

STRATEGIES FOR SUCCESSFUL MITIGATION OF SOCIOECONOMIC IMPACTS

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ABSTRACT

The successful mitigation of socioeconomic impacts requires careful planning from project inception through project completion. Although mitigation of socioeconomic impacts imposes additional responsibilities on project sponsors, benefits derived through increased productivity of the work force can offset costs involved. Cost effective impact mitigation plans can be developed which are flexible to respond to changing circumstances and which focus on prevention of adverse effects.

Mitigation plans must, by necessity, begin with proper project planning. Project location and the schedule for various construction activities can have significant effect on impacts. Particular attention should be given to labor requirements, contracting procedures and hiring practices. The effects of layoffs at project completion should also be considered.

Accurate forecasts of revenues available to local governments are essential to the development of fair mitigation programs. Increased revenues created as a result of proposed projects should be the basis for mitigation planning.

Housing and worker transportation issues should be considered jointly. Depending upon the proximity of a proposed site to different communities, impacts can be radically different given different housing and transportation plans. Housing requirements should be considered by type and location. Per diem and other allowances can be utilized to influence the housing choices made by workers.

The wide range of services communities provide need to be evaluated carefully. The efficiency of delivering services should be evaluated, and the need to change the method of delivery or to provide new services to meet increased demands should be considered before developing mitigation programs based upon existing programs and methods.

The provision of adequate recreation opportunities can be effective in reducing demand on law enforcement agencies and human service programs. Outdoor, or natural resources oriented recreation requirements, such as hunting and fishing, should not be overlooked.

Capital facility requirements to meet the increased demand need to be carefully planned, including long-term operational and maintenance costs.

INTRODUCTION

The Wyoming Industrial Development Information and Siting Act (1) was enacted in the Spring of 1975. Since its enactment, the Industrial Siting Administration has assisted in the development of socioeconomic mitigation programs for coal-fired electric power plants; trona, or soda ash, mine and mill facilities; a coal liquefaction facility; oil and gas processing facilities; large open pit coal mines; and the Peacekeeper (MX) missile system. All of these projects had comprehensive mitigation programs which included commitments made by the respective project sponsors to mitigate the socioeconomic impacts of rapid growth. Projects reviewed under the Industrial Siting Act since its enactment are significant not only because of the number of permits which have been processed without delay to industry, but also because many of these permits represent projects at or near completion without having caused serious disruption to communities. Thus, a history of success in mitigating the impacts of rapid growth has been obtained.

While effective mitigation can alleviate problems associated with rapid growth, costs to developers are usually not a significant portion of total project costs. For example, for the Missouri Basin Power Project, the cost of an extensive mitigation program in Wheatland, Wyoming was less than one-tenth of 1 percent

of the project's total cost. Community vitality is important to employee satisfaction and good living conditions are essential for maintaining a stable, high quality workforce (2). Missouri Basin felt that services for workers and their families are needed in order to attract and keep good construction workers and craftsmen. Subsequently, this project had low turnover and high productivity for its workforce, allowing the project to be completed on time and within budget (3).

Mitigation of socioeconomic impacts in western rural communities is a relatively new science. This science is currently on the up slope of the classical learning curve. Experts in the area learn more and more with each year and with each project. Because the position is still low on the learning curve, there are no hard, fast, or tried and true rules of impact mitigation. Each new endeavor results in a new learning experience and a new set of experiences upon which to base the next effort. Just as a young child explores his environment and learns from his experiences in doing so, experts in the area of impact mitigation are exploring their environment and learning valuable lessons.

Proper planning is essential to the development of successful mitigation programs. Mitigation planning should begin early in the development of a project, and the socioeconomic impacts of management decisions

should be considered at each step of project development. Community leaders should be included in the planning process at the earliest possible time. Their knowledge of the affected communities is invaluable in the development of mitigation programs.

In Wyoming, experiences gained in the late 1960's and early 1970's, during boom times illustrated a need to adequately preplan for rapid growth and to ensure that adequate infrastructure is available to accommodate new population. The Industrial Siting Act was enacted to serve this purpose. Through the experience gained in implementing this Act, proper guidance for the management of rapid growth can be provided in the future.

