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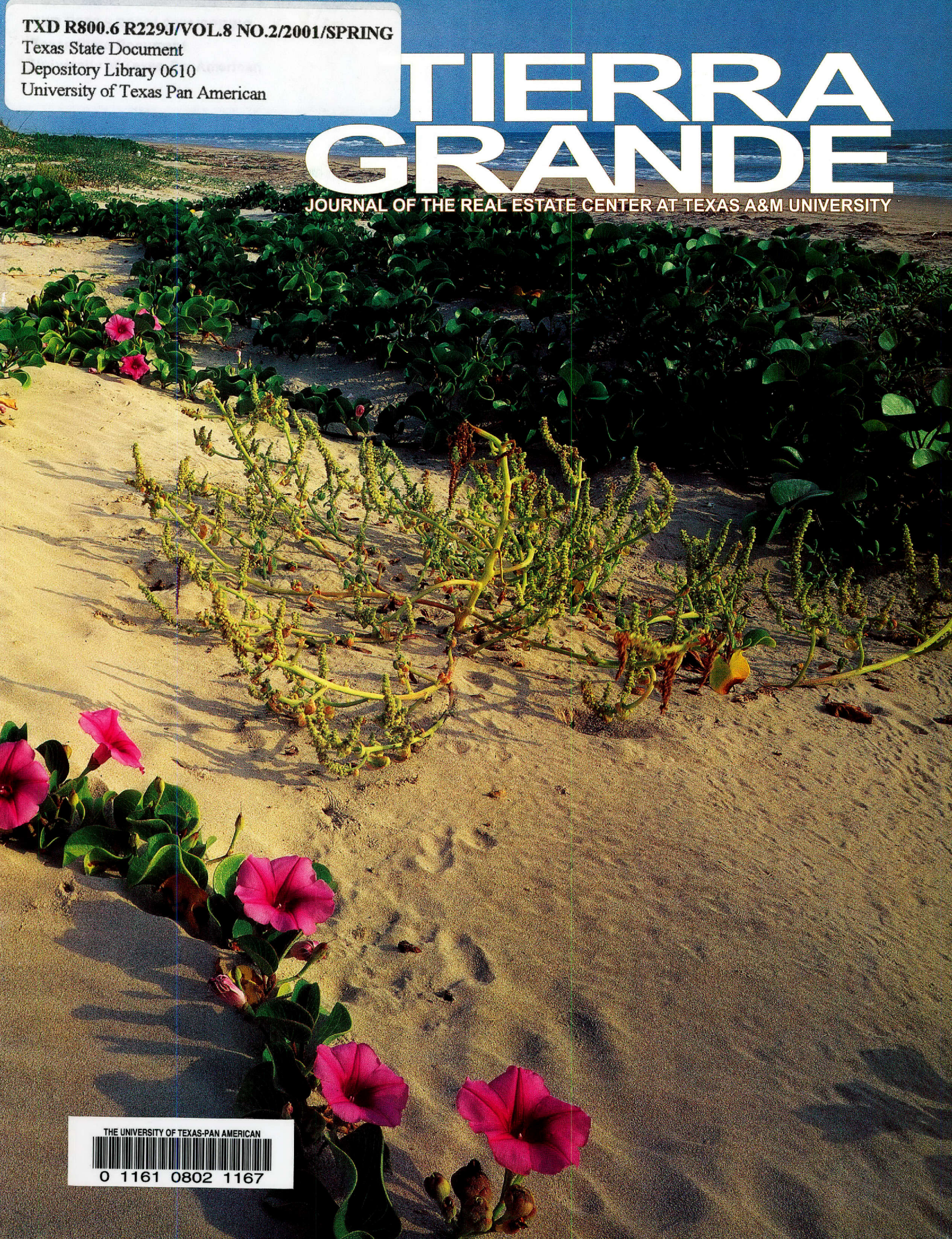
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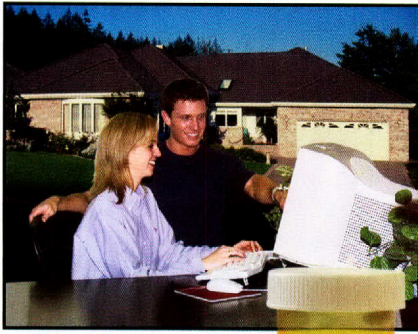
JOURNAL OF THE REAL ESTATE CENTER AT TEXAS A&M UNIVERSITY



