10th Anniversary Edition

REAL ESTATE ISSUES

Volume 10
Number 2
Fall/Winter 1985

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Letters to the Editor	

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REAL ESTATE ISSUES

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CREs Join the Celebration

This tenth anniversary edition of *Real Estate Issues*, while it recalls a lot of the ground covered during a rather bumpy decade, is entirely new in one important respect: the number of articles contributed by ASREC members.

As the professional journal of the American Society of Real Estate Counselors, REI has at least two special responsibilities. One of them is obvious: to bring forward for discussion the best that is being thought and said on topics of interest to the real estate field and those who make their livings in it. Less obvious, but equally important, is REI's parallel responsibility to elicit contributions to the literature from those who are most knowledgeable and best qualified. In large part, those are the people who hold the CRE designation. Because not all of them are natural writers, it is at times incumbent upon the Editor and staff to bring out their best, a task not always easy or successful.

For this edition, though, we are able for the first time to offer a wide array of articles by CREs. The list of authors is a distinguished one. Roland Rodrock Randall, the dean of the profession, leads off with his recollections of the past and observations about the present. He is followed by Maury Seldin, a distinguished practitioner and author in the field who is known to many of our readers through his series "Seldin on Change." Rocky Tarantello, also a teaching and writing CRE, gives us a new perspective on leveraged investments and Wilbert L. White reports on the links between the related professions of counseling and surveying. Stephen Rushmore shares the practical wisdom of his consulting shop; Max Derbes shows how intelligent real estate counseling contributed to the success of the New Orleans Super Dome. In a combined feature section "Perspectives", Webster Collins and Abram Barkan review the past and present of urban real estate in America and Robert Hulley completes the list with his discussion of market specialization.

This number of REI also includes outstanding articles by non-CREs. David Listokin of Rutgers tells us about the economics of the convention business as seen from the viewpoint of convention cities, and Joseph J. Del Casino offers a strategy for assembling real estate portfolios.

My hope is that ASREC members will be inspired by this special number of REI and go and do likewise. They may not need the work, but we do need their insights . . . and enjoy their unique personalties.

Jared Shlaes

Editor-in-chief

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JAMES A. GRAASKAMP FIRST RECIPIENT OF THE BALLARD AWARD

James A. Graaskamp, Ph.D., CRE, SREA, has received the Ballard Award for the best article published in Real Estate Issues during 1985. Funds for the annual award were donated by the William S. Ballard Scholarship Fund in memory of the former CRE.

"Identification and Delineation of Real Estate Market Research" appeared in the Spring/Summer number, and the article identified the increasing scope and growing sophistication of real estate marketing by classification of research into the real estate consumer perceptions of demand and supply. The author described four categories—market, merchandising, political and promotional explaining "Recognition that market research for real estate requires investigation of a broad front of behavioral interfaces within economic, engineering and architectural constraints, is the first step toward recognition that real estate analysis will become a clinical service of related specialists rather than the province of cottage industry generalists."

Graaskamp is chairman of Real Estate and Urban Land Economics at the University of Wisconsin School of Business and a principal in the real estate consulting firm of Landmark Research, Inc., Madison, Wisconsin. He was the codesigner and instructor of the EDUCARE teaching program for computer applications in the real estate industry and his work includes substantial and varied consulting and valuation assignments for investment counseling to insurance companies and banks, the market/financial analysis of various projects–national and local–and for private and corporate investors and municipalities. Graaskamp also is the author of many books, monographs and publications whose subjects include real estate counseling, appraising, investment and property management.

Editor-in-Chief Jared Shlaes, CRE made the manuscript selection for the award which carries an honorarium of $500.

The staff of *Real Estate Issues* wishes to thank the many authors who responded to the announcement of the Ballard Award competition. The prize will be awarded annually and all manuscripts considered eligible for next year's judging must be submitted by August 1, 1986.

REFLECTIONS ON THE PAST AND PRESENT

by Roland Rodrock Randall, CRE

There have been too many events happening recently reminiscent of the business climate that prevailed before the Great Depression. I refer specifically to the recent announcements of bank closings such as the savings and loan fiasco in Ohio, the attempts by various financial institutions to curtail further closings and the efforts to "bail out" failing banks. All of this occurred in the late 1920s and early 1930s, and while the names and amounts are different, the events are disturbingly similar.

The early warning signals were ignored then, as now, with the same statement being expressed: "It happened before but it cannot happen now." But it did happen and the far reaching effects were most staggering. In a recent issue of the *Philadelphia Inquirer* the following headline appeared, "House Panel: U.S. Policy is to Save Big Banks, Let Smaller Ones Fail." The article referred to a House panel studying the assistance being directed at the ailing Continental Illinois National Bank and Trust Company. During the Depression it was common knowledge that many banks would be allowed to fail but that it was important to save the insurance companies. Fortunately not all the banks nor the insurance companies failed, but at the time the tense atmosphere created panic among most financial institutions and the general public.

Roland Rodrock Randall, *CRE, is often referred to as the "father of real estate counseling" since he served as the first president of the American Society of Real Estate Counselors from 1953-1955. Randall is associated with Jackson-Cross Co. of Philadelphia, Pennsylvania where he is actively involved as a real estate counselor.*

However, it is not too late to learn from the past and reverse some of the present economic investment trends. The best informed and most knowledgeable economists have predicted that "high interest rates and record budget deficits would be the primary culprits." Interest rates have been lowered for the present, but the problem of the mounting federal budget deficit, while of great concern, has yet to be addressed by the President or Congress.

Real estate is being sold at prices that far exceed the inflationary trends. Does this imply an imbalance between speculative prices and intrinsic value, or are investors attempting to outbid each other to everyone's detriment? There comes a time when it is necessary to analyze a project on the basis of its own merits. Proper values and motivation must be considered. Profit is important but first there must be an intrinsic need.

Yet some of our most successful endeavors have developed during depression-like periods; conversely, outstanding failures have taken place at the peak of such cycles. The concepts of motivation and intrinsic value always need to be considered. To be overly optimistic is dangerous; to give too much weight to pessimism is defeating.

It was in the spirit of providing balance and avoiding emotional decisions that the American Society of Real Estate Counselors (ASREC) was founded in 1953. The Counselor (CRE) is able to provide professional guidance and sound judgement. The idea of competent, impartial and objective thinking is as essential now as it should have been in the 1920s.

WATER, WALLS AND WAYS

A step back into history to find the contributing sources that influenced the locations of today's modern cities.

by Maury Seldin, CRE

Water, walls and ways may be viewed as the tripod which supports the activities of human settlements.

The location of water has had a profound influence on the location of settlements, and the protection of the water supply was always a necessary condition for survival in times of siege. The ancient city of Jerusalem is a classic case; its water came from ground sources located within the perimeter of the walls used to protect the city. Jerusalem's walls, together with the natural advantages of a high site, provided a formidable obstacle to invaders.

In America's old west, walls were less formidable. The stockade-type walls of the forts provided less protection especially on flat terrain. Many forts and other settlements were located on the way to more populated areas. Settlements along trading routes, the ways, required the water and the walls. The combination of water, walls, and ways was of significant support to the development of settlements, many of which grew into large cities.

This article builds on the principles which are clearly seen when analyzing cities of antiquity. While the same principles are applicable to modern cities, contemporary complexities obscure the fundamentals. This article draws from the example of ancient cities and uses them as models to stress those points relevant to modern cities. The examples particularly relate to real estate decisions and how counsel can improve those decisions.

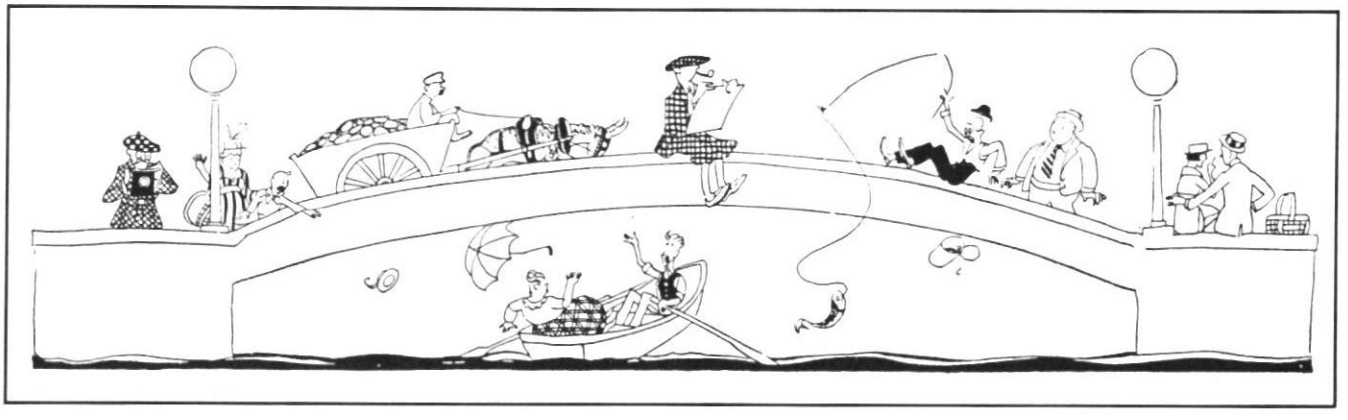
This article was inspired by a paper written by Professor Chester Rapkin, Princeton University, "The Wall, Is It Small? Not At All." Photographs by Hugh M. van Gelder, M.D.

Maury Seldin, *CRE, professor of Real Estate and Urban Development at the American University, is president of the Homer Hoyt Institute. He received his M.B.A. from UCLA and his doctorate in business administration from Indiana University.*

Water

The introductory paragraphs referred to the externalities of a city as among cities. There are other points to make that relate to the city as a system and the role of each element in the growth and survival of the city. Also considered are the patterns of land use necessary to accommodate the increased activities.

The role of water is best seen by starting with the services it renders. As a resource for drinking, water also is essential in food preparation and in the agricultural activities to produce the food. It also is used in the output of industrial and other products, thus it is an example of a natural resource used in production. And, although it may be a necessary natural resource, it is not sufficient.



One may analyze the growth of cities by considering the natural resource base. A base may be extractive industries, agricultural activity or simply an access to a rich hinterland. Water may be a component of production or it may be a transport way as in bringing the hinterland resources to the city marketplace. It also may provide the means to transport people as well as goods with communication and trade among cities.

Ancient City of Ephesus

Problems with the water system can have a dramatic impact on the vitality of the city. Consider the ancient city of Ephesus in what is now Turkey. As a major port city, it relied on its harbor. When the silt from the River Cayster made it unusable, the city had to be abandoned. The people, as one could imagine, were not very willing to give up their real estate and start over again. But, the city could no longer function without the operating harbor, and to compound the situation the siltation resulted in the existence of a swampy area which in turn led to malaria. A change was in order, and the leader used water to attack the problem. He stopped up the water supply for without a source for water the people had to abandon their homes and shops and move to a new city.

History has it that the new location was chosen by a boar, or rather by where the beast was killed. The story goes that "Ephesus was founded for the second time by Androclos, the son of King Kodros . . . Androclos asked for advice from the oracle at the Temple of Apollo in Delphi, requesting suggestions about the place where the city was to be founded. The oracle replied, 'The new site of the city will be shown by a fish, and a wild boar shall take you there.'

One day, as Androcles and his men were frying fish, one of the fish fell out of the frying pan, and an ember from the fish set fire to the nearby bushes. A wild boar hidden in the bushes began to flee and remembering what the oracle had said, Androclos jumped on his horse and chased the boar. The new city was built in the exact place where he killed the boar."[1]

Water was brought into the city by a clay pipe system. This was almost 2,000 years ago and there had been aqueducts in other areas even earlier. Water was used for sanitary purposes: bath houses and toilets had running water. The system for the toilet was similar to a privy, but instead of just a pit, there was a flow of water.

Ephesus had a hot climate and water was used as a coolant. Streets were washed down to cool off the area and fountains cooled the air. Once cut off from their water, the people had to move.

Modern Cities

Cutting off the water, water management, is also a powerful tool in modern day supervision of urban growth. In many areas one can dig a well, take the water out of the ground, use it and put it back. If there is adequate ground water, the water table is not too high and the soil is porous, the system works well enough.

Road to the port of Ephesus (now Turkey)

Sanitary water system at Ephesus

Water pipes used in Ephesus

With the proper natural conditions, such systems can provide for expansion of a city.

Without proper natural conditions it is easy to efficiently utilize a community system. The clean water is piped in and the dirty water is piped out. Such a system is an externality. It may be publicly or privately owned, but in either case it is likely to be government regulated.

There are two major issues involved in supplying water—supply and distribution. As previously noted, aqueducts have been around since antiquity. In Los Angeles the supply system uses an aqueduct and a pipe system large enough to drive an automobile through and at the same time, in other areas, water is trucked or even brought in on the backs of donkeys. Whatever the system, there is a cost involved unless supply comes from a river or other natural sources and does not require transportation. There was a time in Los Angeles when household service for water was at a flat fee. It did not pay to charge by the quantity and so metering was unnecessary. When water became valuable enough to meter, the marginal rate was lower than the average rate; i.e., the more you used, the cheaper it was by the gallon or cubic foot. Now in some areas, the marginal rate is higher than the average in order to reward conservation.

The conflict comes when the old system, which provided water at a low cost, needs to be supplemented by an expansion where marginal water costs a lot more to supply than the cost of furnishing water by the existing system. Do the new users pay a higher rate than those who occupy the pre-existing homes or is there one rate for all? Many towns really do not want the newcomers so cutting off their water is a good way to keep them out. The process isn't easy because it isn't simply a vote. The structure is much more complicated, but what results is an inadequacy of supply with water rationing during dry spells such as alternate day watering of lawns and no car washing with running water.

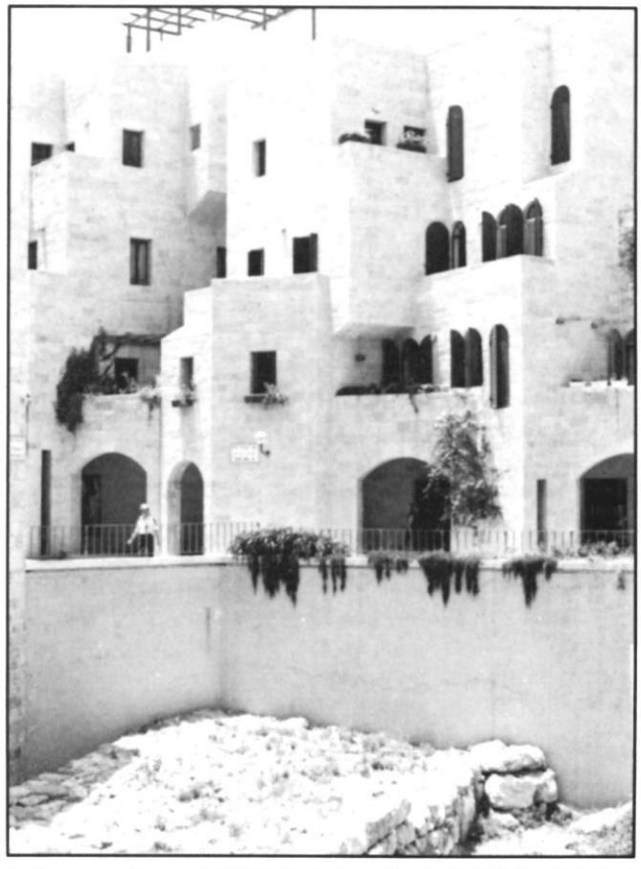
Water problems have been an effective tool for the no-growther. In the early 1970s we had sewer moratoria in many cities across the nation. The providers of waste water treatment facilities failed to provide adequate treatment and/or transmission capacity. When the water quality deteriorated sufficiently to alarm the health authorities, the immediate solution was a cessation of building—no new construction. The focus was not to the problem of waste water management providing the necessary service but rather to the results of inadequate waste water treatment. There were substantial segments of the public who did not want further growth and they seized on control of water pollution results as a device to stop or slow growth. What emerges is a political as well as a management problem. In antiquity, the power of the king was absolute and the central authority made all the decisions. Such a totalitarian concept is not acceptable in a free society so we have to work out a process for resolving conflict.

One final word on water. There are other ways in which water is used to distort the development of cities. Fairfax County, Virginia recently had one-third of the land downzoned by the authorities supposedly to protect the water quality of the Occoquan Basin. Most of the basin is in neighboring Loudoun County and most of the development that shifted from Fairfax County will occur in Loudoun. The result is the asserted objective will not be achieved. Yet Fairfax County, in a recent court case that tested the downzoning, prevailed even with a long record of its powers being used for what appears to be a political program, which is not really the same as the program of water management. As will be suggested later, understanding the system is not simply a question of knowing the physical or economic science relating to water. Understanding the political process is essential to operating within the system.

Walls

The walls of cities are impressive sights. Much of the architecture of ancient cities exudes defense, yet one doesn't really think of walls around modern cities. The settlements of the world have walls, but they are built around the states with passport control at the border and other points of entry.

We also have walls around communities. In some subdivisions there is a wall and a guard at the gate house and entry is only with proper identification. Some exclusive communities operate with a patrol system where



In the redevelopment of Old Jerusalem, the ancient style of stacked or clustered houses are built on Cardo Road to accommodate the area's high density and allow for access by walking.

unfamiliar cars are deterred from passing through the community and speed laws are rigorously enforced against strangers. Walls also are placed around individual homes. Large estates with iron gates are the most obvious, but the security of fences is not unnoticed, nor are electronic security systems.

Though the issue of security is interesting, there is one which is most relevant to understanding the system—the use of walls as partitions of activity. In a simple residence like a hut, the walls simply separate the internal activities from the external. They provide shelter, privacy and a place for activity. Beyond the simple separation of internal and external activities, the walls may further separate the internal activities. The formation of rooms can be quite simple or elaborate including courtyards or a genuine labyrinth.

Residences also may be clustered or stacked. Hopi Indian villages are a very early American example and there are others in antiquity. When stacking, there are rules of thumb with regard to the engineering of the walls so the safe height is related to the width of the base. In modern cities a building code will have a performance standard designed to protect the health and safety of the occupants from the hazards of falling walls.

The ancient acqueducts in Israel, a "river in the sky" were used as supports to bring water into the cities.

Remains of the protective walls of Caesaria still stand representing the fort city built by Julius Caesar.

Earlier regulations simply specified material and construction technology to achieve a particular standard. The transition was a great boon to cost effectiveness because it permitted innovation. The most salient regulatory issue is the quantity of space permitted within the walls rather than the quality of the walls.

Many restrictions are stated as height and bulk. Height is a fascinating issue when one looks at the principle involved. Why should the building's height make a difference if the amount of activity is regulated? Actually what may be controlled is the floor area ratio; i.e., the ratio of building floor area to land area.

If one is concerned with light and shadow then the building might be no higher than the road is wide. Yet, in Mediterranean climates the roads may be so narrow relative to building height, that only at noon is there direct sun on the streets and it may be an advantage to keep the direct sunlight from shining on the windows. Such considerations as well as asthetics can be sound reasons for controlled height. What is more relevant is to regulate the total space contained within the walls. The activity within the space is linked to other activity and it is the set of linkages which influence the efficiency of the city.

As will be noted later, the transportation routes link the various activities and the most efficient pattern is the one which gives the least aggregate land value. Seemingly contradictory is the principle that the land should be developed to the use which gives the most value. The key is the quantity of space within the walls and how it is used. Again, under a single authority the decisions were less complicated since the rulers not only decided how the land might be used but ordered the construction. The introduction of privately owned real estate enabled a market determination in which the land uses sorted out themselves.

Zoning now purports to be the major land use allocator. Its origin, in very recent history, was only to protect our land use from the adverse impact of neighboring determinants. Prior to zoning common law provided protection. Now zoning takes on a city planning purpose. It regulates land use in an attempt to allocate activity to various locations. The final allocations are what the developer and the financiers decide on within the constraints of regulation. Most of the developers are private with public development taking a minor role except as to provision of infrastructure.

How then does the building of walls make the city? It is what decides the provision of the services of space. These allocations are better understood by looking at the linkages—the efficiency of which is influenced by the ways—the roadways and walkways—the transportation routes.

Ways

"Ways" as a term does not have the crispness of definition as "water" nor even "walls", but it includes highways, roadways, walkways, rapid rail, canals, air and

sea lanes. It is the path taken irrespective of transportation mode.

In looking at a city in the system of cities, the ways are the links to the outside world. The waterways linking Egypt and Greece brought about a striking similarity in the frescos and other art objects found in both countries. The path the Roman conquerors followed for their trade routes left marks of one civilization upon another. When one looks at the barren desert land where many an ancient battle took place and wonders why, one explanation may be because it was along the trade route.

Transportation innovations have changed the world. This paper is being written amid a ten-hour flight from Athens to New York—a distance of about 5,000 miles. Thus, a traveler departing from New York can make the trip to the Greek Isles in one day. By way of contrast, at the beginning of the century a traveler departing New York for a day's journey could get to Atlantic City and later in the century could make it to Miami. The recent development of many cities has hinged on the innovations in transportation as did the development of earlier cities.

It is easy to see that the activities and development of cities have been determined tremendously by their degree of accessibility. Cities can function as way stations to trade centers or become markets and suppliers. The change in transportation is best viewed by looking at the revolution which influenced the cost and speed of transporting goods and people.

In antiquity the sea lanes were transversed largely by sailing vessels and the land routes by caravans of animal drawn vehicles. The city's internal transportation system also depended on animal power and walking.

Putting vehicles on rails made a difference not only in the transportation between but also within cities. It was, however, the self-propelled rubber wheeled vehicles (automobile and truck) which really changed the structure of the city. Now other forms of transportation—a rapid rail and the high speed electric trains—are making a tremendous impact on urban development. These systems are usually managed by a central transportation authority. As a transportation economist said, people will travel until they run out of time or money. However improved roads may bring more traffic and many people don't want the roads improved.

It should be obvious that the transportation and water system are interrelated. Indeed we can deal with the entire infrastructure, the set of roads, pipes and wires which provide the set of facilities and linkages to support the settlement activity. Should they not be coordinated? Also should not the spatial relation of building also be coordinated? Is this not a single system of the city with a series of subsystems?

Systems Management

Waste and transportation management is the supervision of a system. Wall management has not yet occurred. Instead one speaks of directing the urban development process which includes providing water, transportation and the rest of the infrastructure. This facilitates the development of buildings—the ways.

The supervision of that system is unusual because, as noted earlier, the development of the building is largely a private sector activity but is heavily dependent on the public provision of infrastructure and subject to public regulation. Profit, or the lure of profit, drives the private sector system of which the market is the natural regulator. One may, however, by regulation and otherwise, superimpose a political regulation. The great challenge to the public sector is to guide the market forces in the direction desired by the body politic. The problem is there are dysfunctions in the system. The incentives are pulling the private actions in the wrong direction. This "system madness"[2] is the perverse behavior of a subsystem—water is a subsystem of urban development and transportation a subsystem of urban development.