BASIC CONSIDERATIONS

Uniqueness of Projects

In engineering numerous criteria govern the design of a facility. Standards and regulations have been adopted which govern many design aspects. Where steadfast criteria cannot be developed, so-called rules of thumb have been developed over time to guide the engineer. Through trial and error and experimentation, acceptable design limits have been established. As long as the engineer stays within these limits, the design should be successful.

In the area of socioeconomic mitigation, there are no standards, regulations, or guidelines. Some rules of thumb may have been established, but the absolute limits which will successfully work have not really been determined. Impact mitigation is centered around people, and people are individualistic and unpredictable. Communities are constantly changing and developing. Each facility will require its own unique construction workforce and will have its own unique management with policies which affect the make-up of that construction workforce. Therefore, each situation in which one tries to design an acceptable impact mitigation program is unique.

One common rule has persisted for every project considered under the Industrial Siting Act: the inevitability of change. On any project, one must recognize that changes will occur after the mitigation program has been developed. To be successful, therefore, the mitigation program must remain flexible. It must be capable of reacting to change in circumstances, whether it be positive or negative. Adequate monitoring programs are essential to this ability of a mitigation program to react to change. Therefore, a monitoring program should be designed within the basic framework of a mitigation program. Mitigation requirements can then be varied, depending upon the needs demonstrated by monitoring.

Project Management

To date, the importance of project management has generally not been recognized in socioeconomic impact assessments. However, the construction industry has long recognized the importance of proper management of a project during construction. Large projects almost always utilize a construction manager to integrate planning, design, purchasing, contracting, and personnel management. The construction industry has learned through experience that these project elements are so interconnected that management decisions in one area should not be considered without evaluating the effects the decision will have on other areas. Recent experience with mitigation planning has shown that the success of socioeconomic mitigation depends upon mitigation also being included within this integrated

framework of project management.

Traditionally, socioeconomic impact assessments have been conducted independently from project management. The socioeconomic assessment team would receive a project description, construction schedule, manpower schedule, and estimated construction costs from the design engineer. The socioeconomic assessment team would then attempt to predict the socioeconomic impacts of the facility primarily based upon assumptions regarding the number of workers who would migrate into the area and the residency patterns of these in-migrating workers. These assumptions were usually based upon the historical data base developed from other, similar projects. From this assessment of expected impacts, a mitigation program would then be developed and implemented.

The traditional approach is inadequate for two reasons. First, assumptions based upon other projects are bound to be incorrect. Management decisions affecting the project under consideration have to be known, and their resultant effects upon impacts understood. Otherwise, assumptions regarding the makeup, source, and residency of construction workers will undoubtedly be inaccurate. Second, project management decisions which are made without consideration of socioeconomic impacts and mitigation programs may have adverse consequences on mitigation programs. Thus, to be successful, socioeconomic impact mitigation must be integrated into project management.

Community Involvement

Any successful mitigation program must be developed in conjunction with the affected community. Local officials should be made aware of the project early in the planning process. Local officials know the capabilities of their communities. Their knowledge of the community and what will work in that community is invaluable. In working with local officials, commitments made by a project sponsor should be very clearly defined. This is essential to avoid conflicts at a later date if problems develop and to maintain the needed working relationships.

Successful mitigation programs have invariably involved community leaders in the planning process early in the development of a project. This involvement may be as formal as structured committees with specific tasks assigned, or entirely informal. Best results are usually obtained, however, when some formal structure is developed to facilitate the exchange of information and ideas, and to conduct the planning process in an open, unrestricted manner.

FEDERAL GOVERNMENT INVOLVEMENT IN MITIGATION PROGRAMS

Disposal of nuclear waste has been recognized as a national problem, best solved by direct actions of the federal government. Any waste disposal facility will undoubtedly involve federal agencies. Therefore, it is important to consider how the federal government participates in impact mitigation.

Department of Defense

The Department of Defense has detailed criteria for impact mitigation (4). The Department's involvement in socioeconomic impact mitigation, historically, had been based upon mitigation of negative, impact-producing actions, such as base closures, rather than impact growth situations.