THE UNIVERSITY OF TEXAS-PAN AMERICAN



0 1161 0802 1167



page 2



page 4



page 8



page 11



page 24

2 Portrait of a Homebuyer by Jack C. Harris

A Real Estate Center survey identifies who bought, what they bought and the roles real estate professionals and the Internet played in the process.

4 Prescription for Survival by Jennifer S. Cowley and Kelly B. Sheffield

Financial necessity and consumer demand are driving the trends toward specialized medical facilities and hotel-like amenities.

6 Flower Mound: Growing Their Way by Jennifer S. Cowley

A controversial program promoting "strategically managed and responsible" growth has put this Dallas-area town on the map.

8 Digging Up Dirt on Septic Systems by Charles E. Gilliland and Kelly L. Dryden

Whether you're a real estate professional or a homebuyer, what you don't know about septic systems *can* hurt you.

11 From Brownfields to Greenbacks by Mark G. Dotzour and Jeffrey M. Uryniak

Converting contaminated properties into safe, profitable real estate is complicated. But changes in government regulations, technology and market demand are prompting more developers to take the risk.

14 I-69 — The Road Ahead by Harold D. Hunt

The proposed extension of Interstate 69 through Texas could go a long way toward easing NAFTA truck traffic on smaller highways.

17 Pension Funds Get Real (Estate) by Jennifer S. Cowley and Trisha D. Spillman

Many of the nation's largest pension funds invest in real estate to diversify their portfolios and stabilize cash flow.

19 Managers' Perspectives by Mark G. Dotzour

Pension fund managers tell why, when and how they invest in real estate.

20 Appraising Appraisal by Charles E. Gilliland

How does environmental contamination or the presence of wetlands affect real estate prices? This was just one of the hot topics at a conference of appraisal professionals.

22 Census Says . . . by Steve H. Murdock

The 2000 Census reveals that Texas and the nation are growing faster than experts anticipated.

23 Letter of the Law by Judon Fambrough

Water Stored Underground: Who Owns It? . . . Disclosing Stigma . . . Easements by Necessity . . . Potholes Not Protected . . . Strips and Gores . . . Water Pumping Limits

On the Cover

Goat-foot morning glories adorn Boca Chica Beach, near Brownsville.
Photographer Laurence Parent

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INTERNET HOMES

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Sell for More

Homes listed on the Internet take longer to sell but bring more money when they are purchased. Those are the conclusions of University of Texas-San Antonio professors who researched more than 50,000 Texas transactions.

In a new technical report written for the Real Estate Center, James Ford and Ronald C. Rutherford conclude that homes listed on the Internet take approximately 6 percent longer — about three days — to sell than houses not listed on the Internet. They also conclude that Internet-listed homes sell for about 1.4 percent more than houses not listed on the web. These findings are based on a study of 50,078 residential sales in the Dallas-Fort Worth Metroplex in 1999.

The researchers also surveyed real estate professionals on how they use the Internet and how they feel about it. Ford and Rutherford found that more than 90 percent of respondents have a website. Of these, 43 percent have been in operation for more than two years. Website content includes:

- listing information (80 percent),
- mortgage calculators (54 percent),
- virtual tours (45 percent) and
- mortgage qualifying (43 percent).

More than 93 percent of the respondents place at least some Multiple Listing Service (MLS) listings on the Internet site maintained by the regional or local MLS, and 88 percent place all listings on that site. Only 2 percent say they never put listings on the Internet.