Transportation routes are not improved because people do not want more traffic at a given location. Thus, the management of that system provides for more congestion. Other dysfunctions are singular of purpose. Engineers design light poles to hold up lights—even when hit by a car at 60 miles per hour. Obviously in case of a collision it is preferable for the pole to give way to soften the impact—but the purpose conflicts with the other objective.

Water is somewhat more complicated. But, the earlier case given of misuse to achieve political objectives is commonplace.

Understanding The System

The key in managing a subsystem is to keep it in balance with the rest of the system. This requires an understanding of and a commonality of objectives. Managing any of the systems requires technical knowledge developed from a scientific process. Yet, much of the decision making is viewed as a political rather than a management issue.

The populace deserves more only if it demands more. Progress requires an increase in accountability. In the meantime those operating in the system should understand its dysfunctions and malfunctions. One strategy is to assume there will be problems. Don't count on having water without sufficient evidence it will be provided, and be prepared for the possibility that it can be cut off, intentionally or through mismanagement.

Developing such a strategy for the developer or any participant in the urban development process, requires an understanding of the system and its mismanagement.

The implications for the public are obvious, but those concerned with the public policy are less receptive to the management than those who profit or lose from its operations. Thus, it is important for the private sector decision makers and their counselors to understand and be involved.

NOTES

1. *Ephesus*, by Sadan Gokovali.
2. Yosie Doriel in an unpublished manuscript.

THE INFLATION DEPENDENCY OF LEVERAGED INVESTMENTS

In today's uncertain economic times, the industry adjusts with alternative inflation rates and leveraged assumptions to produce satisfactory rates of return.

by Rocky Tarantello, CRE

For the past 20 years, the U.S. economy has been punctuated with dramatic changes in interest rates, inflation, wage rates and commodity prices. Most sectors of the economy have learned to adjust to the volatility of the marketplace by altering the strategy or form of their previous production formula, however, there have been some notable exceptions. Heavy industries (steel, mining, machinery and equipment) have experienced both a lack of management insight to modernize operations, and labor rigidity allowing wage rates to adjust to world competitive levels. Many farmers failed to perceive the danger of overextended debt to acquire additional land in the face of falling price supports. Financial institutions still suffer from the previous excesses of long-term fixed rate lending during years of galloping inflation.

Only recently have labor unions begun to curb their demands for unjustified wage increases while management seeks new production solutions to meet world competition. The more conservative farmers as well as large agribusiness operations have survived their debacle. Financial institutions have taken to either lending short-term or varying the price of their money. Overall our economy is digesting the changes of the past and sorting out the solutions, but there will be winners and losers as this process takes place. However, real estate income property investors have yet to demonstrate a consistent strategy to deal with rising costs of mortgage debt during periods of lower inflation.

The Real Interest Rate Problem

The "real interest rate" is defined as the difference between the nominal market interest rate minus the current rate of inflation. As such, during periods of rising inflation, fixed rate mortgage debt becomes relatively less expensive to the borrower as the nominal rate of interest remains constant. Even adjustable rate loans may suffer to some degree if the rate does not adjust as rapidly as the rise in inflation. This phenomenon partially accounts for the unusually strong performance of investment real estate during the 1970s[1], and also explains the capital base deterioration of many financial institutions when the deregulation of the industry no longer protected them by forcing depositors to accept artificially constrained deposit rates.

Simply put, two major issues arise when the "real" cost of debt exceeds the "real" rate of return of the investment. During periods of relatively low inflation and relatively high interest rates, can real estate investors expect to increase their wealth in "real" terms? Are real

Rocky Tarantello, *Ph.D., CRE is president of Tarantello & Company, a real estate research, consulting and appraisal firm with offices in California and Arizona. He also is adjunct professor of Real Estate and Land Economics at the University of Southern California School of Business Administation and the author of numerous articles.*

investment returns sufficient to compensate the investor for the increase in risk exposure created by the high real cost of debt and slower growth in rental levels?

The ongoing construction and development of virtually all types of property throughout the U.S. suggests the answer is "yes." Apparently, there is no lack of risk takers ready to try their luck on the pretext that adequate returns are still achievable. However, these are uncharted economic times and it may be that the industry is simply slow to adjust to the new reality. This article attempts to shed light on this question by evaluating the performance of a given income producing real estate investment under alternative inflation rates and leverage assumptions. It serves as a beginning for discussion on a very important issue.

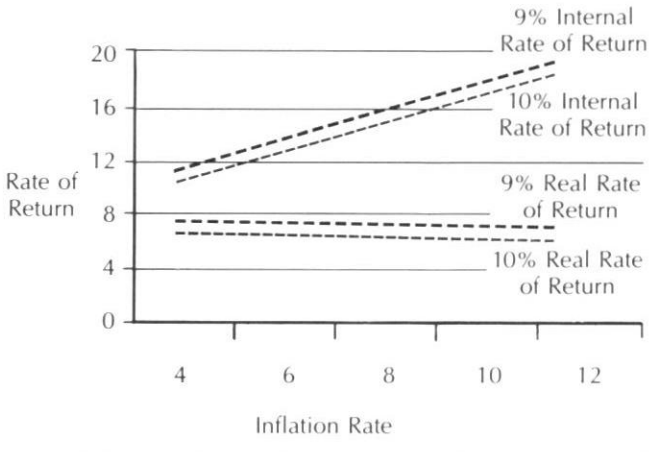
The Foundation For Analysis

Last April, at the American Society of Real Estate Counselors Midyear Meetings in Chicago, a workshop was presented concerning real estate investment fiduciaries and fiduciary services opportunities. This author was fortunate to serve as the moderator for a distinguished panel which included John Bailey, CRE, Landauer & Associates, New York City, now managing director in charge, and Reid Samuelson, president of Coldwell Banker Capital Management Group, Los Angeles. While the program content included a number of topics dealing with various aspects of the changing role of real estate counselors in an increasingly institutionalized world, my interest was especially peaked by panelist observations concerning the impact of inflationary pressure on nonleveraged real estate returns. In fact, the results of some preliminary computer based analysis conducted by Mr. Samuelson surprisingly contradicted the commonly held notion that higher inflation rates contribute to higher rates of return for the income property investor.

The graphs in Figure 1 reflect both adjusted (Real Rate of Return) and unadjusted nominal (Internal Rate of Return)

FIGURE 1

Summary of Discounted Yield Analysis



project returns for alternative rates of inflation (as reflected in assumed changes in rents and expenses pursuant to alternative inflation rates) and net operating income capitalization rates (as reflected in residual sale prices). As the reader can see, given the basic set of cash flows presented in Table 1 and adjusting rents and expenses according to various possibilities for future inflation rates, unadjusted internal rates of return rise consistently with higher rates of inflation. However, to the nonleveraged all cash buyer, the real rate of return consistently declines as higher assumed inflation rates impact project returns. All cash institutional buyers have little to gain from inflation. To the contrary, stable price levels should enhance the inflation-adjusted performance of income producing properties and encourage further diversification into real estate by pension funds, trusts and other institutional cash buyers. These are interesting findings for that segment of the income property buyers market accustomed to dealing on an all cash basis. But what of the more typical leveraged buyer? Private investors, syndicators and others commonly rely on debt to both hypothecate the asset value of their portfolio and simultaneously create tax shelter benefits primarily designed to foster greater after-tax returns. Hence, the purpose of this article is to expand upon the analysis of a hypothetical unleveraged investment by broadening the scope of assumed inflation and capitalization rates. However, the current high level of mortgage interest rates and the resultant real interest rates relative to the current rate of inflation strongly suggests that under current market conditions, only the lender stands to economically benefit from a leveraged real estate investment.

In order to empirically test this hypothesis, the first year cash flows given in Table 1 were extrapolated under an expanded set of inflation rate, capitalization rate and leverage assumptions. A Lotus 1-2-3 spreadsheet program was used to generate the IRRs[2] which then were adjusted for inflation to arrive at the real rate of return. Three general scenarios were considered in the analysis:

1. all cash purchase, non-taxable investor[3];
2. leveraged purchase, non-taxable investor;
3. leveraged purchase, taxable investor (50% bracket).

The assumed investment was an existing multi-tenant suburban office park of less than 100,000 square feet with a purchase price of $6.75 million. The subject property is located in Southern California in an active suburban office market and is currently held for investment by a comingled pension trust. Since most leases were short-term in nature, the inflation adjusted cash flows were assumed to change annually by the rate of inflation throughout the ten-year holding period. The assumptions and results of each scenario are presented separately in the following sections.

Scenario 1: All Cash Purchase, Non-Taxable Investor

Scenario 1 assumptions are rather simple and straightforward. The first year operating cash flows given in Table 1

TABLE 1

Suburban Office Park
(Price: $675,000; Initial Equity: $675,000)

Rent	$645,297
Reimbursements	115,725
Gross Income	761,022
Vacancy	38,051
Effective Gross	722,970
Expenses	
Property Taxes	67,500
Property Insurance	5,424
Water	5,160
Electric	1,440
Parking Lot Sweep	2,340
Parking Lot Strip	452
Parking Lot Repair	2,322
Landscape Maintenance	6,300
Landscape Repair	2,349
Trash	3,600
CAM Repairs and Maintenance	600
Pest Control	300
Lighting Maintenance	420
HVAC Maintenance	1,644
Roof Repairs	420
Building Repairs	420
Other Building Expenses	1,997
Property Management	19,254
Expenses	121,942
PSF	2.41
Net Income	601,028
Cap Rate %	8.9%
Cash Flow	601,028
Spendable %	8.9%
Roof Replacement	0
Mechanical Replacement	0
Parking Lot	0
Common Area	0
TI Cost	0
Commissions	0
Adjustment	0
Total Reserves	0
Net Cash Flow	$601,028
Net Spendable %	8.9%

TABLE 2

All Cash, Non-Taxable Returns

Nominal IRRs

Capitalization Rate	Possible Future Inflation Rates 2%	4%	6%	8%	10%
8.0	11.33	13.40	15.44	17.45	19.44
8.5	10.91	12.97	15.00	17.01	18.98
9.0	10.52	12.58	14.60	16.59	18.57
9.5	10.17	12.21	14.23	16.21	18.18
10.0	9.84	11.88	13.88	15.86	17.82
10.5	9.53	11.55	13.55	15.53	17.48
11.0	9.24	11.26	13.25	15.22	17.17
11.5	8.97	10.98	12.97	14.93	16.87
12.0	8.72	10.72	12.70	14.66	16.60

Real IRRs

Capitalization Rate	Possible Future Inflation Rates 2%	4%	6%	8%	10%
8.0	9.33	9.40	9.44	9.45	9.44
8.5	8.91	8.97	9.00	9.01	8.98
9.0	8.52	8.58	8.60	8.59	8.57
9.5	8.17	8.21	8.23	8.21	8.18
10.0	7.84	7.88	7.88	7.86	7.82
10.5	7.53	7.55	7.55	7.53	7.48
11.0	7.24	7.26	7.25	7.22	6.17
11.5	6.97	6.98	6.97	6.93	6.87
12.0	6.72	6.72	6.70	6.66	6.60

serve as the basis for the 10-year analysis. Gross rental income is assumed to rise at the given rate of inflation. Vacancy is held constant at five percent throughout the holding period. All operating expenses, with the exception of property taxes, also are assumed to rise by the rate of inflation, compounded annually. Property taxes rise by two percent per year which is the maximum annual increase allowable under California law. Our analysis assumes the property is acquired for $6.75 million, all cash, held for 10 years and then sold. Commissions and closing costs were estimated at 2.5 percent of the sale price in Year 10. Sales prices were derived by capitalizing Year 10 Net Operating Income (NOI). The analysis considers inflation rates from 2-10 percent in two percent increments and 10th year capitalization rates of from 8-12 percent in 0.5 percent increments.

Table 2 summarizes both the nominal and real IRRs achieved. It is clear from the analysis that our results confirm the hypothesis that for all cash tax exempt buyers, nominal IRRs rise in conformance with inflation while real IRRs decline slightly. It should further be noted that the general level of real IRRs in our analysis appear to be slightly above those plotted in Figure 2 since our analysis did not take periodic leasing commissions and additional future tenant improvement costs

into account. However, this did not alter the conclusion, merely the estimated level of the returns. Figure 2 graphically depicts the trend in our IRR results assuming nine and 10 percent capitalization rates upon sale at various rates of inflation.

Secenario 2: Leveraged Purchase, Non-Taxable Investor

In order to assess what impact the presence of mortgage debt might have upon a tax exempt buyer given the same office park investment opportunity assumed in Scenario 1, new mortgage loan assumptions were entered into the analysis. A new mortgage of $4,266,300 was derived by assuming a 12.5 percent, 30-year, fully amortized loan all due in 10 years with a tenth year remaining balance payoff of $4,007,640. This loan amount was calculated by applying a 1.1 NOI to debt service annual coverage ratio. A loan origination fee of two points ($85,326) is added to the original capital investment amount considered in the calculation of the IRRs.

Table 3 summarizes both the nominal and real IRRs derived after adjusting for the mortgage loan assumptions. Figure 3 plots the results for the nine and 10 percent capitalization rate results at various levels of inflation. However, unlike the real IRR values in Figures 1 and 2, which seem to decline slightly at higher rates of inflation, Figure 3 shows a gradual, but steady increase in the

FIGURE 2

All Cash/Non-Taxed

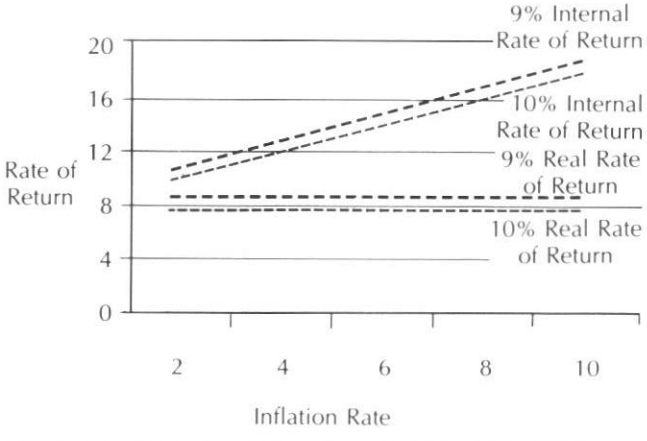


FIGURE 3

Leveraged/Non-Taxed

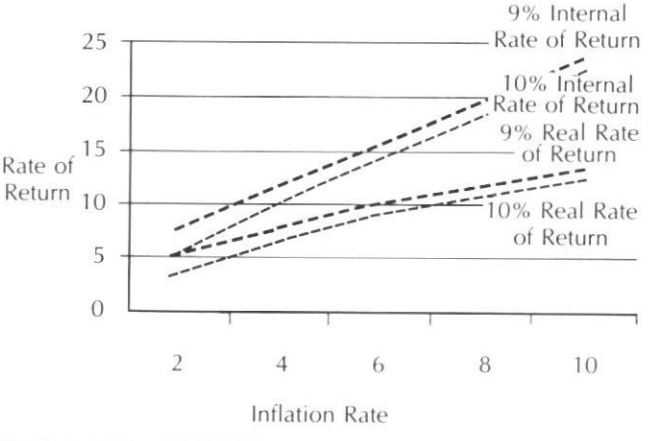


TABLE 3

Leveraged, Non-Taxable

Nominal IRRs

Capitalization Rate	Possible Future Inflation Rates 2%	4%	6%	8%	10%
8.0	9.30	13.91	17.89	21.47	24.77
8.5	8.25	13.02	17.09	20.73	24.07
9.0	7.22	12.16	16.33	20.03	23.41
9.5	6.22	11.34	15.61	19.38	22.79
10.0	5.23	10.54	14.92	18.75	22.21
10.5	4.24	9.77	14.26	18.16	21.66
11.0	3.28	9.03	13.63	17.59	21.14
11.5	2.30	8.29	13.02	17.04	20.64
12.0	1.32	7.58	12.43	16.52	20.16

Real IRRs

Capitalization Rate	Possible Future Inflation Rates 2%	4%	6%	8%	10%
8.0	7.30	9.91	11.89	13.47	14.77
8.5	6.25	9.02	11.09	12.73	14.07
9.0	5.22	8.16	10.33	12.03	13.41
9.5	4.22	7.34	9.61	11.38	12.79
10.0	3.23	6.54	8.92	10.75	12.21
10.5	2.24	5.77	8.26	10.16	11.66
11.0	1.28	5.03	7.63	9.59	11.14
11.5	.30	4.29	7.02	9.04	10.64
12.0	−.67	3.58	6.43	8.52	10.16

real rate of return as inflation rises. It is important to recognize that notwithstanding the rise in real IRRs, two critical points arise. First, from Table 2 to Table 3, real IRRs decline substantially at all possible future rates of inflation as the high real interest costs of the new mortgage loan of 8.5 percent (12.5 percent nominal rate—approximately 4% current estimated rate of inflation) impact a gross rental stream which is rising at a slower pace. Secondly, in order for the investor to earn a real rate of return equal to that of the lender, the anticipated rate of inflation must be at least six percent or above. Moreover, real IRRs to the investor show great improvement as future anticipated inflation rises to pull up current rents at a pace fast enough to offset the negative impact of the debt. Clearly, unless the investor anticipates a resurgence of inflation to previous levels of the 1970s, he bears an inordinate risk that he may not achieve his investment goals.

Seenario 3: Leveraged Purchase, Taxable Investor

The final adjustment to our set of assumptions attempts to demonstrate the after-tax results of the investment. It was felt that by integrating the tax benefit derived from the depreciation and mortgage interest deductions, IRRs might improve enough to help compensate the investor for the risk he undertakes by agreeing to a high real cost of debt. The following additional assumptions were put into the analysis. The building land ratio is 75 percent giving a depreciable building value of $5,062,500. Depreciation expenses were taken on an 18-year straight-line basis. Our imaginary investor occupies the 50 percent marginal tax bracket and may expect to pay maximum capital gains taxes at 20 percent of the taxable gain on sale.

Table 4 summarizes the nominal and real IRR results after adjusting for assumed tax effects. Figure 4 plots the IRR values again assuming nine and 10 percent capitalization rates on the sale of the property in Year 10. Unlike

TABLE 4

Leveraged Taxable

Nominal IRRs

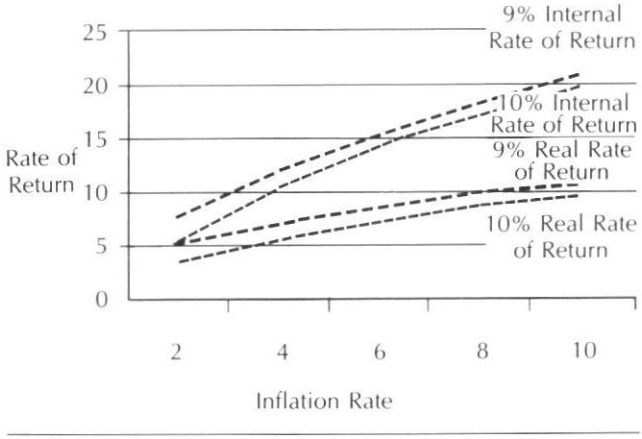
Capitalization Rate	Possible Future Inflation Rates 2%	4%	6%	8%	10%
8.0	9.07	12.89	16.25	19.31	22.15
8.5	8.08	12.02	15.45	18.55	21.43
9.0	7.12	11.19	14.69	17.85	20.76
9.5	6.17	10.39	13.97	17.17	20.11
10.0	5.24	9.62	13.29	16.53	19.51
10.5	4.32	8.86	12.62	15.92	18.94
11.0	3.42	8.13	11.98	15.34	18.39
11.5	2.50	7.42	11.36	14.78	17.86
12.0	1.58	6.71	10.76	14.24	17.36

Real IRRs

Capitalization Rate	Possible Future Inflation Rates 2%	4%	6%	8%	10%
8.0	7.07	8.89	10.25	11.31	12.15
8.5	6.08	8.02	9.45	10.55	11.43
9.0	5.12	7.19	8.69	9.85	10.76
9.5	4.17	6.39	7.97	9.17	10.11
10.0	3.24	5.62	7.29	8.53	9.51
10.5	2.32	4.86	6.62	7.92	8.94
11.0	1.42	4.13	5.98	7.34	8.39
11.5	.5	3.42	5.36	6.78	7.86
12.0	−.42	2.71	4.76	6.24	7.36

FIGURE 4

Leveraged/Taxed



the results presented previously, the assumptions used in Scenario 3 most closely resemble a more typical taxpaying investor who would ordinarily finance the acquisition. When compared to the results of Scenario 2, a slight diminution in both nominal and real IRRs results from the ordinary income taxes paid on operating profits as well as the capital gains tax liability on the sale proceeds. Note however, that the investor is unlikely to achieve currently acceptable nominal IRRs unless the future rate of inflation is at least 5-6 percent. This is the point at which nominal IRRs cross over the 12-13 percent range. In real terms, the future anticipated inflation

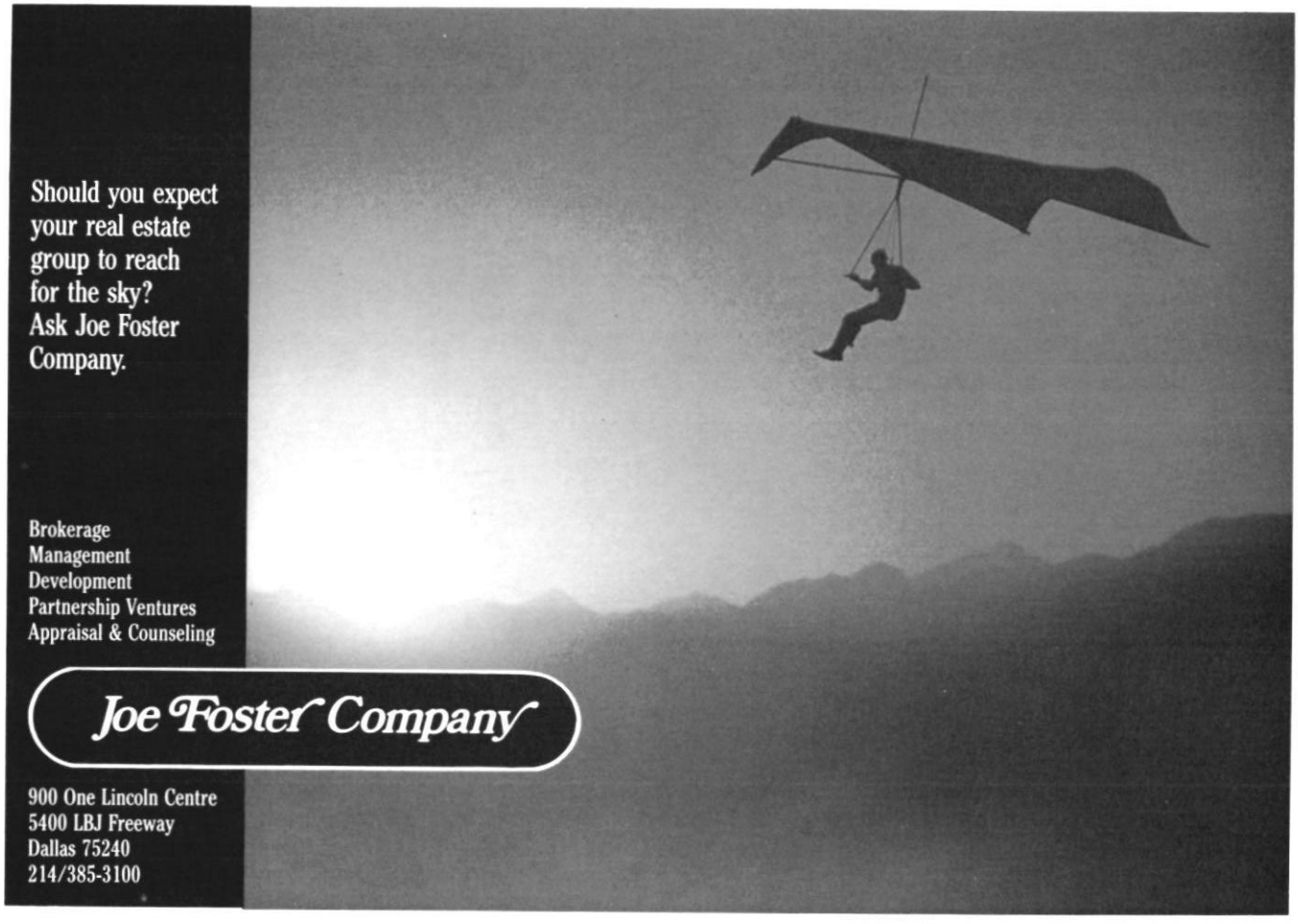
rate must approach eight percent before the real IRR earned by the investor equals the real cost of mortgage debt of 8.5 percent.

