

LOCAL INDUSTRIAL LOCATION SELECTION ISSUES: A STUDY OF
INTERGOVERNMENTAL INITIATIVES ATTRACTING NEW TECHNOLOGY AND
INDUSTRY TO TEXAS FOR URBAN GROWTH AND DEVELOPMENT

BY

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AN APPLIED RESEARCH PROJECT (POLITICAL SCIENCE 5397)
SUBMITTED TO THE DEPARTMENT OF POLITICAL SCIENCE
SOUTHWEST TEXAS STATE UNIVERSITY
IN PARTIAL FULFILLMENT
FOR THE REQUIREMENTS FOR THE DEGREE OF

MASTERS OF PUBLIC ADMINISTRATION

(Fall 1990)

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CHAPTER 1 - INTRODUCTION

BACKGROUND

Possibly the most important business decision a high tech industry will make concerns location selection. From the time a site is selected to the time construction begins, many economic factors are thoroughly scrutinized to ensure the decision is profitable. Most factors reviewed by industrial site selectors relate directly to governmental procedures and resources.

In efforts to support the economy, intergovernmental incentives have been developed to promote interaction with local business markets. For example, between 1981 and 1986, 26 states adopted legislation authorizing state enterprise zone programs which opened doors to attract new business. Some of the incentives offered to corporations through this package include infrastructure improvements (based on prospective newcomers' special requests like sewage treatment plant upgrades); real property tax abatements on the value of improvements to zone properties; zone promotion and marketing techniques; and

industrial revenue bonds.¹ Some additional options include federal trade zones, industrial development corporations and bonds, research and development incentives and tax breaks. It is through intergovernmental cooperation that these incentives are implemented.

Federal programs have been developed to promote risk taking.² With federal consent, states can influence the cost and availability of funds (liabilities) to financial institutions or influence the nature of their investments. An example of a federal program adopted to assist state economies is the Foreign Trade Zone (FTZ). The Texas/Mexican border maintains a successful FTZ wherein the Maquiladora program (an international economic cooperative program) has attracted new business like General Electric and Zenith to the area.³ The surrounding areas reap the economic benefits of the new industry.

Thus, sets of interested government and local business must piece together an economic puzzle that creates a higher quality of life within the community. Some of these puzzle pieces include "growing regional market[s], financial position of the state, state tax structure, availability of state industrial

¹U.S. Department of Housing and Urban Development. The Office of Program Analysis and Evaluation, Office of the Assistant Secretary for Community Planning and Development State-Designated Enterprise Zones, August 1986.

²Thomas P. Doud, "Directing Capital to Small Young Firms," Economic Development Review 5 (Winter, 1987), p. 14.

³Ibid., p. 148.

revenue bond financing, and state environmental regulations".⁴ These components combined with natural resources, labor, and financing - items important to industry - create a cohesive solution for the community.⁵

Overall, it is a test of durability that an urban community confronts. In order to maintain a high standard of living and quality of life, it is necessary for a team effort to be created between the community and government. Without community support, a program to strengthen the economy will not work; and without the commitment and correct tools, a government will find its economy weak and behind the times.

APPLIED STUDY INITIATIVES

It will be the purpose of this paper to examine selected incentive measures that attract industry into the community. The incentives studied here are categorized into two groups: passive government incentives (indirect or minor government involvement) and active government incentives (hands-on government developed regulatory programs).

It is the objective of this paper to assess the relative importance of five incentives currently functioning to attract high tech industry into thirty-two cities across Texas. A thorough literature review of the topic, as well as the

⁴Dennis S. Tosh, Troy A. Festervand and James R. Lumpkin, "Industrial Site Selection Criteria: Are Economic Developers, Manufacturers and Industrial Real Estate Brokers Operating On the Same Wave Length?" Economic Development Review 6 (Fall, 1988): p. 62-63.

⁵Ibid., p. 65.

hypotheses to be examined by the study are presented in Chapter 2. Chapter 3 provides methodology information such as variable measurement, and data collection. Previous studies using similar methodologies and topics will be reviewed to verify validity and reliability in the study. Finally, multiple regression will be discussed as the statistical tool used to test hypotheses.

Chapter 4 bestows the results of the study, while providing some insight into its findings. Chapter 5 integrates all of the above to provide some observations and possible suggestions to city administrators for improved quality in measures currently in use.

This study is a scientific look at methods for improving economic development within Texas, focusing on incentives currently being implemented in cities across the state. It is hopeful that these findings will assist government administrators in their implementation of strategies designed for local economic stability.

CHAPTER 2 - CONCEPTUAL FRAMEWORK

INTRODUCTION

The U.S. economy has undergone numerous changes in the past century; what was once largely an agrarian economy in the 19th century quickly evolved into a highly concentrated industrial economy (33 major industrial cities were created from 1898-1929).¹ More recently, however, indications of decentralization or population movements away from cities have been noted. The 33 major industrial areas of the early 20th century have been redefined as four regions (Northeast, South, West, and Midwest). Each region has risen (and ultimately fallen) in influence over the past 60 years. Currently, the South and Western regions are considered regions of growth.² Nonetheless, the changes have sparked concern that industry is moving out.

Obviously, when unemployment is high, government functions poorly. Community financial problems are caused by a reduced tax base, meaning that taxes used to support government services like police and fire are not available. Industrial relocation away from urban areas has caused cities to be faced with debilitating economical chain reactions. High unemployment and

¹U.S. Department of Housing and Urban Development. The Office of Program Analysis and Evaluation, Office of the Assistant Secretary for Community Planning and Development State-Designated Enterprise Zones, August 1986., p. 125.

²Ibid., p. 117.

vacant office space and industrial properties have reduced sales and taxable income for communities everywhere. Economic slowdowns have resulted in poor quality government services.

A theory described as the "product life cycle" suggests that industry initially locates within city limits due to market availability. They search for "high product prices and profits, relatively skilled labor force, [and a] high proportion of scientific and engineering inputs".³ Ultimately, however, the firms decentralize to rural areas to reduce production costs and retain profits.⁴ For example, from 1975 to 1982, large metropolitan areas lost 110,000 high tech jobs due to industrial moves toward suburban and rural regions.⁵

Strategically, municipalities must make diffuse attempts to acquire (or maintain) a stable economy. In negotiations with interested high tech industries, the city should be completely prepared for site selectors' expectations.⁶ Innovation and opportunity (i.e., special advertising campaigns or trial-basis opportunities), clear communication, simplicity, and compatibility with other market areas are suggested areas of concentration. Remaining competitive with other cities means

³David L. Barkley, "The Decentralization of High Technology Manufacturing to Nonmetropolitan Areas", Growth and Change 19 Winter, 1988, pp. 14-15.

