
IMPACT ANALYSIS AND IMPACT FEES

Economic growth any community can affect both positive and negative change. New business and industry produce new jobs and increase the tax base. New residences bring new taxes, as well as new employees and new customers for local business. But growth can have a downside.

While new business brings new employees, new families demand new housing opportunities and require expanded public services. New industry can compound environmental problems, both through their production activities and the increased traffic that distributes their goods. Often, the new taxes generated do not make up for the additional costs of accommodating growth.

The reason such imbalances occur can usually be traced back to decisions made by individual property owners or firms who are primarily interested in profits. Typically, social and fiscal consequences to the local community are secondary concerns. Thus, the indirect costs of individual decisions are borne by the community as a whole. Municipalities that choose not to manage and plan for growth are more vulnerable to problems later on. A city's growth increases public costs and the tax rate, particularly when state and federal funds diminish. For example, the *laissez-faire* attitude of Houston's city government has been credited with problems that range from sewage disposal to flooding to a lack of open space (Feagin, 1985, pp. 164-185.)

This dilemma of growth indicates that the overriding principle regarding development is that local governments should predict and respond to the social, physical, and fiscal impacts of growth. Two techniques to assist local governments address the dilemma are impact analyses and impact fees. An impact analysis attempts to predict the effects of growth, while impact fees are a tool to mitigate the costs of growth.

IMPACT ANALYSIS

An impact analysis can be of two types: fiscal or non-fiscal. A fiscal impact analysis serves as a projection of the direct public costs and revenues associated with growth, residential and non-residential, particular to a municipality. (Burchell, 1985, p. 3.) A non-fiscal analysis serves to estimate non-monetary social impacts, which are often difficult to quantify; nonfiscal impacts include changes in transportation, congestion, housing, and the quality of life. Non-fiscal impacts also include the effects new development may have on the physical environment.

Fiscal Techniques

Fiscal impact analyses treat the physical effects of growth in quantifiable terms. Proposed developments are evaluated based on their estimated impact on the costs of new or expanded services, new or larger schools, expanded infrastructure, and on the change in local tax revenues. Generally, coefficients are used to estimate these impacts and are based on typical local demands associated with growth for the area, development type, and development location.

For example, an analysis might estimate the number of new school children in a district based on the number and type of new housing units built. The additional cost of educating each new student can be calculated by multiplying the current cost per student by the estimated number of new students. Similarly, the number of new housing units could be multiplied by the current, average cost of garbage service to each unit to yield an estimate of the revenues needed to pay for expanded collection. In cases of commercial and industrial development, the number of new employees also can be used to estimate the need for additional city services.

The product of a fiscal impact analysis is usually a formal report indicating that a proposed development would result in either a net benefit or cost to a municipality.

Per Capita Multiplier Method

This analysis method uses estimated population change as the basis for forecasting a development's impact on municipal costs and revenues. Detailed demographic data is used

to determine the number of persons a development would add to the community, according to the number and type of new housing units proposed. These additional population figures are then multiplied by the per capita expenditures associated with each type of service. The additional expense required to maintain the current level of service is the product of this calculation. This method is most useful for determining the impact of various developments in communities that are experiencing overall growth and where local service limits have been reached or exceeded. (Burchell, 1985, pp. 9-14.)

Case Study Method

This method of analysis also uses estimated population change to forecast a development's costs and revenues to a municipality. The projected new costs and revenues, however, are adjusted if the capacity of each service category is currently over- or under-utilized. Consider, for instance, a new residential development in a community in which the school system is operating far enough under capacity that new teachers or facilities would not be required when new residential development occurs. The per capita multiplier approach discussed above would project the school cost based solely on the increased population. Using the case study method, on the other hand, these costs would not be considered, as the additional capacity would not increase facility or faculty demands enough to warrant expansion. If, however, a new fire station would be required for a new residential development, the full cost of the station and personnel would be assessed as a cost of the development.

The case study approach is especially useful in areas where facilities or services are either significantly under- or over-capacity. (Burchell, 1985, pp. 15-16.)