Conclusion

Except for certain institutional non-taxable investors, more traditional developer/investors have not demonstrated a strategic adjustment to the realities of the current marketplace. For the most part, little attention has been paid to the current discrepancy between the real cost of mortgage debt and the real rate of return achievable by the investor. To the extent that real interest rates exceed real IRRs, any rational investor would probably choose to be a lender before choosing to be a borrower. All-cash non-taxable investors enjoy a clear advantage so long as future anticipated rates of inflation remain in the range below five percent. Perhaps this is an unrealistic expectation, perhaps not. Over the period 1975-1985 this was certainly not the case. If future inflaton rates do return to the levels of the 1970s, then typical taxpaying and leveraged investors are acting quite prudently and their gamble will pay off. Unfortunately no one knows where the future lies. Meanwhile it appears that the value of leveraged investments remains dependent upon future rates of inflation well beyond what we currently observe.

NOTES

1. Artificially low real borrowing rates were a major factor in explaining real estate returns. However, rising demand for real property as an inflation hedge and environmentally induced supply constraints often contributed to the rise in real estate returns.
2. Notwithstanding its many shortcomings, the internal rate of return (IRR) has become the current standard by which real estate investment performance is measured. See John McMahan, "Measuring Real Estate Returns," *Real Estate Issues*, Volume 9, No. 2, Fall/Winter, 1984, p. 33.
3. These were the same assumptions utilized in the Samuelson analysis presented in Figure 1.



SURVEYING FOR THE REAL ESTATE PROFESSIONAL

A "how to" article that details four computer programs aimed at solving your surveying problems.

by Wilbert L. White, CRE

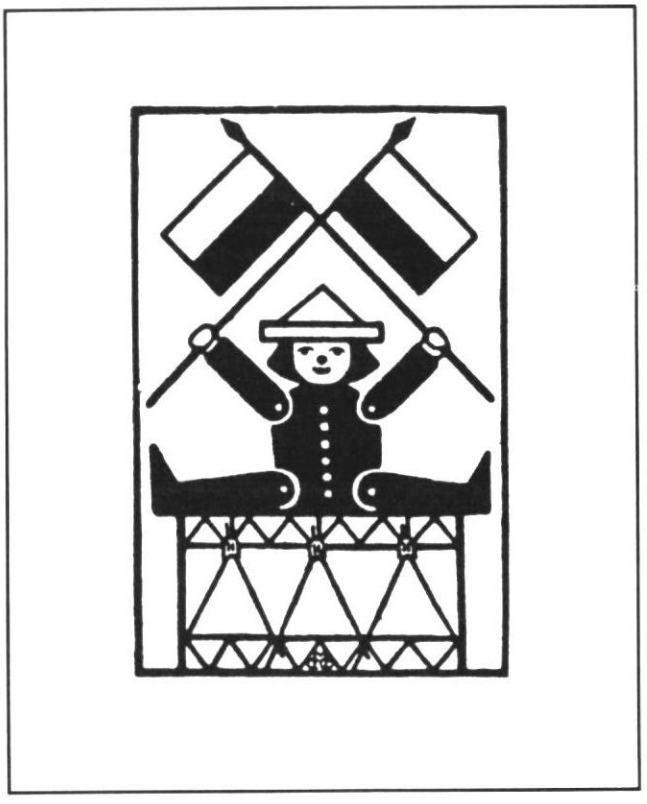
Sometimes during a market investigation, you read a deed and the metes and bounds legal description goes all around the tract and fails to state the amount of land enclosed. The recorded plat of a subdivision will show all the calls around an irregular lot, but will fail to give you the land area. You receive a complete boundary survey which states the total land area however, there is a road going through the property with a canal alongside that isolates and nearly landlocks a small section. This part may have a different highest and best use, but the land area is not shown. These and many other situations arise that cause irritation and frustration to a real estate professional who does not have an engineering education with a course in surveying.

The advent of the electronic calculator, programmed with a magnetic stick, provides a solution to this problem. The Hewlett-Packard and Texas Instruments Companies make calculators with this feature, and they also provide surveying pacs or packages that work with their calculators for a rather small additional cost. I can go around a seven or eight-sided tract with a curve or two and calculate the area on my machine in about five minutes. The same problem would have taken half-a-day on a slide rule using the DMD (double-meridian-distance) method, and the results of the new method are more accurate.

This article will make you familiar with the programs and their operation, and it will tell you how to use the information supplied by a surveyor to solve problems the survey doesn't address. Without these programs, you might be forced to make an educated guess or hire a surveyor to solve the problem.

Application Packages

The application packages are based on the coordinate system of surveying. All of the points on a survey are shown as being a certain distance north (or south) of an arbitrary east-west line and a certain distance east (or west) of an arbitrary north-south line. Numbers that are south or west of these arbitrary lines will have a negative sign. This doesn't make any difference to the calculator, however it may cause you some confusion. This problem can be avoided if you assign the southwesterly corner of a smaller tract the coordinates: N-1,000, E-1,000. On larger tracts, the coordinates: N-10,000, N-10,000. will usually remain positive. By using the coordinate system it is easier and more accurate to plot the



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coordinates of the corners on graph paper than to use a protractor and scale if you need a sketch of the property.

The angles used in the program calculations are based on the azimuth system. Most surveys show the angle of deflection in degrees east or west from a north or south line. A line into the northeast or number 1 quadrant has the same azimuth as its angle of deflection (North 45° 35′ 16″ East has an azimuth of 45° 35′ 16″. It is entered as 45.3516.) The southeast quadrant is number 2, the southwest is number 3 and the northwest is number 4. If the angle of deflection and the quadrant number are entered, the program calculates the azimuth. The cosine of an azimuth in the northern hemisphere has a positive sign and one in the southern hemisphere has a negative sign. The sine of an azimuth in the eastern hemisphere has a positive sign and in the western hemisphere a negative sign. In the traverse program, the cosine of the azimuth is multiplied by the horizontal distance along the line and the result is added to the north coordinate of the first point to obtain the north coordinate of the second point. The product of the sine of the azimuth times the horizontal distance is added to the east coordinate of the first point to obtain the east coordinate of the second point.

Each manufacturer has a different system for entering data into their program and some program differences are necessary because of the various models produced by the same manufacturer. The program's key strokes must be followed exactly. Because of the limited memory in the calculator, the programs are unforgiving of any errors more than one point back in the traverse. The inverse program will allow you to go back to the last point if you make an error in data entry and then you can enter the correct data. Since a record of the coordinates is very important if you need a sketch of the property, a calculator with a tape printer or one that can be attached to a tape printer is preferred and will make a difference in the operating speed of the program.

Four Software Programs

My surveying application pac contains 19 different programs and several are of a technical nature. I have only used four of them and they have taken care of my problems and more than justified their $35.00 cost. I use the following programs:

1. Traverse, Inverse and Sideshots,
2. Intersections,
3. Curve Solutions,
4. Predetermined Area.

The most frequently used program is the traverse, inverse and sideshots because it has the capability of calculating the effect of curves on the area of a tract. Since the data needed for curves is the most often neglected in a legal description, a discussion of the curves program is given.

Curve Solutions

There are two kinds of curves. All of the above pertains to tangent curves. There are three additional points to remember about tangent curves. One, the angle of deflection between a tangent line and the chord is half of the central angle. Two, the central angle is equal to the angle formed between the extension of one tangent line and a line to the point of intersection with the extension of the other tangent line. Three, the central angle between tangent lines never changes, but the length of the radius will change all of the other values.

On nontangent curves, it is helpful to know the distance and direction from one end of the curve to the center point in order to calculate the deflection of the chord if it is not given by the surveyor. Another solution to this problem is to start the traverse program at one end of the curve and traverse around to the other end of the curve. The inverse program will then close the survey.

Intersections Program

Another useful program is the intersections program. If

DEFINITION OF TERMS

The *radius* is the distance from the center to the curve.

The *chord* is the straight line distance between the end points of the curve.

The *arc length* is the distance around the outside of the curve.

The *degree of curve* is the angle needed to have an arc length of 100′.

The *central angle* is the angle formed by the radius lines to the ends of the curve.

The *tangent* is the distance along the continuation of a tangent line from the point of beginning of a curve to its intersection with a continuation of a line that is tangent to the other end of the curve.

The *mid-ordinate* is the distance from the chord to the midpoint of the curve.

The *external* is the distance from the midpoint of the curve to the intersection of the two tangent lines.

If any two of these items are known including at least one of either the radius, degree of curve or central angle, the program will calculate the rest. In addition, the program will compute the areas of the *fillet, segment* and *sector.*

The *fillet* is the area enclosed by the outside of the arc of the circle and the extension of the two tangent lines.

The *segment* is the area enclosed by the chord and the arc of curvature. It is the area added for a curve to the outside and subtracted for a curve to the inside of a tract.

The *sector* is the area enclosed by the radius lines and the arc of curvature.

you have a nonrectangular tract with a road coming up to a boundary line at some angle other than 90° and it appears logical to continue the road through the tract, the intersections program will tell you where it hits the other side. If you know the coordinates of two points and the calls or azimuths of lines leaving these points, this program will calculate the location of the point of intersection of these two lines. It will give you the azimuth and distance from each of the two known points to the point of intersection and the coordinates of the point of intersection.

If you have a line leaving a known point with a given azimuth which crosses a circle where you know the coordinates of the circle's center and radius, it will give you the location of the two points where the line crosses the circle. It also will give you the azimuth and distance from the first point to the point of intersection, the azimuth and distance from the center of the circle to the point of intersection and the coordinates of each of these points.

If you know the coordinates of the centers of two intersecting circles and the radius of these circles, it will calculate the points of intersection, show the azimuth and distance from the center of each circle to the points of intersection and the coordinates of each point of intersection.

Predetermined Area Program

Another helpful program is the predetermined area program. It operates with two different types of areas—a triangle and a trapezoid. When dealing with a triangle, you need to know the coordinates of the end points of a fixed line and the angle between the fixed line and a second line from one of these end points. The program will hinge a line from the other point until the desired area of the triangle is enclosed. It gives you the distance and direction from the first point, the distance and direction from the second point and the coordinates of the third point on the triangle

In the second predetermined area option, two sides of the trapezoid are parallel. The required information consists of the coordinates of the end points 1 and 2 on the base line and the bearings or azimuths of the lines leaving these end points. The program calculates the distance along each of these lines required to give the predetermined area with a line parallel to the base line. It also calculates the coordinates of the third and fourth points needed to form this trapezoid.

Traverse, Inverse And Sideshots Program

The program which I use the most is the traverse, inverse and sideshots. In the traverse mode you enter the bearing and quadrant number or the azimuth and then the horizontal distance. The program calculates the coordinates of the next point in the survey. It also calculates the area of a trapezoid formed by the base line, the two north-south lines and the side of the property. The area of this trapezoid is calculated by the formula: $A = (N_1 + N_2)(E_2 - E_1) / 2$. These areas are added to a memory location and the traverse is continued. The algebraic sum of these areas is the area enclosed by the traverse if you go in a clockwise direction. If you go in a counter clockwise direction, the solution will be negative, but the program changes it to a positive value.

The inverse portion of the program gives you the azimuth and the distance between two points where their coordinates are known. I find it useful to close the survey on the last call with the inverse program instead of the traverse program; this forces a correct closing of the survey. The last azimuth and distance should be very close to those given by the surveyor or there is a mistake. After the survey has been closed, the program calculates the sum of the horizontal distances around the tract, the area enclosed in square feet and repeats the initial coordinates.

If there is a curved side on the parcel, you traverse or inverse from the beginning point of the curve to the end point of the curve along the chord, insert the central angle in degrees, minutes & seconds and enter the radius. If the curve goes inside the tract, the radius is given a negative sign; if outside the tract, it is given a positive sign. The program then adds the area of the segment of the curve algebraically to the total area of the tract.

Lambert Grid Coordinates

Sometimes the surveyor's field notes gives the Lambert coordinates of the various points on the tract. The Lambert coordinate system treats a very large area as if the world was flat instead of curved. There are 68 of these zones covering the continental United States and Alaska. The United States Department of Interior Geological Survey Maps have a 10,000' grid based upon one of these Lambert projection zones. There are marks on the edges of the quadrant map which show the number of feet north or east of the base lines of the zone in which the property is located. A straight edge placed on these reference marks allows you to measure the distances to the property in which you are interested. These distances added to or subtracted from the Lambert numbers on the edges of the map gives you the approximate Lambert grid coordinates of the property. Some of the local maps in our area use the geological survey quadrant map as their base. These have tic marks at 5,000 or 10,000 feet intervals which expedite the location of the property's grid coordinates.

One of the factors which helps explain the difference in adjusted market prices in an area is the distance from the central business district of the nearest major metropolitan area to the property. I have found that within various sectors, there is a correlation between the market price of the land and the distance from the center of a major metropolitan area. The amount of variation may change in different sectors with the effect more apparent on properties adjacent to major highways and freeways. If you know the Lambert grid coordinates of the center of your major metropolitan area, the inverse program will

rapidly calculate the Lambert azimuth and the distance to the property you're investigating. The last number displayed on the inverse program for my calculator is the distance between the two points. By dividing this distance by 5,280', you get a close approximation of the mileage to the central business district. I find this method is easier than attempting to draw long radius curves on a small scale map where it may be difficult to accurately locate a property.

It is possible to use the Pythagorean theorem (the square of the hypotenuse = the sum of the squares of the two sides on a right triangle) to solve this problem. However, at about 18.9 miles you reach the accuracy limits of a nine-digit calculator.

By way of illustration, the intersection of Main & Walker in Houston is close to being the 100% corner. It has Lambert grid coordinates of north 717,500' and east 3,153,500'. The main entrance into the NASA Manned Space Center in Clear Lake has Lambert grid coordinates of North 646,000' and East 3,243,200'. The inverse program indicates that this property has a Lambert azimuth of 128° 33' 30" and that it is 114,710' or about 21.73 miles from the center of Houston. Lambert North at Main & Walker is about 4° east of true north. This indicates a call of South 55° 26' 30" East.

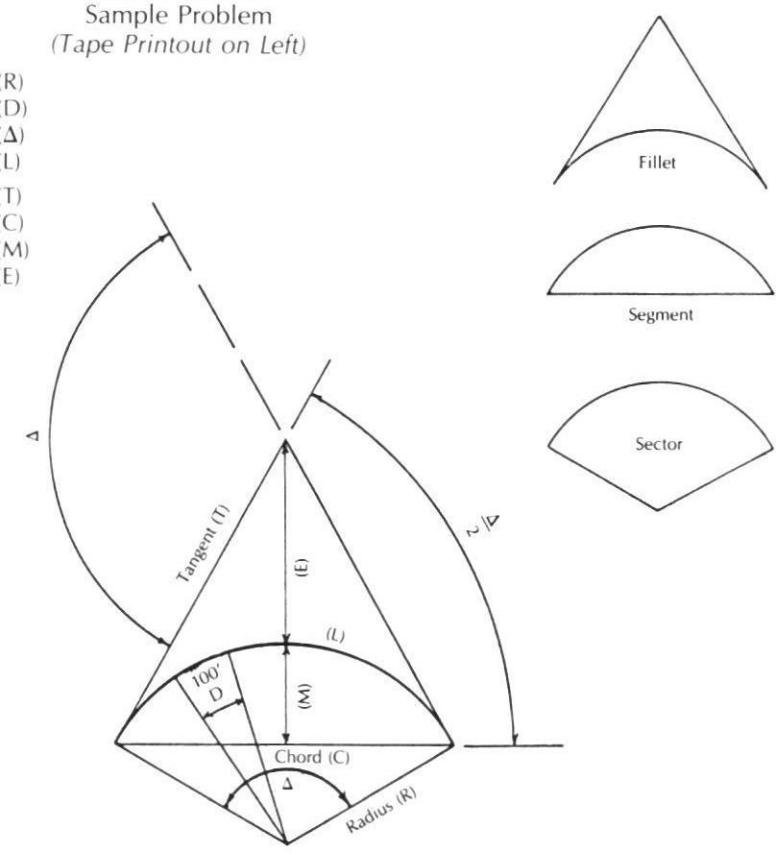
Another use of the traverse program, is to calculate the area of a large shopping center, industrial building or warehouse. Most drafting is done using angles of 90°, 60°, 45°, 30° and sometimes 15°. You don't have to use the actual directions. The front of the building is assumed to have an east-west or north-south orientation. You can traverse around the perimeter to find the area. However surveyors are careful about the boundary of a tract. If the building is in the middle of the tract and there is no possibility of a boundary encroachment, they may not be as careful. Surveyors and appraisers tend to measure a building differently.

The program calculates dimensions to 0.0001 feet. I haven't seen the surveying crew assembled which can make measurements this accurate. The results you obtain from these programs should compare closely to those obtained from the surveyor. However, the programs do not make you a surveyor. They are capable of relieving the frustration from inadequate information on a survey. The purpose of this article is to point out those programs which appear to be most useful to the real estate practitioner and to review the fundamentals of their use. Surveying programs are also available for the various types of desk top computers. These programs apply the same basic principles faster, with more accuracy but at a larger expense.

The following diagrams have a sample problem showing the traverse, inverse and side shots program and the curve solutions needed in the traverse problem. A copy of the tape printout obtained while solving the problem is shown on the left side of the diagrams.

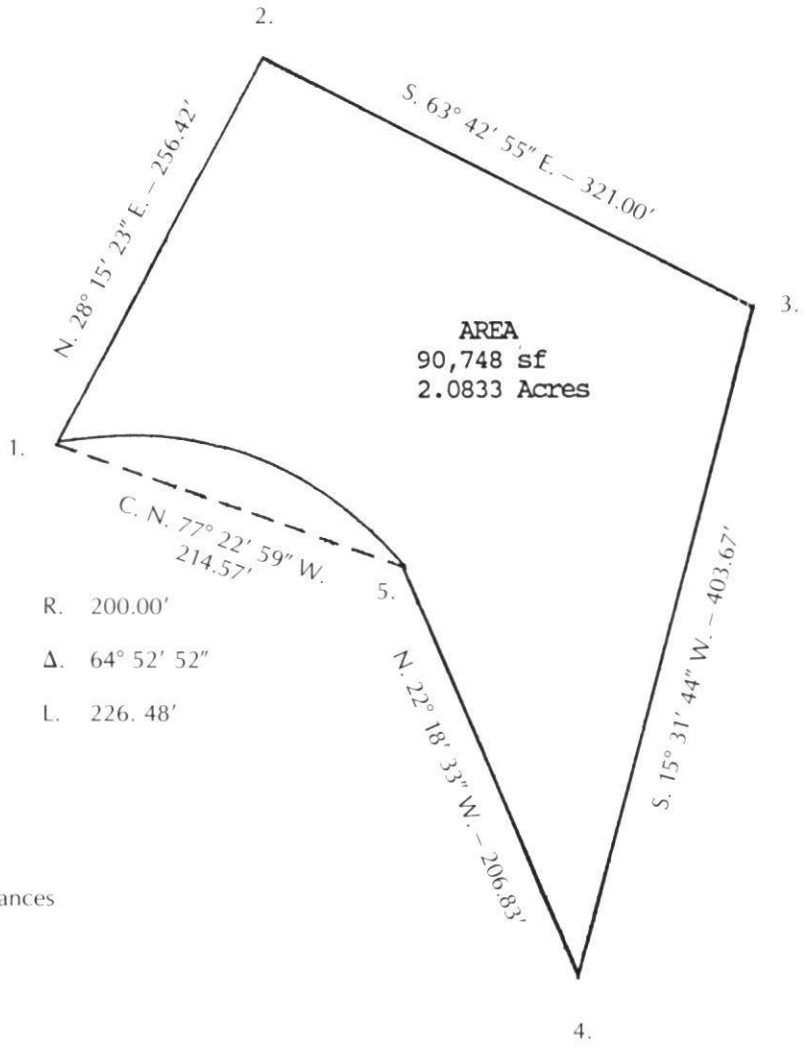
Curve Solutions
Sample Problem
(Tape Printout on Left)

200.0000	T	Radius (Entered)	(R)
28.3852	Z	Degree of Curve	(D)
64.5252	Y	Central Angle	(Δ)
226.4781	Z	Arc Length	(L)
127.1228	T	Tangent	(T)
214.5700	Z	Chord (Entered)	(C)
31.2104	Y	Mid-Ordinate	(M)
36.9814	Z	External	(E)
0.0000	T		
22647.8134	Z	Sector	
4539.2213	Y	Segment	
2776.7389	X	Fillet	



Traverse, Inverse & Sideshots
Sample Problem
(Tape Printout on Left)

1.0000	***	Point of Beginning
1000.0000	***	Initial North
1000.0000	***	Initial East
28.1523	***	Azimuth
256.4200	***	Distance
2.0000	***	Point
1225.8645	***	North
1121.3938	***	East
116.1705	***	
321.0000	***	
3.0000	***	
1083.7154	***	
1409.2039	***	
195.3144	***	
403.6700	***	
4.0000	***	
694.7811	***	
1301.1316	***	
337.4127	***	
256.8300	***	
5.0000	***	
932.3871	***	
1203.6379	***	
288.2203	***	
214.5691	***	
6.0000	***	
1000.0000	***	
1000.0000	***	
-4539.2022	***	Segment Area
214.5691	T	Chord
226.4778	Z	Curve Length
64.5252	Y	Central Angle
-200.0000	X	Radius
1464.3978	***	Sum of Horizontal Distances
90748.0150	***	Area in Square Feet
21.0215	***	Closing Error Azimuth
2.785677655-07	***	Error Distance
7.0000	***	Point of Beginning
1000.0000	***	
1000.0000	***	