⁴Ibid.

⁵Ibid., p. 24.

⁶Edward R. Bee, "How to Improve Economic Advertising Lessons from the Diffusion of Innovations," Economic Development Review 6 (Spring 1988): 47.

awareness of local resources in concert with developing technology. Diversity may mean the competitive edge.

The town of Cuba, Missouri, is an example of successful governmental efforts to revitalize a downtrodden economy. Cuba, with a population of 2,100 people, was devastated when three plants closed their doors just prior to Christmas 1984. One hundred people were out of work causing unemployment to rise to 13 percent. Cuba was impelled to restore economic strength. After careful consideration, incentives were developed designed to attract other industry into the community. This included giving away land located in an industrial park, abating taxes for ten years, and scheduling regressive rebates over a five-year plan. The result brought unemployment down to 5 percent. Sales tax revenues were up 33 percent and overall revenues were up 50 percent.⁷

THE ENVIRONMENT

The conceptual framework for this research project uses municipal inducements designed to attract high technology corporations into the community. The objective for recruitment includes economic and industrial growth which is directly affected by factors such as natural resources, geographical issues like population and land resource growth, technological

⁷ U.S., Congress, Senate, Committee on Finance. Miscellaneous Tax Issues. 100 Cong., 1st. sess., Statement of Dennis D. Roedemeier, President, Cuba Industrial Development Authority, Cuba, MO, Accompanied by Michael Wolf, Director, EZ Project, November 13, 1987, p 37.

development and innovation, political motivation and influence, and "entrepreneurship".⁸ Essentially, it is an agreement by the host government to reduce corporate overhead expenses (where possible) in return for local corporate site selection. New industrial location should reap economic benefits like reduced unemployment, increased living standards, and revitalization of depressed areas. In order to capitalize on this economic development, it is then governmental responsibility to develop incentives competitive enough to warrant corporate consideration.

Across the state of Texas, cities such as Austin (1985) have implemented incentive measures to spur development. The Planning and Growth Management Department Steering Committee generally outlined some of the city's goals, showing corporate limits increased by 12 percent since 1984. At that time, the city utilized zoning to promote regulated land use and built public facilities to avoid increased area congestion.⁹ Other local incentives include neighborhood conservation districts - designed to upgrade new construction standards, a "tougher floodplain ordinance", "revocation of the old practice of reimbursing developers for laying utilities," and more.¹⁰

⁸Lewis F. Abbott Theories of Industrial Modernization and Enterprise Development. (Great Britain: Industrial Systems Research, Publications, 1983), p 11.

⁹Planning and Growth Management Department Steering Committee, City of Austin, Texas, Austin's Resources, 1985, p.26.

¹⁰Kaye Northcott, "Austin: The Perils of Popularity," Planning 50 (November 1984), p. 10.

The cities of Dallas and Fort Worth, Texas, are other examples of incentive implementation; but, these cities developed zoning ordinances. Dallas packaged a 29-classification unit of incentives to appeal to big business.¹¹ Fort Worth utilizes sector zoning to increase the use of bad property.¹² Each of these efforts is intended to develop economically depressed areas.

This study will consider how selected Texas city incentive measures for high tech industry influence site selection decision. The research classifies incentives into two categories -- passive and active. Within the two classifications, five economic development incentives will be examined; local political climate, existing technology, higher education facilities, enterprise zones, and federal trade zones (it was determined that other available incentives can be considered internal components of the five selected). The five economic development incentives are discussed below.

PASSIVE INCENTIVES

Passive incentives are defined as measures influencing the economy and/or environment which have little to no regulatory binding effect on industry, but directly influencing industrial location selection. They indirectly affect (and are affected by) political decisions, but are not formal governmental

¹¹Peter Applebone, "Big D and Getting Bigger," Planning 48 (March 1982): 13.

¹²Ibid., p. 14.

proceedings. Two examples of passive incentives are local political climate, and existing high tech industry. Exactly how these factors impact growth depends on the economic climate like market fluctuations and political sentiment.¹³

Local Political Climate

Governmental political climate is defined in terms of elected officials pressured by political concerns involving the public and local interest groups. In this context, industry may be concerned about political stress which causes an erratic and stormy political environment. In this environment, government services like water lines, paved roads or electricity rates essential to the newcomer industry may be interrupted. In spite of a united purpose to pursue economic growth, intergovernmental tension resulting from political competition has spurred unfortunate economic developmental delays and legal battles.¹⁴

Politics and Federalism

Politics and federalism are by no means mutually exclusive. It is well-known that chaos (procedural and otherwise) results from enmeshed political preferences in government; but things worsen when decision-making authority passes to new government leadership. One example of vertical political pressure developed when the Reagans moved into the White House -- the previous Carter administration sought government centralization,

¹³Lewis F. Abbott Theories of Industrial Modernization and Enterprise Development, p. 13.

¹⁴Cordon Chase and Elizabeth C. Reveal, How to Manage in the Public Sector, (Random House: New York, 1983), p. 117-119.

but the Reagan administration supported decentralization - totally redirecting power to lower government levels.¹⁵ Another example is Foreign Trade Zones (FTZs) that are designed to support economic development. Problems may occur if rural inventory tax laws adversely affect their goals. Texas FTZs, for example, are often forced to spend additional tax dollars to resolve the dispute.¹⁶

City bond ratings are key sources of information available to industrial site selectors. Radical political pressure develops when municipal governments seek to raise bond rates (i.e., A - AAA ratings) -- low bond rates indicate debt repayment difficulties¹⁷. Political problems worsen when federal legislation limits local and state bond moneys designed for development. (The Tax Reform Act of 1986 has already reduced some of the provisions of municipal bonds.) South Carolina v. Baker is a court decision declaring that the federal government may tax state and local bonds.¹⁸

¹⁵Laurence J. O'Toole, Jr., American Intergovernmental Relations, (Washington D.C.: Congressional Quarterly, Inc., 1985), pp. 5-17.

¹⁶Lyndon B. Johnson School Of Public Affairs, The Effects of State Government on Economic Development in Texas Cities, 63 (Texas: University of Texas, p. 151.

¹⁷William Fulton, "Making a Beeline for Wall Street," Planning 55 (June 1989): 12-15.

¹⁸David L. Barkley, "The Decentralization of High Technology Manufacturing to Nonmetropolitan Areas", Growth and Change, pp. 14-15.

Lateral Politics

The relationships among local governments do not prove any less political. Each community may emphasize protecting its self-interest during intergovernmental negotiations. If there is nothing to gain from local cooperation, communities choose to take on an adversarial role rather than one of integration. For example, a decision to accept another community's waste would be declined if there were nothing to gain by doing so - nothing, that is, to materially benefit the recipient community, even though it is an issue of larger area-wide health and welfare.¹⁹

Political Climate Hypothesis

In this study, political preference is based upon state elected congressional district representatives and their respective party preference - either Democrat or Republican.

