Growth:
Its Benefits and Costs to the Local Community/County

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CONTENTS

GROWTH:

ITS BENEFITS AND COSTS TO THE LOCAL COMMUNITY

Summary

This workbook outlines a means of estimating revenues to public and private sectors and expenditures needed for the public sector as a result of new residential construction in the community or county. Revenue is estimated for the private community, local government and school districts. Expenditures are estimated for local government and the school district.

Based on the estimates, a net balance can be calculated for the community/county government and for the private sector. It is important to ask who pays for the various public and private services and who benefits. Is this the way people want it in their community? If not, then tax rates and service fees need to be adjusted to redistribute costs and revenues in the community.

With information from this workbook planning and zoning commission members, local government officials and concerned citizens can have a better understanding of the economic and fiscal implications of their decisions concerning growth.

Introduction

Community leaders, elected officials and the members of planning and zoning boards are often required to decide if a proposed development plan should be approved. They must decide if the proposed development will be the highest and best use of the land from the community's

point of view. Sites are often on good agricultural land. The transformation of rural land uses into urban and suburban land uses results in rising demands for community facilities and services while generating new income sources. The per unit cost of providing services to new dwellings will vary according to their density and service type. For example, it costs more to provide single family detached housing units with roads, utilities and school busing than the same number of units arranged in clusters of walk-up apartments or to a single industrial site. Estimation and distribution of costs and revenues from new construction and development are measured directly or indirectly through tax increases and increased community income.

This bulletin provides decision-makers a framework to quickly estimate the revenues from proposed development to a community's private and public sectors, and to estimate the costs to the public sector. While the economic impact of new development on a community is not the only factor in determining whether a proposed development should be encouraged or discouraged, it is an important one. Decision-makers must also assess the capacity limitations of community schools, sewer treatment facilities, water supply facilities, police, sheriff and fire protection, and other public facilities and services. Officials need information which they can use when considering if, and how much the community can afford to spend on extending water and sewer lines, building parks and expanding police or fire protection in conjunction with new development. Application of the techniques in this bulletin

will help community decision-makers estimate the breadth of the impacts that the new development can have on their community.

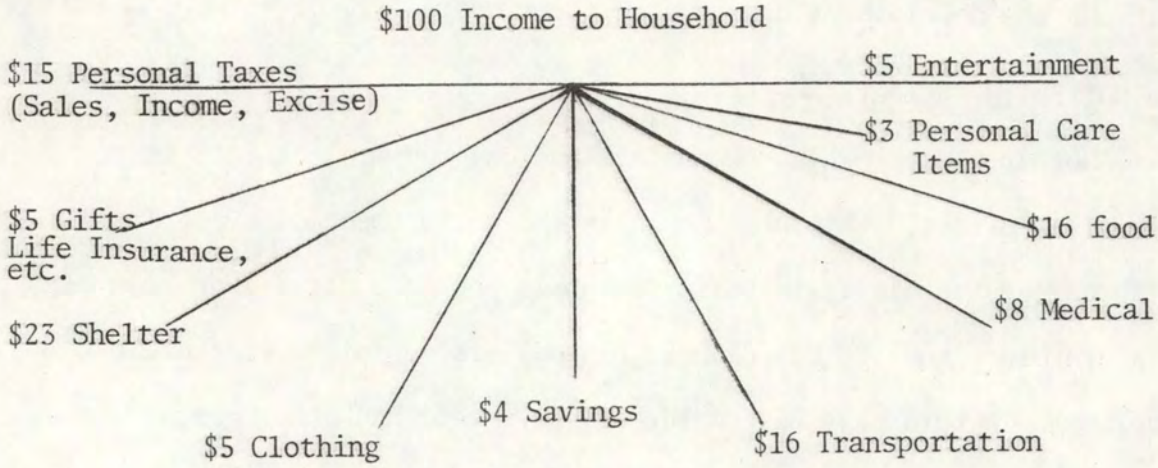
The Multiplier Effect

Another concept which economists and businessmen consider is the multiplier effect. This phenomenon is the measurement of a dollar's re-spending after it is initially spent in the community. For example, if a traveler stops to buy dinner, his dollars go to the restaurant owner, who in turn pays his employees, buys food and other goods, pays rent, and so forth. His help, in turn spends the money for local goods and services, but eventually the money leaks out of the local economy. The multiplier can be divided into primary and secondary parts. The primary part corresponds to the introduction of new money into the local economy (Figure 1), the purchase of the dinner by the traveler in our example. The secondary part corresponds to the subsequent spending of the new money in the local economy (Figure 2), the manner in which the traveler's money is spent by the restaurant owner and his suppliers in our example. This multiplier will be the largest where the local community can provide the majority of goods and services demanded.