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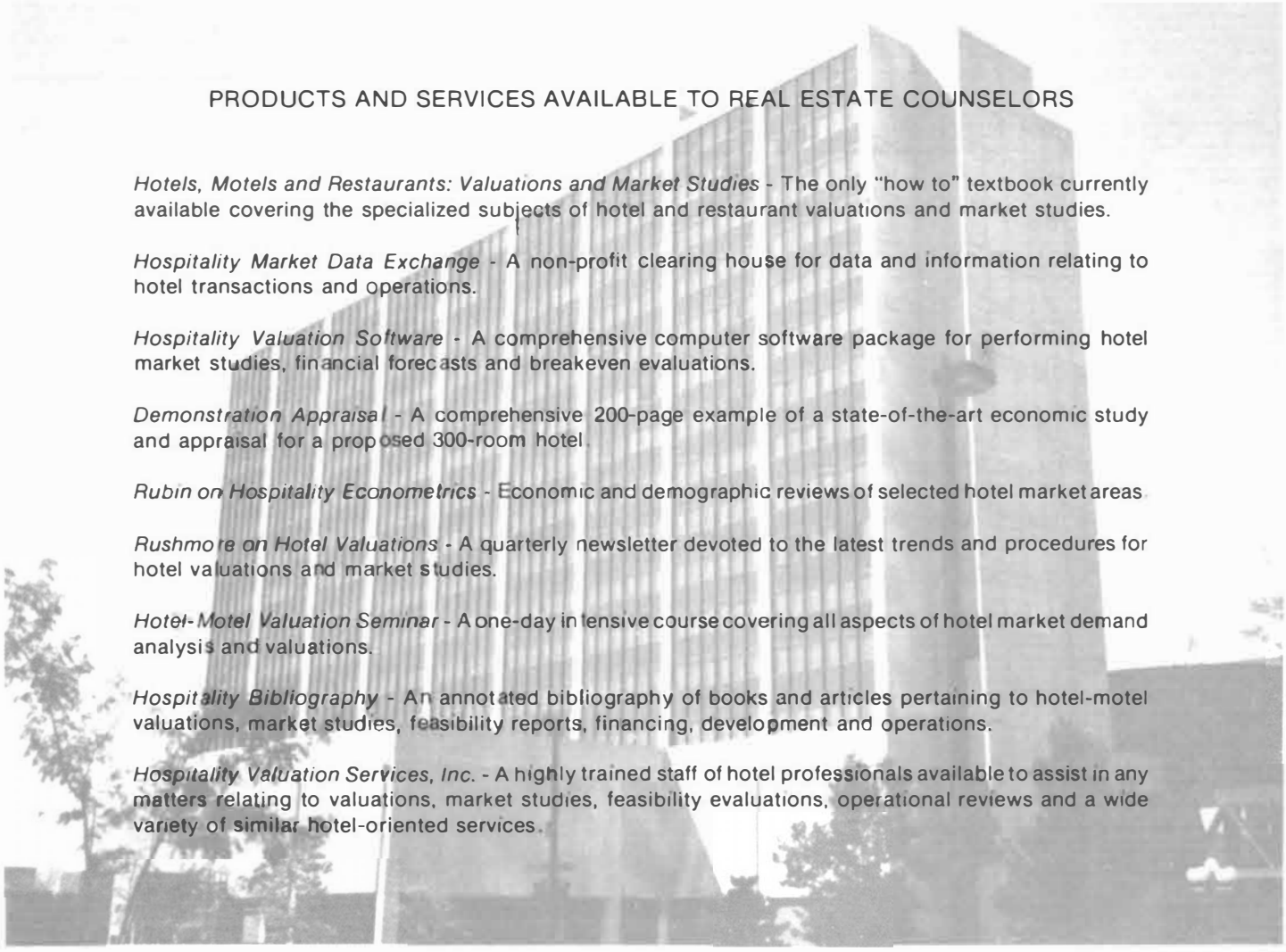

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EMPLOYEE COMPENSATION FOR A CONSULTING PRACTICE

The everyday operation of a counselor's office is presented for discussion and a sharing of ideas.

by Stephen Rushmore, CRE

Compensation is an important element of any employment environment, and renumeration for production and effort generally takes the form of tangible payments-monitary considerations (i.e. salary, overtime, bonuses) and specific benefits (i.e. medical and life insurance, sick days, vacations, holidays, educational assistance). Also important to an employee are the nonmonitary benefits such as the work and office environment, job title, status, perks, learning experiences and opportunities for personal growth. A well structured employee compensation program can provide production motivation, quality assurance and job satisfaction.

Very little has been written about compensation programs for consulting organizations. Such firms are often staffed with bright, independent thinking individuals requiring high levels of monitary and nonmonitary rewards. This article describes the compensation package utilized by my firm—Hospitality Valuation Services, Inc., Mineola, New York. I hope by sharing my company's innerworkings, others will follow suit and offer their ideas in the area of employee compensation.

Background And Structure Of The Firm

Hospitality Valuation Services, Inc. (HVS) is a consulting organization specializing in hotel-motel valuations, market studies and counseling. Organized five years ago, the staff has grown rapidly from an initial one associate and one editor to the current 16 associates, four editors, two production assistants, one secretary and a college intern. HVS operates on a nationwide basis from its New York office serving a broad client base of hotel companies, developers, lenders and municipalities. While providing a variety of hotel related counseling services, the end product is typically a comprehensive, detailed written report ranging in length from 100 to 200 pages and costing between $20,000-$30,000. Each assignment is normally performed by one associate who devotes an average of three to four weeks per study.

Because of the unique expertise required to render hotel related counseling services, HVS has hired only hotel school graduates for the associate staff. Six of the 16 associates were recruited directly from college with 10 associates coming from varied backgrounds in the hotel industry. Three associates have masters degrees in hotel administration; 13 have bachelors.

The four editors are responsible for proofing and editing the reports which each associate imprints on a network word processing system. The editors develop the necessary charts and tables, perform the pagination and conform the report to the firm's editorial style. Each report usually requires moderate to heavy editing that takes approximately one week of editorial time.

Stephen Rushmore, *CRE, MAI, SRPA is president of Hospitality Valuation Services, Inc., a Mineola, New York based counseling organization specializing in hotels, motels and restaurants.*

An English degree or a strong journalism background is necessary for the editor position. Although each associate has ultimate responsibility for the integrity of the final product, the editorial function is the primary monitor for quality assurance.

The two production assistants are responsible for assembling and binding the final reports which are each typed on word processors. They prepare all the graphics including maps, computerized graphs and laminated photographs, and maintain the data files, office library and supplies.

The secretary types all the correspondence, proposals, invoices, articles and other nonreport documents.

Ownership Structure And Objectives

Hospitality Valuation Services, Inc., a New York corporation owned jointly by Judith and Stephen Rushmore, is a cash basis taxpayer with a November 30th fiscal year. Over the past five years HVS has minimized its tax liability by distributing the majority of its profits in the form of salaries, profit sharing contributions and bonuses.

Several ownership objectives have been established for the future which include continuing to provide clients with the highest quality hotel counseling services; expanding the product line (services) into other hospitality related areas, i.e. ownership, financing, management, development, syndication, etc.; controlling growth by continuing expansion of the New York office and the establishment of regional offices in selected U.S. cities increasing client base through the development of new products and continuing penetration into markets and services currently dominated by other consulting organizations; promoting the generic identity of Hospitality Valuation Services, Inc., rather than the individual reputation of its founder; minimizing employee turnover in order to prevent losses to competing consulting organizations.

Organizational And Employment Philosophies

The key component of any counseling organization is its professional staff. Since consultants are in the business of selling their experience and expertise, the quality of a counseling firm is related to the abilities of its employees. Thus attracting, motivating and holding strong professional associates are key objectives of a counseling organization.

Over the years, I have developed the following organizational and employment philosophies to sustain my staff.

Total Client Contact

From day one, a consultant should work directly with the client, attending all meetings and presentations, participating in the development of data and conclusions and seeing assignments through to their finish. If a new consultant is relegated to a backroom existence grinding out portions of reports, he/she misses the experience gained from client interaction and never appreciates the full impact of the assignment.

Eliminate Organizational Chart Stagnation

A complicated organizational structure with an elaborate chain of associates, supervisors, managers, partners, etc. is unnecessary, unproductive and expensive. Each starting associate should work under the close direction of an experienced associate and progress quickly to an autonomous standing which entails complete assignment responsibility subject only to upper-level review. Consultants need to feel they are working for the client rather than a firm or a supervisor.

If You Know Where You Are Going, You Will Get There Faster

Associates hired by HVS, regardless of background and experience, start with the same compensation of salary, percentage of gross billings, selling incentive and profit sharing and they are informed about their maximum compensation level. The time it takes to go from the starting compensation to the maximum level is based solely on ability and effort.

Timesheets Are Not Required If You Are Getting A Piece Of The Action

Everyone within a consulting organization should receive, as part or all of his/her compensation, a percentage of the professional fee collected. Associates, editors and production personnel show a high level of motivation and devotion when their paychecks directly reflect the amount and quality of their individual production.

In addition to compensating pure output, the renumeration formula also should reward continuing education and development of personnel expertise. Supervision, time sheets and time clocks can be eliminated if people are paid on production, effort and expertise rather than time.

Reward New Business Development

All members of a consulting organization actively should participate in new business development. Even junior associates ought to be encouraged to seek out potential clients and market the firm's services. Involvement in professional and trade organizations along with contributions to literature and educational activities are excellent means of generating client exposure, firm recognition and new business.

As with output compensation, associates should receive direct benefits based on a percentage of the new business they create as well as repeat business from satisfied clients. When everyone has a financial interest in new business development and repeat client incentive, the firm benefits from continous growth.

Eliminate The Yearly Compensation Review

Increased compensation should be based on an individual's ability to perform assignments competently and

independently, along with his/her success in creating new business. Raises must come continously as the associate moves toward these goals rather than at specific dates or points in time. The elimination of a managerial hierarchy allows the associate to progress to a level of autonomy and monetary compensation based solely on ability rather than time in grade or office policy and politics.

Professional Designation

Many consultants leave the field with nothing to show but experience. By providing the opportunity and incentive to secure a professional designation—CRE, MAI, SREA, CPA—a consulting firm offers its staff a tangible asset that has lifetime value.

Publish And Prosper

A consultant is in the business of selling credibility. All the associates who participate in an assignment should be acknowledged by personally signing the finished report. Encouraging an associate to publish and lecture under his/her own name rather than ghost writing for the boss, aids in developing professional recognition and individual identity.

Flexibility And Freedom

A professional consultant should be treated as a professional. Hours, schedules and vacations remain with the individual. As long as the flow of work is maintained, it makes little difference whether office hours commence at 9:00 am or 3:30 pm.

Using the preceding organizational and employment philosophies as goals—the following employment structure was developed for HVS.

Compensation

All HVS associates receive a starting salary of $210 per week plus 5% of their gross billings. This should equate to approximately $20,000 of combined compensation if this level was maintained during the first year. As the associate gains skills and demonstrates an ability to work independently, the salary plus commission increases as follows:

Level	Salary Per Week	Percentage of Gross Billings
1	$210	5%
2	220	7
3	230	9
4	250	11
5	250	14
6	Draw	25
7	Draw	30
8	Draw	35
9	Draw	40

Performance reviews are made on an ongoing basis and most new associates progress to level three by the end of their first year.

When an associate reaches level six, the salary is replaced by a $20,000 per year draw against a straight commission of 25% of gross billings. The maximum commission level is 40%.

Promotions through level five are based on general ability and effort. Promotion to level six through nine not only requires the associate to demonstrate greater ability and continued effort, but also passage of specific MAI courses and requirements as well as achieving certain levels of new business development. The following table outlines the additional requirements for advancement into levels six through nine.

TABLE

Specific Requirements for Advancement Into Levels 6-9

Level	MAI Requirements	New Business Development Requirements
6	Completion of Courses 1A1, 1A2, 1BA, 1BB, 2-1, 2-2	None
7	Completion of all courses	10% selling for last 12 months equal 10% of the average associate volume per person
8	Demonstrate Appraisal Accepted	10% selling for last 12 months equals 25% of the average associate volume per person
9	MAI Designation Received	10% selling for last 12 months equals 50% of the average associate volume per person

The primary purpose of these specific requirements is to provide the incentive to rapidly complete the course work and demonstration appraisal for the MAI designation. Since the business of HVS is heavily oriented around market studies and appraisals, the educational and experience requirements leading to the MAI are well-suited for our new associates.

The new business development requirements provide an incentive to create new clients for the firm. The term "10% selling" will be more fully explained but for now can be defined as the new business generated by the individual and personal effort of an associate. To reach level seven an associate must have created in the past 12 months new 10% business equal to 10% of the average associate volume per person. For example, if the average associate within the firm works on $180,000 of assignments per year, then the new business requirement for level seven would be $18,000 (level eight—$45,000 level nine—$90,000).

Editors are compensation based on a starting salary of $210 per week plus 1½% of their gross billings. During a 12-month period an editor should work on approximately $600,000 worth of assignments. As their editing skills improve, their salary moves up to $300 per week and their commission increases to 3%.

Production assistants receive a salary of $180 per week plus .5% (.005) of their total gross billings.

Selling Commissions

New business development and client satisfaction incentive is provided by two types of selling commissions.

Associates receive a 5% selling commission for any new business they create from a previous client. This type of commission is the client satisfaction incentive. By performing superior work and maintaining close client contact, associates are rewarded when a satisfied client calls them with new business. Associates also receive a 5% selling commission for any new business referred to them by the firm. For example, each day an associate is assigned to "associate of the day" (AOD). Any phone calls requesting information about the firm, its services or general questions pertaining to hotel valuations and market studies are handled by the AOD. If one of these phone calls results in an assignment, the AOD is entitled to a 5% selling commission.

Associates earning a 5% selling commission have the option of either working on the assignment themselves or turning it over to another associate.

A 10% selling commission is paid to associates who develop new clients for the firm. To receive a 10% commission, the associate must demonstrate that it was his/her individual and personal effort which brought the new client to HVS. Once an associate creates a 10% client, he/she is entitled to receive selling commissions from all future business generated by this client. If, however, another associate sells a future assignment to this client, the 10% associate will relinquish 5% of the commission to the selling associate. This procedure maintains the client satisfaction incentive while capping the firm's selling expense at 10%.

Subcontracting

The real incentive offered by HVS for new business development is subcontracting. When an associate sells a 10% assignment he/she may either work on the assignment and receive the appropriate percentage of gross billing level or subcontract the work to another associate and make the spread between the amount he/she would receive from the percentage of gross billing level and the actual cost to the firm to have the other associate work on the assignment. The economics of subcontracting can be illustrated with the following:

Example:

Associate A sells a $20,000 appraisal to a new client he met while attending an appraisal course. Associate A is currently at level seven making a draw against 30% of the gross billing. Since this client represents a 10% selling commission, Associate A decides to subcontract the assignment to Associate B, who is at level two earning $220 per week plus 7% of the gross billings. Associate B works on the assignment under the direction of Associate A and devotes a total of 20 days to the project. Associate A visits the subject property, assists in the analysis, meets with the client and spends a total of four days on the assignment.

The following table sets forth the compensation of both Associate A and B.

Associate B	
Commission ($20,000 x .07)	$1,400
Salary ($220 x 4)	880
Payroll Taxes and Benefits	279
Medical Insurance	75
Total Compensation	$2,634
Associate A	
Commission—Selling ($20,000 x .10)	$2,000
Commission—Work ($20,000 x .30)	6,000
Total	$8,000
Less: Associate B Compensation	2,634
Net to Associate A	$5,366

This example demonstrates that by subcontracting, Associate A is able to spend only four days on this assignment and net $5,366 or $1,341 per day as compared to doing the complete assignment over 20 days and earning the full $8000 commission or $400 per day.

The ability of an associate to create and personally service any new business through the process of subcontracting is essentially the same as having your own business without the overhead of maintaining a staff. Subcontracting follows the same principle as leveraging real estate and it creates a highly motivated entrepreneurial spirit within the organization.

Profit Sharing Plan

HVS has a profit sharing and retirement plan for all full time employees who meet the eligibility requirements. Under the plan, the firm contributes a minimum of 10% and a maximum of 25% of each employee's total earnings. These tax free contributions are managed by the plan administrator and compound tax free until withdrawn upon retirement.

An average associate should accumulate approximately $135,000 in the profit sharing plan within five years of eligibility. To date HVS always has contributed the full 25% to the profit sharing plan. Because of the tax shelter benefits, a profit sharing plan has significant value to high income employees.

The Maximum Commission Level

The top commission level of 40% has been established because it represents the approximate level at which the firm breaks, even on an assignment. The following chart shows this calculation:

	Percentage of Total Fee
Maximum Associate Commission	40%
Selling Commission	10
Editor Commission	3
Editor Salary	2
Total	55.00%

Profit Sharing (25% x 55%)	13.75
Payroll Taxes (10% x 55%)	5.55
Total	74.30%

Assuming an associate is at the 40% level, approximately 75% of the total fee is paid out to both the associate and editor in the form of salaries, commissions, profit sharing and payroll taxes. The 25% remaining must cover all overhead expenses such as medical insurance, office supplies, computers and equipment, telephone, rent, etc.

This calculation demonstrates that assignments performed by 40% associates generate little or no profit for the firm. By paying these top associates literally all of the consulting fee available for professional salaries, HVS is attempting to eliminate the financial benefits for an associate to leave and set up a competing practice. I want associates to make more money and work on more interesting assignments with HVS than they can do either on their own or with another firm.

Flexible Work Hours

HVS operates 24 hours a day—seven days per week. Editors and production assistants must work 40 hours each week but their schedule is totally flexible. Associates also may come and go as they wish as long as the work is completed on time.

Regional Offices

The ultimate goal of any consultant is to become a partner of the firm. In most organizations, a partnership interest consists of a small piece of a large pie (i.e. the firm's equity is split amongst many partners). This philosophy runs counter to the HVS entrepreneurial goals of compensating associates for their direct and personal contributions rather than having an ownership structure where individual efforts cannot be identified from the mass of other partners. As a result, HVS provides its associates with an opportunity to obtain a large piece of a small pie in the form of a 50% ownership interest in a regional office.

Once an HVS associate receives the MAI designation, he/she is eligible to open a regional office. The ownership of the regional office is split 50%-50% between the associate and Hospitality Valuation Services, Inc.-New York (HVS-NY). The associate contributes the sweat equity needed to start the office and develop new business. HVS-NY lends all opening and operating capital and directs business to the regional office. The commission structure is identical to that of HVS-NY (described previously) with the associate partner also receiving 50% of the bottom line profit plus the residual ownership value created in the regional office. Since the personal and individual effort involved with generating revenue and controlling expenses will benefit a 50% partner in a small firm more than say a 5% partner of a large firm, this ownership structure increases the performance incentive.

New associates hired by a regional office will have the same opportunity to progress to an ownership position. Upon obtaining their MAI designation, they can open a subregional office as a 50% partner with HVS-NY and the partner of the regional office each having a 25% interest.

Conclusion

The compensation structure of HVS was devised to reward entrepreneurial effort. Responsibility for increased renumeration is therefore in the total control of the individual associate. While some people like to become last in the crowd, where their individual efforts (or lack there-of) cannot be directly measured, these types of employees generally do not have the proper motivation to be successful consultants.

The HVS organizational structure functions reasonably well, but I would be remiss not to also point out some of its possible shortcomings:

- Defining whether a sales commission represents a 5% or 10% client is sometimes difficult to determine as is which associate was actually responsible for bringing the new business to the firm.
- As associates become successful in creating new business, the firm must hire more new associates so the selling associate can make a profit by subcontracting. This system rewards and perpetuates growth which means the organization will never remain small.
- Since the firm essentially breaks even on 40% associates, there is more incentive to assign the firm generated business to lower level associates. High level associates must therefore create a sufficient amount of 10% business to justify their level of compensation.
- The bookkeeping involved with keeping track of everyone's salary and commission is horrendous.

Hopefully this discussion of the HVS compensation program will interest other consultants to reveal their organizational and compensation structures. By exchanging ideas and operating experiences relating to our practices, we should all benefit.

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LOCATION ANALYSIS OF THE NEW ORLEANS SUPERDOME

A detailed presentation of the site selection process employed in determining the present location of the Superdome.

by Max J. Derbes, Jr., CRE

Between 1966 and 1968, a study and decision making process took place to find a location for the Louisiana Stadium & Exposition District's (LSED) Superdome. A corner of the Central Business District was finally chosen, and now after ten years of operation, the impact of this decision can be assessed as to the wisdom of the choice.

Much of the information leading to the final selection was based on a progress report entitled "Evaluation of Stadium Sites" dated August 21, 1967 by Booz-Allen & Hamilton, Inc., Management Consultants. This oversimplified document obviously was intended for quick digestion by the commissioners. Nonetheless, the information presented gave the facts and reasoning.

Site Selection Criteria

The study's objective was to review the locations proposed for the domed stadium; identify the site which best satisfied the requirements of a multi-use facility and rank the three most desirable. The report actually pinpointed the final choice, Site Number 3.

The stadium was to be about one-third larger than the Houston Astrodome, hold a minimum of 70,000 for football games and be completed for the 1972 football season. The final building seats 72,675 for regular football (76,791 for expanded football), but it was not finished until the 1975 football season. Court proceedings questioning the project and its location delayed the completion.

Highways

One overall criterion was for the site to be compatible with the known development plans for the metropolitan area and have convenient and rapid access to or be within one-half mile of major highways. Some suggested suburban sites were rejected because they were over one mile from a major highway. Sites eventually were evaluated using traffic dispersal time based upon 50% of the traffic capacity of egress routes. The other 50% of capacity was presumed to be taken up by nonstadium related traffic.

Parking

If the site selected was to be in the central area, it must be capable of providing space to park 5,000 cars. If it was in a suburban location, there must be space for 20,000 cars. The final design of the stadium included two parking ramps each capable of handling 2,500 cars and located on either end of the stadium. As a result of this difference in parking requirements, the minimum size of the central area site was 20-acres (final site had

November 24, 1970

Max J. Derbes, Jr., *CRE, is president of Max Derbes, Inc. of New Orleans, Louisiana offering appraising and counseling services and an industrial, brokerage and leasing division. He has published over 30 articles nationally.*

52-acres) and the suburban site would need about 150-200 acres.

Flooding

Not all suburban sites were acceptable due to the possibility of flooding. Rainwater would have to be pumped out of the entire area and some low sections did not have sufficient capacity to drain off the water in sufficient time to prevent street flooding that would impede automotive ingress and egress. Suburban sites in the flight paths of the New Orleans International Airport (Moisant Field) also were not eligible.