Most of the literature reviewed pointed to intergovernmental competition as potentially the worst cause for political discontent. This is comprehensible when examining the vast groups involved; federal government, state government, local governments, and special interest groups. Hence, it is hypothesized that the political climate is a positive factor in site selection trends of high tech industry.

¹⁹Parris N. Glendenig and Mavis Mann Reeves, 2d ed. An Intergovernmental View of American Government, (California: Palisades Publishers, 1984), p. 323.

Existing Technology

For purposes of this research, the high technology corporation is defined as independently managed operations which must develop or manufacture a high technology product (i.e., automation, biotechnology, chemicals, computer hardware, defense, energy, manufacturing, materials, medical, pharmaceuticals, photonics, services, software, subassemblies and components, test and measurement, telecommunications, and transportation).²⁰ Existing technology refers to high tech firms already established within an area.

The Product Life Cycle

The "product life cycle" theory mentioned earlier is crucial to site selectors.²¹ Here, existing technology means market availability and profits (reduced shipping and inventory costs as well as enhanced communication with the consumer), an adequate labor market, as well as a broadened informational data base.²² Further, as alliances and mergers between suppliers and end-users develop, a "one-stop" shopping place is formed where informational networks reap high profits.²³ But this knowledge means power strong enough in the ever-changing high tech world to create national and international competition so

²⁰U.S. edition of the Corporate Technology Directory, (Massachusetts: CorpTech 1990) p. 1-xii.

²¹David L. Barkley, "The Decentralization of High Technology Manufacturing to Nonmetropolitan Areas", Growth and Change, p. 15.

²²Tom Forester, High-Tech Society, (MIT Press: Massachusetts, 1987) p. 57.

²³Ibid., pp. 50-80.

intense that scandals like industrial espionage frequently arise.²⁴

Existing High Technology Hypothesis

Of all possible attractions available to site selectors, existing high tech industry is perhaps the single most important incentive because of its direct impact upon high tech. As a result, it is hypothesized that existing technology is a positive impact upon site selection decisions by high tech industry.

ACTIVE INCENTIVES

Active incentives are direct government interventions such as special programs and regulations designed to promote economic development. With federal consent, states create incentive-producing programs, the majority of which are delegated to local governments for implementation. This means local governmental responsibility includes tailoring available incentives to meet city needs (i.e., a coastal city will have different needs than an inland city).

Governmental commitment to economic development has generated some impressive incentive packages in Texas. For example, programs like Foreign Trade Zones and state programs like Enterprise Zones combine available incentives specific to site selection criteria. A benefits packet may consist of any or all of the following: education and job training programs,

²⁴Ibid.

customized industrial training, a state loan, industrial development bonds, sales and use tax exemptions, and tax abatement. The success of zoning is specific to high tech industry profit margins; i.e., what is the cost-benefit margin and their overall needs.

Higher Educational Facilities

Texas has 140 institutes of higher education that employ scholars to assist local industrial firms with beneficial educational programs and research and development projects. These measures help high tech industry keep down expenses and stay competitive.²⁵

Education and Job Training

In an effort to reduce overhead costs, job training programs like the Job Training and Partnership Act (JTPA) 1982, and the Workforce Incentive Program aim at providing customized, industry-specific training to employees.²⁶

These training programs allocated to college and university systems across the state receive mixed reviews. Dissenting opinion among some U.S. firms view it as a short-term productivity measure to "cost-reduction."²⁷ But, a survey of firms whose workers had taken college courses offered through

²⁵Texas Department of Commerce pamphlet on Education entitled Texas.

²⁶Texas Department of Commerce Handouts Job Training Partnership Act and Workforce Incentive Program.

²⁷Donald A. Hicks, ed., Is Technology Enough?, (Maryland: U.P.A, Inc., 1988.), p. 81.

the programs showed an increase in productivity and efficiency, inspiring and motivating workers to learn more.²⁸

Research and Development

Another role of university systems concerns Research and Development (R&D). Industrial R&D means enhancing innovative ideas in competitive markets. "Qualified research" is defined as:

. . . information that is both technological in nature and useful in developing new or improved business components for sale or use in . . . trade or business.²⁹

Thus, industrial and R&D firms look to government resources for assistance with technological innovations, reduction of R&D overhead expenses otherwise incurred in-house, as well as taking advantage of surrounding markets.³⁰

Higher Education Facilities Hypothesis

Summed up as labor market availability, the need for an educated labor force is a top priority to high tech site selectors.³¹ Thus, higher educational facilities is hypothesized to be a positive impact upon high tech industry because of the benefits received, i.e., job training and R&D.

²⁸James Jacobs, "Training the Workforce of the Future", Technology Review, 92 (August/September 1989): p.69.

²⁹Arthur Andersen & Co. Tax Reform 1986, (Arthur Andersen Worldwide Organization: Chicago, IL, 1986) p. 286.

³⁰John Rees, Geoffrey J.D. Hewings and Howard A. Stafford, ed., Industrial Location and Regional Systems, (New York: J.F. Bergin Publishers, Inc., 1981), p. 234.

³¹Tom Forester, High-Tech Society, p. 55.

Enterprise Zones

The enterprise zone program in Texas assists "distressed areas . . . to induce private investment . . . by means of the removal of . . . governmental regulatory barriers to economic growth and the provision of tax incentives and economic development program benefits."²² Moreover, it "create[s] the proper economic and social environment to induce the investment of private resources in productive business enterprises located in severely distressed areas and . . . provide[s] employment to residents of those areas."²³

Enterprise Zone Qualifications

The Texas Enterprise Zone Act (1989) created geographical zones wherein local governments set commercial tax structures i.e., refunding local sales and use tax to retailers for equipment, machinery or materials purchases, in addition to remodeling, rehabilitation or construction expenses.

Each candidate area must meet criteria for consideration as an enterprise zone. First, the area must have a continuous boundary; it must be at least one square mile in size, not exceeding the larger of: a) 10 square miles, or b) 5 percent of the cities or counties seeking the enterprise zone - but not more than 20 square miles; it must be nominated by resolution and adopted by legislature; and finally, it should be considered

²²Texas Department of Commerce Handout Enterprise Zone Program Rules, 10 TAC 176, Sec. 176.1, p. 1.