To deal with growth-related impacts, the

Department of Defense completed a comprehensive study of community impact assistance programs. This study concluded that existing federal assistance programs were not effective in dealing with growth related needs. Existing federal programs are usually directed toward communities with existing economic distress or on-going urban problems. Distribution formulas for these programs are usually administered by the receiving states with fixed program priorities which are not reactive to growth needs. Most competitive grant programs do not consider growth impact needs within their criteria. Finally, most programs require a local match, which usually is not possible for governments facing impact needs. The Department of Defense does have the ability, through the President's Economic Adjustment Council, to give defense-impacted communities higher priority under existing programs. However, without additional funds, communities impacted by Department of Defense projects were not likely to receive assistance even when they are provided priority status.

Despite these rather strong conclusions regarding the inability of communities to obtain assistance under existing programs, the Department of Defense will only consider special federal assistance where lack of facilities would impede critical national security objectives and the net fiscal impact would cause serious growth-related problems. Then, even when these criteria were met, experience in Wyoming demonstrates that obtaining special federal assistance is a time-consuming process that requires exhaustive justification.

Energy Development

The federal government's role in socioeconomic mitigation has also been defined in the area of energy development, although much less formally than in the Department of Defense. Since the responsibility for funding of socioeconomic impact mitigation programs ultimately rests with Congress, it is instructive to examine how Congress views impact mitigation (5). Key considerations include that state and local governments must first help themselves in providing those services and facilities necessary in impact areas. Industry should be encouraged to voluntarily mitigate its own impacts. An independent assistance program cannot replace existing federal aid programs, which are substantial compared to funding which would be available individually. Separate impact assistance by the federal government should only be provided when all else fails. These criteria are remarkably similar to those established by the Department of Defense and, therefore, should be kept in mind when dealing with federal agencies.

Nuclear Waste Policy Act

The Nuclear Waste Policy Act (6) does provide specific authority for impact mitigation. However, the Act also provides for the payment of grants equivalent to the taxes that would be paid if the nuclear waste disposal project were operated as a private venture. Therefore, the state and local governments must develop mitigation programs which take into account these resources which will be available.

The Nuclear Waste Policy Act limits the authority to expend funds to such extent as are provided in advance by appropriations from Congress. Therefore, special funding for impact mitigation will not only require substantial justification, but must also be conducted within the time frames dictated by the federal government budget process. This process more often than not is unresponsive to the critical timing issues of local governments facing rapid growth.

Project Location and Access

Site selection for a project often is the single, most important factor influencing socioeconomic impacts. Where a location for a project is not fixed by natural resources or other factors, consideration of socioeconomic impacts should be included in the site selection criteria. Factors to consider should include the boundaries of taxing jurisdictions affected by a project, the capability of communities in the region to accommodate growth, and existing transportation networks. For any new project, the distribution of socioeconomic impacts can usually be influenced by decisions regarding access to the proposed site. Separate access roads can be developed to provide access to different communities if impacts can be reduced by dispersing the growth.

Project Scheduling

The consideration of mitigation of socioeconomic impacts must begin when project schedules are first developed. The primary consideration should be the length of time required by communities to plan for impact and to implement appropriate mitigation strategies. Many well-conceived mitigation programs have yielded less than satisfactory results because adequate time was not allowed in a project schedule. Preliminary, reconnaissance-type socioeconomic assessments can usually accurately identify capital facility needs within a community to allow preliminary planning to begin on these items. It takes just as much time for a local government to plan, design, and fund a major capital facility addition as it takes industry to plan a major project. When funding is likely to involve federal assistance, the time frames can increase significantly. Therefore, early mitigation planning should focus on long lead time items such as capital facilities.

