual Debt Payment |
| New Roads | \$800,000 | Developer-paid | | | |
| Library Branch | \$900,000 | Bond | 20 years | 10% | \$105,714 |

C. Total Costs

Total costs of the example development are illustrated in the table below.

EXAMPLE: Estimating Total Costs of Development

Town of Anywhere: Costs of Development

| | |
|-------------------------------|-----------|
| Costs of Development (Part A) | \$45,866 |
| + Debt Service (Part B) | \$105,714 |
| <hr/> | |
| Total Costs | \$164,424 |

DISCUSSION QUESTIONS

- Will new homes be served by public sewer and water lines or private wells and waste water treatment facilities?
- What is the capital cost to provide potable water for each dwelling unit of a new development?
- What is the current capacity of the water and sewer system?
- How will these costs be recouped?
- Will development affect service quality, such as police and fire response time?
- What is the average daily consumption of water per person?
- What is the cost of constructing one gallon of additional capacity?
- Will the development require extension of sewer and water lines to the area?
- Who is bearing the up-front costs of extensions?
- What is the estimated cost to the community of providing sewer and water services?
- Will the development require expansion of the wastewater treatment plant or is it operating below capacity?
- How much capacity is left?
- Will the development require new roads?
- Who is bearing the cost of the new roads?
- Will the new population associated with the development generate a need for new social services, such as libraries, park space?
- What is the current surplus capacity as to these social services?
- Will the new population generate a need for any more public safety or public works vehicles?

STEP 6: DISAGGREGATE BUDGETS INTO CATEGORIES OF REVENUE

The table below illustrates a breakdown of major revenue categories.

EXAMPLE: Revenue Categories

Town of Anywhere: 1999 Revenues

| Source of Revenue | Amount |
|---------------------------|--------------------|
| Property Taxes | \$230,000 |
| Other Taxes | 100,000 |
| Special Assessments | 150,000 |
| State Shared Revenues | 484,000 |
| Other Intergov't Revenues | 150,000 |
| Licenses and Permits | 70,000 |
| Fines and Forfeits | 43,000 |
| Public Charges | 100,000 |
| Intergovernmental Charges | 60,000 |
| Miscellaneous | 507,000 |
| TOTAL | \$1,894,000 |

STEP 7: ALLOCATE REVENUES TO LAND USES AND ESTIMATE PER CAPITA AND PER EMPLOYEE REVENUES

The same procedure that was used to estimate costs is used to estimate revenues (with the exception of property tax revenue and shared revenues, discussed below). Revenues are initially apportioned to residential and non-residential using local knowledge or the same ratio of .47 to represent the residential share. The remainder represents the non-residential share. In the following example, it is assumed that all special assessment revenue is generated by residential uses and is allocated as such.

EXAMPLE: Estimating Residential and Non-residential Revenues

Town of Anywhere: 1999 Revenues vs. Non-residential Revenues

| Source of Revenue | Amount | Residential | Non-Residential |
|---------------------------|--------------------|--------------------|------------------------|
| Property Taxes | \$230,000 | see step 8 | see step 8 |
| Other Taxes | 100,000 | 47,000 | 53,000 |
| Special Assessments | 150,000 | 150,000 | 0 |
| State Shared Revenues | 484,000 | see step 8 | see step 8 |
| Other Intergov't Revenues | 150,000 | 70,500 | 79,500 |
| Licenses and Permits | 70,000 | 32,900 | 37,100 |
| Fines and Forfeits | 43,000 | 21,210 | 22,790 |
| Public Charges | 100,000 | 47,000 | 53,000 |
| Intergovernmental Charges | 60,000 | 28,200 | 31,800 |
| Miscellaneous | 507,000 | 235,000 | 265,000 |
| TOTAL | \$1,894,000 | \$742,200 | \$667,800 |

To derive the per-capita and per-worker estimates, divide residentially-associated revenues by total population to derive a per-capita estimate of revenues. Divide non-residential revenues by local employees for a per employee estimate of nonresidential revenues.

EXAMPLE: Estimating Per Capita and Per Worker Revenues

Town of Anywhere: 1999 Per-Capita and Per-Worker Revenues

| Source of Revenue | Per Capita | Per-Worker |
|--------------------------|-------------------|-------------------|
| Property Taxes | see step 8 | see step 8 |
| Other Taxes | 8.55 | 15.14 |
| Special Assessments | 27.27 | 0 |
| State Shared Revenues | see step 8 | see step 8 |
| Other Intergov't Revenue | 12.82 | 22.71 |
| Licenses/Permits | 5.98 | 10.60 |
| Fines/Forfeits | 3.67 | 6.51 |
| Public Charges | 8.55 | 15.14 |
| Intergov't Charges | 5.13 | 9.09 |
| Miscellaneous | 43.33 | 75.71 |
| TOTAL Revenues | \$115.29 | \$155.97 |

STEP 8: CALCULATE PROPERTY TAXES, SHARED REVENUES AND TOTAL REVENUES ASSOCIATED WITH DEVELOPMENT

A. Property Taxes

To estimate revenues associated with development from the property tax, multiply the expected assessed value of the development by the current local tax rate (expressed as a decimal).

EXAMPLE: Property Tax Revenue

Town of Anywhere: Property Tax Revenue

| | |
|-------------------------------------|-----------------|
| a) Property Value of Development | \$8,000,000 |
| b) Local Tax Rate | .00383 |
| Total Property Taxes (a x b) | \$30,640 |

B. Other Revenues

Calculate the residentially-induced costs associated with development by multiplying the per capita estimate of revenue by the population increase. Calculate the nonresidential costs associated with development by multiplying the per employee estimate of revenue by the employment increase associated with the development.

C. Shared Revenues

There are three major parts of shared revenues: a per capita payment, a special utility payment and an aidable revenues payment. Of these, the aidable revenues payment is the largest. In addition, the minimum/maximum adjustment, if applicable, either caps year-to-year growth or limits an annual loss.

Per Capita Each town, city and village receives a payment based on its population.

Special Utility A payment based on the value of a company's production plant and general structures, because light, heat and power companies are exempt from local property taxes.

Aidable Revenues The payment is based on two factors—the comparative wealth of the community as measured by the per capita value of taxable property and the extent of its local financial effort.

Value: Under the first part of the formula, the state establishes a standardized value (SV) of taxable property per capita. The amount is determined annually by the Department of Revenue. If the local value per person is less than the state-established amount, the state makes up the difference. A municipality with a per capita value higher than the standardized one receives no payment under this part of the formula.

Local Purpose Revenue: These consist of the 3-year average of several receipts, including the local property tax levy, special assessments, licenses and permits and the aidable revenue payments.

Payment: The payment is based on the above 2 factors. As examples of the formula, if a municipality's equalized value per person were 50% of the standardized value, the aidable revenues entitlement would be 50% of its local purpose revenues; if the local value were 75% of the standardized value, then the payment would be 25% of local purpose revenues.

Minimum/Maximum The minimum guarantee payment provides that a municipality will receive a shared revenue payment equal to at least 95% of the prior years payment. State law also provides a ceiling on the annual growth in shared revenues. To fund the minimum adjustment, the maximum varies each year.