Service Standard Method

This method uses data from the U.S. Census of Governments to determine the total number of additional employees that can be expected with growth in different service categories. This census data contains the average number of employees per capita for service type, geographic area, and community size. Under this method, the number of additional residents a development is projected to add to a community is multiplied by the census' per capita average employees. This calculation results in an estimate of the number of new employees

needed to operate a new service development. The average capital-to-employment ratios are then used to calculate any new capital expenditures needed to accommodate increased local employment.

This method is best used for analysis in growing communities where services currently are at capacity and growth would increase demand for them. (Burchell, 1985, pp. 16-23.)

The Comparable City Method

This method of fiscal analysis is used to predict the marginal cost impacts of population change. Again, Census of Governments data is used to calculate a series of multipliers; these figures show municipal expenditure levels that different categories of services create. The multipliers then are separated into categories according to the size of the municipality and projected population growth or decline. Increases in the cost of providing services can be derived by multiplying the municipality's current per capita spending by the ratio of current population service cost to projected population service costs. If the municipality moved from one category to another—from growth to decline, for instance—costs will change. If a municipality is projected to stay in the same category, the ratio will equal one and costs do not change. This method is applicable in many situations in both urban and nonurban settings. (Burchell, 1985, pp. 23-29.)

Proportional Valuation Method

This method is used specifically to analyze the costs of commercial and industrial growth. The method is based on real property values and their relation to municipal expenses. To use proportional valuation, the real value of both the existing non-residential land uses and the proposed development must be known. Total municipal costs are divided according to the proportion of non-residential values to total values. The result then is multiplied by a refinement coefficient to compensate for either overstatement or understatement of costs that may result from using this method. The analyst then multiplies the non-residential share of municipal expenses by the ratio of the proposed development's real value to total non-residential values. This result also is multiplied by a refinement coefficient to indicate the proportional share of municipal costs that can be attributed to the proposed development.

This total cost can be assessed by service categories that are based on case studies that show the breakdown of municipal cost for the appropriate service.

This method primarily is useful for development proposals in growing areas where service capacity currently is at its limit. (Burchell, 1985, pp. 29-34.)

Employment Anticipation Method

This method also seeks to predict the impacts of non-residential development on local revenues and expenditures, yet assumes a relationship between local employment levels and municipal costs. From this relationship, coefficients are derived to predict the increase in municipal expenditures generated by particular service categories per additional employee. When multiplied by the projected number of new employees, an increase in per capita costs results. The increase is multiplied by the projected population and gives the expected additional cost incurred to the municipality for each service category. This additional cost can then be compared to additional revenues the project is likely to bring in, thereby determining an overall fiscal impact.

This technique is useful in situations where the proportional valuation technique also might be applied.

Non-fiscal Techniques

Assessing the social impacts of development often requires an assessment of non-fiscal changes. Certain such analyses can be conducted in numerical terms, the number of trips driven on a road, for instance. If a new development will use an existing road for access, the analyst can determine the capacity limit of the road, the number of vehicles currently using it, and the number of new trips a development is expected to generate. From the projected outcome, the analyst can determine if the new development would place too great a strain on the local or regional highway system.

For other social impacts—the quality of life, for example—the results are less clear. For non-quantifiable, more subjective analyses, the analyst must rely on citizen opinion and various indicators of resource accessibility, such as unemployment rates, to design evaluation criteria.

Environmental impact assessments are of growing concern in many growing communities and the analysis process is neither strictly quantitative nor qualitative. Here, while the data assessed is not readily quantifiable, the procedures used to analyze a project are relatively standard. Changing environmental regulation and new technologies, however, force constant updates of analysis techniques.

Transportation Cost Analysis

The impact of development on transportation systems is both monetary and non-monetary. To assess the impacts on transportation, a non-monetary approach is most often used. The number of additional cars a new development likely will place on area roads is a standard unit in these analyses. Predetermined figures for the number of trips generated by each type of land use are used to determine the number of trips a proposed development would generate. Adding the expected number of new trips to an existing traffic load and comparing the results with the road's capacity limit determines whether the development would overburden the current system. An analysis also can be done on the change a proposed development would have on average trip length for drivers in the area. (Canter, 1985, pp. 157-176.)