Local Consumption

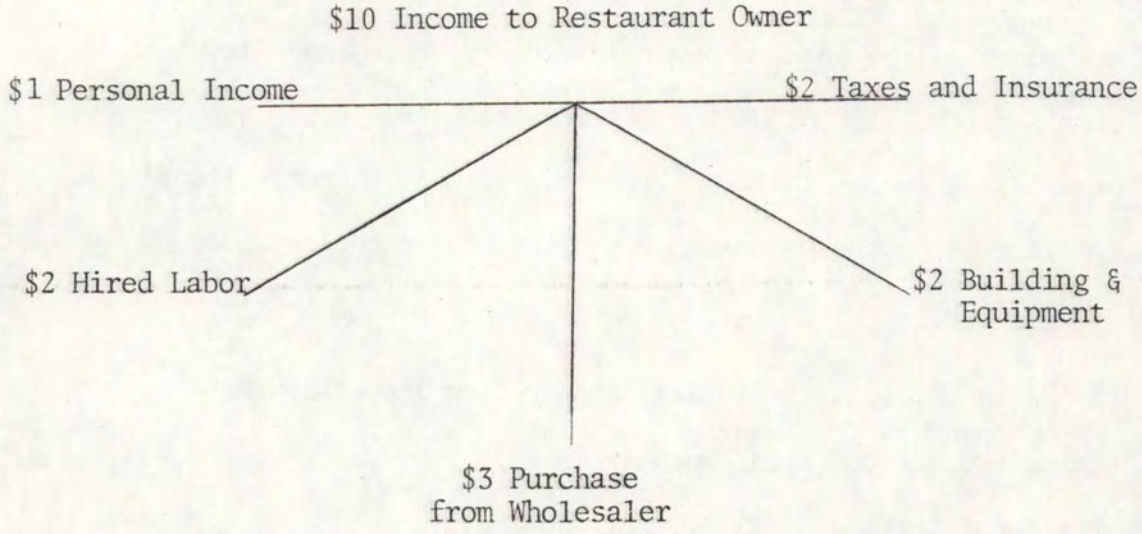
A portion of total individual and/or firm income is spent within the community. Income spent locally is what provides new jobs and supports local services, directly or indirectly. This porportion is called the propensity to consume locally (PLC) or spend income in the

Figure 1. Primary Multiplier Concept



Developed from the Bureau of Labor Statistics and U.S. Department of Commerce data for moderate income ($15,000) in 1977.

Figure 2 Secondary Multiplier Concept



community. It is generally about 50 percent of income.[1] Consumption of local products will depend on the availability of desired goods and services and individual or business tastes and preferences. Normally about 20 percent of total income is lost from the local economy through the payment of federal and state taxes and insurance premiums [Darling, p. 41]. Other income can leak out due to a lack of competitive retail sector and/or through non-community purchasing of production factors for local firms. Thus, leakages occur when a portion of total income is spent outside of the community. The propensity to consume locally (PCL) decreases as a larger percentage of total income is spent outside the community.

Residential Development

In addition to the impact of new payrolls and people, specific community effects can be identified. These effects can be divided into three broad catagories: 1) impacts of the housing development; 2) social-economic impacts of the people who move into the new housing units; and 3) impacts on the community in which the new development is to be built.

Housing

The characteristics of the new housing development is the most

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[1] Based on examination of several studies, the number varies from 40 to 76 percent with the majority of the PCL in the 40 to 60 percent range (Gordan & Mulkey, p. 89).

obvious concern to city officials. The market value of each dwelling unit will affect future property tax revenue. The proximity of the proposed site to existing streets, and the water and sewage lines affects initial construction costs as well as future maintenance and operation costs. It may also affect existing road capacity to carry higher traffic volumes. The cost per living unit, for example, is usually much lower for mobile home subdivision, high rise apartments, and other high density sites than for single family detached dwellings. Another consideration is whether the developer provides improved roads, utilities and other services, or whether this is a city expense.