Payment The total payment consists of the sum of the per capita, utility and aidable revenues payment and any min/max adjustments.

| EXAMPLE: Estimating Shared Revenues | | |
|--|-----------------------|-----------------------------------|
| | Actual Payment | Payment w/ Development |
| Current Population | 5,500 | 5,748 |
| Per Capita Payment Amount | 27 | 27 |
| Prior Year Population | 5,500 | 5,500 |
| Aidable Revenues Entitlement | 500,000 | 594,275 |
| Standard Valuation | 48,796 | 48,796 |
| Mfg. Adjusted Value (MAV) | 60,000,000 | 68,000,000 |
| Municipal Standard Value (MSV) | 268,376,712 | 268,376,712 |
| MAV/MSV | 0.223566 | 0.253375 |
| 1- MAV/MSV | 0.77643 | 0.74662 |
| Aidable Revenue Payment | 388,217 | 443,700 |
| Per Capita Payment Amount | 149,225 | 155,954 |
| Utility Payment | 0 | 0 |
| Payment before Min-Max Adjustment | 537,442 | 599,654 |
| Initial for Min-Max | 537,442 | 599,654 |
| Base for Min-Max | 470,223 | 470,223 |
| Ceiling | 483,796 | 483,796 |
| Floor | 446,712 | 446,712 |
| Excess | -53,646 | -115,858 |
| Deficiency | 0 | 0 |
| Min-Max Adjustment | -53,646 | -115,858 |
| Shared Revenue Payment | 483,796 | 483,796 |

The above example illustrates the steps to estimating shared revenues associated with the development. The actual payment for the current year is compared to an estimate of the payment with the development in place. To derive the estimate, the formula is run using the new population and property value associated with the development. The two payment amounts are compared and the difference represents the shared revenue amount associated with the development. In this example, there is no change in the shared revenue payment due to the development. The community is already at its maximum payment level, due to the maximum adjustment factor, and the development does not change this situation.

D. Total Revenues

The table below illustrates total revenues associated with the example development.

EXAMPLE: Estimating Total Revenues

Town of Anywhere: Total Revenues Associated with Development

| | |
|---------------------------------|--------------------|
| Property Tax Revenue | \$30,640.00 |
| Shared Revenue | 0.00 |
| Residential Revenues | |
| a. Per-Capita revenues | \$115.29 |
| b. Population of Development | 248 |
| Total (a x b) | \$28,592.15 |
| Non-Residential Revenues | |
| c. Per-Employee Revenues | \$155.97 |
| d. Workers in Development | 70 |
| Total (c x d) | \$10,918.00 |
| TOTAL | \$70,150.15 |

STEP 9: COMPARE ESTIMATED COSTS TO ESTIMATED REVENUES TO DETERMINE THE NET FISCAL IMPACT OF DEVELOPMENT

EXAMPLE: Estimating Fiscal Impacts of Development

Town of Anywhere:

| Fiscal Impacts of Development | with debt | without debt |
|--------------------------------------|----------------------|---------------------|
| Total Costs of Development | \$164,424.72 | \$58,710.72 |
| Total Revenues Generated | \$70,150.15 | \$70,150.15 |
| Net Fiscal Impact | \$(94,274.57) | \$11,439.43 |

SPECIAL CONSIDERATIONS

Although this model results in an estimate of net fiscal impact on your balance sheet, the more important goal of the model is to raise awareness as to the many questions surrounding how development impacts your community’s fiscal structure. The final estimate is a rough measure of how this particular development may affect your revenues, expenditures and tax base. This process should also prompt you to think about broad issues relating to fiscal impacts—issues of excess and deficient capacity and whether residents are truly “new” or simply relocating from within the community. These are the important questions to address, as they may change the outcome of the final estimate of impact.

The major limitation of examining a single development is that the cumulative impacts of development are lost. The incremental impact of each development when added together may be significant to your community. This development and all future developments should be examined in the context of all other development in your community. One approach to thinking about cumulative effects is in terms of threshold conditions, beyond which change would be unacceptable to your community. Thresholds are more commonly used in terms of environmental impacts; however, they can also be identified for a community's fiscal structure. You may decide that any tax increase beyond a certain percent per year is unacceptable or that the existing capacity in your water system must last for ten more years. Such threshold values are identified through a community decision-making process. The complexity of cumulative effects requires a more rigorous analysis than can be illustrated in a workbook format and often complex quantitative analysis is difficult to understand, but nonetheless, the cumulative effects of development cannot be ignored.

STRENGTHS OF FISCAL IMPACT ANALYSIS

- Fiscal impact analysis can bring a realistic sense of the costs of growth into the public discussion. Communities are able to benefit from the “objective screen” that the analysis provided, which can lead to a better understanding—both for the public and for elected officials—of the relationships among the various factors contributing to growth and development.
- By evaluating different land use scenarios a community can gain an understanding of the likely demands for services and capital facility impacts.
- A fiscal impact analysis allows for an integration of land use and budget considerations.
- Fiscal impact analysis can help guide land use policy decisions
- A by-product of the work required to develop and implement fiscal impact analysis is that information collection and development tracking processes can be greatly improved.

WEAKNESSES

- The most frequently mentioned criticism of fiscal analyses is the “inherent limitations” associated with any methodology or approach. In other words, “outputs are only as good as the inputs” and their specific relevance and application to the subject community and analysis.
- There is a lack of consistent standards for fiscal impact analyses. Only a few states or localities explicitly require fiscal impact analysis as part of their formal zoning, permitting or planning process. As a result, there are few formal procedures or requirements for the preparation of fiscal impact analyses.
- Fiscal impact analysis has been criticized for its narrow jurisdictional focus and potential for misleading results, since an analysis usually considers the public costs and revenues to a

particular jurisdiction. Opponents argue that the true impact is not measured, since extra-jurisdictional impacts are typically not considered.

- Closely related to the criticism regarding extra-jurisdictional impacts is that throughout most of the country, local government services are provided by one entity. When only one of several overlapping governmental entities is addressed, a fiscal impact analysis may not yield a complete picture of the fiscal impacts.

RESOURCES

Bise, Carson. "Smart Growth and Fiscal Realities," *ICMA Growing Smart!*

Bise, Carson. "The Cost/Contribution of Residential Development," *Mid-Atlantic Builder*, January-February 2001.

Burchell, Robert W., David Listoken et al. 1994. *Development Impact Assessment Handbook*, Washington, D.C.: ULI-The Urban Land Institute.

Edwards, Mary M. "*Community Guide to Development Impact Analysis*," Wisconsin Land Use Research Program. Program on Agricultural Technology Studies. University of Wisconsin-Madison, March 2000.

Holzheimer, Terry. "Fiscal Impact Analysis in Comprehensive Planning," *Planner's Casebook*, Spring 1998.

Natural Resources Defense Council. 2000. *Development and Dollars: An Introduction to Fiscal Impact Analysis*.

Tischler, Paul. "Fiscal Impact Analysis, Reader Beware: Some Caveats," *The Growth Management Reporter*, 1994.