Exposure to more people was cited as the major advantage of an Internet listing

(63 percent). Other advantages mentioned included easy buyer access (14 percent) and usefulness as a listing tool (4 percent). About 41 percent of the respondents attribute one or more sales to an Internet listing. Seventy-eight percent believe Internet listings have increased the number of inquiries, and 35 percent think Internet listings have a shorter time on the market.

While only 11 percent of respondents believe the Internet results in a higher sales price, nearly 83 percent think the Internet will increase total future sales. Eighty-eight percent see the Internet as a serious challenge to the traditional real estate model.

Only 28 percent of respondents believe the Internet will have a short-term (within two years) effect on the commission fee structure, but 53 percent think it will affect commissions over the long term (five to ten years).

Of the home sales studied, 92.6 percent of the houses were listed on the Internet. Smaller, older, rental and foreclosed homes without a pool or fireplace are less likely to be listed on the web. Homes listed with an agent who has less than three years experience also are less likely to be listed on the web.

The researchers used sophisticated statistical methods to account for differences in location, age, size and other physical characteristics of homes in the sample. For a copy of technical report TG 1451, use the order form on page 28.



REAL ESTATE



LEGENDS



Add two more to Legends List

In the last issue of *Tierra Grande*, Texas licensees who have held their licenses for 50 or more years were featured in "Real Estate Legends." Since then, two more licensees have contacted the Real Estate Center saying that they, too, have been licensed for at least half a century.

Gene Naumann of Austin has held a Texas real estate license since 1944. S.D. David of New Braunfels passed the half-century milestone in spring 2000.



Portrait of a Homebuyer

By Jack C. Harris

If a recent homebuyers survey is any indication, real estate professionals need not fear that the Internet and related technology will put them out of work anytime soon. Results show buyers are using the Internet as a tool for gathering information, but they still overwhelmingly choose to have a real estate professional guide them through the complicated buying process.

Who Completed the Surveys?

In the summer of 2000, the Real Estate Center, in cooperation with Lawyers Title Company, mailed questionnaires to 3,000 homebuyers who had purchased homes in late 1999 in Dallas-Fort Worth, Houston, San Antonio and Austin. The survey asked about all aspects of the homebuying experience.

Three hundred eighty people responded to the survey. The median age of respondents was 40.3 years. Four of every five were non-Hispanic whites. Seven percent were Hispanic, 4 percent were non-Hispanic blacks, 4 percent were native Americans and 2.4 percent were Asian.

The average respondent was probably more affluent than the average homebuyer, as the \$140,000 median home price reported was considerably higher than the median home price (\$109,000) recorded by the MLS's in those areas.

Nearly 90 percent of first-time buyers responding to the survey moved into detached single-family homes. In fact, detached single-family homes also were the overwhelming choice for repeat buyers and for all age groups.

Thirty percent of respondents were buying their first homes, while about 32 percent were buying their second or third homes. About 89 percent of respondents bought existing homes. This finding was surprising considering that the survey sample was not restricted to people who bought homes through the Multiple Listing Services (MLS) but also included those

who purchased directly from builders and from other non-MLS sources.

The highest prices paid were for two-to-four unit buildings (\$170,000), followed by single-family (\$146,500), townhouse (\$130,000), condo apartment (\$85,900) and manufactured homes (\$56,300).

Respondents 65 and older were the most likely to buy condo apartments and townhouses. Twenty-one percent of condo apartment buyers and 15 percent of townhouse buyers were in that age group, compared with less than 6 percent for the entire survey sample. Ethnicity made no apparent difference in type of home purchased.

Why Were They Moving?

Respondents were asked to give primary and secondary reasons for moving (Table 1). "Wanted a larger home" was cited most often and presumably motivates the typical move-up buyer. Almost as frequent was "tired of renting," a response given by many first-time buyers. People who said they were moving primarily because they were "tired of renting" or were "getting married" were the youngest in the sample. The oldest median age group was made up of those who wanted

Buyers who are better informed because of the Internet may make the agent's job easier.

haste to escape a bad situation, and those relocating from another town, who often are limited to brief house-hunting trips to the new location.