²³Texas Department of Commerce Handout The Texas Enterprise Zone Act, Art. 5190.7, Sec. 2, p. 1.

as an area with: a) pervasive poverty, unemployment, and economic distress, or b) designated a rural area.³⁴

The overall purpose of enterprise zone is to promote development or redevelopment of designated areas. The program utilizes population information, income and unemployment figures, and changes in commercial and residential structural deficiencies to create a zone.³⁵

Intergovernmental Implementations

Municipal Property Tax

Zoning is an intergovernmental effort that consists of urban and rural zone types broken down into local and state levels (Level I and Level II, respectively). Municipally, tax abatement is available which conditionally allows a city to abate ad valorem property taxes and, if required property improvements are performed, reinvestment zones may also be developed.

State Allocated TIFs

Tax Increment Financing (TIF) is a state allocated program that "provides funds in urban areas by capturing the incremental increase in tax revenues from new development."³⁶ Tax Increment Financing programs begin when a district is formulated in a "blighted" area. (An area is considered "blighted" when there

³⁴The Texas Enterprise Zone Act, Art. 5190.7, Sec. 4, p. 4-5.

³⁵Ibid.

³⁶John E. Greuling, "Tax Increment Financing: A Downtown Developmental Tool" Economic Development Review 5 (Winter 1987), p. 23.

is "building deterioration and obsolescence, high vacancy rates, declining tax base, lack of new investment, infrastructure inadequacy and deterioration, [and] lack of an overall area "plan " for land use."³⁷) Tax Increment Financing supports the redevelopment and renovation of otherwise unattractive areas dubbed as unsuitable. Some financing methods include General Obligation Bonds (based on city full faith and credit), Tax Increment or Allocation Bonds (based on credit of the city or the project area itself), lease revenue bonds or special assessments and annual expenditure increments.³⁸ Once the property is determined to be blighted, funding becomes available for redevelopment. The property is sold for a low price to a developer; money received prior to the development is redirected to other entities like schools and townships. Upon completion, the tax revenues received from the improvement are applied to the development costs and the district is dissolved.³⁹

Federal Tax Incentives

Federal tax incentives are also used to attract domestic corporate industries. Some of these currently include: 10 percent credit to Enterprise Zone (EZ) employers for qualified increases in employment expenditures; 5 percent credit for EZ employees for qualified wages received; 10 percent investment tax credit for new property located in an EZ used by tax payers

³⁷Ibid., p. 24.

³⁸Ibid., p. 26.

³⁹Ibid., p 25.

in a trade or business; exemption from capital gains tax when proceeds are used to purchase qualified replacement property; tax deduction for enterprise stock purchases; limited special privilege for industrial development bond holders owning EZ property to be used in trade or business; loss allowance for securities of EZ businesses which become worthless; and additional tax credit for research conducted in an EZ.⁴⁰

Enterprise Zone Hypothesis

When competing with other cities for high tech industry, enterprise zones are avenues to municipal diversity. Assuming the full potential is utilized by cities implementing enterprise zones, this study hypothesizes that enterprise zones have a positive impact upon site selection by high tech industry.

Foreign Trade Zones (FTZ)

Foreign trade zones (FTZs) are federally designated areas where domestic goods can be excluded from customs duties or excise taxes. The zones are chartered by states, political subdivisions, or corporations to promote international trade and commerce.⁴¹

Texas FTZs

In Texas, industrial benefits from FTZs include: tariff payment delays on imported products, tariff payment reductions

⁴⁰U.S., Congress. House. Committee on Banking, Finance and Urban Affairs. Enterprise Zones. 101 Cong., 1st sess., March 22, 1989.

⁴¹Lyndon B. Johnson School of Public Affairs, The Effects of State Government on Economic Development in Texas Cities, p. 150.

on FTZ processed goods, tariff exemption on products exported from an FTZ, permission to ship Mexican goods for further processing to multiple Texas FTZs without entering U.S. Commerce, and exemptions for duties on assembly, packaging and re-exporting.⁴²

Since 1965, Texas applied for and received twenty public corporate FTZ licenses.⁴³ Along the Texas-Mexico border, the Maquiladora program utilizes FTZs by uniting U.S. and Mexican economic development efforts to create a market where products are assembled in Mexico from U.S. goods. The products are then returned to the U.S. FTZ duty-free.⁴⁴

The Texas coastal ports, like Houston, Galveston and Corpus Christi, utilize FTZs for imported commodities from multinational corporations. But, further inland, Dallas-Fort Worth, El Paso and Laredo have FTZs for international airports where the aircraft industry and electronics represent a large portion of the economy.⁴⁵

⁴²Texas Department of Commerce Pamphlet, Texas-Mexico Border Region, p. 7.

⁴³Lyndon B. Johnson School of Public Affairs, The Effects of State Government on Economic Development in Texas Cities, p. 147; and Texas Department of Commerce Pamphlet, Texas-Mexico Border Region, p. 7.

⁴⁴Texas Department of Commerce Pamphlet, Texas-Mexico Border Region.

⁴⁵Lyndon B. Johnson School Of Public Affairs, The Effects of State Government on Economic Development in Texas Cities, pp. 148-149.

FTZ Hypothesis

The widespread expansion of FTZs has increased U.S. market compatibility and national benefits via added income and employment from FTZ activity. In Texas, observing FTZ application supports a regional comparison determining if border and coastal cities are preferred by industry. Thus, it is hypothesized that FTZs positively impact high tech site selection decision-making.

SUMMARY OF THE HYPOTHESES

Motivations for Industrial Site Selection - A Study

The majority of literature relating to measuring incentives supports the premise that active incentives are not as influential as passive incentives, but each incentive has its merit. The results of data gathered by Richard D. Pomp using a questionnaire rating the importance of available incentive measures is presented below.

Major airport access	60.0%
Customer and market proximity	59.6%
Room for expansion	53.9%
General location	53.0%
Entrepreneurial climate	51.9%
Cost of Land	29.4%
Business tax climate	48.0%
Cost of living	47.0%
Cost of available energy	37.2%
Local regulations in business	37.2%
Good public schools	32.6%
Cultural amenities	21.6%
Local public transportation	17.6%
Quality of municipal services	34.0% ⁴⁶

⁴⁶Richard D. Pomp, "The Role of State Tax Incentives in Attracting and Retaining business," Economic Perspectives, 5 (Spring, 1988), p. 54.

Here, respondents rated customer and market proximity (existing technology) important at 59.6 percent. This indicated a greater impact upon site selection than local regulations in business (37.2%). Major airports and coastal ports ease to international connections (FTZs) were the highest (Major airport access - 60.0%). Other supporting observations show that while good public schools (32.6%) is less important than business tax climate (political climate) rated at 48 percent, it is still more important than the cost of land (29.4%).

In general, this research hypothesizes that government programs like education, enterprise zones, and FTZs positively impact site selection, despite industrial community sentiment to the contrary.⁴⁷ It is further hypothesized that high tech industrial site selectors consider less tangible incentives, such as political and market concerns as highly influential when making location decisions.