Tischler, Paul. "Analyzing the Fiscal Impact of Development," *ICMA MIS Report*, 1988.

CASE STUDY 1 - UNIVERSITY OF GEORGIA COST OF COMMUNITY SERVICE (COCS) STUDIES

The University of Georgia (UGA) and the American Farmland Trust cooperated to develop several Cost of Community Service (COCS) studies in Georgia. The methodology is very similar to other national fiscal impact studies. Professor Jeff Dorfman of the Department of Agricultural & Applied Economics at the University of Georgia led the work and authored a report in January 2002. Telephone: 706.542.0754 email: jdorfman@agecon.uga.edu

The report contains data for six counties in Georgia and details the economic costs and benefits of three major land uses from the perspective of the county government and its financial health. The three land uses are residential, commercial or industrial, and farm and forestland.

COCS studies involve a reorganization of a local government's (usually a county's) records in order to assign the revenues and costs of public services to different classes of land use or development such as; residential, commercial, industrial, farm, forest and open lands. For example, the costs of a parks and recreation program would be classified as all benefiting residential development; the costs of roads would be allocated across all types of development; local expenditures on the farm services agency would be assumed to be benefiting farm and forestland. The resulting totals for revenues generated and expenditures incurred can be presented as a ratio of expenditures-to-revenues for different land use types. The study generally followed the methods outlined in *Is Farmland Protection A Community Investment? How to Do a Cost of Community Service Study* (American Farmland Trust).

COCS studies look at average revenues and expenditures, not changes at the margin, and are thus not capable of precisely predicting the impact of future decisions. Still, they provide the benefit of hindsight, a budgetary baseline from which to make decisions about the future. They can also allow for informed decision-making on such policy topics as tax abatements for farm or forestland (or even for commercial/industrial development). Further, educated guesses can often be made from these averages as to the likely marginal cost of development and the impact on a local government's financial situation of changes in land use within its jurisdiction.

Review of COCS Studies from Around the Nation

Over 70 COCS studies have been completed around the country for cities and rural communities. The maximum, median, and minimum ratios of local government expenditures to revenues collected from these studies are shown in Table 1 below. The numbers clearly show the fallacy of depending on residential development as the road to a sound growth policy. In not a single instance did residential development generate sufficient revenue to cover its associated expenditures. Bedroom communities are not economically sustainable at tax rates that are likely to be levied. In fact, when a rural community with a large base of farm and forestland begins to convert that land into residential development, either as a planned growth strategy or due to market forces and a lack of growth control measures, the local government is virtually guaranteed to head down a path of deteriorating financial stability and increasing local property tax rates.

Table 1. COCS Study Expenditure-to-Revenue Ratios (in dollars) from Around the Nation

| County | Residential | Commercial /Industrial | Farm /Forest/Open Space |
|---------|-------------|------------------------|-------------------------|
| Minimum | 1 : 0.47 | 1 : 1.03 | 1 : 1.06 |
| Median | 1 : 0.87 | 1 : 3.45 | 1 : 2.70 |
| Maximum | 1 : 0.98 | 1 : 20.00 | 1 : 50.00 |

Footnote: these figures are derived from 70 COCS studies that are compiled on the website of the American Farmland Trust (<http://www.farmlandinfo.org/fic/tas/tafs-cocs.html>).

Four New and Two Older Studies in Georgia

UGA conducted four COCS studies in Georgia counties that were chosen to reflect a variety of the growth conditions present among Georgia's 159 counties. The counties studied were Appling, Cherokee, Dooly, and Jones. Appling County represents a very rural county with significant large-scale private land holdings and considerable timber production. There is also a nuclear power plant in Appling County that makes up 65% of the total tax base. Cherokee County is a rural/suburban county facing rapid growth, is located on the northern edges of the Atlanta metropolitan region, and has mostly small private landowners. Dooly County is a rural county with small-scale land holdings, but is also a top agricultural producing county and has a major interstate (I-75) running north-south through the county. Jones County is a rural/suburban county on the east side of Macon with forestry but not much agriculture on its undeveloped lands. It is facing residential growth pressures similar to Cherokee's, but on a somewhat smaller scale.

Some results are also included from an earlier study of two other Georgia counties: Habersham and Oconee Counties, both of which are transitional from rural to suburban with some limited associated commercial and industrial development (Nelson and Dorfman). The final revenue to expenditure ratios are recorded in this study, however, the complete report for these two counties can be found on the University of Georgia's Center for Agribusiness and Economic Development's web site at www.ageecon.uga.edu/~caed/. These are the only COCS studies performed in the main part of the Southeastern U.S. (Virginia and Texas are the closest places to Georgia in which COCS studies had been done).

Revenues and expenditures for each county were allocated to land use categories based on the review of available records and interviews with local officials and service providers (farmhouses were included in the residential category). The percentage of property tax revenue raised by each land use type was used in allocating revenues and expenditures in the few categories for which local officials and/or common sense could not offer more precise breakdowns (all sources of revenue are included in this analysis, not just property taxes). Expenditure percentages were primarily obtained through interviews. The revenues and expenditures were totaled for each land use category and expenditure-to-revenue ratios were calculated.

The final results are displayed and tabulated in Figures 2 and 3 below to show results with and without school revenues and expenditures (Oconee and Habersham ratios are only presented in Figures 3 and 5, as school figures were not included in that study). The figures are presented as dollars of expenditure per dollar of revenue, so that numbers greater than one signify land uses

generating less in revenue than they are incurring in service expenditures. For example, Appling County spends \$2.26 for every \$1 it receives in revenue, creating a shortfall of \$1.26 in the residential category.

Figure 2. Expenditures per \$1 in Revenue by Land Use (including schools)