Housing Demand Analysis

Non-residential growth impacts the demand for local housing and, in most areas, the construction of new commercial or industrial space leads to residential development. The effect of new housing construction on a particular municipality is determined primarily by the number and type of units to be constructed, as determined by the land available and its zoning. In general, the housing impacts of a particular commercial or industrial development, are determined by assessing the current housing stock by type of unit, accessibility to services, and overall quality. Not only the stock of current housing should be considered, but also residential trends over time should be analyzed.

Next, the future composition of local housing stock without a proposed development occurring should be predicted to serve as a status quo comparison. This projection is based on current and projected population, availability of vacant housing units, average household

size, and local and regional construction trends. Next, the estimated trend in the local housing market with the new development should be established. The trend should be based on the number of in-coming workers by employment category, whether family members will accompany new workers, and the preferences for housing among various employment categories. This process can predict the impact of a proposed development on local housing stock.

It should be noted that this calculation is highly speculative, as it is affected by future commuting patterns, zoning, and available land. The method does, however, allow comparative analysis of the impacts alternative proposals would have on local housing needs. (Canter, 1985, pp. 145-154.)

Quality of Life Analysis

Growth in a community has a direct effect on the area's quality of life. One frequent complaint of long-time residents in booming communities is that the very things that brought them to live in a community have disappeared. Yet, assessing growth's impacts is compounded by the fact that the perception of quality of life is highly subjective and it has no clear definition. Given the diversity of opinions regarding quality of life, no single method exists to determine the impacts of new development on this aspect of local character. Thus, individual communities interested in analyzing such impacts have to develop their own indicators.

In order to evaluate quality of life changes as objectively as possible, the following five criteria should be considered: 1) Face Validity: Are the analysis standards and process understandable to non-technical audiences—does the basis for evaluation make common sense? 2) Feasibility: How easily can the analysis be applied to a given project or situation? 3) Flexibility: Can the analysis be modified to fit different locations, situations, regions, and a variety of conditions? 4) Comprehensiveness: Does the analysis provide a broad perspective on the quality of life? Does it incorporate both objective and subjective indicators? Could it? 5) Replicability: Does the approach provide for the collection of information over time in order to compare conditions and analyze trends? (Canter, 1985, pp. 235-238.)

With these criteria in mind, the results of citizen surveys and economic and social indices can be combined to meaningfully describe the impact of new development on local or regional quality of life.

Additional Impacts

New development may also impact other important community traits, such as community image, land use, and homeownership patterns. To analyze the impacts on such local conditions requires custom-designed methods similar to that for assessing the quality of life.

IMPACT FEES

Once impact analyses indicate that certain developments are expected to have negative impacts on a particular community, the community will need to mitigate those impacts. The following section deals with two such methods: impact fees and non-fee mitigation.

Impact Fee Methods

Impact fees are monetary charges placed on new development. The fees collected are used to pay for public services, such as sewage and water treatment plants or access roads and schools not on the site of development. Unlike property taxes which are paid over time, an impact fee is a single, up-front payment levied to help cover the costs of one or several public facilities and services. In many communities, impact fees have managed to generate revenues and, in many instances, slow the pace of growth when so desired. (White, 1993.)

Typically, impact fees are calculated using complex formulas or computer models that incorporate population and employment projections, transportation data, and capital facilities cost estimates. In general, a correlation—in monetary terms—is made between a prospective development and the capital costs it will incur. The calculation of a fee requires a fiscal impact analysis of the development as previously discussed.

Impact fees most often are dedicated to cover the cost of specific services, such as roads or sewers. Fees placed on residential developments are assessed on the basis of either a flat fee

per unit or some measure of scale—such as the number of square feet, number of bedrooms, or the linear footage of the front property line.

Table 1 exhibits the continuum of fees a community may levy to pay for basic and /or extra infrastructure and services.

Table 1

• No impact fees	Property taxes; federal and state development funds
• Land dedication requirements	Create off-site schools and parks
• On-site impact fees	Provide on-site water, sewer, and roads
• Off-site impact fees for development services	Provide access roads; provide treatment or sewerage or utility plants
• Off-site impact fees for development and local services	Provide community pools, parks, police and fire
• School construction fees	Expand and construct schools to serve new populations

Source: White, 1993.