Early attention should also be given to the phasing of various components of the project. Careful consideration of the construction schedule can reduce socioeconomic impacts significantly in several ways. First, a construction schedule prepared solely to optimize the construction job will undoubtedly concentrate construction man hours into a very limited time frame. Thus, the construction workforce will build rapidly, reach a high peak compared to the average, and drop off sharply. This type of construction manpower curve creates the greatest boom/bust type of impact on a community. Careful consideration of the scheduling of various components of the project can greatly reduce the peak workforce requirements, creating a more stable workforce. Second, the demand for various types of crafts and skills for each project component should be analyzed. Typically, projects scheduled without this consideration may have a fairly constant demand for labor month to month, but the individual skills required to complete the work scheduled will vary considerably. For example, the job may require pipe fitters one week, welders the next, and pipe fitters again the third week. Although the total demand for workers over time remains constant, twice as many workers would be required over the three-week period than were actually on the job at any one time. The workers who are laid off for a week will remain in the community demanding services and, hence, represent an impact to the community. When developing manpower estimates for socioeconomic assessments, turnover of this nature should be minimized as much as possible, and a factor to reflect the turnover which cannot be eliminated should be included in the estimated workforce numbers.

Estimates of workforce requirements should be carefully reviewed, and all assumptions utilized to derive the estimates clearly stated. Care should be taken not to overstate the estimated workforce requirements, as this can lead to as many or more problems than an underestimation. Factors which may delay the construction should be carefully considered, particularly for federal projects. Alternative construction schedules should be developed if it appears likely that delays in completion could occur.

If the preliminary workforce estimates produce figures that will obviously create significant socioeconomic impact problems, alternative methods of completing the project should be considered. For example, phasing the project in stages or prefabricating components at an off-site location may be feasible to reduce the on-site manpower requirements.

Hiring and Contracting Practices

Hiring and contracting practices can create more variance in the socioeconomic impacts of a project than any other element. The availability within the region of skilled workers and capable contractors should be carefully evaluated to determine the appropriate strategies to include within a management plan. When evaluating the availability of the local labor force, the union status of a project can make a significant difference in the availability of local labor. For union projects, the local office of the union will usually recruit within the geographic boundaries of the local hiring hall. These boundaries, more often than not, will represent political boundaries such as states and counties, and will not necessarily correspond with the residency location of available workers in the area. On non-union jobs, however, the contractor may bring in entire crews of workers from outside of the area, irrespective of the availability of labor within the immediate area.

The size of construction contracts let may also greatly influence socioeconomic impacts. If only large contracts are let, many local contractors who would be capable of competing successfully on a job may be excluded from bidding on the project. If an examination of the capabilities of local contractors indicates that they could complete the required jobs, consideration should be given to breaking the construction contract down into smaller packages that local contractors can handle. If local contractors are utilized, they usually can complete the job using personnel already residing in the community, and by purchasing supplies and materials locally.

Employee benefits can play an important role in determining the distribution of impacts within an area. Items such as per diem, housing programs and travel policies should be carefully considered. For example, on the recent Exxon LaBarge Project, the distribution of workers' residency between a construction camp and local communities was greatly influenced by the benefits package offered. Since area communities could absorb workers, the benefits package was structured to provide the worker with substantial financial incentives if he chose to reside within a community. Distribution among different communities was obtained by providing free bus service to those communities which could absorb additional workers. Communities where growth could not be handled were not serviced by the bussing program. The man camp at the construction camp was deliberately planned to be Spartan to discourage workers from residing there. A reversal of this policy was originally considered to encourage a high percentage of workers to reside in the man camp, minimizing the growth within communities.

Purchasing Practices

A large project offers a community the opportunity for economic expansion and diversification. This is a socioeconomic benefit that frequently is ignored in the planning process. Careful consideration should be given to purchasing as many supplies and materials from local suppliers as possible during the construction phase of a project. Demand for supplies and materials during the operational phase of a project should be carefully analyzed. If local businesses and economic development groups are provided with information regarding the types of materials and supplies required for the project, satellite industries may very well be developed for the operational phase of the project which can offset some of the impacts of the economic downturn upon completion of construction.

For federal projects, the sponsoring agent should be encouraged to allow all construction materials to be purchased by private contractors. This will allow sales and use taxes to be collected on the materials, which would be exempt from state or local taxation if purchased directly by the federal agency. Construction equipment should be owned by the contractor so that it can be taxed as personal property according to state laws.