Public Transportation

Additionally, adequate public transportation was to be made available to the selected site. While few suburban areas had adequate transportation, most of the central area sites were well served. As a matter of fact, the majority of bus and streetcar routes were designed to take people to and from the CBD, particularly Canal Street, the principle retail street.

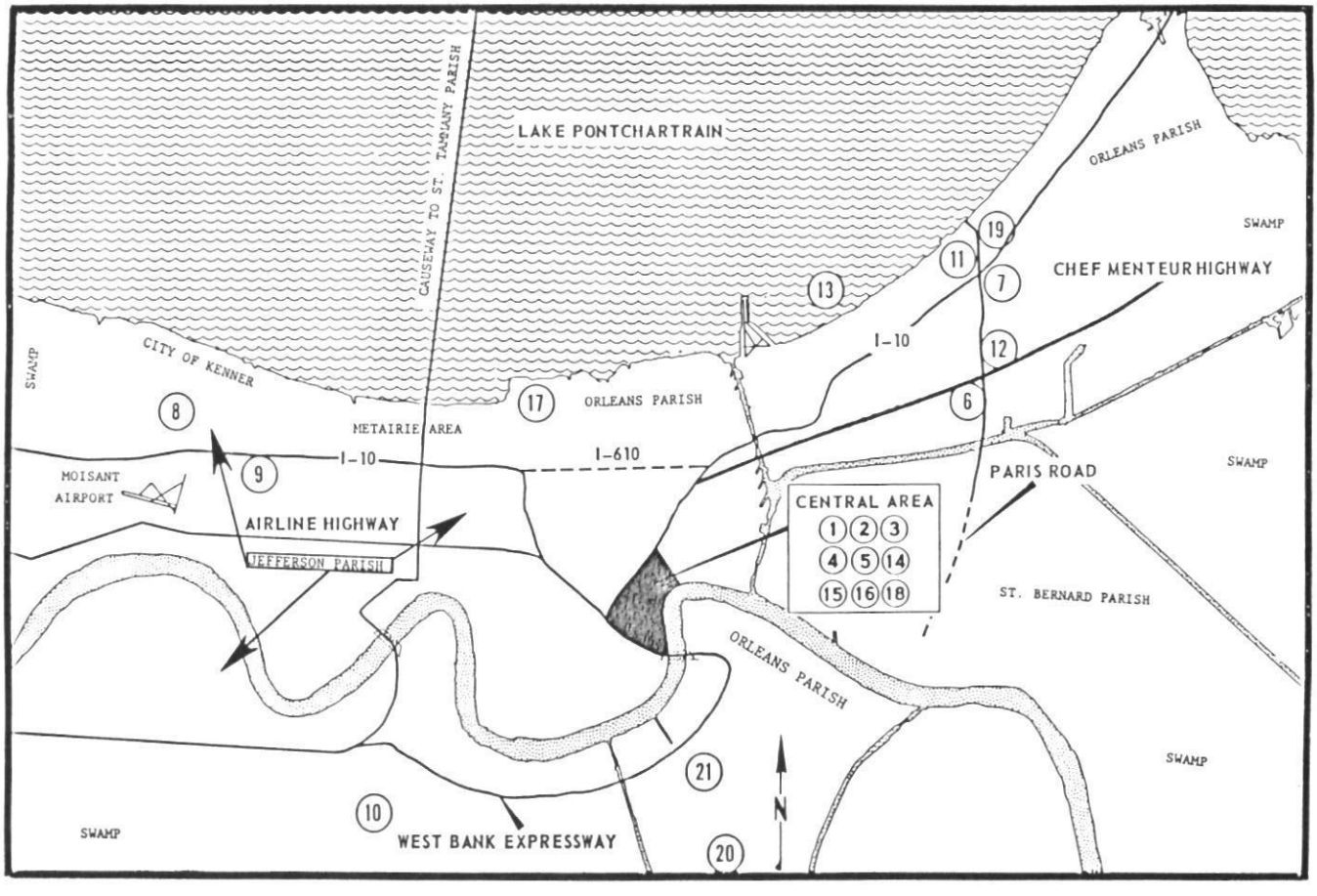
Estimated Revenues

Sites also were evaluated based on the estimated revenues from the multi-purpose use of the facility. Because it was expected that trade shows would be an important source of use-days (and revenue), the anticipated trade show income would be affected by proximity of proposed sites to hotels, restaurants and other city attractions such as the French Quarter. The net revenues of the project also would be affected by the cost of acquiring the various sites, although this proved to be the least important factor because of its relative cost to the rest of the entire project (less than 11%).

Ownership of the various sites, the time needed for acquisition, preparation of each site for the stadium and parking facilities were considered. If a proposed site lacked utilities or presented a utility impediment (such as a telephone exchange which would be costly to relocate), it was automatically rejected. If there was to be a considerable interruption to either commercial activity or a number of home dwellers, this was given serious consideration.

EXHIBIT 1

Potential Superdome Sites Studied



Rails

Interestingly, proximity to rail service was considered important. People are housed in rail cars for significant stadium events and can be transported to the stadium. The possibility of interurban use of the rails at some time in the distant future also was considered, but not specifically mentioned in the report.

Adjacent Properties

What effect would the construction of a facility of this size have on the adjacent properties and on the "normal" activity in the immediate vicinity? What might be the eventual economic activity of a facility of this magnitude on the immediate and surrounding area? While it took some time to materialize, the eventual changes in land use in the adjacent area were significant, but the cause of such change was not attributable solely to the stadium.

Identification Of Potential Sites

Potential sites were suggested long before the consultants came into the picture. Due to the composition of the LSED that included elected officials and politically minded people, every potential site was considered (see Exhibit 1). On an overall basis, the sites were in four locations: 1. CBD, 2. Eastern New Orleans, 3. Metairie/Kenner to the west and proximate to the airport, and 4. across the Mississippi River on the west bank. Site Number 17 in the lakefront area of New Orleans would require displacing 300 families and even then the land area was too small.

Basically, of course, there were two types of sites: CBD and suburban. Orleans and Jefferson Parishes are the two parishes (counties) involved even though the Standard Metropolitan Statistical Area of Metropolitan New Orleans consists of four parishes. St. Bernard Parish is in the southeast portion of the city, and the populated area of this parish is located mainly on the high land adjacent to the Mississippi River accessible only by two slow traffic arteries into the city. The remainder of this parish was tree swamp and salt water marsh.

St. Tammany Parish is north of Lake Pontchartrain and was super-suburban to the city's main population at that time. The St. Tammany Parish area might have equated to the Pontiac Silverdome in remoteness but lacked the proximate population or the diversity of road access of the Detroit area stadium.

As a consequence, no sites in either of these two other parishes (counties) were considered. The 1967 estimate of population in St. Bernard Parish was about 37,000 and in St. Tammany Parish about 43,500.

As of 1967, the major population of the two parish areas was about 925,000 with about 600,000 on the east bank in Orleans Parish and 175,000 on the east bank in Jefferson Parish. The rest of the population, about 150,000, was located on the west bank across from the CBD. Most of this west bank development then was up and down the river from the bridge five miles on each side. A large percentage of those employed worked either in the CBD, French Quarter or along the riverfront corridors on both sides of the CBD, which contained both port facilities and industrial activity.

For two years newspapers carried on a lively debate about the stadium location. Local politicians, particularly in Jefferson Parish, argued for a stadium in the residential suburb since it would be closer to the airport and the state capital in Baton Rouge (70 miles to the northwest). Eastern New Orleans advocates said costs would be lower and the location would be the most proximate to the east-west portion of the interstate highway.

Process Of Elimination—Suburban Sites

All sites except four in the CBD were eliminated for one of the following reasons: they suffered from the limited east-west traffic movers; the lack of good public transportation; a limited number of hotels, motels, restaurant facilities, etc.; and the distance efficiency for movement of people. There was no question that the CBD was the most convenient in terms of distances traveled.

The most seriously considered suburban site was the defunct Jefferson Downs Racetrack (Site Number 9) which was south of Interstate 10, seven miles from the CBD and five miles from the airport.

The main problem with Site Number 9 was the traffic which would have to proceed from the east to the stadium on Interstate 10, the only easy access road from the city itself. Secondly, the site was not proximate to enough quality hospitality facilities, and finally, it lacked good public transportation. The true measure of each site was dispersal time and for Site Number 9, this was calculated at 1¼ hours which was probably optimistic. Site Number 9 was 165-acres and would have cost an estimated $7,325,000.

Reasons For Elimination Of The Suburban Sites

Road Access measured in time required to clear the site for the various locations was estimated to be:

Suburban New Orleans - Orleans Parish	2.0 to 3.5 hours
Jefferson Parish - East Bank	3.5 to 4.0 hours
Jefferson Parish - West Bank	1.7 to 2.3 hours
Central Business District	0.5 to 1.0 hours

Dispersal hours were most significant in measuring the sites desirability. The comparative traffic situation, based upon alternate ingress and egress traffic arteries, ranked first in criteria although hospitality facilities and public transportation were also significant with rail access also considered. Cost comparison of the sites was not significant in the final decision.

Public Transportation—Busing showed a marked difference with the CBD having 10-12 bus routes and 450 buses while Jefferson Parish East Bank had but one bus route and 33 buses, of which 28 were required for normal service. There would have been some possibility of improved service to the stadium if built in Jefferson

Parish, but the route possibilities were limited to two on all sites.

Hotels and Motels within one mile had the following number of rooms in 1967

Suburban New Orleans	250 rooms
Jefferson Parish - East Bank	900 rooms
Jefferson Parish - West Bank	200 rooms
Central Business District	6,500 rooms

The above picture has changed dramatically since that time principally due to the 1985 World's Fair. In 1985 there are 3,500 rooms in suburban New Orleans; 4,500 in Jefferson Parish on the east bank and 1,500 on the west bank; and the CBD has over 16,000.

As a practical matter, only the CBD sites had access to *rail service* since all suburban sites would have required extension of rail from one-half to three miles at considerable cost plus disruption of the environment along the route of extension. Additionally, only Site Number 3 had rail staging tracks in existence which could house both coach and sleeping cars within walking distance (0.2 miles).

The best sites usually *cost* more and certainly this was true of the CBD sites which were estimated to cost from $10 MM to $14 MM while the sites in suburban New Orleans were under $7 MM; those in Jefferson Parish-East Bank were $7 MM-$9 MM and Jefferson Parish-West Bank was $3 MM to $4 MM. The actual cost of land and land clearance for Site Number 3 turned out to be $13,989,277 and contained 52-acres. The site costs could have run higher had the LSED decided to acquire an additional ten-acres on the CBD or river side of the Superdome which now houses the Hyatt Regency Hotel and numerous high-rise office buildings and parking garages.

CBD Sites

Although the CBD sites were the most expensive, they also were estimated by Gulf South Research Institute to be capable of producing at least $800,000 more revenue than any suburban site based upon 118 event days. The current number of (1984) use-days is 318; so the projected revenue differential was conservative. The data clearly indicated what the report concluded: "In sum-

EXHIBIT 2

New Orleans Business District Map
(1965)

mary, the most desirable sites are in the CBD."

It is likely that CBD sites are more advantageous in most municipalities. Only the Houston Astrodome, Seattle Kingdome and the Pontiac Silverdome are in suburban locations while the New Orleans Superdome, Vancouver B.C. Place, Minneapolis Metrodome, Indianapolis Hoosierdome and the Syracuse Carrierdome all are located in close proximity to or in the CBD. The New Orleans street pattern, public transportation orientation and the existence of numerous hotels and parking facilities in the CBD, along with the proximity of the Union Passenger Railroad Terminal, made the CBD not only desirable but a must location. The limited ingress and egress roads in the suburbs made the other locations impractical.

Selection Of The Three CBD Sites

The CBD of the city is divided into two different environments: 1. the Business District and 2. the French Quarter, which extends from the Mississippi River to North Rampart Street and from one block northeast of Canal Street to Esplanade Avenue. On Exhibit 2, the French Quarter is identified as going all the way to Canal Street, but in fact it is one block removed. No consideration at all was given to the French Quarter since it is fully developed with historic buildings controlled by the Vieux Carre Commission. The Business District was divided into functional use areas which were identifiable, but not clearly defined (see Exhibit 2).

CBD Sites Automatically Eliminated

The number of sites inputted into the consultant's study would indicate an intent to cover every conceivable potential site (see Exhibit 3). The reasoning for the "automatic" elimination of specific locations was as follows: *Site Number 2* was bounded by Loyola Avenue, Gravier, O'Keefe and Poydras Streets which would be the Canal Street side of Poydras and the river side of Loyola Avenue. This area contained old houses converted into cheap shops or apartments, parking lots and small industrials. This site would have been more proximate to the parking facilities in the CBD but the cost of the land would have been higher per unit. The consultants decided that the total area (nine-acres) was too small for the facility.

Site Number 4: This area was near to Site Number 3 but uptown of Poydras Street and ranged from Loyola Avenue to Carondelet and from Poydras to Julia Street. This was eliminated based upon major and highly expensive utility relocations including South Central Bell Telephone's main exchange for the area.

Site Number 5 was actually not in the CBD but rather uptown of the Mississippi Bridge Approach (U.S. Highway 90) and would extend from St. Charles Avenue to Simon Bolivar Boulevard, and from Clio to Euterpe Streets. Not only was this area highly populated, but it also contained significant access roads to the CBD and a very expensive 15' boxed canal on Melpomene Street.

March 2, 1975

These underground canals collect the rain runoff and transport the water to pumping stations. They are expensive to build and relocate.

Site Number 15 also was not in the CBD but rather the lake side of the French Quarter. Its boundaries were North Claiborne Avenue, Esplandade Avenue, North Rampart and St. Phillip Streets. (Note that the streets which have the same name and cross Canal Street are called South on the uptown side of Canal Street and North on the downtown side of Canal Street. What makes New Orleans directions so interesting is that rather than use "north" or "south" for directions, the locals refer to the downriver direction as "downtown" and the upriver direction as "uptown". Also, instead of giving the compass direction to other streets, the directions are identified as "riverside" or "lakeside".)

Site Number 16 was along the riverfront over existing rail tracks between Poydras and St. Joseph Streets and between Delta Street and the waterfront. The proposal was to use an air rights development. This plan was eliminated due to the potential time delay of construction. While not mentioned in the brief report, there is no question that the dispersal time of this site would have been high due to the traffic congestion of traversing the CBD. Site Number 3 is at the outer extreme of the CBD, while the riverfront is at the inner extreme.

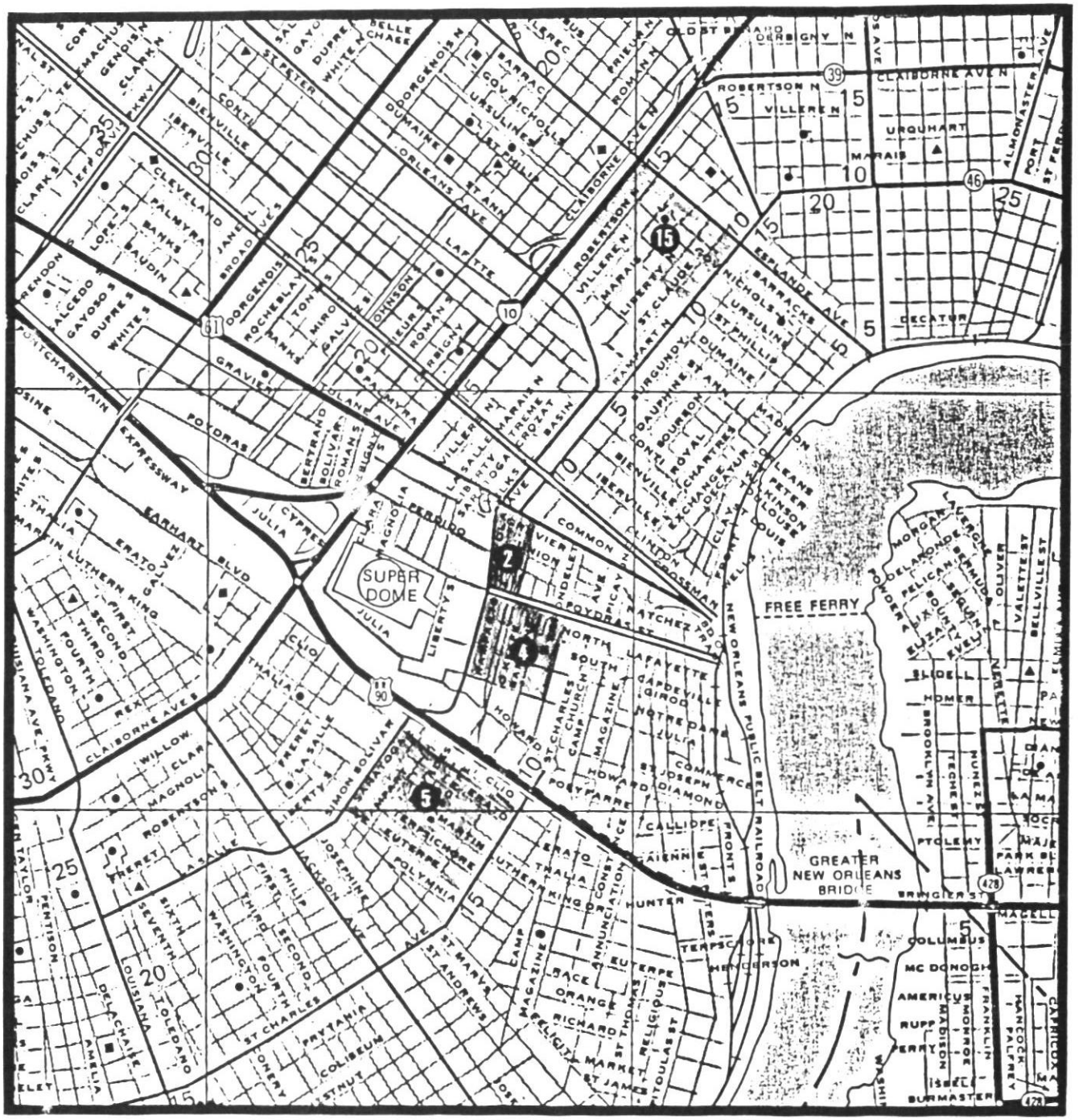
The Four Remaining CBD Sites

The original intent of the report was to identify the *three* sites which were most acceptable. After elimination of all of the suburban locations and Site Numbers 2, 4, 5, 15 and 16 (above), there were *four* remaining (see Exhibit 4). The estimated costs of the sites, along with utility and street improvement costs, were as follows:

Site Number 1:
St. Joseph, Constance, Fulton, Poydras and Lafayette Streets. $10.7 MM

EXHIBIT 3

CBD Sites Eliminated



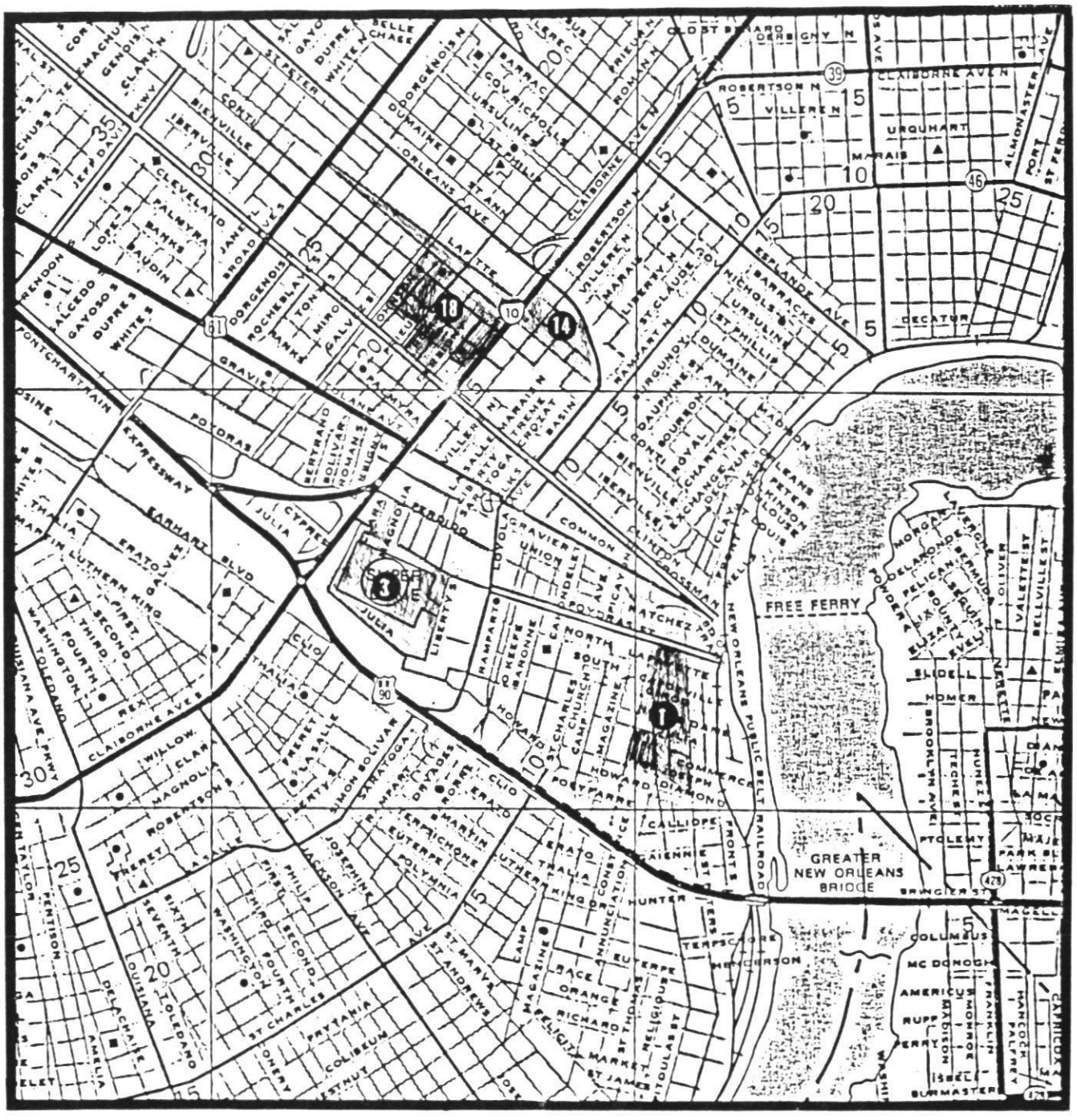
Site Number 3:
Loyola, Poydras, Claiborne and Julia Streets $12.6 MM
(later ten-acres fronting on Loyola Avenue were eliminated as a cost savings)

Site Number 14:
Claiborne, Orleans, Orleans-Basin Connection, Basin & St. Louis Streets. $10.8 MM

Site Number 18:
St. Louis, Orleans-Basin Connection, Lafitte, N. Broad, N. Galvez, Iberville, Canal, N. Roman Streets and N. Claiborne Avenue $14.1 MM

EXHIBIT 4

Final Four CBD Sites Selected



Site Number 1 had an estimated 80 owners with no residential family involvement while Site Number 18 had an estimated 230 owners with over 400 families. Additionally, Site Number 18 had a city incinerator to relocate which would have delayed the project. Site Number 14 had a public housing project with 40 families and was mostly industrial, railroad and some cheap commercial. Site Number 3 had almost no families and ownership was mostly two railroads.