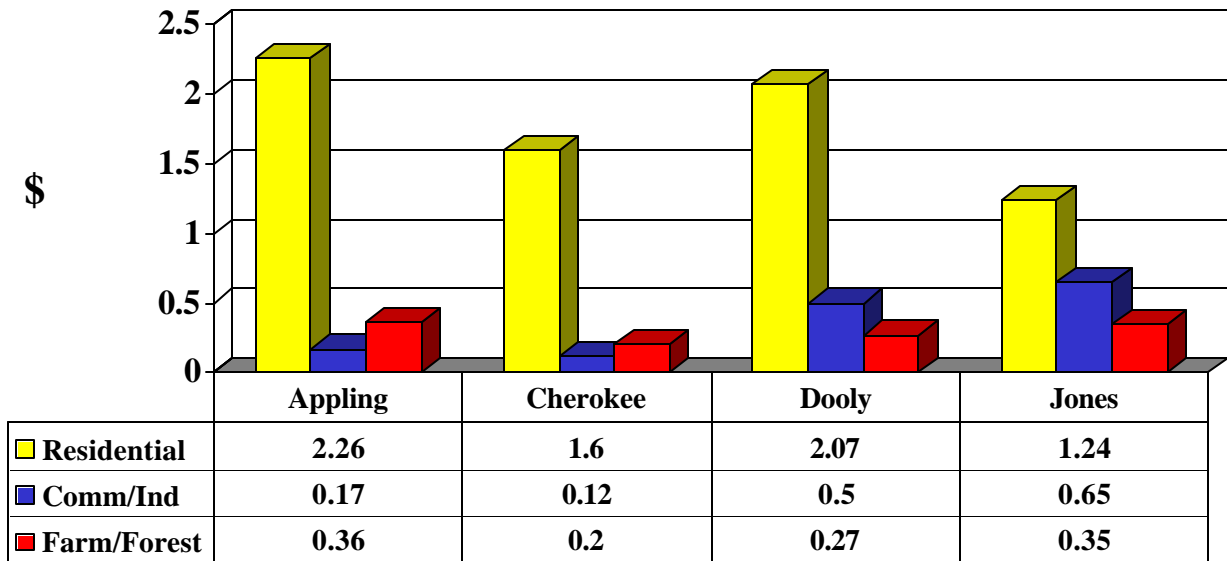
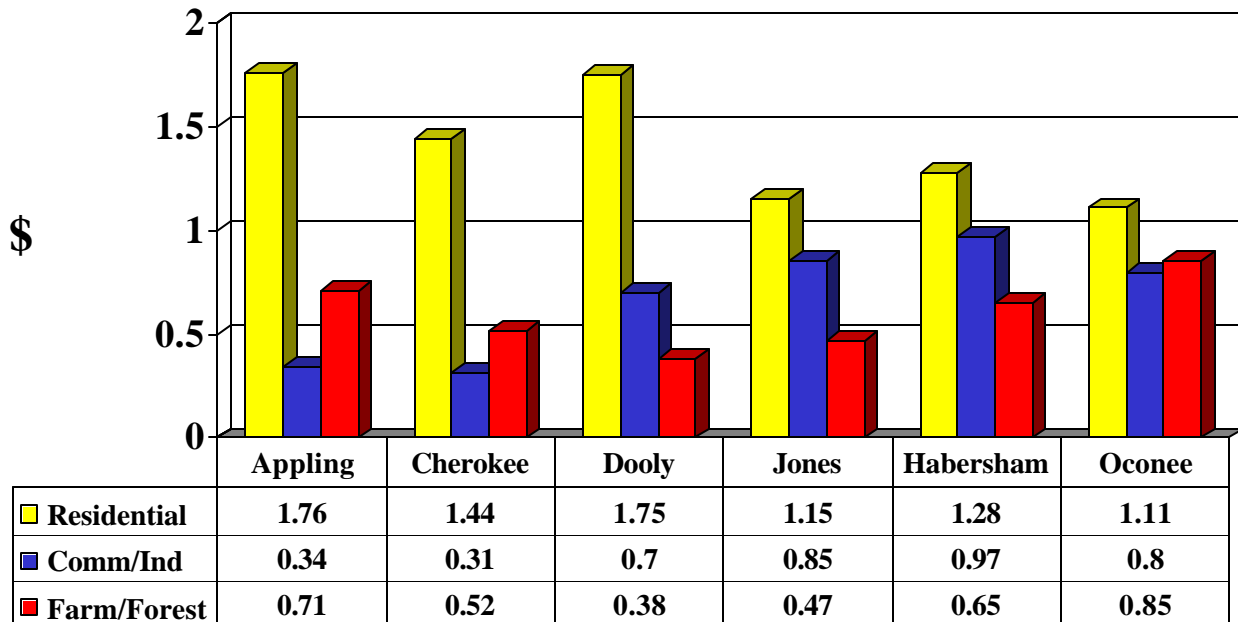


Figure 3. Expenditures per \$1 in Revenue by Land Use (excluding schools)



Implications for Local Governments and for Farm and Forest Land Preservation Efforts

The main implication of COCS studies is that a local government that approves the conversion of farm or forestland to residential development is likely to face a worsening in its financial condition. While the lure of an increased property tax base is often attractive to a local government when it is considering a request to approve a new subdivision, they must realize that their expenditures will likely rise more than their revenues, resulting in a budget shortfall unless millage rates are increased. The imbalances discussed here are only exaggerated if schools are included; schools are very expensive and only very high-priced houses can come close to generating enough school-collected revenue to support even one child per household.

Further, COCS studies confirm that programs which reduce property tax burdens on farm and forest land as a mechanism to encourage farm and forest land preservation are equitable and serve only to bring the tax burden more in line with the cost of servicing that property. The findings of COCS studies should be carefully evaluated in light of the changing character of these rural counties. COCS studies should not be used to promote one land use type over another without a careful and full understanding of their limitations. They use average revenues and expenditures and may not reflect the costs and revenue of a particular development project. They do, however, challenge the idea that rural counties must choose development to ensure economic stability. Farm and forestland may not generate an impressive looking tax base, but neither do they create a large demand for government services. In particular, rural communities must ensure that their development is balanced with enough commercial and industrial development to “support” residential development that does not generate enough local government revenues to cover the expenditures it requires.

REFERENCES

- American Farmland Trust, 1992. *Does Farmland Protection Pay? The Cost of Community Services in Three Massachusetts Towns*. The Massachusetts Department of Food and Agriculture.
- American Farmland Trust, 1993. *Is Farmland Protection A Community Investment? How to Do a Cost of Community Services Study*. (Washington, DC: American Farmland Trust).
- Nelson, Nanette, and Jeffrey H. Dorfman. *Cost of Community Service Studies for Habersham and Oconee Counties, Georgia*. The University of Georgia, Center for Agribusiness and Economic Development, Center Report CR-00-5. February 11, 2000.

CASE STUDY II– GERMANTOWN, TENNESSEE

A. BACKGROUND

The City of Germantown contracted with Tischler & Associates, Inc. (TA) to evaluate the fiscal impact of *annexing* two different subareas adjacent to the current municipal limits. In addition, the consultant evaluated the fiscal impact of various land use scenarios within the *current* municipal limits on the City’s operating and capital budgets.

As a first step, the consultant prepared the "Level of Service, Cost and Revenue Assumptions" (LOS) document (April 19, 1999), which discusses City services and facilities anticipated to be impacted by new development *and* annexation. Since the methodology focused on the case study-marginal cost approach, some operating expenses were variable, semi-variable or fixed and the capital costs were affected by the facility capacity and staging of development. Also, it was assumed all current City levels of service remained the same during the 21-year period between 2000 and 2020. Calculations were performed using TA's FISCALS software designed exclusively for this assignment.

B. SCENARIOS

1. Existing City Scenarios

The four growth scenarios evaluated within the existing City included a *Trends* scenario, based on the existing land use plan, a *Higher Density* scenario that assumed a higher mix of townhouse and senior living units, and two *Nonresidential* scenarios that assumed the City is more successful at capturing office development and to a lesser extent, retail development. The two nonresidential scenarios differed from one another in the amount of "Class A" versus "Class B" office development that is captured.

2. Annexation Subarea B

Subarea B was primarily residential in nature. An analysis of developable land area by the City of Germantown estimated that the remaining developable land in Subarea B had the potential to yield 349 additional single family units. Under the Current Trends scenario for Subarea B it was assumed these units were absorbed from 2000 to 2010. This increase in housing units would result in an estimated population of 1,130 additional persons. The Faster Absorption scenario for Subarea B assumed the additional 349 single family units were absorbed from 2000 to 2005. It was assumed that 311,000 square feet of retail space was developed between 2000 and 2005.