Many times, mitigation programs may be based upon local hiring policies, local contracting goals, local purchasing objectives, monitoring requirements, and special tax considerations. These items should be included in all contracts and subcontracts which are let on a project.

Reductions in Force

Inevitably, large construction workforces must be reduced. Normally, this occurs upon completion of construction, but may result from unanticipated termination of a project. Mitigation programs must recognize that reductions in force on a project will create as many adverse consequences as the original build up of the workforce. Plans should be developed early in project planning on how reductions in force will be accomplished. Particular attention should be placed upon the contingency of premature shutdown of the job. Socioeconomic impacts can be reduced if orderly reductions are made.

HOUSING AND TRANSPORTATION

Goals and Objectives

Provision of adequate, affordable housing for both the construction and the permanent workforce associated with a new major facility is the keystone to any successful mitigation program. The degree of involvement of the company in providing housing for its employees depends upon a number of factors. A careful analysis of the relationship between the temporary construction and the permanent operating employment is essential to the formulation of a cost effective, yet workable housing program. Housing infrastructure existing within the community also requires careful analysis to determine the level of required company involvement. The overriding goal in the development of housing mitigation programs under the Wyoming Siting Act has been to minimize the direct company involvement through stimulation of the private sector whenever possible. For projects where there is a relative balance between the construction and operating employment levels, this goal is readily achievable. Given proper incentives, the private sector will respond to the demand for construction housing since the long-term demand for housing due to the permanent operational workforce will create an equivalent demand.

However, when there is a large imbalance between the number of construction employees and the permanent employees, the provision of temporary housing is essential.

Construction Phase

For large construction projects, it must be recognized that there will always be a significant demand for recreational vehicle parking spaces, as well as for bachelor quarters and mobile home spaces. The goal of any housing program should be to ensure that a reasonable mix of all three types of housing alternatives is available in an aesthetically pleasing environment. Plans for temporary construction housing communities should be developed to provide flexibility in the ultimate amount of each type of unit provided. Bachelor quarters and recreational vehicle spaces for single status employees should usually be provided in one location, while mobile home spaces and spaces for family-status recreational vehicles should be in a separate location. The construction camp should be landscaped with green spaces and recreation areas in order to provide an enjoyable living environment for the workers. Provision should be made for the storage of recreational equipment, such as snow machines and boats, and for extra vehicles.

Transportation Programs

Effective transportation programs can be utilized to distribute the demand for housing over a larger area. Construction workers can be expected to commute over 60 miles one-way. This commuting distance can be increased through company subsidized bussing programs. Therefore, demand for housing should be carefully compared to the available supply within all communities in an area. If excess housing exists in more remote communities, implementation of a bussing program should be seriously considered instead of development of new housing. This strategy is often not only more cost effective in the provision of housing, but may also reduce other socioeconomic impacts by spreading incoming population over more communities.

Operational Phase

The goal of any housing program for the permanent workforce is to enable permanent employees to purchase housing, thereby developing a more stable permanent workforce. Development of a permanent employee housing program requires an analysis of purchasing power of the employees, financing capabilities of local lending institutions, capability of local builders to provide housing, and availability of developable land within the community. Each of these factors must be carefully analyzed to ensure that a workable program is developed. In many instances, the analysis may indicate that the only constraint to development of housing for the permanent workforce is the future employees' capability of purchasing homes. In this instance, employee assistance programs give the future employees leverage to purchase a house, thereby stimulating the local housing market. In some instances, local developers may not have the capability to provide housing in a timely manner. In these cases, stimulation of local development may be required. Programs have varied from simply underwriting a construction loan for an existing developer to bringing in builders from outside the area under contract to initiate housing construction. In some communities, availability of developable land has been a severe constraint. Companies have purchased land and developed it for annexation into the community, have participated in local improvement districts by purchasing bonds from the community, or have provided technical assistance to communities to assist them in

obtaining land from the federal government.