Decision Factors Of The Four CBD Sites

While the dispersal time estimated for Site Number 1

EXHIBIT 5

Appendix A (4)
Site Number Three Information Sheet

Location:	Central Business District
Boundaries:	Federal Building, Loyola, Poydras, Claiborne, and Julia Streets
Size:	66-acres
Ownership:	Mainly Illinois Central Railroad, Louisiana and Arkansas Railroad, and various governmental agencies.
Access by Car:	The site can be cleared in one hour. Traffic dispersal in all directions. Direct ramp access to Pontchartrain Expressway is possible. For details of access roads see table in Site #1.
Access by Bus and Rail:	N.O.P.S.—10 routes within five blocks. Service to Jefferson and St. Bernard Parishes available. Union Passenger Terminal within 300 yards of site with direct rail extension possible.
Parking Facilities:	Over 14,000 central area spaces available. On-site parking facility cost approximately $10 million.
Proximity to Hotels:	6,500 hotel rooms are within walking distance.
Acquisition and Site Clearance:	Estimated total cost $23.1 million. There are few structures on the site.
Probability of Acquisition Delay:	Low. The two railroads own the majority of the site, and virtually no family relocation is involved.
Compatibility With Environment:	The site is adjacent to the Federal and City Hall office complexes, and is currently used as a rail freight terminal.

Summary of Estimated Costs:

	(Dollars in Thousands)	
Acquisition (30 acres)	$10,000	- ($21 million
Utilities Removal	1,350	for total acreage)
Site Preparation	500	
Street Improvements	680	
Total	$12,530	

was one hour, this does not take into account the potential impact of traffic from the facility on normal traffic in the CBD. Site Number 1 was closest to the parking facilities and hotels in the CBD; however, it contained buildings which were considered historic. Had this site been selected, it likely would have put tremendous pressure on CBD traffic at times. Also, there would have been an impact on land values and land uses because the taking of 47-acres of land would have eliminated over 60 useful three-and-four-story buildings.

For each site not "automatically eliminated", such as Site Numbers 2, 4, 5, 15 and 16, the consultants composed a Site Information sheet. Such a sheet for Site Number 3 (Exhibit 5) is enclosed for illustrative purposes.

Site Number 3 consisted of liquor warehouses, meat packers, railroad warehouses, small industries, railroad tracks and the ICRR hospital. The ICRR was a respected member of the economic community, and up until 1960 did not want their real estate disturbed.

Because trucking was eating into the profits of the operating railroads, these large landowners did an about face with regard to assets which could be converted into returns far greater than the capitalized worth of their operating revenues from freight. Besides, the freight did not go away, it merely moved further out to the Elmwood Industrial Park in Jefferson Parish also owned by the ICRR.

If the stadium was built on the acreage on the lake side of LaSalle Street, then the ten-acres between LaSalle and Loyola on Poydras Street, also owned by ICRR, would have been available for high-rise development (which did happen with the Hyatt Hotel and oil company related buildings).

Of all the sites with substantial improvements, Site Number 3 had the most obsolete improvements with no potential of rehabilitation. The density of improvements also was the least. Site Number 14, near the Municipal Auditorium, had similar improvements and railroad tracks (Southern Railroad), but contained part of a housing project.

New Orleans lies north of a crescent in the Mississippi River (thus the city is called "The Crescent City") with the CBD and French Quarter at the eastern or downriver portion of the crescent. The Interstate 10 system generally runs east-west across the top of the crescent parallel to

EXHIBIT 8

Louisiana Stadium & Exposition District
Budget As Adjusted

Item	Budget As Adjusted
REVENUES:	
Bond Proceeds	$137,750,000
Hotel Occupancy Tax (Net)	12,031,553
Investment Earnings	13,287,479
Rental Revenues	102,812
Refund on Poydras St. Paving	140,000
Other Revenues	1,471
TOTAL ANTICIPATED REVENUES	$163,313,315
EXPENDITURES:	
Site Acquisition	$ 11,270,163
Prime Construction	101,914,949
Television System	1,259,013
Landscaping	217,761
Graphics	277,346
Seats	2,317,912
Turf	183,842
Moveable Furnishings	1,907,400
Sports Equipment	150,000
Demolition	473,184
Highway Rework	78,923
G.S.A. Relocation	192,433
Traffic Signals	100,000
Telescoping Stands	185,031
Utilities Relocations	1,974,547
Builders Risk Insurance	820,833
Testing Laboratory Fees	984,660
Architect-Engineers Fees	9,750,150
SUBTOTAL	$134,058,174
Contingencies	1,476,475
TOTAL CONSTRUCTION COSTS	$135,534,649
OTHER COSTS:	
Debt Service-Interest	$ 23,100,362
Working Capital Fund	500,000
Administrative Costs	4,178,304
TOTAL OTHER COSTS	$ 27,778,666
TOTAL EXPENDITURES	$163,313,315

Source: *Louisiana Superdome "Newest Wonder of the World"*, by Andrew Chafin, 1975.

Lake Pontchartrain except that there is a part which dips down into the eastern side of the crescent, i.e. in a southeast direction, then goes northeast back up to Eastern New Orleans. This triangle is identified as Interstate 10 in the south "V" and is called Interstate 610 as it proceeds east-west through the middle of the city (see Exhibit 6).

Site Number 3 is actually at the very bottom of this "V" with numerous interchanges to feed traffic to and from both the northwest and the northeast. While about 35% of the population was to the northwest and west and only about 20% is to the northeast, about 15% of the traffic could be dispersed on local roads to the uptown section (areas along the riverfront and in the university section) and about 20% of the traffic could be sent across the river or downtown. Although the areas are not well defined and overlap, there were literally five directions for dispersal: west-35%, east-20%, uptown-15%, downtown-3% and west bank-17%. Suburban sites had no such diversity of egress routes.

Site Number 1 would have required travel out Poydras Street or up St. Charles Avenue to the interchanges. Site Numbers 14 and 18 would have required local traffic back to the heart of the CBD for most interstate traffic. It is possible that the favorable orientation of Site Number 3 to these interchanges could reduce dispersal time from 15 to 30 minutes over the three CBD sites. This is not to mention the minimal amount of disruption of ordinary traffic of Site Number 3 as compared with other CBD sites.

Final Decision

Site Number 3 was chosen as the lesser of evils. Site Number 1 was badly located in terms of traffic and the possible effect on CBD movement in addition to being improved with potentially historic structures.

Site Number 14 contained residential housing and was not as well located in relation to the ingress and egress highway interchanges. Site Number 18 had numerous small owners, houses and apartments, and was not as well located with regard to interchanges.

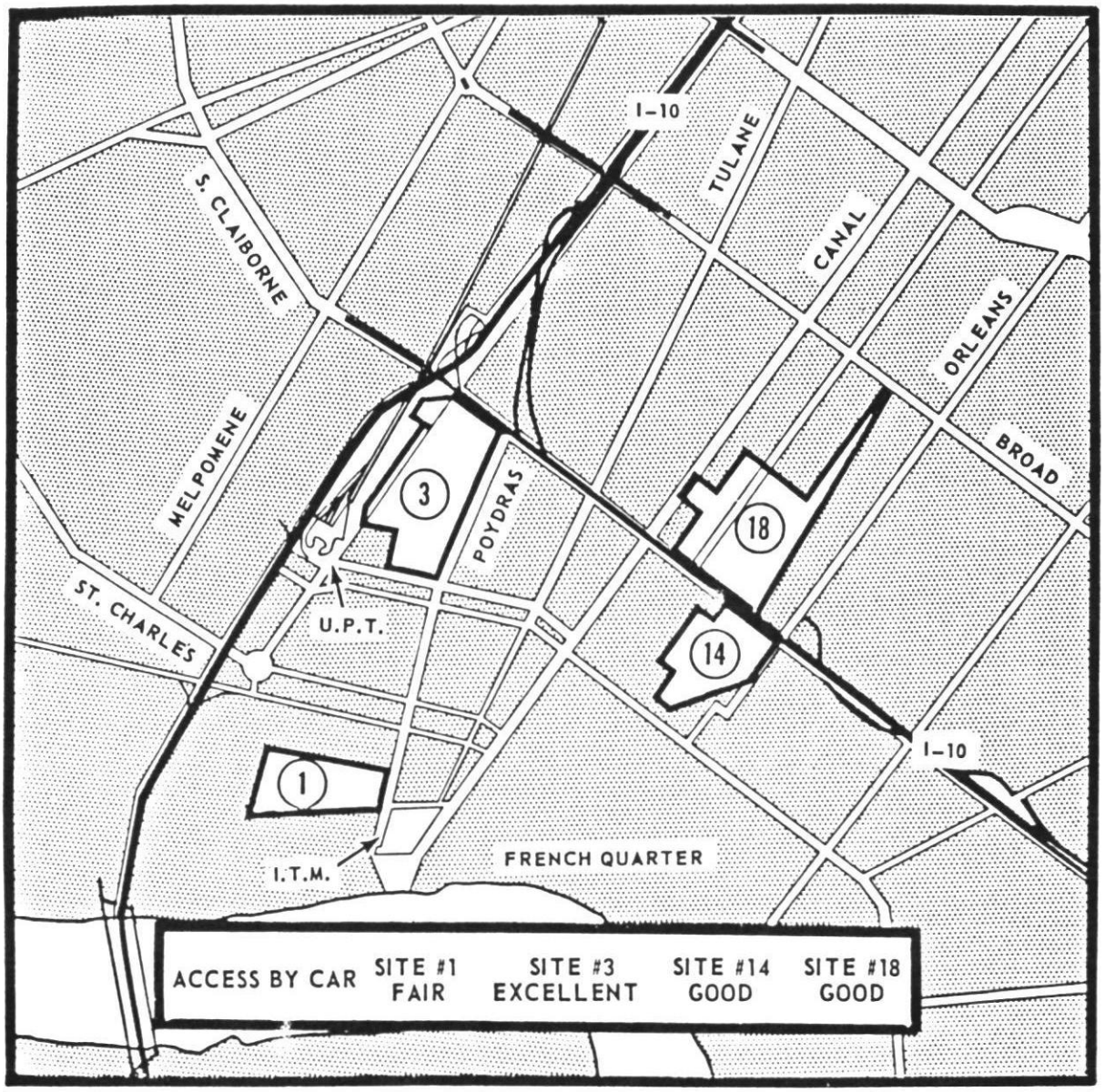
The ownership of the lands involved in Site Number 3 was the ICRR and the Louisiana and Arkansas Railroad, plus some small landowners. Most improvements were obsolete and could be replaced in better locations. The old railroad brick warehouses were an eyesore to the CBD. Using this site destroyed the least amount of economic wealth while replacing misplaced land uses with a stadium that would add considerable economic benefit to the total area, expecially the CBD. Poydras Street on the lake side (the Park Avenue of the future) would get a very desirable anchor on its northwest or lake end. Nestled in the far corner of the CBD, this was the ideal spot for the Superdome.

Ten Years Later

The wisdom of the decision to place the stadium on Site Number 3 is more apparent now than it was at the time.

May 31, 1985

EXHIBIT 6

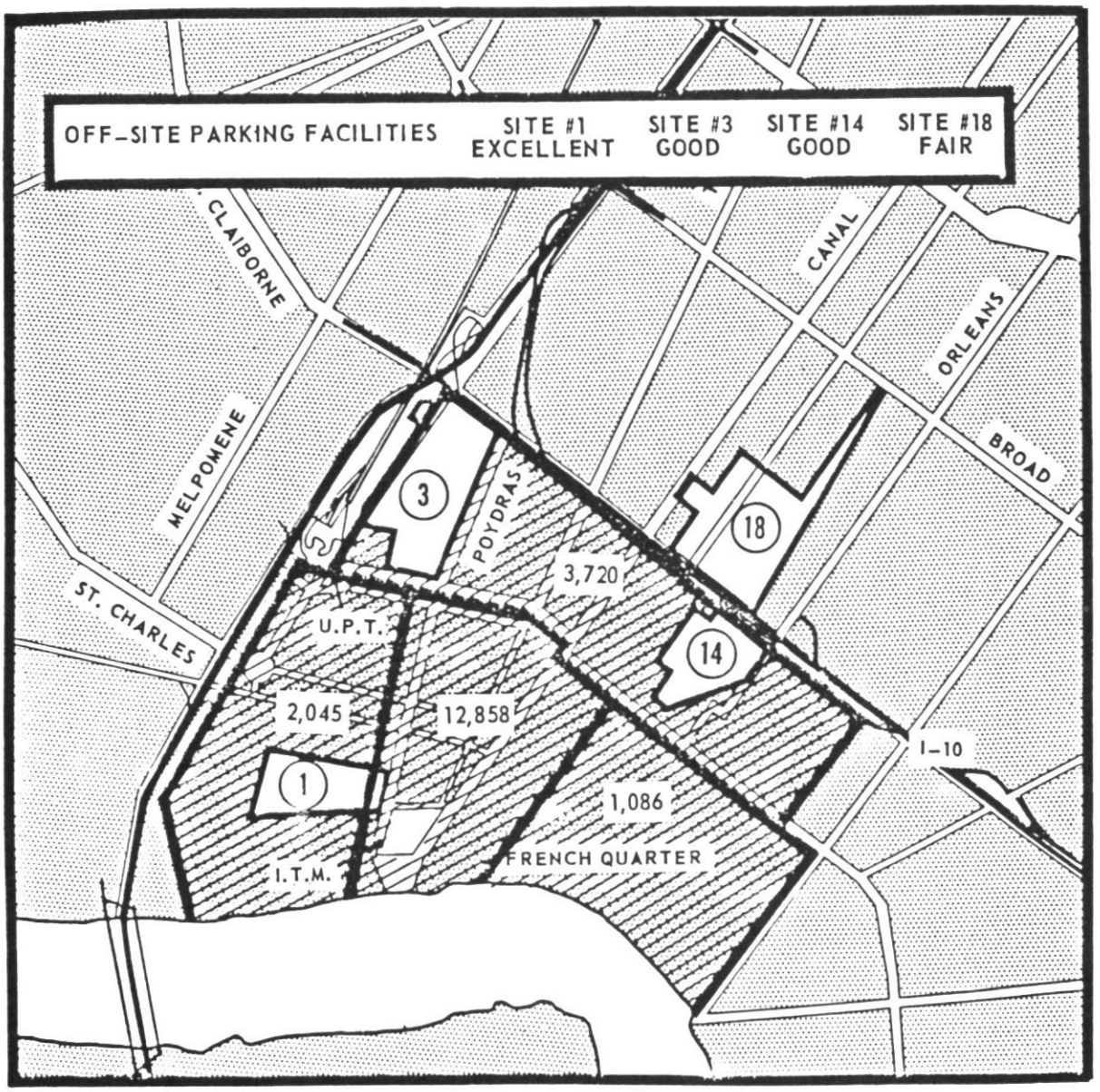


First and foremost, the fillup and the dispersal works better than expected. Many people come early and eat in the French Quarter or elsewhere in the CBD and leisurely walk to the event. Visitors walk over to this structure from their CBD hotels to take the "tour". The design of the structure allows for maximum people movement out after a big event, and the neighborhood is a vast improvement over the eyesore it replaced.

At the time of the facility's construction there was considerable speculation on what would happen to the lands in the immediate vicinity. Soon after the site was chosen the Hyatt Regency Hotel, a major convention facility, was constructed on Loyola Avenue. There was a "shopping mall" in front of the hotel itself (i.e. on the river side) and a ramp from the hotel directly to the Superdome entrance level. Everyone believed that this would signal numerous other developments. The properties on Poydras Street from South Claiborne Avenue to LaSalle Street and directly across from the Superdome, certainly would be developed with hospitality facilities. However, this did not occur and the shopping mall was less than successful.

A joint venture group consisting of the ICRR, an insurance company and some risk capital developers, began developing the ten-acres fronting on Loyola Avenue at Poydras Street, or rather that part of the ten-acres not occupied by the Hyatt Regency Hotel. This group started with one high-rise on Poydras and this was followed by

EXHIBIT 7



other buildings and parking garages so that most of this area today is developed with offices (see Exhibit 7). None of this relates directly to the Superdome (except Hyatt), but it is doubtful that these structures would have been placed in this area had the old industries and railroad warehouses remained. The Superdome made a pleasant environment that *allowed* for development.

Other developers started building high-rise office buildings on the lake side of LaSalle Street across from City Hall, and now there are three such buildings. It is interesting that studies of the impact of the Superdome on the CBD give credit to the stadium for these structures however, if the old industries had remained, these buildings would have been located elsewhere due to the poor neighborhood environment, but they still would have been built in the CBD.

Nothing happened for some time across Loyola Avenue, the more proximate location to the already developed CBD inner core. If the Superdome was to attract development, this is where it should have happened. Not until almost nine years after the start of construction of the Superdome was anything substantial placed on Loyola. Just recently, the Energy Center, another high-rise office building, was completed at Loyola Avenue and Poydras. Here again, this is the result of the Hyatt and the other office buildings (all occupied principally by oil companies) rather than the Superdome itself, although the structure cleaned up the neighborhood by removing the

old industrial buildings. It also made Poydras Street more desirable.

Interestingly, after ten years of operation, there is not one improvement which is directly related to the Superdome except the Hyatt Regency.

The University of New Orleans study of the economic benefits of the Superdome after 10 years by Dr. Wade R. Ragas, Jr. and Dr. Ivan J. Miestchovich, Jr. indicates that the office buildings in the vicinity of the Superdome benefited from the Superdome parking garages. The buildings on the lake side of Loyola Avenue required one parking space for each 1,200 square feet of office building in the zoning ordinance and this is approximately what was built; however, Drs. Ragas and Miestchovich contended that this was not sufficient parking. The proximity of the Superdome parking garages saved the buildings' developers about $20 million. This, they contend, was an economic benefit in that it saved the construction of the added spaces needed to make the buildings feasible. In any other location, these parking spaces would have had to been added.

General Impact Of The Superdome

Each year the Superdome has a big operating deficit since the taxes generated by the visitors to Superdome events cannot be directly identified or used to offset the book deficit of the operation (see Exhibit 8). However, the economic contribution of this structure is tremendous and it pushed tourism to the top of the list of economic contributors to the economy of the New Orleans area. Without the Superdome, New Orleans would probably not have been host to Super Bowls, the National Basketball Association Jazz franchise for four years, the NCAA basketball championship in 1987 or numerous trade shows and conventions. A recent report by the University of New Orleans Division of Business Administration indicates that in the ten years since it opened, the Superdome has generated $2.68 billion in state tax revenue, visitor spending and CBD development.

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2. All notes, both citations and explanatory, are to be numbered consecutively in the text and placed at the end of the manuscript.

3. Illustrations are to be considered as figures, numbered consecutively and submitted in a form suitable for reproduction. Type figure legends double-spaced on a separate page.

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Perspectives

URBAN VS. SUBURBAN REVISITED

by Abram Barkan, CRE

There have been a number of changes in the cities and suburbs during the past ten years of which the most important has been in the area of employment. Working in Manhattan and living in the suburbs of New Jersey, I have observed significant changes in both areas. Up until 1980, New York City's principal industry was manufacturing—a startling observation since one usually thinks of New York as the financial capital of the world. Following a steady decline in manufacturing jobs, New York City in 1981 statistically emerged as the financial center of the country. This is true for most of the large urban areas in the country. A quick look at downtown Pittsburgh, long identified as a "smokestack" industrial city, reveals its similarity to other downtown areas having a concentration of high-rise office buildings forming a glass wall.

Even as New York City grows in the commerce and financial categories, the same growth is happening in the nearby suburban communities at an even faster pace. For example in White Plains, more people enter the city than leave it for work in the urban area. Table 1 illustrates the phenomenal growth in the suburban communities of New York City.

TABLE 1

	1980	1981	1982	1983	1984	1985
Total Construction (Millions of Sq. Ft.)	17.8	19.5	18.7	22.5	21.0	20.4
Location of New Space (%)						
New York City	44%	32%	32%	30%	20%	33%
Long Island	3%	6%	11%	4%	11%	11%
New Jersey	38%	43%	40%	45%	50%	36%
Northern Suburbs	15%	19%	17%	21%	19%	20%

The suburbs are starting to look more like the city due to the proliferation of shopping centers and hotels that find it good business to be adjacent to office building concentrations. For example, the Hilton Hotel in Parsippany, New Jersey is busy Monday through Thursday, and on weekends it enjoys a bonanza from the catered parties—wedding receptions, bar mitzvahs, etc. A reservation for Sunday brunch must be made well in advance of the specific date. Do you recall how difficult it was in the past for a hotel in the suburbs to succeed, let alone prosper?

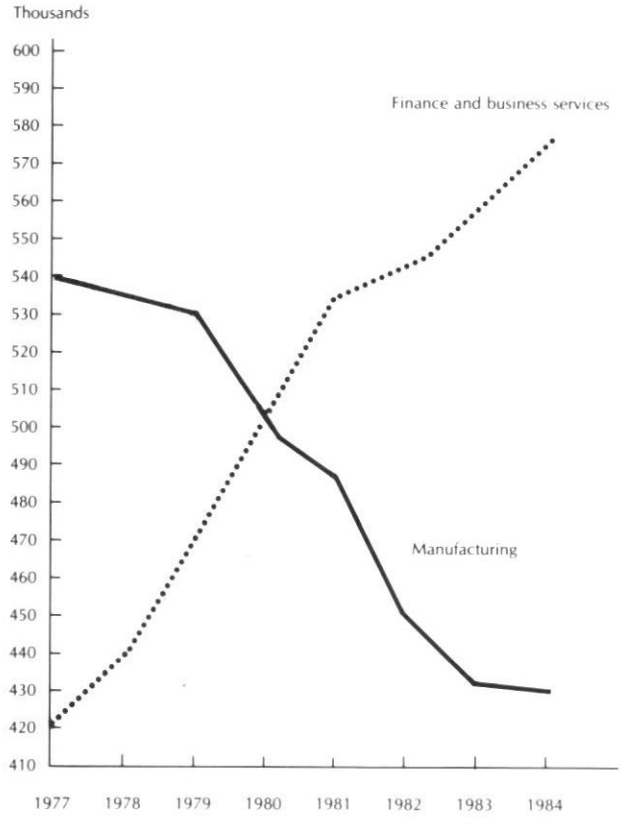
As for suburban shopping centers, they resemble Fifth Avenue, Rodeo Drive and Worth Avenue more than a sleepy little suburban community. In Manhasset, Long Island, a prosperous Manhattan suburb, a local shopping center is slowly changing its tenantry from supermarket/variety store to Brooks Brothers and other Madison Avenue shops. In Short Hills, New Jersey, the shopping center has attracted boutiques such as Gucci, Jaeger, Fendi and Louis Vuitton.