3. Annexation Subarea D

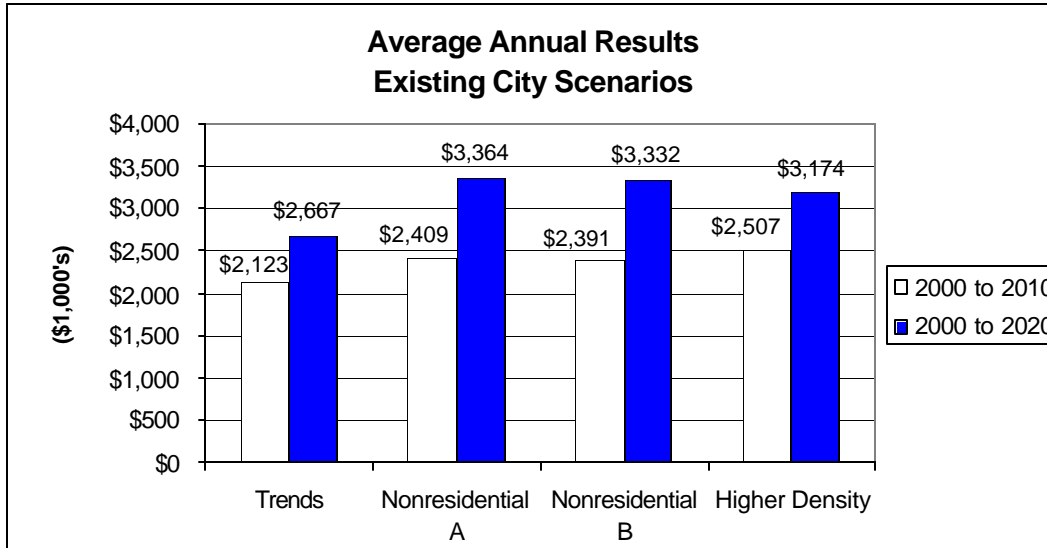
Subarea D consisted of five large parcels. It was estimated this subarea could accommodate 5.8 million square feet of office space and 2.7 million square feet of retail activity. Because it was optimistic to assume that all 5.8 million square feet of office space could be absorbed by 2020, three other office absorption scenarios were developed for Subarea D, assuming the absorption of 75%, 50% and 25% of the by-right office space.

C. FISCAL IMPACT RESULTS

The fiscal impacts are discussed in terms of average annual net results. The results are shown for two time periods: 1) 2000 to 2010, and 2) 2000 to 2020.

1. Existing City Scenarios

The chart below summarizes the average annual net fiscal results (revenues minus operating expenditures) to the General Fund for the existing City scenarios. All results were those accruing from new growth only, and did not include costs and revenues from the existing population and employment base of the City.



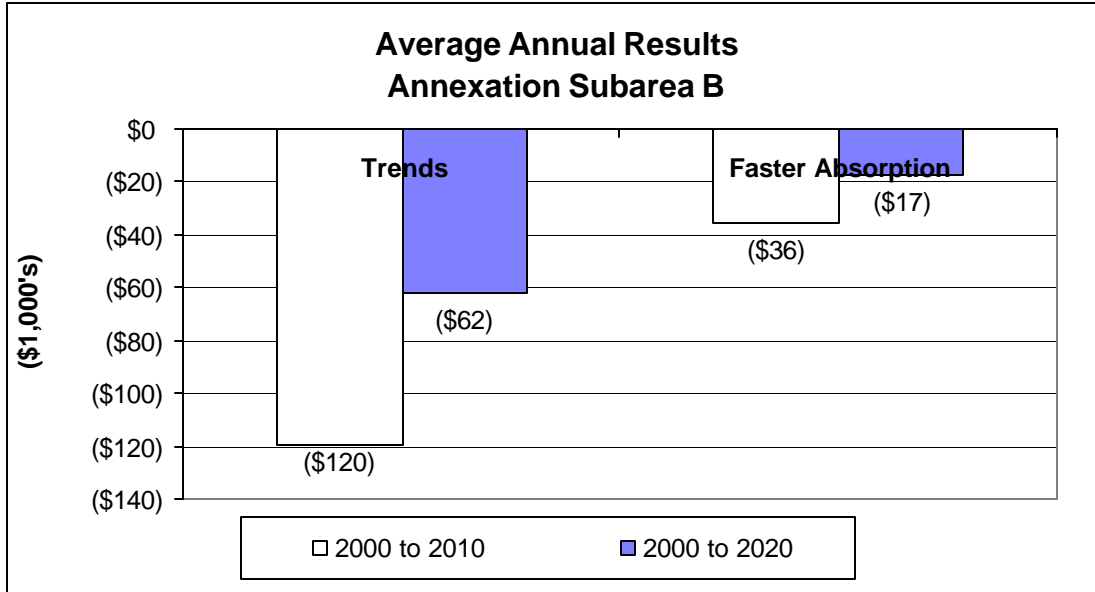
The four scenarios within the City generated average annual net fiscal results in both the short and long-term. Because of the increased economic development component (additional nonresidential space), the two Nonresidential scenarios were most favorable, followed by High Density and Trends. Major reasons for the results are summarized below.

- Because the Higher Density scenario assumed more housing units and population than the other three scenarios, this scenario generated the best result over the short-term (2000 to 2010). The primary reason is because Property Taxes and State Shared Revenues (distributed to municipalities based on population) are higher over the short-term under this scenario. However, after 2010, annual revenues were relatively flat in constant dollars. *(Please note that school district costs are not included in this analysis because schools are funded through the property taxes that City of Germantown residents pay to Shelby County).*
- The average annual net revenues of \$2.5 million generated by the Higher Density scenario from 2000 to 2010 were approximately 9% of the FY99 General Fund budget. The average annual net revenues of \$3.36 million generated by the Nonresidential "A" scenario from 2000 to 2020 was approximately 13% of the FY99 General Fund budget.
- The primary reason the Nonresidential "A" scenario produced slightly better results than the Nonresidential "B" scenario, average annual net revenues of \$3.36 million versus \$3.33 million over 21 years, was because of the lower public safety (Police and Fire) costs that resulted from Class "A" office space generating *less* employees per 1,000 square feet than Class "B" office space.
- Over the 21-year analysis period, the Higher Density scenario produced better results than the Trends scenario for several reasons. One, higher densities resulted in more housing units, which equated to more property tax generated than under Trends. Two, although household sizes were smaller for higher density units, the increase in units over the Trends scenario was enough to yield a higher population, which generated more State Revenue Sharing, which is distributed based on population. Finally, higher density units generated lower costs on a per

unit basis for services such as law enforcement and road maintenance than lower density, single family-detached units.

2. Annexation Subarea B

The chart below summarizes the average annual net fiscal results (revenues minus operating expenditures) to the General Fund for annexation Subarea B.