COMMUNITY SERVICES

Education

Mitigation of impacts on the local school system must consider both physical facilities and operating budgets of the school district. When evaluating need for additional classroom units, careful consideration must be given to long-term needs of the district. In those instances where long-term needs are not commensurate with short-term impact needs, temporary facilities such as modular classroom units have been provided. In those instances where long-term needs warranted the construction of permanent facilities, companies have assisted local districts to meet both impact needs and the long-term needs of the district. This assistance has ranged from donation of land for a school site when land was a considerable constraint to the district, to development of a financing mechanism to provide funds for construction of the facility before tax revenues would normally have been available.

Influx of a construction population into a community will create unique demands on a school system. New students require evaluation to determine their proper placement within the programs offered by the school system. Frequently, students of itinerant construction families may place a higher demand on special education programs because of their frequent moves from one school to another. The higher turnover rates of students in a school system affected by a construction project may have a disruptive influence on other students as well. These elements of the education system require special attention in development of mitigation programs for school systems.

Operating needs of school districts can be met in a variety of ways. Direct grants-in-aid to schools may be necessary to help meet short-term impact problems. These grants are normally based upon financial capability of the district and demands placed upon the district by the project. In one instance, a company donated land and a surplus company building to a school district, thereby providing the district with necessary facilities for a vocational program. This eliminated expenditures that would otherwise have been required by the district and made those funds available for other purposes.

Capital Facilities

Companies have assisted communities in meeting demands for water and sewage treatment facilities in a number of ways. Some have helped communities obtain loans from the state for sewer and water projects by guaranteeing the loans for these facilities. Others have provided grants representing the local share of the federal design grant, thereby enabling the community to obtain federal grant funds for design. Other projects have agreed to purchase surplus water from a community system to be exchanged at a later date for sewage effluent. This program enables the community to meet its amortization payments for the water project during the early years of the project when revenues would not have been adequate. Taking sewage effluent as it becomes available enables the community to design and build a less complex sewage treatment plant. As part of the agreed upon price of the sewage effluent, the company will pay a portion of the operational costs of the sewage treatment plant, thereby freeing up funds in the municipal budget for other purposes.

Companies with heavy, earth-moving equipment have initiated innovative and very cost effective mitigation

programs by utilizing their equipment to assist the municipality in earth moving projects. Companies have utilized reclamation equipment to assist the communities in a number of projects to improve drainage and develop park and recreation facilities. Hydroseeding equipment has been used both for revegetation of disturbed areas on government construction projects and in the seeding of new parks as they have been developed. Company equipment has also been used to excavate pits for community landfills.

Human Services

Human service programs are extremely important in avoiding impact problems. These programs are normally funded through a combination of federal, state, and local governments and private donations. Both governmental funding and private donations usually lag behind the actual demand for services. Therefore, special attention must be placed upon evaluation of the needs of these agencies.

The best way to develop the information requisite to actively plan for impact needs for human services is through a needs assessment and program evaluation (7). The goal of a needs assessment is to develop priorities for addressable needs and to distinguish between real needs and desires or ideals. Emphasis should be on developing capacity to anticipate needs before they reach crisis proportions and on utilizing an integrated approach to the delivery of human services. This careful planning is preferable to reacting to pressing service demands as they arise. Incremental or impact caused needs should be considered as well as ongoing program needs. New and expanded service needs will evolve as a community is impacted.

Human service delivery tends to be disjointed and reflect a response to local demands for programs. Many times, the entire spectrum of human services offered in a community is not known until a socioeconomic assessment has been completed. To meet impact demands, a coordinated planning and funding process is essential.

Recreation

Provision of recreational facilities in the construction community should always be considered as part of the housing program. This is good preventive medicine to help avoid some of the classical problems encountered in rapid growth areas. Outdoor recreational facilities such as softball diamonds, basketball courts, and parks should be incorporated within the design of the community. Indoor recreation facilities have been provided in those instances where existing community facilities would not be adequate for the construction workforce. In one instance, the proposed construction community abutted a stream where the riparian vegetation had been denuded over time. The company agreed to initiate a riparian restoration program through planting of trees and shrubs in this stream area. The goal of this program is to initially provide an aesthetically pleasing greenbelt area for the construction community and to ultimately improve wildlife habitat after the construction program is completed.