Purchasers of townhouses (3.8 months), two-to-four unit buildings (3.3 months) and condo apartments (2.8 months) spent the least amount of time looking, possibly because they were older and had a better idea of what they wanted. Manufactured home buyers averaged 4.5 months in their search.

Without comparable data from an earlier period, it is impossible to know whether the length of time respondents spent search-

ing is abnormally long, though it would seem so. In most of the surveyed markets, homes attract multiple interested buyers who are faced with the task of finding a home they want and making an offer before someone else does.

How Did They Find Their Homes?

As shown in Table 2, almost half the respondents discovered their new home through an agent. Another large fraction responded to yard signs, the majority of which were placed by agents.

The Internet ranked fourth as a way of finding a home, ahead of newspaper classified ads. The highest percentage of respondents who used the Internet did so to collect information about homes and neighborhoods before making a commitment to an agent or lender (Table 3). The

Table 1. Reasons for Moving and Length of Search

Reason	Percent	Median Age	Length of Search (in months)
Wanted a larger home	42	38	4.9
Tired of renting	37	35	4.2
Relocated from another town	25	44	3.5
Wanted a better neighborhood, schools	25	37	5.7
Wanted a more convenient location	17	41	4.2
Wanted a smaller or lower-maintenance home	12	50	4.2
Newly married	5	33	3.9
Divorced	4	41	3.3
Forced move	2	39	5.4

DESIRE FOR A BIGGER

house was the main reason cited for moving. Other respondents, including many 65 and older, said they were tired of renting.

smaller or lower-maintenance homes. Surprisingly, 24 percent of those older than 65 said they moved because they were tired of renting.

How Long Did They Look?

Respondents spent an average of 4.2 months looking at an average of 16.5 houses before buying. Respondents who used an agent spent 3.7 months searching compared to 5.8 months for those not using an agent. The length of search varied significantly depending on the reason for moving. Those who searched the longest were looking for a better neighborhood, which might take longer to find than a good house, and those forced to move, possibly because they were waiting for a condemnation award or an insurance settlement. The quickest to find homes were divorcees, who might be less particular in their

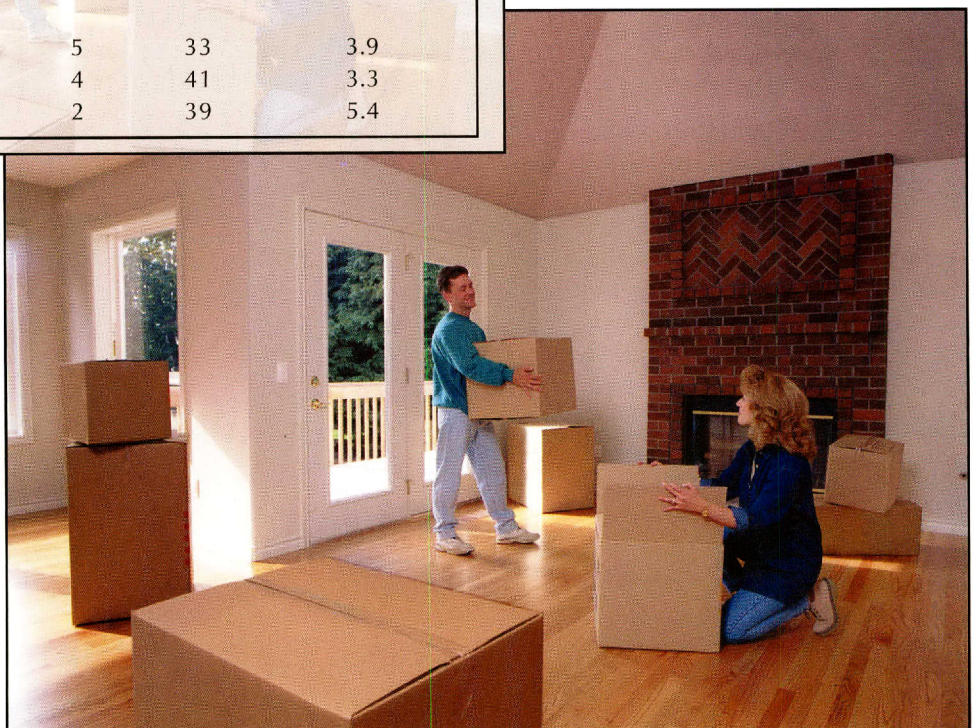


Table 2. How Respondents Found the Homes They Bought

Method	Percent
Real estate agent	49
Yard sign	21
Friend or relative	11
Internet listings	7
Newspaper ad	5
Open house	3
Television ad	0