Meanwhile suburbs and urban areas now suffer from the same problems—congestion and lack of affordable housing. In suburban Essex County, New Jersey, the median home price is in the $150,000 range with many costing $400,000-$500,000. There is a lack of affordable housing in the northeast, both in the urban areas and suburbs, that offer employment opportunities. Automobile traffic congestion, a growing problem, can only worsen in light of new office building construction.

What is the solution? Such a complex problem necessitates a complex answer. For starts there needs to be a redirection of federal spending from escalating defense costs to relieving housing shortages, improving the environment and reducing the unemployment rate. Today's problems of increasing congestion and population should not be left to become tomorrow's regret.

Abram Barkan, *CRE, MAI is president of James Felt Realty Services, a division of Grubb & Ellis Company of New York City specializing in consulting and appraisal activities. Barkan was the 1978 president of the American Society of Real Estate Counselors and previously was published in* Real Estate Forum.

Payroll Employment In Manufacturing And Finance And Business Services, New York City, 1977-1984



BEN FRANKLIN REFLECTS ON TWO CENTURIES OF REAL ESTATE

by Webster A. Collins, CRE

The U.S. real estate industry got started shortly after the Battle of Yorktown when we came together as a country. George Richards Minot, George Washington's aide-de-camp, came back to Boston and went into business. He was responsible for the upbuilding of estates. Most assets in those days were tied to real estate—land, homes, stores and business property. Then, as now, value was important. I can remember when Minot's mother died. He hired Sam Ruggles and his associate to value her property.

Appraisers in those days were called subscribers and that is what they did. They subscribed that Sarah Minot's property was worth 1,500 pounds on December 23, 1791. Value is the cornerstone of all real estate, and what is happening today is chipping away at that granite block.

Founding Of The Real Estate Investment Trust Industry

Under common law in the 1800's it was possible to organize "Voluntary Associations" in which a trust fund could be turned over to a group as trustees to handle for the benefit of contributors to the fund. Proceeds of transactions could be divided among contributors or beneficiaries who, for amounts contributed, held transferable shares entitling them to participate ratably in profits and proceeds. This became known as the "Massachusetts Trust," first created in 1886, and was the start of what became the real estate investment trust industry.

Use Or Misuse Of Money

We never had such things as pensions in my day. You had to take care of yourself. Our 20th century government has created a fancy new thing called ERISA—pretty good idea. People could save money for retirement. We never had such things as income taxes either. We used to raise money through tariffs. This worked well for a while although it did start a little altercation called the "Boston Tea Party." We had inflation, too, but never the like of what occurred after 1976—and I guess that is what started it all.

In the late 1970s money in the savings bank earned interest at five to six percent. And then what happened? With inflation, interest rates soared. It would cost you ten percent, sometimes 15 percent and sometimes over 20 percent to borrow money!

Money moved out of savings institutions bankrupting many banks with low-rate, long-term mortgages. The key date to this all was sometime in October 1979 when the Federal Reserve decided to target the growth in the supply of money.

What happened next is that real estate looked like a pretty good hedge against inflation. Rents were going up and with those fancy machines called computers, you could look out to the future and guess what a property might be worth. Tax laws were changed, too! A new term was created called "Syndicating Tax Shelter Depreciation," which brought in more money. Pension funds looked at real estate as a good way to diversify. Sounds kind of neat, doesn't it?

Well, my friend, it's now ten years later, and let's look at what hap-

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pened in between. With all this money, a lot of buildings came about. That old building at the head of Milk Street in Boston where my family's house used to be was even renovated. Pretty fancy stuff. But still you need to have people as tenants to make buildings work.

Boston was a pretty staid city when I lived there. We didn't have all that land in the southern and western part of our country called by that fancy name "The Sun Belt." I understand a lot has happened.

I gather that in Houston with all that new money a lot of office buildings were built. Pension funds bought a lot of them. Tax shelter syndication the same. With inflation and computers (see Table 1) to tell what was

Houston—Supply and Demand Analysis

Year	New Office Space	Absorption—Office Demand	(Over) Under Supply
1980	11,500,000 s.f.	10,300,000 s.f.	(1,200,000) s.f.
1981	16,300,000 s.f.	11,000,000 s.f.	(5,300,000) s.f.
1982	25,200,000 s.f.	6,200,000 s.f.	(19,000,000) s.f.
1983	23,000,000 s.f.	4,600,000 s.f.	(18,400,000) s.f.
1984	10,200,000 s.f.	6,300,000 s.f.	(3,900,000) s.f.
TOTAL			(48,700,000) s.f.
		Projected	
1985	2,400,000 s.f.	6,000,000 to 7,000,000 s.f.	

Source: Horne Survey and Reis Report

TABLE 1

10-Year Cash Flow Projection At 6% Inflation

Capital Management Services—Ten Year Proforma—(Price = 6750000; Initial Equity = 6750000)

Scheduled Gross	Inf Rate	Vac%	1	2	3	4	5	6	7	8	9	10	11	Sq. Ft (Mo-Yr)
Rent			645297	678780	714401	739722	798502	825042	888359	928460	1006173	1043058	1132329	
Reimbursments			115725	122862	130440	138485	147027	156095	165723	175944	186796	198317	210549	
Gross Income			761022	801642	844841	878208	945529	981137	1054082	1104404	1192969	1241375	1342878	50601
Vacancy			38051	40082	42242	43910	47276	49057	52704	55220	59648	62069	67144	
Effective Gross			722970	761560	802599	834297	898253	932081	1001378	1049184	1133320	1179306	1275734	
Expenses														
Property Taxes	(6.0	100.0)	67500	71663	76083	80776	85758	91047	96663	102625	108955	115675	122809	
Property Insurance	(6.0	100.0)	5424	5759	6114	6491	6891	7316	7767	8246	8755	9295	9868	
Water	(6.0	100.0)	5160	5478	5816	6175	6556	6960	7389	7845	8329	8843	9388	
Electric	(6.0	100.0)	1440	1523	1623	1723	1830	1942	2062	2189	2324	2468	2620	
Parking Lot Sweep	(6.0	100.0)	2340	2484	2638	2800	2973	3156	3351	3558	3777	4010	4257	
Parking Lot Strip	(6.0	100.0)	452	480	509	541	574	610	647	687	730	775	822	
Parking Lot Repair	(6.0	100.0)	2322	2465	2617	2779	2950	3132	3325	3530	3748	3979	4225	
Landscape Maintenance	(6.0	100.0)	6300	6689	7101	7539	8004	8498	9022	9578	10169	10796	11462	
Landscape Repair	(6.0	100.0)	2349	2494	2648	2811	2984	3168	3364	3571	3792	4025	4274	
Trash	(6.0	100.0)	3600	3822	4058	4308	4574	4856	5155	5473	5811	6169	6550	
C.A.M. Repairs & M	(6.0	100.0)	600	637	676	718	762	809	859	912	968	1028	1092	
Pest Control	(6.0	100.0)	300	319	338	359	381	405	430	456	484	514	546	
Lighting Maintenance	(6.0	100.0)	420	446	473	503	534	567	601	639	678	720	764	
HVAC Maintenance C	(6.0	100.0)	1644	1745	1853	1967	2089	2218	2354	2499	2654	2817	2991	
Roof Repairs	(6.0	100.0)	420	446	473	503	534	567	601	639	678	720	764	
Building Repairs	(6.0	100.0)	420	446	473	503	534	567	601	639	678	720	764	
Other Building Exp	(6.0	100.0)	1997	2120	2251	2390	2537	2694	2860	3036	3223	3422	3633	
Property Management	(6.0	100.0)	19254	20442	21702	23041	24462	25971	27573	29273	31079	32996	35031	
Expenses			121942	129463	137448	145926	154926	164481	174626	185397	196832	208972	221861	
PSF			2.41	2.56	2.72	2.88	3.06	3.25	3.45	3.66	3.89	4.13	4.38	
Net Income			601028	632097	665150	688372	743327	767599	826751	863787	936489	970334	105873	
Cap Rate%			8.9%	9.4%	9.9%	10.2%	11.0%	11.4%	12.2%	12.8%	13.9%	14.4%	15.6%	
Cash Flow			601028	632097	665150	688372	743327	767599	826751	863787	936489	970334	1053873	
Spendable %			8.9%	9.4%	9.9%	10.2%	11.0%	11.4%	12.2%	12.8%	13.9%	14.4%	15.61%	
Roof Replacement			0	0	0	0	143736	0	0	0	0	0	0	
Mechanical Rep			0	0	0	0	0	0	100490	0	0	0	0	
Parking Lot			0	0	0	5424	0	0	6460	0	0	0	0	
Common Area			0	0	0	0	0	0	0	0	0	0	0	
TI Costs			0	65287	0	85724	42995	82946	14522	144945	0	122760	61570	
Commissions			0	34472	0	48466	29408	43796	11501	84557	0	69405	42114	
Adjustments			0	0	0	0	0	0	0	0	0	0	0	
Total Reserves			0	99759	0	139614	216139	126742	132973	229502	0	192165	103685	
Net Cash Flow			601028	532339	665150	548758	527188	640857	693779	634284	936489	778169	950188	
Net Spendable %			8.9%	7.9%	9.9%	8.1%	7.8%	9.5%	10.3%	9.4%	13.9%	11.5%	14.1%	

going to happen, values were going to skyrocket.

Well, I can recall my good friend George Washington chastizing his stepson.

> "The present profit of your land in the eastern shore may be trifling . . . I will suppose that to be the case, or that it should continue to depreciate as it has done for the last ten months. Where are you now? Bereft of your land and in possession of a large sum of money that will neither buy victuals nor clothes."[1]

So you see property does not always go up in value. It can depreciate. If you have to sell it to raise money, you can be faced with little profit or even a loss. I am told this is going on in Houston right now with some of those nice office buildings with large vacancies. Just look at the overbuilding that has taken place.

The use of projections is only as good as the market judgement that applies, and those who make their living by dispensing wisdom on values can totally miss their mark (see Table 1).

I think long-term. Recessions occurred in my time just as in yours. We had inflation and credit crunches, too. I always liked real estate, but I would only sell when I could make a profit. I would not get into a position where I might take a loss. I liked to sell at my own time and on my own terms. Great change has taken place. But down in Philadelphia my grave marker is *still* there next to Independence Mall. And if you take a look you will note my marker is made of granite!

NOTE

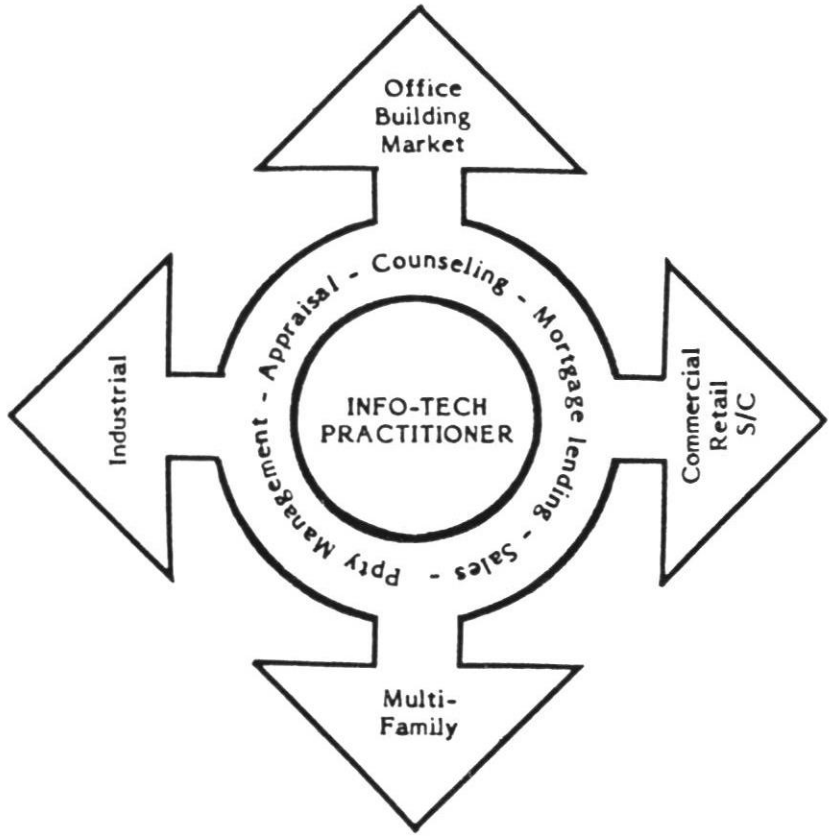
1. Halsted L. Ritter, *Washington as a Business Man*, Sears Publishing

MARKET SPECIALIZATION

by Robert B. Hulley, CRE

In the few short years since John Naisbitt wrote his best seller *Megatrends*,[1] we have seen information technology expand to encompass not only the information that business creates, but also the technology that processes the information. The need for information is making market specialization more significant in meeting customer demand.

There is a fundamental change in customer needs taking place. The period is seen as a time when real estate services have shifted from structured technical skills to market information and simplicity of approach. De Bruicker and Somme in the Harvard Business Review[1] point out that as a customer becomes more familiar with a product or service, their experience evolves and the benefits they seek change.



The Info-Tech Practitioner makes use of a diversified background in technical skills to specialize in a market segment where information and research predominates.

Information services have become increasingly important to real estate clients. There is much demand in the areas of markets operations, absorption, competition, regulations and information about the future. In addition, because of the proliferation of technical expertise since the

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end of World War II, clients now look for a more convenient way of dealing with the various disciplines.

We have seen the emergence of the Info-Tech Practitioner. Fortunately for the Counselor, he is particularly well suited to this new role since he is usually competent in most, if not all, the technical fields in real estate. However, once the concept of Info-Tech is adopted, situations arise where clients ask the practitioner to undertake assignments outside his specialty or competence. The longer a practitioner has specialized, the more difficult it is to keep abreast of other fields even in his own geographic area. However, these situations should provide an excellent opportunity to refer assignments to other specialists. This allows the Info-Tech Practitioner to stay within his specialty and obtain referrals from others who acknowledge his competence in certain areas.

A better arrangement, however, is to form a business arrangement where the contributing "partners" can enjoy the advantages from sharing facilities, staff, equipment and experience. Research on the pooling of expertise[2] indicates that much is gained by joining forces not only with other Counselors, but with architects, engineers, lawyers and other specialists to provide a comprehensive client service that otherwise would not be possible. But either individually or together there is a great deal of satisfaction in working towards becoming an absolute expert in a chosen area of business. Specialization also provides the Info-Tech Practitioner the opportunity to write authoritatively on his subject and undertake speaking engagements.

Indeed, in addition to the two areas of specialization mentioned at the beginning of this article—technical skill and market specialty—is the need to be an effective communicator. Develop a creative and imaginative approach since your research and knowledge may open up new frontiers of communication with clients and colleagues.

NOTES

1. De Bruicker, F. Stewart, Summe, Gregory, L., "Make Sure Your Customers Keep Coming Back," *Harvard Business Review*, Vol.63, No.1, 1985, pp. 92-98.

2. Hulley, Robert B., "Finding Hidden Values with Asset Management," *Real Estate Review*, Vol.15, No.2, 1985, pp. 30-31.

3. Naisbitt, John, *Megatrends*, Warner Books, 1982.

THE CONVENTION TRADE: A COMPETITIVE ECONOMIC PRIZE

The convention business is a big industry getting much bigger as more and more communities build facilities to house the burgeoning market.

by David Listokin

In recent years many communities have attempted to attract their increased share of the burgeoning convention industry. To this end, they have constructed convention halls, established promotional bureaus, advertised in different mediums, etc. What is the scale of the convention industry in the United States? What is the profile of the conventioneer? What does convention activity mean for the local economy? This article addresses these issues.

United States Meetings Industry: Trends

Over the past few years, the meetings industry in the United States has been booming. According to the International Association of Convention and Visitor Bureaus (IACVB), in 1980 roughly 41 million delegates attended about 87,000 conventions.[1] By the end of 1984, the IACVB estimates 53 million delegates will have attended over 100,000 meetings[2] (see Exhibit 1).

The meetings industry is an especially important economic pump primer in certain gateway and resort cities. New York is illustrative. This community has historically been the world's number one visitor destination. In 1981, for instance, it was sought by 17 million visitors who spent $2.1 billion.[3] In turn, a goodly share of New York's visitor market consists of convention delegates. In 1981, it attracted 4.2 million such individuals who in turn were responsible for an estimated $795 million in outlays.[4] In short, a quarter of New York City's visitor trade is made up of conventioneers who account for one-third of all visitor spending.

Many communities wish to reap the financial bonanza of the conventioneer. To this end they have encouraged, and in some cases financed, the construction of first-class hotel rooms and large arenas—two essential convention trade components. The spurt of activity in this area has been startling. Massive amounts of new hotel space became available e.g., in the early 1980s, 3,000 new rooms in Boston and 6,500 in Dallas.[5] Convention

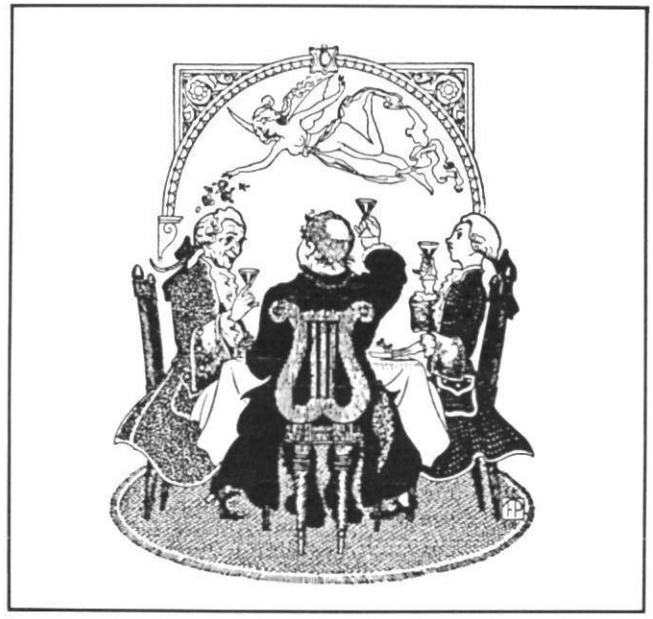

EXHIBIT 1

United States Convention Activity, 1980-1984

Year	Number of Meetings (in thousands)	Number of Delegates (in millions)
1980	87.1	40.9
1981	NA	43.3
1982	87.7	47.3
1983	94.2	48.0
1984*	100.1	52.7

*Estimated

Source: International Association of Convention and Visitor Bureaus, Research Department, Delegate Meeting Survey.

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hall construction also has accelerated. Since 1970, over 100 convention centers have been built in the United States. As of 1980, 30 million square feet of new construction space was added; in 1985 another 7 million will be accessible.[6] The combination of added hotel and exhibition resources has considerably enlarged the number of communities able to host large conventions. In 1970, only 15 cities in the United States could accommodate a trade show with 20,000 participants. Today, about 150 have this capability—a tenfold increase.[7] A selected sampling of cities building new convention centers and expanding existing facilities is shown in Exhibit 2.

EXHIBIT 2

Growth In Exhibition Space, 1982-1988

City	Date Opened	Space Added (Gross Sq. Ft.)	Existing Space (Gross Sq. Ft.)
Anaheim[1]	1982	100,000	250,000
Atlanta[1]	1984	300,000	350,000
Chicago[1]	1988	400,000	720,000
Dallas[1]	1984	100,000	420,000
Houston[2]	1987	600,000	—
Indianapolis[1]	1984	80,000	140,000
Las Vegas[1]	1983	120,000	620,000
Los Angeles[1]	1988	200,000	240,000
Miami[1]	1987	300,000	280,000
New Orleans[2]	1985	350,000	—
New York[2]	1986	680,000	—
Philadelphia[2]	1988	300,000	—
San Diego[2]	1988	250,000	—
Seattle[2]	1987	140,000	—
Washington, D.C.[2]	1982	320,000	—

1. Expansion
2. New Facility

Source: Dan Graveline "Convention Centers" *Urban Land*, (July 1984), p. 4.

Cities have expanded their convention capacity to attract increasing numbers of conventioneers. What is the profile of this group? What do they spend locally?

The Conventioneer: A Distinct Upscale Market

Compared to the average U.S. traveler and especially the vacationer, the conventioneer displays a *distinct, upscale* socioeconomic profile and attendant travel and support expenditures. Relative to the vacation traveler, the convention-goer is 50 percent more likely to have graduated college, twice more likely to be employed in a professional/managerial position and earns $25,000 or more (1977 dollars) one-third more often.[8] Moreover, conventioneers are of considerable importance to the local hospitality, entertainment, transportation and other industries.

The best and most current data on the impact of conventioneer spending is provided by the U.S. Travel Data Center and International Association of Convention and Visitor Bureaus (IACVB).[9] In 1978-79, the U.S. Travel Data Center commissioned the IACVB to conduct a "Convention Income Survey" as follows:[10]

> Fifty-five U.S. cities participated. Each city was instructed to select 1,400 delegates attending and 300 companies exhibiting at 30 conventions. A questionnaire was given asking about the number of persons in the travel party, mode of transportation, number of nights spent and the actual amounts spent in 14 individual expenditure categories. A total of 30,851 delegates and 4,924 exhibitors participated.

The 1978-79 survey findings have been adjusted yearly for inflation. Corrected expenditure figures for 1982 are shown in Exhibit 3. The cost category and distribution terminology first must be defined. Outlays are given for two *convention types: general*—those without exhibitors, and *trade shows*, those with exhibitors. In turn, these convention types entail certain common and certain separate expenditure categories. General convention spending encompasses outlays by delegates for lodging, restaurants, entertainment, etc., in the aggregate referred to as *delegate expenditures*. In addition, general meetings entail outlays by the host association for exhibit hall, equipment rentals, food and beverage functions, etc. In total these are termed *association expenditures*. Trade show outlays include both delegate and association spending. Their exposition nature, however, requires further outlays for *exhibition expenditures* and *exposition service contractor expenditures*. The *exhibition expenditures* include exhibitor spending for food and beverages, hospitality suites, local advertising etc.; expenditures encompass exposition service contractors, the labor and drayage of contractors hired to set up and dismantle exhibits and provide other services during the trade show.

EXHIBIT 3

Average Spending Generated Per 1,000 Conventioneers By Convention Type And Expenditure Category (1982)

Convention Type	Expenditure Category	Expenditure Amount $ Per Day	Expenditure Amount $ Per Trip
General			
	Delegate Expenditures:	$ 80,870	$307,290
	Association Expenditures:	8,180	31,080
	TOTAL:	$ 89,050	$338,370
Trade Show			
	Delegate Expenditures:	$ 80,870	$307,290
	Association Expenditures:	8,180	31,080
	Exhibition Expenditures:	25,570	97,170
	Exposition Service Contractor Expenditures:	2,330	8,880
	TOTAL:	$116,950	$444,420

Source: U.S. Travel Data Center, *1978-79 IACVB Convention Income Survey Analytical Report* (Washington, D.C.: U.S. Travel Data Center, 1981); International Association of Convention and Visitor Bureaus, "IACVB Survey Reveals Value of Convention Business" (Release, mimeo, no date).