The model used to examine high tech industrial location is presented below. Hypotheses are summarized in parentheses:

$$\text{HiTecP} = f(\text{political climate, (+) enterprise zone, (+) existing high tech industry, (+) higher education facilities, (+) federal trade zone (+)})$$

Where HiTecP = High Tech Industrial Location

⁴⁷Ibid.

CONCLUSION

Intergovernmental competition is tough, and it suggested that municipalities seeking goals of economic development via industrial incentives be fully prepared to enter the contest.⁴⁸ Preparation begins with the local governmental awareness of industrial interests relating to natural resources, the labor market, and industrial output and financing⁴⁹. Governmental officials must understand the "importance of a growing regional market, financial position of the state, state tax structure, availability of state industrial revenue bond financing, and state environmental regulations" to create desirable incentives.⁵⁰ This study examines several of these incentives.

Overall, it is a test of durability that an urban community confronts when seeking economic development; but it is a team effort involving industry and government that is needed to acquire an improved local quality of life. Without industrial interest, a program to strengthen the economy is wasted money and rendered useless; and without the commitment and correct tools, a government will find itself weak and outdated. Thus,

⁴⁸U.S., Congress. Senate. Committee on Small Business. Enterprise Zone Program and Its Impact on Small Business Growth and Development. 101 Cong., 1st sess., June 21 and September 21, 1989, p. 13.

⁴⁹Dennis S. Tosh, Troy A. Festervand and James R. Lumpkin, "Industrial Site Selection Criteria: Are Economic Developers, Manufacturers and Industrial Real Estate Brokers Operating On the Same Wave Length?" Economic Development Review 6 (Fall, 1988): p. 65.

⁵⁰Ibid., p. 62-63.

harmonic efforts between government and industry is needed to obtain economic development.

CHAPTER 3 - METHODOLOGY

INTRODUCTION

The methodology used to test the hypotheses will be discussed in this chapter. First, data source and measurement of the dependent and independent variables will be presented. Next, multiple regression as the statistical technique used to test hypotheses will be discussed. The chapter closes by summarizing the strengths and weaknesses of the methodology.

DATA

The unit of analysis for this study is the Texas city. The sample was refined to include only those cities that possess high tech industrial corporations which are part of parent organizations. Hence, thirty-two cities were selected from the sampling frame of approximately 2,000 Texas cities.

The selection criteria was based on the presence of at least two parent high technology companies located within city limits. Two was the number chosen for pragmatic as well as theoretical reasons. First, a minimum of two allowed the number of cases to be large enough to use appropriate statistical techniques; and secondly, theoretically, two parent companies were judged sufficient to maintain that a city had a high tech base. The sample includes the following Texas cities: Addison, Arlington, Athens, Austin, Carrollton, Cedar Park,

Corpus Christi, Dallas, El Paso, Fort Worth, Garland, Granbury, Grand Prairie, Greenville, Houston, Irving, Lewisville, Longview, Lubbock, Midland, Mineral Wells, Odessa, Plano, Richardson, Round Rock, San Antonio, San Marcos, Stafford, Sugar Land, The Woodlands, Tyler and Wichita Falls. The selection criteria was established by this researcher with the assistance of the Corporate Technology Directory, 1990 U.S. Edition.

When an element such as a city is used as the unit of analysis, variables are constructed using aggregate data. Variables about each participant city were constructed using information obtained from a variety of sources.

Variables were constructed using data from several state agencies. Those include: number of higher education facilities obtained from the Texas Higher Education Coordinating Board - Institutions of Higher Education in Texas, 1989-90; enterprise zone and foreign trade zone documentation provided by the Texas Department of Commerce - Texas Enterprise Zone Communities and The Texas-Mexico Border Region - Opportunities for Business; and political climate data taken from the House of Representatives Chief Clerk's Office via handout - By Districts with Counties House of Representatives 71st Legislature. Data concerning high tech industry was extracted from the Corporate Technology Directory, 1990 U.S. Edition. All variables were measured in the year 1989.

VARIABLE MEASUREMENT

The Dependent Variable - HiTecP

The dependent variable for this study is measured as the number of high tech companies within a city considered part of a larger parent organization (including foreign ownership). For purposes of this study, the dependent variable is represented by the acronym HiTecP. The nature of this study is to uncover the significance of the relationship of both active and passive government incentives utilized to attract high tech industry to a city.

HiTecP is representative of cities after high tech companies have undergone their site selection processes. This provides the researcher with comparative information to be weighted against the hypotheses set out in the conceptual framework. Also, this approach studies actual applications of incentive use by a municipality; as opposed to the survey method, wherein personal preference includes biases.

Prior research indicates that local government taxes have little or no effect on site selection decisions, and that "nontax factors" are more attractive to industry. However, the same study provided proof that available workforces are concerned with tax issues, and will emigrate away from high tax areas; thus, site selection is affected by taxes in the long

run.' Hopefully, this study may settle some of these disparities.

The Independent Variables

- Political Climate - Political

No other studies actually measured political climate or political party affiliation as a formal variable affecting high tech industry site selection. Some surveys, however, did reveal the importance of politics as a factor when cities seek to boost their economy. For example, cities need the public's support which often translates to new business "paying its own way" or "pay[ing] for itself" (emphases in original) - referring to job creation and attracting other business.² Intergovernmental competition also creates an atmosphere conducive to economic development because no community wants the lesser advantage when attracting new business.³

Further, the federal government is helping to support American investment in international competition. Here, political climate indicates that Democrats support central planning, with interventionist initiatives, while Republicans support the creation of "an economic environment in which high-tech ideas and companies can flourish."⁴

¹Robert L. Bland, A Revenue Guide for Local Government, (University of North Texas: ICMA, 1989), p. 156.

²Ibid., p. 155.

³Ibid.

⁴Tom Forrester, High-Tech Society, p. 9.

In a survey by Dennis S. Tosh, Troy A. Festervand and James R. Lumpkin, political factors (termed as legislative climate) were examined. One hundred and eight manufacturers responded to questionnaires aimed at retrieving industrial site selection criteria. The study showed that politics, measured in terms of mean importance on a scale from one to six, had a mean of 4.52 (this suggests non-importance).⁵

In the study at hand, political climate is measured as a dummy variable expressing political party affiliations (i.e., 0 = Republican, 1 = Democrat). Information obtained concerning city politics is based upon the 71st Texas Legislature State House of Representatives elected for 150 districts across the state. It reflects the political party affiliation of its representative district.⁶

- Existing Technology - HiTecNoP

Tosh and his colleagues included existing technology in their study as well. Their results were broken down into three areas: "existing industrial base" which revealed a mean importance score of 3.58; "market proximity output" with a mean

⁵Dennis S. Tosh, Troy A. Festervand and James R. Lumpkin, "Industrial Site Selection Criteria: Are Economic Developers, Manufacturers and Industrial Real Estate Brokers Operating on the Same Wave Length?" Economic Development Review, p. 65.