Population

The characteristics of people moving into the new housing units greatly influences the costs of servicing the new development. If the resident are new to the community and are of child bearing age, their children will add to the school-age population, also their sewer and water needs will add to the demand on utility capacity. However, new residents also will add money to the private sector economy and new revenue to the public sector budget. The number of new school-age children is important, as is the number of new people who will move into the community to live in the new housing units. Spending patterns of new residents affect the private sector through impacts on business volume and services purchased. The public sector is also impacted through services demanded (water, sewer, solid waste, police and fire protection) and revenue sources (gasoline tax, sales tax, property tax

and service fees). Other factors which influence changes include household income, resident's age and sex, vehicles owned, and resident occupations. When planning for growth adjustment, it is important to know if new residents will migrate to the community to work on a short term construction project, if they expect to be long term residents of the community, or if they will commute from another community.

Decision-makers must assess the capacity of the school system, water and sewage systems, fire fighting and police services, park system and other services and facilities to provide for new residents. If excess capacity exists, the new development should look more attractive than if one or more facilities and services require major investment for expansion.

Community

Finally, the characteristics of the community in which the new development is proposed must be considered. A residential or bedroom community will be affected differently than a community with a large commercial, industrial and business base because in the latter, more resources are available to cover costs. A community which acts as the main market and shopping center for a region will retain more of the new residents' spendable income than will a community on the fringe of a big metropolitan area (PCL is higher in the main Market center). If households have a wider choice of services available locally, they will spend a larger portion of income locally.

CALCULATION OF REVENUES AND COSTS

Most, if not all, the data needed to estimate revenues and costs of development in your community are available from local sources. Some additional references are listed in the appendices of this bulletin. The data on local government operations is, by law, open to public inspection in Idaho [3].

The most important sources are:

1. Local banks or other financial institutions
2. Local businesses or industries
3. County courthouse
4. City Clerks office
5. School district office

Local Banks or Financial Institutions

Local financial institutions are often financing part of the industrial development of handling the financing arrangements for residential construction. To do this, they need to know the value of construction, average new employee income and the number of potential new jobs so they will know how much money they should loan. They should also know a time sequence as to when each event, such as construction or operation, will begin and for how long the new activity will continue.

Local Manufacturers or Businesses

Local businesses are usually anxious to have their employees satisfied in order to increase worker productivity and reduce employee turnover. Therefore, they are often willing to provide information on employee numbers, average payrolls and when major changes are likely to occur to permit the community to plan and develop, adjusting to the new population.

County Courthouse

The assessor's office is responsible for valuing property and setting tax rates for each code area in the county. Each code area has a number of special districts which receive revenue from property taxes. The mill rate for each of these entities shows where property tax revenues are presently being allocated.

The county budget shows proposed expenditures for various departments within county government. The financial report shows where revenues were expended. Dividing expenditures for the department or service under consideration by county population will give per capita expenditures for that service. Dividing expenditures by number of households will give per household expenditures.

City Clerk

The City Clerk's office has proposed budgets and expenditure reports for each year. Dividing total expenditure or total revenue by total community population will give the average cost or revenue per

person. Dividing total expenditure or total revenue by number of households will give you the average revenue, or costs per household. Larger cities will have budgets and revenue/expenditures for each service while smaller communities often combine several services on their budget report.

School District Office

Data concerning sources of revenue and expenditures as well as average daily attendance in schools are available from the local school district office and from Financial Summaries - Idaho School Districts , published annually by the Idaho Department of Education.

INCOME TO THE BUSINESS COMMUNITY

Population growth usually means more income to the business community. People can bring income from other areas through retirement payments, savings, social security, and investment returns. New jobs expand payrolls and spending power by increasing income.

Additional income to the business community from new development can be estimated using the following equations (definitions of the terms follows the equations). Remember, these are estimates that can be significantly influenced by consumer purchasing patterns, producer purchasing patterns and other factors such as distance to alternative spending locations.

REVENUE TO PRIVATE SECTOR

A. New family income to community = Estimated average household income x Number of new families or households x .5 (Propensity to consume locally).

B. New income to community = Internalized new family income x Intra-community income multiplier.

Definitions and Data Sources

1. Estimated Average Household Income--major employers in the community may provide average income figures for new employees. Also, mortgage departments of local banks or savings and loan institutions can provide an estimate of income needed to buy or rent differently priced housing. A rule of thumb for purchased homes is that 25 percent of the

households gross income (before taxes) can be used for loan payments, local taxes, and insurance. If you know the value of the new residences, it is possible to estimate the family income.

2. Number of New Families--This can be estimated by contacting employers and/or developers. Employers will know the number of employees they expect to hire and the expected annual salaries. This also helps to estimate the average new household income. Developers can also estimate, from past experience, what income levels will be for similar types of residential developments.