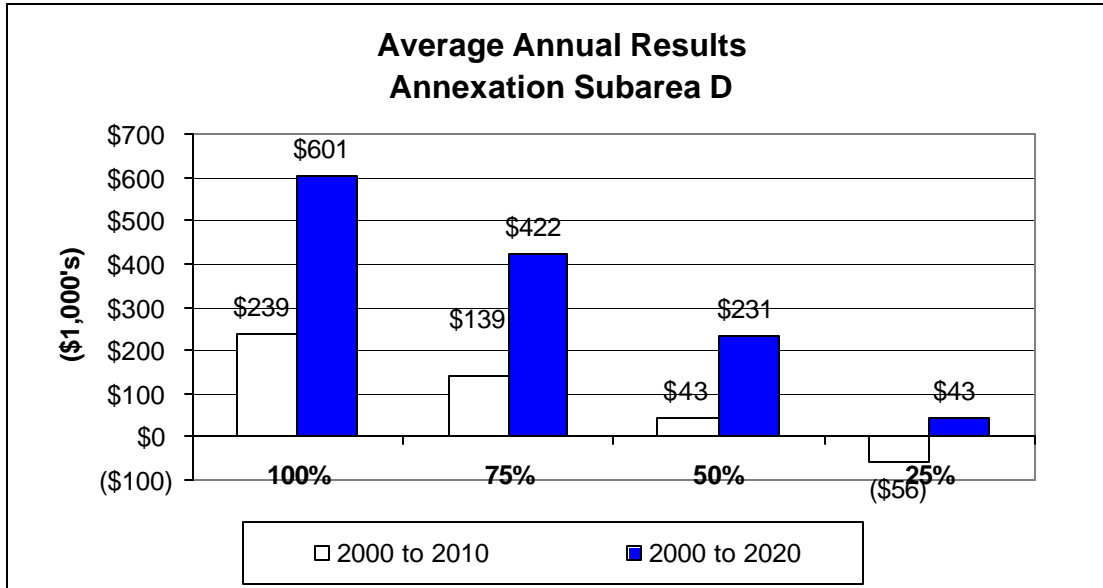


Both scenarios generated average annual net *deficits* in Subarea B, with the Faster Absorption scenario producing the lowest deficits. Major reasons for the results are summarized below.

- The annual average net deficits generated in the short-term are due to the annexation startup costs for Police and the debt service payments for the one-time road upgrades necessitated by annexation.
- Since revenues accrued to a point where they covered operating costs within the first five years, the average annual deficits generated over the long-term were a direct result of debt service payments for the necessary road upgrades and for park development.
- A contributing factor in the results for annexation Subarea B was the reduced Local Sales Tax revenue resulting from the tentative revenue sharing agreement with the City of Memphis. Local Sales Tax was 50% of what it would be without such an agreement. Without this revenue sharing agreement, average annual revenues would be generated under both scenarios over the 21-year analysis period.

3. Annexation Subarea D

The chart below summarizes the average annual net fiscal results (revenues minus operating expenditures) to the General Fund for annexation Subarea D.



As the chart above indicates, the more development, the better the fiscal results. This was due to the cumulative effect of revenue generated by new growth, relatively low operating costs, and no major capital facilities were required. The short-term average annual deficits generated in the 25% Absorption scenario were because revenues generated during the initial period were not enough to cover the annexation start-up costs for Police.

C. CONCLUSION

Based on the analysis, it was apparent that the City was in a good position to accommodate new growth within the *existing* City limits. This was a result of several factors: 1) there were no major capital expenditures other than parks required to serve new development; 2) the higher market values of new development; and 3) a revenue structure that benefited from higher market values (Property Tax) and population (State Revenue Sharing).

The analysis showed that although the City was able to sustain the current development pattern for the next twenty years, the City clearly benefited from attracting additional economic development (i.e. nonresidential square footage) and encouraging higher density housing.

If the City were to annex Subarea B, it would require a subsidy from revenues generated by new growth within the City or the *existing* City development base unless new revenue sources were found, existing rates increased, or different zoning put in place. This was also true to a certain extent in the short-term for annexation Subarea D, although this Subarea did generate average annual net revenues over the long-term under all four scenarios.

It is important to acknowledge that fiscal issues are only one concern. Environmental, land use, housing affordability, jobs/housing balance, and traffic issues must also be taken into consideration when making any final decisions on what is best for the City of Germantown. Since the analysis showed that new growth within the City pays for itself, the City has ability to subsidize annexation in order to exercise its control over future land uses around the City. In

addition, because of the amount of vacant land in each of the areas, particularly Subarea D, the City had the opportunity to tailor a zoning plan that could produce dramatically different results. For example, because of situs-based sales tax in the State of Tennessee, a major retail use could produce positive fiscal results in annexation Subarea D.

CASE STUDY III – SUN PRAIRIE, WISCONSIN

A. BACKGROUND

The City of Sun Prairie, Wisconsin contracted to conduct a fiscal impact analysis of three *growth scenarios* between 2001 and 2020. In addition, fiscal impacts by *land use prototype* were also analyzed as part of the study. The prototype fiscal analysis evaluates the independent fiscal impacts of different residential and nonresidential land uses, whereas the growth scenario analysis evaluates and compares the overall fiscal impacts of all land uses combined for the three scenarios to the year 2020.

Similar to the Germantown, Tennessee analysis, TA prepared the "Level of Service, Cost and Revenue Assumptions" (LOS) document, which discussed City services and facilities anticipated to be impacted by new development. A case study-marginal cost approach was utilized, meaning certain operating expenses were semi-variable or fixed and the capital costs were a function of facility capacity and the staging of development. It was assumed City levels of service would remain the same during the forecast period.

B. DEVELOPMENT SCENARIOS

There were an estimated 21,400 residents living in 8,814 housing units in Sun Prairie at the time of this analysis. There were also an estimated 9,119 employees working in the City. The table below summarizes the existing development base as well as the scenario projections by land use type to 2020. In general, the Trends scenario was a projection of future growth based on historical data and current land use demand and population growth. The High Employment assumed the City attracted a greater employment base, particularly in the office and industrial/flex sectors, than in the past. The Residential Mix scenario assumed that by the year 2020 the breakdown of total residential dwelling units would be 62% single family, 8% duplex and 30% multifamily compared to the residential mix (assumed under Trends) of 57% single family, 8% duplex and 35% multifamily at the time of the analysis.