web was seldom used to find brokers and lenders or to communicate with agents. Some respondents expressed frustration that they could not find more information about homes on the Internet.

Apparently, consumers still are uncomfortable conducting real estate business over the Internet but do take advantage of the information it offers. While many real estate professionals

see the Internet as a threat to the industry, better-informed buyers may actually make the agent's job easier.

What Role Did Agents Play?

Most respondents (82.3 percent) used an agent in their search. Of these, 64.2 percent used a buyer's agent. These percentages varied little based on the type of home purchased, except in the case of those who purchased manufactured homes. A much

Table 3. Importance of the Internet in Home Search

Function	Percent Ranking "Very Important"	Percent Ranking "Important"
Information about homes and neighborhoods	28	60
Communicate with agent	8	29
Find a lender	6	24
Find a broker	3	21

lower percentage of that group worked with a real estate professional.

More than 75 percent of respondents agreed that the agent was a good source of information on houses and the community. The value of the agent's advice is apparent in the fact that almost half of respondents indicated that their agents in some way assisted with mortgage financing, either by providing a referral, through an in-house mortgage officer or a system in which the loan application is submitted through the brokerage office (Table 4). Two-thirds of buyers bought title insurance through a referral from the agent (Table 5).

Table 4. Where Respondents Applied for Mortgage Loan

Method	Percent
At lender's office, referred by agent	23
At lender's office, not referred by agent	19
In broker's office, with assistance of agent	11
With loan officer located in broker's office	9
No mortgage loan	7
Over the Internet	4

These survey results underscore the extent to which homebuyers value the professional advice of agents and brokers. Clearly, respondents find the Internet a helpful tool. But it does not replace the expertise of real estate professionals.

Editor's Note: This is the second in a series of articles describing the results of the survey. A future article will reveal how respondents ranked the services offered by licensees. ♦

Dr. Harris is a research economist with the Real Estate Center at Texas A&M University. His e-mail address is j-harris@tamu.edu.

Table 5. How Respondents Selected Title Company

Method	Percent
Referral from real estate agent	66
Referral from lender	20
Referral from friends	8
Advertising and <i>Yellow Pages</i>	1
Don't know	6

ing the results of the survey. A future article will reveal how respondents ranked the services offered by licensees. ♦

Dr. Harris is a research economist with the Real Estate Center at Texas A&M University. His e-mail address is j-harris@tamu.edu.



Medical facility construction is alive and well in Texas, driven by a combination of financial necessity and consumer demand. While many hospitals cannot raise the capital to finance expansions and some rural hospitals are closing, specialty clinics and a new breed of hospitals are springing up in urban areas as medical providers compete for patients.

PRESCRIPTION FOR SURVIVAL

By Jennifer S. Cowley and Kelly B. Sheffield

Baby boomers are famous for being loud and assertive. They say what they want, and when it comes to health-care issues, their decibel level rises. As this large, post-war population has begun to experience the ravages of age, demands for more services — both specialized and general care — have increased. Patients expect more choices and amenities than ever before, and medical providers are scrambling to give them what they want, hoping that the result will be satisfied patients and a solid financial basis.

The medical industry nationwide is struggling to recover from the fallout of the Balanced Budget Act of 1997 (BBA), enacted to reduce Medicare spending and increase health-care options available to America's seniors, including improved coverage of preventive measures. The legislation's biggest impact on the health-care industry was reduced reimbursements for Medicare and Medicaid services, which make up 56 percent of hospital charges billed. Funding for capital improvements such as hospital expansions also was drastically reduced.