3. Propensity to Consume Locally (PCL)--The proportion of each dollar of personal income spent in the community. Your local Chamber of Commerce may have this information. Generally, smaller communities have a lower PCL than larger communities. The range is generally between .6 and .3. If no number is available, use .5, or conduct a survey of local citizens' purchase locations to determine the correct value. (Contact your local Cooperative Extension office if you need assistance.)

4. Income Multiplier--This is the total amount by which income in the economy will increase when a persons income increases by $1.00. This can be between 1.0 and 2.5 depending on the portion of services and inputs purchased locally. A general

rule of thumb is 1.3 for a propensity to purchase locally of .5 for individuals and businesses. [2]

REVENUE TO LOCAL GOVERNMENT (EXCLUDING SCHOOLS) [3]

Revenue to local government comes from property tax, federal and state revenue sharing schemes, service charges, licenses and fees. Some are controlled by the local government and are influenced by population growth.

Revenue to local government from added development can be estimated by using the following equations (see definitions below).

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[2] Local household income multiplier is calculated as:

$$\text{Multiplier} = \frac{1}{1\text{-PCL}\cdot\text{PSY}}$$

where PCL is the propensity to consume locally and PSY is the total (direct, indirect, and induced) income in the community resulting from $1.00 of local consumption (Gordan and Mulkey, p. 87).

[3] For new construction there can be a delay of up to 23 months between the time services are demanded and local government has the first payment of property tax in hand to spend. The second payment must be paid 6 months later. This is because of the time span between when residences are occupied, put on the tax roles, and when property tax payments are made. In rapidly growing communities this can put a severe strain on the present property tax payers as they pick up the burden until the new property is on the tax role and paying taxes. The exact length of delay will vary with the procedure in your county.

MUNICIPAL GOVERNMENT REVENUE

A. _____ = _____ x _____ x _____ x _____ .
Property tax revenue from new housing = Average assessed value of new housing units x Assessment ratio x Local tax rate per $100 assessed valuation ÷ 100 [4] x Number of new housing units.

B. _____ = _____ x _____ .
Utility revenue for new housing units = Yearly average household utility bill x Number of new households.

C. _____ = _____ x _____ .
Other revenue = Per capita municipal revenue excl. (~~incl~~. property & utility revenues) x Number of new residents.

D. _____ = _____ + _____ + _____ .
Total annual revenue to municipal government = (A) + (B) + (C).

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[4] The State Tax Commission requires tax rates to be listed as cents per $100 of assessed valuation. Therefore the tax rate value must be divided by 100 before multiplying by the assessed valuation.

Definitions and Data Sources

1. Assessed Value of New Housing Units--Contact developers or financial institutions to find out the number and expected prices of new housing units. The local assessor can estimate what percentage of the new selling price will actually be taxed. The local assessor can also tell you how long (months, years) before the tax revenue is in local government accounts so it can be spent in the community for services.
2. Assessment Ratio--The percentage of assessor's market value that is used to determine assessed valuation (Idaho law requires all to be at 20% by 1982).
3. Local Tax Rate--This information is available from the local assessor or clerk at the courthouse and is given as cents per $100 assessed valuation. Divide the tax rate by 100 to get mils.
4. Number of New Housing Units--The local assessor will know how many have been built and local developers should be able to provide an estimate of the number they expect to build. The number of new sewer or water hookups is also a good estimate. Be sure to adjust for mobile home parks or apartment buildings which may have a number of households on one sewer or water hookup.
5. Number of New Households--Estimates would be based on what developers expect, land platted or previous experience. Unusual factors such as a new industry locating in the vicinity should also be considered. A new industry can provide estimates of the number they expect to hire and what proportion will be local residents.

6. Annual Average Household Utility Bill--The revenue estimate can be based on utility revenues from comparable households presently existing in the community. A rough estimate of average revenue per household can be made by dividing the total annual revenue from services (sewer, water, garbage, etc) in an annual report and by the number of hookups, stops, or households.
7. Number of New Residents--The number of new households multiplied by the average number of persons in each household (average number of persons per household in Idaho for 1970 was 3.2 persons based on Bureau of Census data) provides an estimate of the new residents in the community.
8. Per Capita Municipal Revenue--The financial report of the city treasurer should have this information. It's calculated by taking the revenue accrued to the city annually in recent years, subtracting revenue from property taxes and utilities, then dividing this by the city population.