2001 to 2020 Residential and Nonresidential Growth by Scenario
City of Sun Prairie Fiscal Analysis

| Land Use | 2001 Level | 2001 to 2020 New Growth | | | | | |
|--------------------------------------|------------------|-------------------------|----------------|-------------------|----------------|------------------|----------------|
| | | Trends | Avg. Annual | High Employment | Avg. Annual | Residential Mix | Avg. Annual |
| Residential | | | | | | | |
| Single Family-Detached | 5,039 | 2,692 | 142 | 2,141 | 113 | 3,933 | 207 |
| Duplex | 729 | 540 | 28 | 525 | 28 | 369 | 19 |
| Multifamily | 3,046 | 2,394 | 126 | 2,326 | 122 | 1,324 | 70 |
| Total Units | 8,814 | 5,626 | 296 | 4,992 | 263 | 5,626 | 296 |
| Total Population | 21,401 | 14,462 | 761 | 12,600 | 663 | 15,665 | 824 |
| Nonresidential Square Footage | | | | | | | |
| Retail | 2,254,230 | 2,744,280 | 144,436 | 544,500 | 28,658 | 2,744,280 | 144,436 |
| Office | 750,000 | 1,317,254 | 69,329 | 4,903,114 | 258,059 | 1,317,254 | 69,329 |
| Industrial/Flex | 6,481,728 | 4,051,080 | 213,215 | 6,795,360 | 357,651 | 4,051,080 | 213,215 |
| Total Square Footage | 9,485,958 | 8,112,614 | 426,980 | 12,242,974 | 644,367 | 8,112,614 | 426,980 |
| Total Jobs | 9,119 | 10,435 | 549 | 21,750 | 1,145 | 10,435 | 549 |

Under the Trends scenario, the total City population increased by 14,462 persons, or 68 percent during the analysis period. New housing units increased by 5,626, or 64 percent during the analysis period. Nonresidential building area increased by 8.1 million square feet, or approximately 427,000 square feet annually. Total employment increased by 10,435.

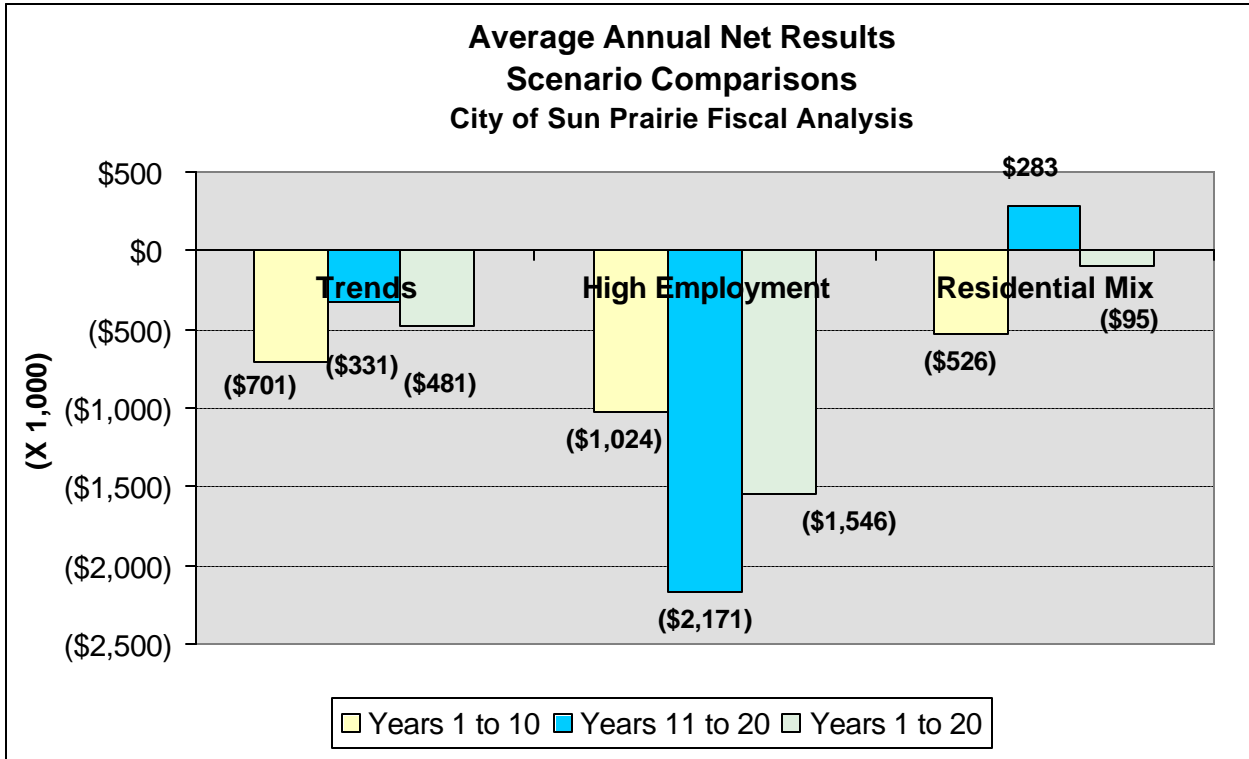
Under the High Employment scenario, the total City population increased by 12,600 persons, or 59 percent during the analysis period. New housing units increased by 4,992, or 57 percent increase during the analysis period. The population and housing unit increase was less than under Trends because it was assumed over 200 acres of land designated for residential use was redesignated for nonresidential use. As a result of the increased land available for nonresidential uses, nonresidential building area increased by 12.2 million square feet. Total employment increased by 21,750.

For the Residential Mix scenario, the total City population increased by 15,665 persons, or 73 percent during the analysis period. New housing unit growth was the same as under Trends, but with a different mix of housing types. Under Residential Mix, 70% (3,933) of new residential units were single family compared to 48% (2,692) under Trends. Nonresidential building area and employment increases were also the same as under Trends.

C. FISCAL IMPACT RESULTS

1. Average Annual Results

The chart below summarizes the average annual net fiscal results (revenues minus operating and capital expenditures) for the General Fund. The results are shown for three time periods: 1) Years 1-10, 2) Years 11-20, and 3) Years 1-20. All results were those accruing from new growth only, and did not include costs and revenues from the existing population and employment base of the City.



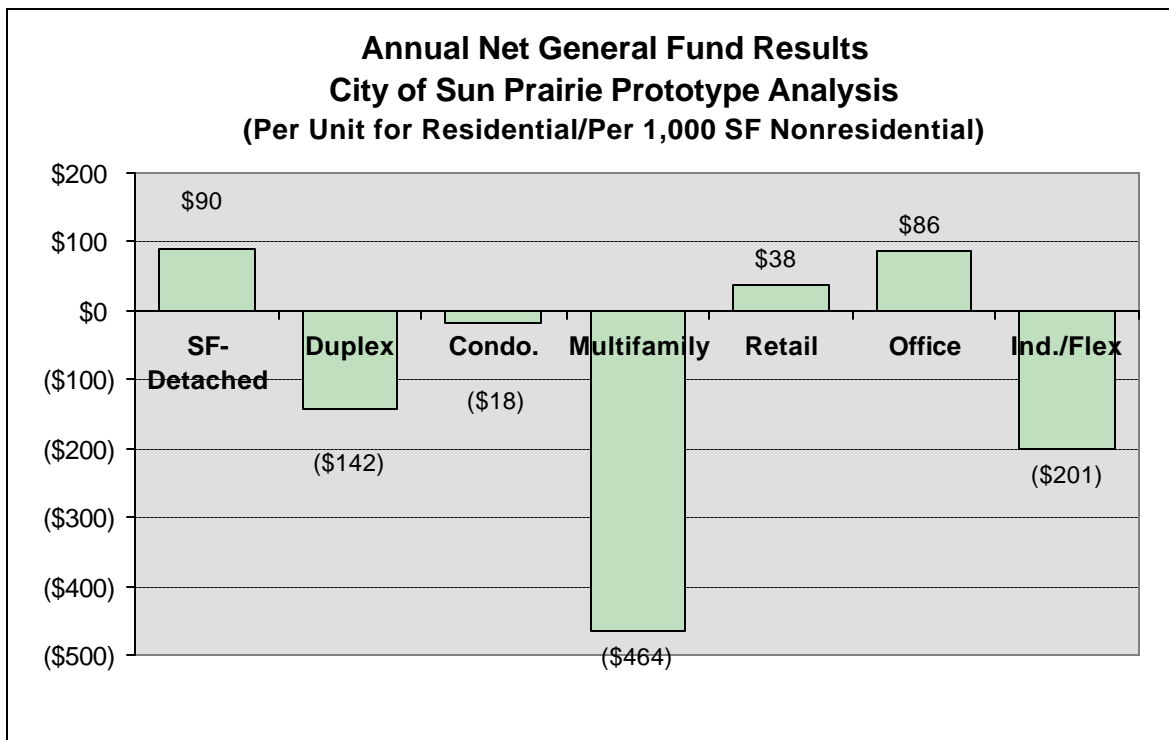
As the table above indicates, new growth generated long-term average annual net *deficits* to the City. The smallest deficits were generated under the Residential Mix scenario, followed by Trends. The High Employment scenario produced the poorest result. Major reasons for the results are summarized below.