⁶Texas House of Representatives Chief Clerk's Office handout - By Districts with Counties House of Representatives 71st Legislature.

of 3.55; and "freight cost for final product" with a mean score of 3.95.

Existing technology in the present case refers to the number of high tech firms already established within city limits (minus the number of high tech parent organizations). The acronym used for this variable is HiTecNoP. The use of this variable enables city administrators to understand the import related to existing technology - that a high tech environment spawns new industry. The use of the variable is intended to take into account all variables not included in the study specific to site selection like availability of industrial parks, local wages, local quality of life, etc.⁷

- Higher Education Facilities - Education

Higher education facilities has influenced industrial site selection for many years. California's Stanford University built in 1891 began attracting technology to the area by 1912 when the first vacuum tube amplifier was invented.⁸

This variable will be measured as the number of higher educational facilities in a city. It consists of both public and private institutions located within a city including: public universities, public medical schools and health science centers, independent medical and dental schools, independent

⁷Ibid., p. 52.

⁸Tom Forrester, High-Tech Society, p. 51.

senior colleges and universities, public community colleges, public technical institutes, and independent junior colleges.

Research indicated a direct relationship exists between local workforce education levels and educational facilities in the surrounding area, and is thus, one of the major factors influencing site selectors.⁹ However, Tosh and his colleagues found that manufacturers found "proximity to major research or service universities" to have a mean importance of 2.05; relatively unimportant when comparing mean scores already mentioned (see above).¹⁰

- Enterprise Zones - EZ

Enterprise zones (EZ) are characterized here as packaged tax incentive deals. The variable is measured as the total number of enterprise zones currently functioning within a participant city. It is based on state records obtained from the Texas Department of Commerce.

A couple of rather interesting observations were obtained from other sources concerning EZ in the industrial location decision-making process. In one case, EZ is seen as having minimal impact at the initial stages of site selection only to have a larger effect later as a swing-factor in decision-making.¹¹ Tosh, however, found municipal tax structures held a

⁹Robert L. Bland, A Revenue Guide for Local Government, p. 156.

¹⁰Tosh, et al. p. 65.

¹¹Robert L. Bland, A Revenue Guide for Local Government, p. 156.

mean score of 4.20 in the decision-making process, a markedly larger significance than the other variables measured in that study and the previous study.¹² It is hoped the results of this study will settle the dispute.

- Foreign Trade Zones - FTZ

Like Enterprise Zones, Foreign trade zones (FTZ) are also presented in terms of their application within participant cities. However, since there is only one FTZ per city - for purposes of measurement zero (0) indicates an absence of FTZs within the area, and one (1) indicates its presence.

There is an abundance of information available regarding FTZs, but not many surveys include the zone in studies. Tosh did include "proximity to port facilities" and "facilities for foreign trade" in his survey, which indicated mean scores of 1.48 and 1.43 respectively. Perhaps the reduced significance indicates why it is not found in other studies. This study will provide further support for this.

¹²Tosh, et al., p. 65

SUMMARY OF VARIABLES AND VARIABLE MEASUREMENTS	
ACRONYM	NAME
<u>HiTecP</u>	High Tech Parent Companies Measurement = total number of parent firms resident within each city
<u>Political</u>	Political Climate Measurement = Republican = 00; Democrat = 01
<u>HiTecNoP</u>	High Tech Companies (minus HiTecP) Measurement = total number of firms resident within each participant city
<u>Education</u>	Higher Education Facilities Measurement = total number resident within each participant city
<u>EZ</u>	Enterprise Zone Measurement = total number of enterprise zones used within city
<u>FTZ</u>	Foreign Trade Zone Measurement = no zone present = 00; zone present = 01

Table 3-1

MULTIPLE REGRESSION ANALYSIS

Multiple regression analysis will be the technique utilized to measure the association between the independent and dependent variables (i.e., how all variables and their relative level of importance compares across thirty-two cities).

Five independent variables (political climate, existing technology, higher education facilities, enterprise zones, and

foreign trade zones) will be measured against the dependent variable (locally operated high tech parent companies) to see what determines site selection decisions of high technology corporations into a municipality.

Multiple regression is an appropriate technique to test hypotheses because it will tell the unique independent influence of each independent variable on the dependent variable. In addition, the R^2 statistic reveals goodness of fit of the overall model, or how well it explains the variation in the dependent variable. Computation will be performed with the assistance of the statistical software package - Stat 1 Toolbox.

METHODOLOGICAL STRENGTHS AND WEAKNESSES

- Validity

If the hypotheses are confirmed, this study will provide evidence that variables relating to high tech site selection decision-making have interrelationships that could provide assistance to city administrators studying economic development. There are two variables which prominently test validity of the model. First, the dichotomous measurement (party affiliation) utilized for this study to portray political climate maintains questionable validity. Essentially, it may be disputed that political preference impacts industrial site selection at all, and, moreover that it does not accurately represent local political climate; hence, another indicator may be needed to better represent this variable in future studies.

Secondly, it may be argued that EZ does not measure packaged tax initiatives as much as it gauges the criteria established to create the enterprise zone. For example, a depressed economy is one criterion used to create an enterprise zone which may be classified as a disincentive in attracting industry. Businesses are cautious of this negative environment.

- Reliability Strengths

The strengths in the reliability of the information retrieved is three-fold. First, this is an aggregate data collection that can either be verified via state records or by examining gathered information from a professional directory. Hence, this study can acquire the same results through replication.

Secondly, this study method is not subjected to survey biases; it utilizes applied data - examining the results of site selection criteria after site selection has occurred. For example, where a researcher's method surveys site selectors for opinions like "what is important to site selection?", there is reason to believe the responses could be unstable. A different sample may reveal different information, or a change in the local economy may result in respondents reordering their preferences.

Finally, this study can also be used to verify the results of other studies. The existence of previous studies measuring similar incentives indicates real concern in the topic area.

- Reliability Weaknesses

Inasmuch as there is strength in utilizing information obtained after the site location decision is made, there is also weakness. Results are limited, when studying aggregate data. For example, when personal and group dynamic aspects inherent to decision-making are not accounted for, this can distort results of the study. For example, it may be useful for a city administrator to understand personality traits common to site selectors. Without this type of insight, a city administrator may unknowingly sabotage his/her own attempt toward development.

Another reliability weakness includes the reduced number of cases this study examines. Although state-wide representation was sought, the study still fails to consider all Texas regions.