REVENUE TO THE SCHOOL DISTRICT

Revenue to local school districts comes from property taxes, several state and federal programs, plus some local fees. Some are based on population, some on tax effort, and others are competitively awarded.

Revenue to the local school district can be estimated using the following equations (see definitions below).

SCHOOL DISTRICT REVENUE

A. Property tax revenue from new housing for schools = Assessed value of new housing units x Assessment ratio x Tax rate per $100 of assessed valuation ÷ 100 x Number of new housing units.

B. State aid from new students = Number of new students x State aid per average daily attendance.

C. Federal aid from new students = Number of new students x Federal aid per average daily attendance.

D. Total annual revenue to school district = (A) + (B) + (C).

Definitions and Data Sources

1. School Property Tax Rate--This information is available from the local assessor or clerk.

2. Number of new Students--This estimate is based on expected characteristics of new resident households (for a 1970 household of 3.2 persons, .8 person was a primary or secondary school student).

3. State Aid Per Average Daily Attendance--Consult the official who does the school district's accounting. Average daily attendance is also available from the Idaho Department of Education, State Summary of the Foundation Educational and Transportation Program. Total state and federal aid to each school district is available in "Financial Summaries - Idaho School Districts", Idaho Department of Education.

4. Federal Aid Per Average Daily Attendance--Same sources as 3. Divide the total federal aid from all sources by the average daily attendance to get the federal aid per average daily attendance.

COSTS TO MUNICIPAL OR COUNTY GOVERNMENT (EXCLUDING SCHOOLS)

Costs to local government come from provisions of general government services plus specific services such as roads, solid waste disposal, sewer, fire, police or sheriff protection. Some services such as legal records, judicial system, protection and tax collection are mandated by the state; others are provided at the discretion of the local governmental unit.

Costs to local government (excluding schools) can be estimated using the following equations: (see definitions below)

COSTS TO LOCAL GOVERNMENT

A. _____ = _____ x _____ +
Total new households sewage disposal costs | Annual sewage disposal cost per household | Number of new households

_____ + _____.
Annual community cost of sewer line extension | Annual cost of sewage disposal plant expansion

B. _____ = _____ x _____ +
Total new households water service costs | Annual water cost cost per household | Number of new households

_____ + _____.
Annual cost of water main extension | Annual cost of water source and treatment plant expansion

C. _____ = _____ x _____.
Total new households solid waste disposal costs | Annual cost for solid waste disposal per household | Number of new holds

D. _____ = _____ x _____.
Total new households fire protection costs | Annual fire protection cost per household | Number of new house households

E. _____ = _____ x _____.
Total new households police/ sheriff protection costs | Annual police/ sheriff protection cost per household | Number of new households

F. Total annual new miles of road construction and maintenance costs = Annual cost of road maintenance per capita x Number of new persons +

Annual cost per mile of road construction x Number of new miles of road.

G. Other General government cost = Average Cost of government per household x Number of new households.

H. Total annual costs to local government = (A) + (B) +

(C) + (D) + (E) +

(F) + (G).

Definitions and Data Sources

1. Annual Sewage Cost Per New Household--This is based on costs for a comparable unit already existing in the community. It can be calculated by dividing the total cost of sewer plant operation by the number of household hookups.

2. Annual Cost of Sewer Water Line Extension--Amortized rate at which expansion financing bonds are paid off. In cases where no line extension is necessary this value would be zero. If line extension is necessary, the city engineer can estimate costs.

3. Annual Cost of Sewage Treatment Plant and Treatment Facility Expansion--Amortized rate at which expansion financing bonds are paid off. In cases where no expansion is necessary, this value would be zero. If plant expansion is necessary the city engineer can estimate costs

4. Annual Water Cost Per Household--This is based on water costs for a comparable unit already existing in the community. Divide total cost of operation by the number of hookups to estimate the cost per household or hookup.

5. Annual Solid Waste Costs Per Household--The cost per household of solid waste disposal, recycling programs, etc. The total cost of solid waste program divided by the number of stops or households will give the annual cost per household. Dividing by population provides the cost per capita.

6. Annual Fire Protection Costs Per Household--The total cost of operating and maintaining fire protection service divided by the number of households gives the cost per household. If new equipment is required, an amortization of investment cost needs to be included with the operating cost. Dividing by population provides the cost per capita.