- The Residential Mix scenario assumed a greater percentage of higher value single family-detached housing units than currently existed in the City. The importance of this higher residential assessed value was illustrated in the results between years 11 through 20 under the Trends and Residential Mix scenarios, where average annual net *revenues* were generated under Residential Mix and an average annual net *deficits* exists under Trends.
- The poorest result was generated by the High Employment scenario, although lower amounts of residential development and greater amounts of nonresidential development, particularly in the office and industrial/flex sectors, was assumed. An important reason was that costs were higher for this scenario due to the amount road improvements required.
- Average annual net results were substantially worse in years 11-20 under the High Employment scenario, relative to the other scenarios. This was the result of two factors: 1) the opening of the fire station in the Highway 17/Thompson Road area, which was three years later than under the other scenarios, and 2) the compounded impact of the loss of industrial/flex property tax to TIF districts.

2. Land Use Prototype Results

The chart below compares the annual net fiscal results (revenue minus expenditures) for each residential and nonresidential land use prototype under the Trends scenario. The annual net results for the land use prototypes were reflected by applying the associated costs and revenues contained in the separate Level of Service document to each prototype.

As the chart below indicates, the single family-detached prototype generates annual net *revenue* of \$90 on a per unit basis, while the remaining three residential prototypes generate annual net *deficits*. The net results for the residential prototypes reflect, to a large extent, the importance of assessed value, as property tax is the primary growth-related revenue accruing to the City. The assessed value of the residential prototypes is as follows: \$183,591 for single family-detached units, \$126,953 for duplex units, \$119,115 for condominium units and \$55,516 for multifamily units.



Two of the three nonresidential prototypes generate positive results, with the office prototype generating the best result, followed by the retail prototype. The industrial/flex prototype generates annual net *deficits* of \$201 per 1,000 square feet. This is because property tax generated by industrial/flex space goes to tax increment finance (TIF) districts for a period of fifteen years. If the property tax allocated to TIF is *included* in the General Fund net results, the industrial/flex prototype generates a *positive* result.

- Because of the importance of property tax to the City’s revenue structure, the assessed value of the single family-detached prototype (\$183,591) is great enough to offset the higher costs generated by this prototype. As a result, this prototype generates net revenue on a per unit basis.

- The annual net deficits generated by the condominium and duplex prototypes would be much greater if it were not for the relatively high assessed values for these units relative to the values found in other communities.
- The multifamily prototype generates the lowest costs. However, the property tax generated from its lower assessed value (\$55,516) is not enough to offset these costs, resulting in the large net deficit.
- Office space generates the greatest net revenue per 1,000 square feet for the nonresidential prototypes, primarily due to lower public safety operating costs and road-related capital costs. The retail prototype also generates net revenues, although higher costs are generated by this prototype. These costs are offset by the amount of property tax generated from its higher assessed value.
- The industrial/flex prototype generates net *deficits* on a per 1,000 square feet basis, although this prototype generates the lowest costs. Industrial/flex space also generates the lowest revenues because the marginal property tax generated by this prototype goes to TIF districts for a period of fifteen years.

D. CONCLUSIONS

The following major conclusions can be drawn from the analysis:

- The average annual net deficits generated under all three scenarios indicated the City's revenue structure was unable to provide current levels of service to new development without finding new revenue sources or raising existing rates. These net deficits were significant, as the average annual net deficit generated over years 1 through 10 under Trends was 7.4 percent of the current operating budget. The deficit under the High Employment and Residential Mix scenarios were 10.8 percent and 5.5 percent, respectively.
- The fiscal findings confirmed suspected problems with the General Fund revenue structure. These problems included a reliance on property tax and to a certain extent, state shared revenue. In the FY2001 budget document, property tax *and* state shared revenue comprised 68% of total revenues. In the fiscal impact analysis, property tax alone comprised anywhere from 87% to 89% of total growth-related General Fund revenues, depending on scenario.
- In terms of nonresidential development, new office space was the best for the City from a fiscal perspective, generating net revenues of \$110 per 1,000 square feet. Office space was also beneficial to the City from an economic perspective, providing residents with high wage jobs. Therefore, it was clearly in the best interests of the City to position itself to attract higher value, Class A office space, which would have generated an even better fiscal result.
- Although the retail prototype also generated net revenues, the City should weigh the benefits between encouraging new retail space and increasing retail sales at *existing* retail space.

New retail space is often accommodated at the expense of decreased sales at existing locations, and can contribute to an affordable housing shortage, due to the lower wage jobs typically associated with this land use.

- The City's Master Plan 2020 recommends maintaining a sustainable balance of industrial, commercial and residential land uses, not only for tax base purposes, but for quality of life and other areas as well. The importance of this concept is illustrated in the prototype land use fiscal results for industrial/flex development. Although this prototype generates negative results for fifteen years due to the amount of property tax that goes to TIF districts, the findings also indicate that it costs substantially less to serve industrial/flex development relative to other nonresidential land uses. This is an important consideration given the use of TIF and the fact that the City also receives economic benefits from the high wage jobs associated with this type of development, which indirectly achieves many of the objectives of encouraging sustainable development.

Wisconsin municipalities are somewhat restricted with respect to the revenue sources available to fund municipal services. This leaves the City with limited options for revenue enhancement. The property tax is the only viable existing revenue source the City may want to consider for a rate increase. There are opportunities for the City to implement additional user charges (public charges for services) and special revenue funds, in addition to pursuing impact fees to fund new growth's fair share of capital costs. To develop fair, practical and effective ways to increase revenues, it is recommended that attention be paid to the following characteristics: equity, economic development, adequacy, ease of administration and legal feasibility.