At their most basic level, impact fees are assessed to pay for infrastructure improvements that occur in the developing subdivision. The link between the beneficiaries of the services and the impact fees is very direct; persons buying new homes in a residential subdivision will use the roads and the utilities within the subdivision. This connection is so apparent that, in the United States, it generally is understood that the cost of on-site infrastructure will be paid for by the developers and passed on to the home buyer in the final sale price. (White, 1993, p. 5.)

Off-site facility fees are the most common form of impact fee currently used in the United States. Such fees are charged to the developer to help cover the cost of additional burdens placed on municipal services by a new development. The extra demand for certain services is seemingly linked between specific homes and specific services. For example, each household will add a minimum of use to the water filtration or the sewage treatment plants. A new subdivision's roads will need to connect to existing municipal roads that are large enough to accommodate the additional traffic generated by the area. (White, 1993, p. 5.)

The link between other off-site municipal services and new residential development is not as clear as in the examples above. In the first set of examples, the likely increase in demand an average new home will create for the sewer and water systems is relatively clear. Yet, the demands new units will create for swimming pools, police or fire stations, or even schools is not as clear. Only impact fees with a clearly evident link to an increased burden have been sanctioned by court decisions regarding impact fees. (White, 1993, p. 5.)

Legal Considerations of Impact Fees

Impact fees have been used for several decades. Furthermore, impact fees have been legitimized by courts and state legislatures across the country. What will be allowed or publicly acceptable in Wisconsin has not fully been determined. Wisconsin, unlike some other states, has never enacted a statute that deals specifically with impact fees. With no precedence, the legality of impact fees in Wisconsin is uncertain. (White, 1993, p. 5.)

The legal test for *rational nexus* is the basic standard used in most states to decide when and how impact fees can be used. The first of three major tenets of the test for rational nexus is a reasonable connection between the need for additional facilities and a new development's facilities needs. In other words, a community must show that a new development in some way creates the need for infrastructure or service improvements or expansion in order to charge a fee for this need. This requirement prevents communities from using impact fees as an arbitrary extortion placed on new development. (White, 1993, p. 6.)

The second criterion for rational nexus is that only a proportionate share of the cost incurred or to be incurred when accommodating a new development may be charged as a fee. This guideline essentially prevents a community from charging developments more than their share of the increased costs over time. Unfortunately, a rational nexus determination does not define what constitutes a "proportionate share" or improvement costs. One legal opinion states that if a community currently has excess capacity—such that a capital improvement could be postponed for the indefinite future—a serious question exists as to whether the development actually will create an impact. (Kassner, p. 9.)

The third criterion is that a reasonable connection exists between the expenditure of the fees collected and the benefits gained by fee-paying developments. This guideline requires impact fees to be earmarked for expenditures that benefit a new development in some way. This requirement intends to prohibit the practice of charging new development for the deterioration of infrastructure that is attributable to previous residents or for expenses not related to the specific infrastructure in question. (White, 1993, p. 7.) An impact fee is not considered legal if the funds collected are used to solve pre-existing problems not caused solely by a new development. (Kassner, p. 9.)

In general, impact fees also must be to cover only capital costs. The operation and maintenance costs of facilities or services is considered the responsibility of the entire community.

The following examples of local impact fees are placed on development in metropolitan Milwaukee. The examples illustrate the types of fees levied against new residential development; all fees are made on a per unit basis. (White, 1993, pp. 10-12.)

<u>City/Town/Village</u>	<u>Type and Level of Fee (Year fee assessed)</u>
The City of Brookfield	Park Fee-\$670 (1992) Wetland Fee-\$65 (1992) Bikeway Fee-\$200 (1992) Total Fees-\$935
The Town of Delafield	Park Fee-\$400 (1988) School Fee-\$1000 Total Fees-\$1400
The City of Franklin	School Fee-\$200 (1992) City Municipal Building Fee-\$860 (1992) Park Fee-\$320 (1992) Sewer Fee-\$600 (1992) Water Fee-\$800 (1992) Other Fees-\$85 (1992) Total Fees-\$4665

The City of Mequon	City Hall Fee-\$290 (1993) Library Fee-\$605 (1993) Public Works Vehicles Fee-\$123 (1993) Other Fees-\$382 (1993) Total Fees-\$1400
The City of New Berlin	School Fee-\$1164 (1993) Library, Police/Fire, Other Service Fee-\$776 (1993) Total Fees-\$1905
The City of Waukesha	School Fee-\$413 (1987) Park Fee-\$287 (1987) Storm Sewer Contribution-\$1900/acre (1991) Sanitary Sewer Contribution-\$400/acre (1991) Total Fees-\$1700 (assuming 1/2 acres lots)

Non-fee Mitigation

Some communities opt to avoid impact fees because of the negative stigma often associated with their assessment. Alternatives to monetary charges are sought to address the fiscal burden of new development.