Federal funding reductions have created hardships for hospitals across the board, according to Avtar Ahluwalia, director of managed care at USC University Hospital in Los Angeles. Most hospitals halted capital improvements in 1997 because of uncertain funding. Nonprofit hospitals have found it increasingly difficult to borrow money for capital improvements, and for-profit hospitals trying to access capital for technological and facility improvements are facing lowered bond ratings because of weakened stock values. Lower margins in general are making investments in equipment, buildings, services, programs and people more risky.

Forecasters predicted that many rural facilities would not survive the reimbursement cuts, and that has proved true. A number of small facilities around the state have closed, from hospitals, such as Silsbee, to clinics, such as the one in Winnie. Urban hospitals have felt the cuts as well, some operating at a loss and some, such as Parkland Health and Hospital System in Dallas and Christus Santa Rosa Healthcare Corporation in San Antonio, forced to lay off employees. Other hospitals have cut back or closed certain patient services.

Some relief arrived with passage of the Balanced Budget Refinement Act of 1999 (BBRA), which was intended to help the medical industry make the transition to the requirements of the 1997 BBA legislation. The act restored \$16 billion in cuts over five years. Small rural hospitals are now subject to more advantageous Medicare policies and will not convert to the new prospective payment systems for four years. Hospitals treating the uninsured also received increased funds. The BBRA increased all payment rates by 4 percent for 2001 and 2002. Unfortunately, these provisions are too little, too late for many fiscally strained hospitals.

Funding for the future is focused on outpatient and clinical procedures. The U.S. Health Care Financing Administration (HCFA), in its 2000 Medicare-Medicaid fee schedule, estimated that \$350 million a year from 2000 to 2002 would be

shifted from reimbursable procedures done in hospitals to procedures done in offices.

The medical industry has responded by focusing construction efforts on specialty care clinics and specialty hospital expansions that are subject to higher reimbursement rates from Medicare and Medicaid. Facilities such as The Healthy Heart Center in Odessa, the Heart Hospital of Austin, the McPherson Medical Center in Laredo and the planned \$20 million expansion of the Cancer Therapy and Research Center's South Texas Medical Center are being constructed to provide the high-quality, specialized medical care that baby boomers demand and that can keep the facilities financially afloat.

The Healthy Heart Center in Odessa is an outpatient diagnostic center providing cardiovascular medical treatments of a type formerly reserved for hospital surgical units. The Center will also include an on-site women's cardiovascular clinic. The Heart Hospital in Austin is a three-story, 138,000-square-foot, 58-bed acute care hospital specializing in the diagnosis and treatment of cardiovascular disease. The facility opened in 1998 and features a hotel-like environment for patients.

The Cancer Therapy and Research Center at South Texas Medical Center in San Antonio will include two 70,000-square-foot buildings that will house administrative offices, a new outpatient cancer surgery facility and a diagnostic center.

PATIENT SUITES at The Physicians Centre in Bryan are a response to consumer demand for more choices and amenities. The roomy suites include a sitting area for family and friends. And forget infamous "hospital food;" meal service here resembles hotel room service. Patients order from a menu and can choose to eat at their convenience within a generous time frame.



Changing consumer demand and physicians' frustration with insurance companies and large corporations telling them how to practice medicine spawned the Brazos Valley Physicians Organization (BVPO), an independent physicians association (IPA) founded in 1996. The organization opened The Physicians Centre (TPC), a 16-bed hospital offering specialized inpatient and outpatient care, in Bryan in 1999.

The hospital's governing body is elected from BVPO physician members to represent both primary care physicians and specialist physicians. Kathy J. Jinkins, director of IPA development and operations, explains that the group of independent practitioners wanted to change the way hospitals were treating physicians and their patients. They set out to provide comprehensive, coordinated, high-value services to patients in an amenities-focused environment that appeals to patients shopping for health-care facilities.