Demand for outdoor recreation activities must also be assessed. Outdoor recreation facilities are expensive to construct and outdoor recreation resources are usually finite within a given area. Therefore, mitigation activities are usually most successful when they emphasize optimizing the use of existing facilities rather than trying to create new ones. Many times, the provision of information regarding outdoor

recreation opportunities and their proper use is effective in mitigating impacts. Environmental awareness training administered as part of a safety program can be another very effective tool.

FISCAL IMPACT ANALYSIS

Revenues

Existing budgets of local government units should be analyzed to determine the current revenue structure. Sources of revenue which will increase with project related expenditures and population growth should be identified. Expected project benefits from these revenue sources can then be predicted. Existing laws, regulations and policies should be examined closely to determine methods of optimizing return of project-related revenues to the impacted units of government. For example, in Wyoming, a vendor is entitled to pay sales or use tax payments on a state-wide license. Taxes paid under such a license are distributed to all communities within the state. However, if the same taxes were paid on a license designated for the impacted county, the tax revenues would be distributed only to communities within the impacted county. On federal projects, agencies should be encouraged to allow their contractors to purchase materials and pay the state and local taxes rather than to seek federal exemption from taxes.

Mitigation strategies are most effective when they rely upon the normal governmental processes for funding. Therefore, expected project-related revenues to local governments should be earmarked as sources of funding to offset project-related demands. Many times, these estimates of revenue will contain a large degree of uncertainty. A very effective mitigation strategy is to guarantee all or a portion of the estimated project related-revenues. Local units of government can then proceed with the provision of services and facilities under their normal budgetary process with certainty that the identified funding committed to mitigation programs will be forthcoming.

Expenditures

Existing expenditures for local units of government should be carefully analyzed. Fixed per capita costs should be separated from variable costs. Programs should be analyzed to determine if growth will result in economies of scale, or create new demands disproportionate to the expected growth. Costs of new capital facilities should be analyzed carefully, including operational and maintenance costs. Services currently provided through the private sector should also be analyzed to determine whether or not the community can adequately respond to growth demands. Services such as day-care centers, recreational resources, transportation facilities, and human service programs that may presently be privately operated may require government subsidies to meet increased demands during rapid growth. When adverse fiscal impacts are projected as a result of this analysis, plans and measures for mitigating these impacts must be developed. These plans should be developed with both public officials and private providers of services to ensure that appropriate mitigation plans are developed. Failure to include all affected entities in the planning process will inevitably result in failure of the mitigation program. For example, in one impacted Wyoming community, a new human services facility was constructed to consolidate all human services within one building. Although an extensive day care facility was included in the new facility, the private, non-profit corporation already providing day care services in the community was not included in the planning process. As a result, the day care provider was not

able to afford the cost of using the new facility, and the new day care center was not utilized.

MONITORING

Design of an effective mitigation program should not be considered complete once initial programs are established. Rather, it should be recognized that the world is constantly changing. The impact mitigation program must accommodate changes which occur in the impacted community. Adequate monitoring of the community is essential to continued success of any programs that have been initiated. Monitoring programs have been developed by companies in conjunction with the affected units of government. Monitoring programs should be kept as simple as possible so that reporting does not lag significantly behind data collection. Emphasis should be placed on monitoring the number and residency location of the workforce and on key indicator parameters within the affected community. Monitoring programs are particularly helpful to community leaders if the programs continue and improve on the predictive tools developed in the initial impact assessment. Revised forecasts can then be provided periodically to assist communities in reacting to actual growth which is occurring.

CONCLUSIONS

Much valuable experience in mitigating impacts associated with rapid growth has been gained through the industrial siting process in Wyoming. Affected communities have been better able to plan for and to accommodate the growth which has occurred. Companies which have participated in the process have experienced better productivity from their workforce as a result and, hence, have also benefited from impact mitigation programs. To be effective, development of socioeconomic impact mitigation plans must include

local officials in the planning process and must be integrated into project management. Programs must be designed to be flexible and responsive to changing circumstances. Although there is still much to learn about the science of impact mitigation, experiences to date in Wyoming under the siting process indicate that with proper planning, impact problems can be avoided.

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