7. Annual Police/Sheriff Protection Costs Per Household--The total annual cost of labor, facilities and equipment divided by the number of households protected.
8. Annual Cost of Road Maintenance Per Capita--This information can be calculated by dividing the total annual expenditures for road maintenance by the number of persons in the local governmental unit.
9. Annual Cost Per Mile of Road Construction--This varies widely because of traffic types, geographical conditions and road construction standards. It is the amortized rate at which construction financing bonds are paid off. In cases where developers build roads to city or county standards, this would be zero.
10. Average General Government Costs Per Household (excluding the above mentioned)--This is calculated by using the financial report of the local governmental unit. Subtract expenditures for above services from the total expenditures and divide the remainder by the population to get the expenditure per person. Expenditure per person multiplied by 3.2 gives expenditure per household.

COSTS TO THE SCHOOL DISTRICT

Costs to the local school district come from operation and maintenance, salaries, transportation, debt retirement, and others. Costs depend on the number of students, options offered, student/faculty ratio, and population density. Local tax base partially determines alternative programs offered.

Costs to the local school district can be estimated using these equations: (see definitions below)

SCHOOL DISTRICT COSTS

A. Total new student's operating expenses = Operating expenditure per average daily attendance x Number of new students.

B. Total physical plant expansion cost required to serve new students = Annual cost of amortizing a bond issue.

C. Total annual cost to school district for new students = (A) + (B).

Definitions and Data Sources

1. Operating Expenditures Per Average Daily Attendance--School district business managers or superintendents can provide total operating expenditures for the school. See Financial Summaries - Idaho School Districts for the average daily attendance. Divide the total operating expenditures by the average daily attendance.
2. Annual Cost of Amortizing Bond Issue--Zero if expansion is not necessary. If expansion is required, superintendents can provide information of expansion cost and annual payments required to pay principal and interest.

BALANCE COMMUNITY REVENUES AND COSTS

Revenues to Private Sector

Equation B, page 11

_____
Total new income to community

Revenues to Public Sector (Excluding Schools)

Equation D, page 14

_____ = _____ + _____ + _____ + _____.
Total annual revenue to local government from new residents | Property tax | Utility | Other

Costs to Public Sector (Excluding Schools)

Equation H, page 20

_____ = _____ + _____ + _____ + _____ + _____ + _____ + _____.
Total annual costs to local government for new residents | Sewage Disposal | Water Service | Solid Waste | Fire Protection | Police/Sheriff Protection | Roads | Other Government

Revenues to School District

Equation D, page 17

_____ = _____ + _____ + _____.
Total annual revenue to school district from new residents | Property Tax | State Aid | Federal Aid

Costs to School District

Equation C, page 23

Total annual costs = Operating Expenses +

Expansion Expenses.

Balance for Public Sector

Net Balance to Public Sector = Revenue to Local Government from New Residents (pg. 14, D) + Cost to Local Government for New Residents (pg. 20, H) +

Revenue to School District from New Students (pg. 17, D) + Costs to School District for New Students (pg. 23, C).

Balance for Community

Community Balance = Total New Income to Community (pg. 11, B) + Net Balance to Public Sector.

REFERENCES

1. Bureau of Census, U. S. Department of Commerce, City County Data Book p. 119, Washington, D.C., 1972.

2. Darling, David L., "Fiscal Impacts of New Residential Developments on Communities", Journal of Community Development Society, Vol. 7, Nol 1, Spring, 1976.

3. Idaho Code does not have a specific reference, however,

   (a) 76 C.J.S. Records, par. 35, p. 133 states: "The rights of access to, and inspection of, public records is not entirely a matter of statute. The right exists in common law, and in the absence of a controlling statute, such right is still governed by the common law...All authorities are agrees that at common law persons may inspect public records..."

   (b) Idaho Code requires publishing financial reports IC 33-701(5). County Commissioners are required to publish statements of fiscal year. IC 31-1610-11 Open Meeting Law requires "the governing body of public agency shall provide for the taking of written minutes of all its meeting..." IC 67-2344

4. Idaho Department of Ecudation, State Summary of the Foundation Educational and Transportation Program, Boise, annually.

5. Gordan, John and David Mulkey. "Income multipliers for community impact analysis - What size is reasonable" Journal of the Community Development Society, Vol. 9, No. 2, 1978.

6. Real Estate Research Corporation. The Cost of Sprawl; Detailed Cost Analysis, Washington, D.C.: U.S. Goverment Printing Office, 1974.

7. Truby, Roy, Financial Summaries - Idaho School Districts, Boise Idaho Department of Education, Annual Publication.