Like the Heart Hospital of Austin, TPC's environment resembles that of a full-service hotel. Patients are housed in large

THE ATRIUM of The Physicians Centre adds to the hotel-like atmosphere. Concierge services are among the amenities that distinguish the 16-bed hospital from traditional medical facilities.



private suites with wall-to-wall windows and an adjoining sitting room for friends and family, complete with a sofa, chairs and television. The patient area has a TV and a VCR; the patient can select videos from the Centre's video library.

The hospital's interiors feature warm woodtones and aesthetically appealing colors that are uncharacteristic of medical facilities (browns, blacks and grays). Small touches, such as flowers and newspapers delivered to rooms each day, complete the Centre's efforts to make the environment and the experience as pleasant as possible for patients and their families.

On-site diagnostic imaging services are available, including magnetic resonance imaging (MRI), computed tomography (CT) scanning and mammography, in addition to full laboratory services. Joined to The Physicians Centre is a 130,000-square-foot medical office plaza housing 70 physicians' offices, a pharmacy, outpatient physical therapy services, a durable medical equipment retail center, laboratory services and several home health-care agencies.

Because medical office construction on the horizon is concentrating on smaller, specialized care facilities, properties located near existing hospitals are being snapped up. Some of these facilities will be stand-alone operations; others are additions to existing hospitals.

As the medical industry continues to evolve based on budgetary constraints, it is likely that medical construction will adapt to meet both consumer demand and fiscal necessity. ♦

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The name Flower Mound may conjure up images of rose gardens in many minds, but Dallas area real estate professionals are more likely to think of thorny mesquite thickets. Why? The town has implemented a controversial new program it calls SMARTGrowth — short for Strategically Managed and Responsible Town Growth — that sets unusually stringent development regulations compared with other communities in the metropolitan area.

Flower Mound is a rapidly growing community of more than 51,000 located 27 miles north of downtown Dallas. The city's phenomenal growth rate, which averaged 12.8 percent per year during the 1990s, resulted in increasing water consumption, rising wastewater flows and traffic snarls.

The city's 1994 comprehensive master plan projected a 2000 population of 37,000. The city reached more than 50,000 people before 2000. Based on the 1994 projections, city leaders believed residents would consume 13.5 million gallons of water per day in 2000. By 1998, however, the city was using 20 million gallons per day. The city had outgrown its infrastructure.

In February 1999, Flower Mound instituted a 13-month freeze on the acceptance of new residential development plans and zoning requests. The purpose of the controversial moratorium

flower mound

GROWING THEIR WAY

by Jennifer S. Cowley

was to allow the town time to develop a new plan to address future growth.

The resulting SMARTGrowth plan, which borrows several key concepts from nationally publicized smart-growth theory, updated the town's comprehensive master plan and placed a temporary moratorium on residential zoning amendments and residential development plans. It also amended the town's building code to prevent stockpiling of residential building permits by developers wanting to avoid the moratorium's restrictions. Lastly, the SMARTGrowth plan introduced the possibility of a growth management plan based on the town's ability to maintain defined service levels.

According to city officials, the SMARTGrowth plan establishes and outlines a "community-based vision to preserve the country atmosphere and natural environment that makes Flower Mound a unique and desirable community, mitigates the ill effects of rapid and intense urbanization, creates a balanced tax base to ensure the town's long-term economic health

- public facilities (parks and schools) and
- public services (police and fire).

They also delineate requirements for:

- economic development (new private capital investment);
- evaluation of fiscal impact (taxes must cover the cost of services provided and the town sets minimum home values for new construction on an annual basis);
- environmental quality (habitat conservation practices are specified; surface runoff may not exceed predevelopment levels); and
- community character (buildings must meet the town's architectural guidelines and utility lines must be underground).

In 2000, the required minimum home value was \$158,300. Detailed information on requirements is listed on the town's website, <http://www.flower-mound.com>.

Flower Mound Planning Department officials believe the plan ultimately will benefit developers because adequate public services will be provided before construction begins on new developments.