CONCLUSION

Overall, chapter three outlined the use of existing aggregate data to determine factors that attract high technology corporations into Texas cities. The statistical tool selected for this study, multiple regression analysis was discussed for applicability and appropriateness. The results of the information bearing regression analysis will be presented in Chapter Four. It is anticipated that government programs and environmental factors are directly related to site selection location decisions. This study will contribute to the ongoing debate.

CHAPTER 4 - SUMMARY OF RESULTS

INTRODUCTION

In this chapter the hypotheses are tested and the results of the regression analysis discussed. Initially, descriptive statistics characteristics (means and standard deviations) will be presented to examine the variables in a univariate manner. This will give the reader a sense of the distributions of the variables which form the basis of the regression analysis. Finally, the regression results will be presented and interpreted.

DESCRIPTIVE DATA CHARACTERISTICS

Table 4-1 describes the variable means and standard deviations. Of the independent variables, FTZ had a mean score of .5 and a standard deviation of .51; the range was 1. This indicates that approximately one-half of the cities contained enterprise zones. The variable Political maintained a mean score of .47 and standard deviation of .51; this variable had a range of 1 as well. This indicates that a little over one half of the cities voted democrat. EZ on the other hand had a range of 3 with a mean score of .53 and a standard deviation of .92. This indicated that very few cities have EZs and that at least one city had 3 EZs. The Education variable mean score was 1.75 and its standard deviation was 2.88. Hence, on average, there

were about two universities per city. However, since the range was 13, there is evidence that the distribution is skewed. HiTecNoP had the greatest range of the independent variables at 255. Its mean score was 34.5 with a standard deviation of 64.45. This indicates that on the average there were approximately 34 firms per city. The larger range, again, suggests a skewed distribution. The dependent variable HiTecP had a mean score of 14.59 with a standard deviation of 29.27 and a range of 149.

MEANS AND STANDARD DEVIATIONS		
VARIABLE	MEANS	STANDARD DEVIATIONS
HiTecP*	14.59	29.27
Political*	.47	.51
HiTecNoP*	34.5	64.45
Education*	1.75	2.88
EZ*	.53	.92
FTZ*	.50	.51
* = HiTecP - Number of Existing High Tech Parent Organizations (Location) Political - Political Climate (Republican = 00; Democrat = 01) HiTecNoP - Number of Existing High Tech Companies (minus HiTecP) Education - Number of Higher Educational Facilities EZ - Number of Enterprise Zones FTZ - Number of Foreign Trade Zones		

Table 4-1

SUMMARY OF RESULTS

The results of the regression are summarized in Table 4-2. First, the model was significant with an F-value of 14.59. Secondly, the relatively high R^2 (.89) demonstrated that the model did a good job of accounting for variation in the dependent variable. The unique contribution of the independent variables as well as their relationship to the dependent variable will be discussed below.

REGRESSION RESULTS - LOCAL INDUSTRIAL LOCATION VARIABLES				
<u>HiTecP*</u>	<u>COEFFICIENT</u>	<u>BETA</u>	<u>F-VALUE</u>	<u>PROBABILITY</u>
Political*	-1.41	-.02	.10	1.00
HiTecNoP*	.33	.72	46.85**	0.00
Education*	4.58	.45	46.89**	0.00
EZ*	-9.21	-.29	11.48**	0.00
FTZ*	.16	.00	00.00	1.00
R^2	.89			
F-Value	42.77**			
Mean Dependent	14.59			
N	32			
Significant at .001 **				
* = HiTecP - Number of Existing High Tech Parent Organizations (Location) Political - Political Climate (Republican = 00; Democrat = 01) HiTecNoP - Number of Existing High Tech Companies (minus HiTecP) Education - Number of Higher Educational Facilities EZ - Number of Enterprise Zones FTZ - Number of Foreign Trade Zones				

Table 4-2

- Political Climate

The regression results indicated that the variable "Political" was not significant. It had a low F-value of .10. Hence, the null hypothesis was accepted. There appears to be no relationship between political climate and industrial selection. This may be the result of this variable's representation as a measurement of Republican and Democrat votes in this study. This variable held the least validity (discussed in Chapter 3) which indicates a need to refine the measurement before completely rejecting the influence of political climate on high tech site selection.

- Existing Technology

Although not surprising, the hypothesis for HiTecNoP has been confirmed. The beta weight of .72 proves there its relative importance as does the F-value of 46.85. This indicates that of those variables studied, the relationship between the dependent variable and HiTecNoP is the strongest. Its an impressive influence on location selection in comparison with the other independent variables.

- Higher Education Facilities

Education is another area where the hypothesis tested has been confirmed. Here, the F-value was 15.51. What is truly important is a beta coefficient of .45 percent and the coefficient of 4.58 percent. This indicates that education plays a major role in attracting high tech industry into the community. According to the study, an additional education

facility will increase industrial location by 4.58 industrial companies.

- Enterprise Zones

The EZ results are the most amazing. Here a positive relationship between industrial location and enterprise zones was postulated. Surprisingly, the results revealed a significant NEGATIVE relationship. The F-value was 11.48, the beta coefficient was -.29 percent, and the estimated coefficient was -9.21. EZ is found to severely detract from industrial site selection decisions. As mentioned earlier, the depressed economy inherent to EZ may be responsible for the negative impact.

- Foreign Trade Zones

The FTZ results indicated that foreign trade zones had no impact upon high tech site selection. This is supported by an F-value of .00 percent, a beta coefficient of .00 percent, and a coefficient of .16 percent. Thus, the null hypothesis has again been accepted. The nature of this incentive (to deal with foreign markets) could be responsible for this result, i.e., Texas FTZ's are concentrated on the Texas-Mexico border and in coastal regions.

- General Observations and Analyses

Analyses warranting comment include the following observations. Interestingly, although not surprising, HiTecNoP had the highest beta coefficient at .72 percent and F-value at 46.85. According to this study, it may be speculated that

existing high tech industry is the principal factor in attracting site selectors.

Education was expected to impact positively upon site selection and the .45 percent beta coefficient as well as the 15.51 F-value supported this expectation. It may be beneficial then, to determine if education facility-type alters this outcome.

EZ is extraordinarily important in that cities utilizing this incentive in their economic development plans may actually be unwittingly sabotaging their own efforts. According to the information obtained from the study, an enterprise zone has a marked effect on industry by actually being responsible for repelling site locators maintaining a $-.29$ beta coefficient and an F-value of 11.48. This study may not be measuring tax incentive packages as much as it is measuring a depressed economy.