- *Pull-Up-The-Drawbridge, or Development Moratoria:* This method of mitigating the costs of development relies on rejecting new development altogether. (Altshuler, 1993, p. 2.) This very direct approach to managing growth can be accomplished by legislating a moratorium on all development or using a less radical method of placing annual limits or caps on the extent of development to occur. Such methods have been implemented by communities throughout California. (Landis, 1992, pp. 489-508.)

- *Infrastructural Status Quo:* In another direct approach to managing the fiscal burdens of growth, a community may choose to disinvest in public infrastructure and services. In this case, no new expenditures are incurred to the municipality because the community makes do with what services and facilities it has. Maintenance of existing infrastructure is paid for through the existing property-tax system. Many communities respond to growth by choosing deferred maintenance or cutting maintenance and all expansion funds for a set amount of time. (Landis, 1992, pp. 489-508.)

- *Free Rider:* If a community chooses not to expend funds on public services and facilities as described above, it may look for external revenue sources. Possible sources include transfer payments from the state and federal governments or gifts, donations, and dedications from wealthy benefactors. (Downing, 1987, pp. 42-58.) One of the main recommendations of the National Council on Public Works Improvements in 1984 was that the federal government should reassume a major and growing responsibility for investing in public infrastructure. (Nicholas, 1992, pp. 518.)
- *Tax-Payer Funding, or Tax Increase:* This approach to covering the costs of development can be implemented by increasing the rate of taxation on an entire community to increase municipal revenues. (Meehan, 1990.) Residential property tax increases are rarely an acceptable option and taxes on purchased items are often an alternative for local governments. Alternative taxes include dedicated sales taxes, tax increment financing, and special business taxes. In Boulder, Colorado, a local sales tax is dedicated to local road improvements, as also is done in Seminole County, Florida. Raleigh, North Carolina uses referendum-approved bond issues to fund infrastructure and levies a motel/hotel tax to retire the issued bonds. (Einsweiler, 1992, p. 74.)
- *User Fees:* Services such as water and sewer often are metered so that the direct users of the services will bear the cost of their use and system maintenance, while non-users are exempt from payment. User-based systems may involve developing a special assessment district in which services are paid for by users in the districts. Each household in a district, for example, is charged a "membership fee" that is based on the average cost of the service in that district. (Lee, 1988, pp. 290-312.) For example, in Austin Texas, municipal utility districts (MUDs) are established to cover the costs of services in delineated geographical areas. In Fort Collins, Colorado and Pinellas County, Florida, similar user-fee arrangements also exist. (Einsweiler, 1992, p. 75.)
- *Privatization of Services, or the Free-Market Approach:* This method of non-fiscal mitigation involves returning traditionally municipal functions to the private sector. Cost-saving methods that are unavailable or unallowable by law to governments may be performed by the private sector at lower cost and still realize a profit. An example of privatized government service is trash collection. In cases of privatized services, municipalities

typically pay and negotiate services directly with the providing company. (Witt, 1990, p. 151.)

- *Concurrency Requirements:* This method of mitigating the costs of growth links the provision of services to development was created by Florida's state growth management act. The law requires that infrastructure be extended at the same time development occurs if services or facilities sufficient to accommodate the growth do not already exist. This mandate also requires communities to identify both anticipated levels and sources of funding needed to accommodate planned development. While the community, in the end, is still responsible for the expense of service and facilities' provision, the planned budgeting ensures that the full costs will be covered and not "burden" the municipal revenue stream. A similar approach is an adequate facilities ordinance (AFO) used in Ramapo, New York and Sacramento, California. The AFO requires that public facilities and services be available at a development site before permits for any development are granted. The AFO enables a municipality to have some influence over the timing and sequencing of development by linking their permitting authority and planned development decisions. (Einsweiler, 1992, p. 75.)

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