The 1982 figures for these different cost components are shown in Exhibit 2. Outlays are given for modules of

EXHIBIT 4

Breakdown of Spending (Approximate) By Expenditure Category
Per 1,000 Conventioneers

Expenditure Elements	Expenditure Category											
	Delegate Expenditure			Association Expenditure			Exhibition Expenditure			Exposition Service Contractor Expenditure		
	%	$ Per Day	$ Per Trip	%	$ Per Day	$ Per Trip	%	$ Per Day	$ Per Trip	%	$ Per Day	$ Per Trip
Lodging/ Hospitality/ Exhibition	43.0%	$34,774	$132,135	17.3%	$1,415	$ 5,377	14.9%	$ 3,810	$14,478	0	0	0
Food	26.5	21,430	81,432	36.4	2,978	11,313	44.1	11,276	42,852	0	0	0
Other local purchases/ services	30.5	24,666	93,723	46.3	3,787	14,390	41.0	10,484	39,840	100.0%	$2,330	$8,880
TOTAL	100.0%	$80,870	$307,290	100.0%	$8,180	$31,080	100.0%	$25,570	$97,170	100.0%	$2,330	$8,880

Notes: [a]Includes hotel rooms and incidentals, hospitality suites, exhibit halls/meeting rooms and, in the case of associations, staff members' living expenses.
[b]Includes hotel and other restaurants and food/beverage purchases.
[c]Includes such items as retail purchases, entertainment/culture, local transportation, gas/auto service, admission fees, local advertising, equipment rentals, services hired, etc.
[d]Includes compensation paid to labor and drayage.
Source: Percentages derived from U.S. Travel Data Center, *1978-1979 IACVB Convention Income Survey Analytical Report* (Washington, D.C.: U.S. Travel Data Center, 1981).

1,000 conventioneers. General conventions of 1,000 attendees generate local delegate expenditures of roughly $81,000 daily. Since the average such meeting is approximately 3.8 days, total delegate outlays are about $307,000. In addition, the general convention includes association expenditures of $8,200 daily or $31,000 for the full meeting. The general convention with a 1,000 member delegate draw results in an $89,000 daily tab and a $338,000 total bill (see Exhibit 3).

Trade shows are more expensive to produce. In addition to the delegate and association costs enumerated above, they require exhibition expenditures and exposition service outlays. These increase the trade meeting spending per 1,000-member module to $117,000 daily and $444,000 for the full 3.8 day convention (see Exhibit 3).

Expenditure Categories

What is bought for these amounts? The answer is provided in Exhibit 3 which breaks down the dollar spending of the four expenditure categories (delegate, association, exhibition and service contractor) into three broad elements—*lodging, food,* and *other local purchases/ services*. The latter is a potpourri group encompassing retail purchases, entertainment and culture expenses, local transportation costs, gas/auto service, etc. The four expenditure categories differ in their spending emphasis. For instance, 43 percent of delegate outlays go for lodging, 27 percent for food and the remainder for other items and services. In contrast, associations and exhibition and service contractors, primarily involved in such tasks as assembling/dismantling booths, photocopying

EXHIBIT 5

Breakdown of Spending (Approximate) By Convention Type
Per 1,000 Conventioneers (1982)

Expenditure Elements	Convention Type					
	General			Trade Show		
	%	$ Per Day	$ Per Trip	%	$ Per Day	$ Per Trip
Lodging/Hospitality/Exhibition	40.6%	$36,189	$137,512	34.1%	$ 39,999	$151,990
Food	27.4	24,408	92,745	30.6	35,684	135,597
Other local purchases/services	32.0	28,452	108,113	35.3	41,266	156,833
TOTAL	100.0%	$89,049	$338,370	100.0%	$116,949	$444,420

Notes: [a]Includes delegate and association expenditures shown in Exhibit 4.
[b]Includes delegate, association, exhibitor and exposition service contractor expenditures shown in Exhibit 4.
Source: Derived from U.S. Travel Data Center, *1978-1979 IACVB Convention Income Survey Analytical Report* (Washington, D.C.: U.S. Travel Data Center, 1981).

flyers, transporting equipment, individuals, etc., spend far higher shares (46–100 percent) for local purchases as opposed to food and hotels (see Exhibit 5).

Convention Types

With this breakdown, we can calculate not only the amount but the distribution of expenditures by convention type (see Exhibit 5). General conventions entail delegate and association outlays. Tallying the appropriate spending elements from Exhibit 4 reveals the following. Of the $89,000 daily expenditure for the 1,000 conventioneer module, $36,000 goes for lodging, $24,000 for food, and $28,000 for other local purchases and services. A similar proportional distribution is found for the $338,000 total 3.8-day convention outlay: $138,000 for lodging, $93,000 for food, and $108,000 for other items. Trade shows generate higher sums especially in the other local purchases/service element. The reason for this emphasis is that trade meetings include exhibitor and contractor expenditures which in turn consist mainly of local goods and labor. Thus, of the daily $117,000 trade show cost per 1,000 conventioneers, $40,000 is consumed by lodging, $36,000 by food, and the largest amount, $41,000, for the other local category. An analogous breakdown is found for the full trade show cost of $444,000: $152,000 for hotels, $136,000 for restaurants, and $157,000 for local goods and services (see Exhibit 5).

These basic data building blocks permit calculation of the dollar significance for the convention industry. In 1982 there were approximately 47,300,000 conventioneers. Given a trip expenditure of $338,400 per 1,000 conventioneers, the 47,300,000 total convention pool spent approximately $16 billion. (This does not take into account the higher outlays for trade shows.) If we conservatively assume that convention trip expenditures have increased by 15 percent from 1982 to 1984 (for hotels, restaurants, etc.) to say, $390,000 per 1,000 conventioneers, then the estimated 52,700,000 conventioneers in 1984 spent over $20 billion.

The lure of such significant outlays has prompted many cities to bolster their convention-garnering abilities. Many have built convention centers, encouraged first-class hotel construction, expanded convention bureaus, etc. The economic prize is great, but so is the competition.

NOTES

1. International Association of Convention and Visitor Bureaus, Research Department, Delegate Meeting Survey.
2. *Ibid.*
3. New York Convention and Visitors Bureau, "New York City Visitor Statistics—1981." See also "Mammouth Convention Center an Asset to NYC's Saleability." *Successful Meetings*, May 1982, p. 69.
4. *Ibid.*
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ON ASSEMBLING REAL ESTATE PORTFOLIOS

A guide to determining why and why not to invest in a particular real estate market.

by Joseph J. Del Casino

As an edge in reducing the risk factor, real estate investments are increasingly being included in most investor portfolios (especially in the equity form). This tendency is growing since returns for real estate tend to be negatively correlated with those of the more traditional investments such as stocks and bonds.[1]

In order to invest wisely, the following factors need to be considered: how much of one's portfolio should be related to real estate; what kind of real estate should be purchased (e.g. office building, hotel, etc.); the type of investment vehicle (e.g. direct investment, real estate investment trusts, etc.); and where to buy (e.g. region, state, city).

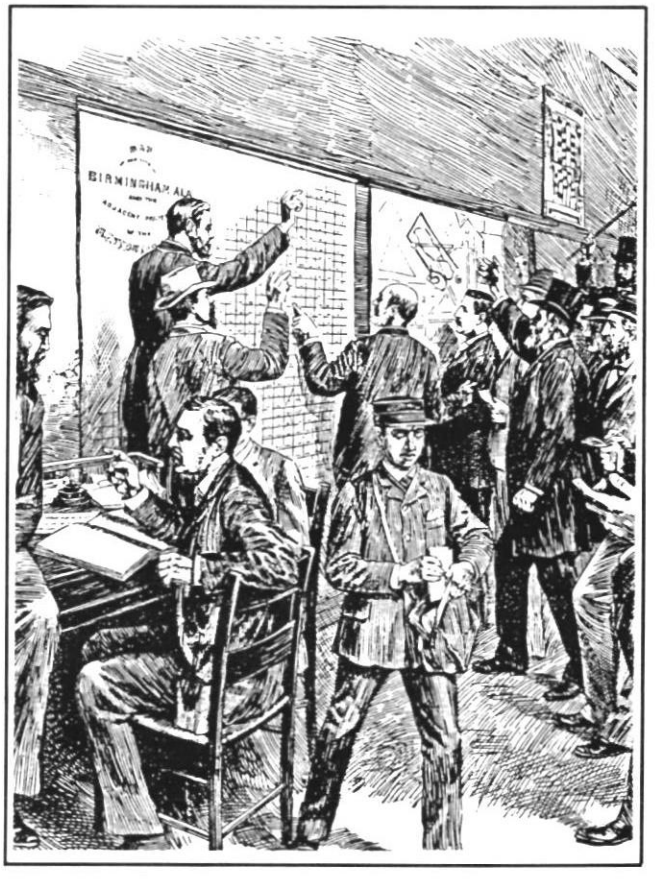
This article discusses how to decide where to buy based on the assumption that the investor is interested in assembling a real estate portfolio that contains several individual office properties, in the most attractive investment environments, offering the highest returns with limited investment exposure in any particular market.

How To Decide Where To Buy?

Four major economic aspects of a property market should be considered: the general and long-term economic growth potential; the extent the economic/industrial base is diversified; how much of the economy is comprised of service-producing industries; and the magnitude of the manufacturing base.

Economic Growth Potential

An investor should consider metropolitan areas that continue to experience rapid population growth since these areas are more likely to experience the greatest expansions in business investment over the long term. The 1980 Census indicated a spatial redistribution in the nation's population from the North and East to the South and West.[2] More important, the accompanying shift in the economy is still gaining momentum, and the U.S. is continuing to experience the results of the mass population movement during the last two decades. During 1975-82, approximately one billion square feet of office space was constructed in the South and West accounting for approximately 70% of the total amount of building construction in the U.S.



Joseph J. Del Casino *is a senior associate with the New York investment division of Jones Lang Wootton, an international real estate consulting firm. He has a masters degree in city planning from the University of Pennsylvania and a bachelors degree in economics from Brown University.*

TABLE 1

Employment Concentration Ratios
A Comparison Of 20 U.S. Metropolitan Areas

	Mining*	Construction	Manufacturing	Transportation	Wholesale/ Retail	FIRE	Services	Government
Atlanta	.00	1.05	.65	1.59	1.24	1.15	1.01	.92
Baltimore	.00	1.05	.70	1.09	1.05	1.04	1.04	1.25
Boston	.00	.69	.90	.83	.96	1.30	1.47	.71
Chicago	.07	.77	1.04	1.04	1.07	1.31	1.10	.74
Dallas	1.60	1.24	.95	1.10	1.20	1.26	.92	.67
Denver	2.60	1.27	.69	1.27	1.06	1.18	1.03	.93
Houston	5.03	2.07	.73	1.22	1.05	1.06	.95	.65
Los Angeles	.31	.66	1.13	.96	1.01	1.10	1.15	.75
Miami	.00	1.01	.62	1.74	1.17	1.32	1.17	.75
Minneapolis	.00	.79	1.02	1.00	1.08	1.14	1.11	.82
New Orleans	3.10	1.39	.43	1.70	1.10	1.01	1.14	.88
New York	.03	.64	.67	1.26	.82	2.24	1.32	.88
Philadelphia	.00	.81	.97	.88	.99	1.11	1.23	.88
Phoenix	.07	1.49	.77	.94	1.15	1.21	1.05	.91
Pittsburgh	.75	1.13	.94	1.04	1.05	.90	1.25	.71
San Antonio	.58	1.49	.55	.76	1.13	1.15	1.01	1.29
San Diego	.06	.91	.76	.77	1.02	1.05	1.15	1.22
San Francisco	.22	1.03	.57	1.40	1.02	1.63	1.13	1.03
Seattle	.15	1.07	.86	1.00	1.08	.95	.95	1.18
Washington DC	.00	.99	.18	.81	.84	.94	1.38	1.87

*Includes the petroleum and other energy-related industries.

Although high rates of growth do not guarantee either long or short business cycles, there is a tendency for greater economic expansion in areas of rapid secular development. During periods of business recession, high-growth economies are hit as hard as others. However, when the economy improves these areas recover faster and stronger.

Economic/Industrial Base

An investor should consider economically diversified areas since they tend to be more stable and are less vulnerable to shifts in the economy. Employment concentration ratios (also known as location quotients)[3] are a convenient method for analyzing the breadth and diversity of an economy. These ratios compare the concentrations of employment in each local sector with the economy of the entire country. The concentration ratios for 20 metropolitan areas, shown in Table 1, indicate that when an industry's ratio is greater than (1.0) the area employs more workers than the national average. Similarly, if the concentration ratio for an industry is less than one (1.0) the area employs fewer workers than the national average. Since many of the metropolitan areas in Table 1 have concentration ratios near 1.0, their employment composition reflects the well diversified U.S. economy.

In some instances an area shows a strong dependence on a particular industry. For example Dallas, Denver, Houston and New Orleans are very dependent on mining, including the petroleum and other energy related industries; Washington, D.C.—government; and New York—finance, insurance and real estate.

Generally, an investor is more interested in a broad, diversified metropolitan area. However, when a particular sector (such as Houston or Denver) is selected, an investor should minimize his/her exposure in other areas with the same economic dependency.

Service-Producing Industries

An investor should consider metropolitan areas with service-producing industries. Such industries are a significant part of the U.S. economy and in recent years they have accounted for more than half the national income and have employed more than half of all the employees on nonagricultural payrolls. Broadly defined, the service sector industries consist of businesses whose output is intangible such as transportation and communication utilities; wholesale and retail trade; finance, insurance and real estate; and personal and business services—the largest and fastest growing.

As indicated in Table 1, some metropolitan areas reflect the current economic changes. For example, New York, San Francisco, Miami, Chicago, Boston and Dallas have a heavy concentration in the finance, insurance and real estate industries; Boston, Washington, D.C., New York, Pittsburgh and Philadelphia are dominant centers for services. These areas are well positioned to grow as the U.S. continues its evolution into a service-based economy.

Manufacturing Base

An investor should consider metropolitan economies that have small concentrations of durables manufacturing employment. Analysts believe that a metropolitan

economy, dependent on the production of durables, is most sensitive to changes in the business cycle.

Employment in manufacturing, particularly durables manufacturing, represents a small percentage of the total employment in most metropolitan areas. Manufacturing employment accounts for only 21% of the total employment in the U.S. and is located in the heavy manufacturing metropolitan areas of Chicago (22%), Minneapolis (21%), Dallas (20%), Los Angeles (24%), Pittsburgh (20%) and Philadelphia (20%).[4] Durables manufacturing employment represents 12% of the nation's employment and is concentrated in Boston (14%), Chicago (16%), Los Angeles (16%), Pittsburgh (20%), Minneapolis (14%) and Seattle (16%).

Few property markets will meet all four of the requirements detailed above. For example, while Houston and Denver are situated in two of the fastest growing regions in the U.S., they are heavily dependent on the mining industry. Similarly, the economies of New York and Boston are heavily concentrated in services but lie in the slower growing Northeast. The selection of property markets cannot be reduced to a simple mechanical process. Nevertheless, the use of market criteria are useful in the process of selection and comparisons.

NOTES

1. The reasoning behind this statement is derived from modern portfolio theory.
2. In 1980, the geographic center of the U.S. population was situated in Missouri. (The "center of population" is the point at which an imaginary flat, weightless and rigid U.S. map would balance if weights of identical value were placed so that each weight represents the location of one person.)
3. The concentration ratio (location quotient is defined as $(e_i^m/E^m) \div (e_i^n/E^n)$ where e_i^m = metropolitan area employment in sector i;
   E_n^m = total metropolitan area employment;
   e_i^n = national employment in sector i;
   and E^n = total national employment.
4. These percentages are derived from Table 1 assuming that 21% of the nation's workers are employed in manufacturing.

Letters To The Editor

I cannot pick up a new issue of REI without finding at least one outstanding article. Usually several. The magazine in its new format continues to be high quality.

Achour's "Requiem for Large-Scale Models . . ." really caught my attention, for I had just six weeks earlier polished off my all-inclusive DCF program, designed especially to be modified quickly, to suit any special need of my friends who use my programs.

It was not written into a store-bought spread sheet program, however. I tried that, and it ran much too slowly. I simply flowcharted it in BASIC, not much differently from the first one I wrote, in assembler language, twelve years earlier.

From talking with other users of DCF software, I discerned that one of their complaints is too much time consumed, usually by elaborate menus, in getting data input. And most "instructions" are 50 or more pages. Therefore, for your amusement, I enclose a copy of what may be the shortest example program user instructions you will ever see—unless you wrote a shorter one for yourself. I know you have your own computer set-up. This is NOT a solicitation. I stay too busy trying to get my program translated for use on many different brands of machines. My friends have widely different tastes—VWs to Cadillacs!

Another thought. Achour is the UNUSUAL academician! He seems way ahead of his contemporaries who are still designing "expensive black boxes".

McCloud B. Hodges, Jr.
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McLean, Virginia 22101

A great editor makes an author look good. Barely recognized my own effort, but I really like your charts, etc. I feel like the Indian sending smoke signals the day of the first A-bomb test in New Mexico. The Indian was heard to comment, "Gee, I wish I'd said that."

Thanks for an extra effort.

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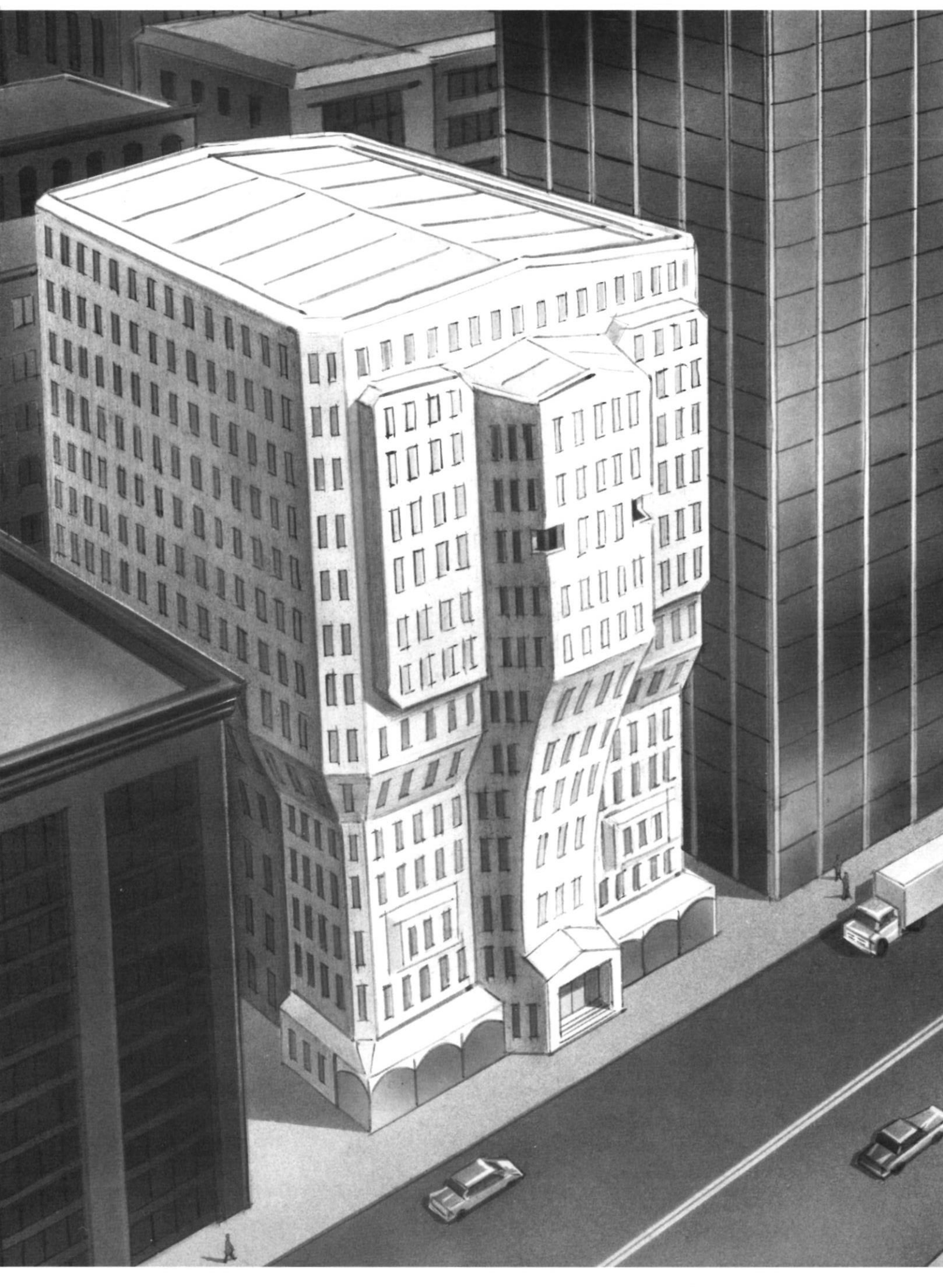

THE CANADIAN PERSPECTIVE ON REAL ESTATE DEVELOPMENTS IN THE UNITED STATES

An All-day Workshop Sponsored by the American Society of Real Estate Counselors

Tuesday, May 20, 1986 9:00am-5:00pm
King Edward Hotel Toronto, Ontario, Canada

A potentially controversial tax treaty between the two neighboring countries titled, "Convention Between U.S. and Canada with Respect to Taxes on Income and Capital Gains," will be reviewed in an all-day workshop presented by the American Society of Real Estate Counselors (ASREC). The program, part of the educational format for the Society's Midyear Meetings, will be guided by moderator Oakleigh Thorne, CRE, first vice president and eastern division manager for counseling services of Coldwell Banker, Washington, D.C. Thorne brings a wide range of real estate experience to a topic that has produced a mixed reaction from the business community regarding accounting conventions for the treatment of capital gains and interest accruals. The original treaty, signed in 1980 and amended in 1983 and 1984, could impact on the future development of real estate by Canadians in the United States. Four Canadian developers, with expertise in major office and urban mixed-use projects in the U.S., also will participate in the program.

Another area to be discussed during the all-day workshop is the Canadian perspective on specific real estate markets in the U.S., particularly office overhang. A major development project will be cited for the details of its rental concessions, size and appropriate mix and scale of related uses.

The program fee, yet to be announced, will include lunch and handout materials. For more information contact the American Society of Real Estate Counselors, 430 N. Michigan, Chicago, Illinois 60611 (312) 329-8430.

Please send more information about the all-day workshop, "The Canadian Perspective on Real Estate Developments in the United States," on Tuesday, May 20, 1986, 9:00am-5:00pm, King Edward Hotel, Toronto, Ontario.

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