The F-values for both Political and FTZ (.00) indicate acceptance of the null hypothesis for both variables. Despite this similar outcome, however, explanations are different for each. Political climate, as discussed in Chapter 3, is not appropriately measured by examining party preference (e.g., Republican or Democrat). Had another indicator been utilized, political climate may have been better represented in this study.

FTZ, on the other hand, is accurately represented in this study (with a beta coefficient of .16 percent) because 1) unlike

the Political variable it measured the actual number of FTZs within a city, and 2) only two large cities - Houston and Corpus Christi (both coastal cities) maintained both a high industrial base as well as a foreign trade zone.

CONCLUSION

Many interesting findings have resulted from this study. It was discovered that EZ and Political hypotheses have been disproven by indicating a negative relationship to site selection - EZ actually dissuades industry from locating within a municipality. FTZ also proved the null hypothesis that it had no influence on site selection.

The two remaining variables which proved the hypotheses indicating positive relationships with site selection are Education and HiTecNoP. This study found that education is responsible for 4.58 of the industries locating within a city. Perhaps more importantly, HiTecNoP, the largest beta coefficient, did not have as high an impact.

This proof provides notable insight into the use of incentive measures for administrators. It may be less important to "package" the incentives like enterprise zones than it is to concentrate on environmental factors which attract site selectors. It is also important to remember that this was a study concentrating specifically on high tech industry. The results may be an indication that current incentives need adjusting to suit high tech needs.

CHAPTER 5 - CONCLUSION

Chapter five will conclude the research by reviewing some of the high points of the study. Here, the researcher will provide some insight and suggestions to 1) explain negative study results and 2) enhance the areas already proven beneficial to administrators seeking economic development. These discussions will be concerned with integration and suggested ways of adjusting existing incentive measures.

THE STAGE

The Conceptual Framework created the setting for the study, providing essential background information; and presented the hypotheses to be tested. This chapter categorized the independent variables into two types - passive incentives, which included local political climate and existing technology, and aggressive incentives, which included higher educational facilities, EZs, and FTZs. All variables (incentives) were hypothesized to positively impact high tech site selection.

The methodology chapter discussed aggregate data sources and variable measurements. Multiple regression analysis was presented as the statistical tool selected for the study which provided for the methodological strengths

and weaknesses. Two prominent validity issues were suggested: 1) the dichotomous representation as Republican or Democrat does not properly define the political climate; and 2) EZs may measure down-trodden economies, and not packaged tax incentives as anticipated.

STUDY HIGHLIGHTS

This study represented the current use of incentive measures fairly well, as indicated by an overall R^2 of .89 and an F-value of 42.77. It has been suggested that some of the variance may be the result of specifically examining high tech industry. Perhaps this form of circumvention is the key to creating new solutions which benefit both industry and government.

Passive Incentives

Understanding Political Pressures

Problems arising from political climate have been discussed for centuries. Almost every book (textbook or otherwise) alludes to political debauchery (public or private) which has ruined well-intentioned efforts to completing tasks or resolving disputes.

The current study proved the null hypothesis - that political climate does not impact high tech industrial site selection. Validity becomes an issue here as politics underlies all elements of society (at least to some extent). Therefore, if this study were replicated, another political

climate indicator should be selected which better represents the variable.

It is therefore not the intention of this study to disregard politics; in fact, awareness that political aspects can seriously affect the decisions of those companies wishing to find a new home is highly suggested. It may be too costly economy-wise to let politics be the "swing-factor" in site selection decisions.

The High Tech Environment

The results of existing technology in the study was not surprising at all - especially in light of the "product life cycle" theory borne out in Chapter 2. However, a municipality obviously cannot simply create a high tech environment to attract more companies. Therefore, administrators should 1) take heed to study's results (above) and 2) perform studies of their own - tailored to their specific area resources and needs. The only way to attract high tech industry is to become attractive - a better economy may be at stake.

Active Incentives

Educating the Public

The study accepted the hypothesis that educational facilities positively impact site selection decisions. Education is widely agreed to be an asset. It is supported here by the discovery that each educational facility located within participant cities influences over four high tech

industrial companies to locate there. This information benefits government officials by suggesting lobbyists vie for state (or private) facilities to renovate or build new educational institutions.

Restructuring EZs

The popularity of EZs is catching on across the state of Texas. Currently, there are 62 such implemented programs designed to provide tax, finance, and regulatory incentives to interested businesses.¹ There are several moves to increase the number of zones in Texas; national and international efforts attract new business to local economies.²

The information retrieved from this study, however, presents EZs as a fruitless effort toward attracting industry into the community because it negatively impacted site selection. This outcome may be attributable to improper variable measurements, i.e., does it measure packaged tax incentives or gauge economic stability of the zone? High tech industry may find that EZs do not provide the ingredients necessary to function profitably.

A possible solution to increase EZ usefulness may lie in zone classifications according to applicant industries.

¹Texas Department of Commerce, Finance Division Handout, Texas Enterprise Zone Communities.

²Texas Department of Commerce Handout, Office of National/International Business Development (ONIBD).

For example, by surveying and categorizing industry types (i.e., high tech, manufacturing, etc.) with industry sizes (like small versus medium), new zones may be created which provide services more specific to the industrial needs. This would alleviate some government zone implementation problems like time and money spent tailoring each situation independently.

FTZ Geographic Considerations

In the study, FTZs were also observed as having no effect on attracting site selectors. Again, this may be due to the industry that FTZs service.

Foreign trade zones in Texas lie mostly in the coastal and border regions. This does not complement the demographic milieu which high tech prefers. In fact, the only large urban areas which successfully utilize FTZs are Houston and Corpus Christi (not necessarily high tech cities). (Dallas' FTZ is not considered high tech.³)

Recognizing these factors, an administrator of an FTZ city may find it helpful to conduct a survey of large high tech cities to uncover possible "secrets of success" (or incentive trends) which may be used in combination with FTZs to develop high tech industry. Foreign trade zones are international by the nature of their existence; border regions may find this suggestion helpful.

³CorpTech, Corporate Technology Directory.

CONCLUSION

AN INTEGRATED PICTURE

The most important issue about integration is inherent in its meaning. Integration is defined as "to form, coordinate, or blend into a functioning or unified whole: to unite."⁴ It is necessary for the reader to understand that there are both passive and active incentives available to the city administrator which work interdependently to attract high tech industry. This study looked at five such variables via multiple regression analysis.

Essentially, integration means a concerted effort to create a symphony of incentives beneficial to all participants. Government must not waste time and money on incentives that are not marketable. Industry could benefit from available governmental services, and thus, it is essential that a thorough analysis of available options be performed. It is a symbiotic relationship which requires close attention in order that all needs are fulfilled.

⁴Webster's Ninth New Collegiate Dictionary,
(Massachusetts: Merriam-Webster Inc., 1986), p. 628.

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