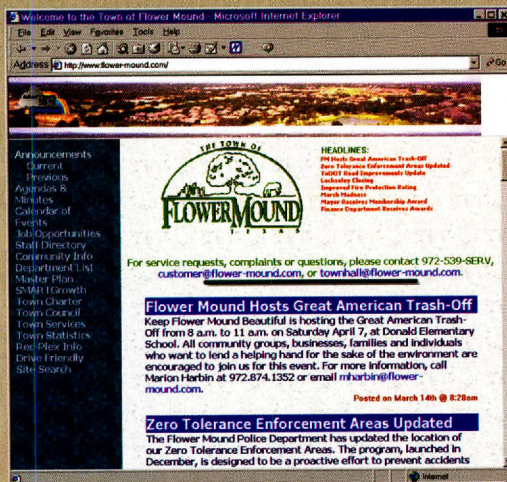
Under the town's conservation plan, developers can choose to develop minimum two-acre residential lots, or they can donate half the land to the town to be preserved as open space and build on one-acre lots. These rules apply in limited areas of the city. Developers who donate land can receive reduced permit fees, property-tax rollbacks and expedited review of plans.

Six lawsuits have been filed against Flower Mound by developers. In a case filed by the Homebuilders Association of Greater Dallas, the court found in favor of the city, saying "A home-rule municipality may adopt a growth management plan that limits the number of residential building permits, and not the number of nonresidential permits, the municipality will issue in a given time period." While Flower Mound won the case, the town did not implement the building permit limit. Other suits are related to floodplain density calculations and road construction requirements. Flower Mound is currently only 44 percent developed, leaving plenty of land to fall under the new regulations.

Despite the lawsuits, Dallas homebuilders support many of the aims of the SMARTGrowth plan. Most agree on promoting open space, tree preservation and cluster development. The plan's minimum lot size, however, dictates a price range for single-family homes that excludes low- to middle-income buyers, who are the mainstay of many homebuilders' sales. In addition, the homebuilders association feels that the city should pass a bond to acquire fragile land instead of requiring developers to donate land. Such issues spur serious opposition from area developers.

As a result of the SMARTGrowth plan, building permits dropped during the first three quarters of 2000. Since the regulations went into effect, only two residential projects have been submitted for the approval process. It remains to be seen whether this is a temporary effect of the new regulations, or whether Flower Mound officials have found a way to slow the long-term growth of the area. ♦

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Flower Mound's website includes details of the town's master plan and SMARTGrowth program.

and prosperity and ensures all development is of enduring and exemplary quality."

The plan includes stronger tree preservation rules, more park land dedication requirements and amendments to agricultural zoning laws. The changes also include a "no new development rule" stating that no new development will be approved if the town's water supply, infrastructure and emergency services are at or near capacity.

Plans for new residential development will be considered only if the development meets each point in the town's zoning threshold criteria. These criteria specify minimum requirements in the areas of:

- public infrastructure (water, wastewater, transportation),



Digging up Dirt on Septic Systems

By Charles E. Gilliland
and Kelly L. Dryden

Erma Bombeck made readers chuckle with her book *The Grass is Always Greener Over the Septic Tank*, but real estate professionals know that rural wastewater systems are no laughing matter.

Picture this scenario: city dwellers find their dream home in the country and make an offer. The vacant home passes inspection, and the happy homeowners move in. Soon after, however, they notice the plumbing drains slowly. When they wash clothes, water backs up. An investigation reveals a failed septic system, and the homeowner has to install a new system at substantial expense.

The problem escaped detection during the inspection because the system was unused while the home sat empty, thus eliminating overflow, the most direct evidence of system failure. The understandably upset homeowners look to the inspector and the real estate agent for relief.

While there is no guaranteed way to keep this uniquely rural nightmare from occurring, licensees can protect themselves and their clients by learning something about the installation, operation and inspection of septic systems. Educating prospective buyers on these issues may prevent unexpected difficulties after a sale.

According to the Bureau of the Census, Texas had more than 1.2 million septic systems in 1990, disposing of millions of gallons of wastewater generated in rural homes daily. An average three-bedroom home produces approximately 240 gallons of wastewater each day. Through bacterial action, these systems biodegrade solid wastes and filter or treat the remaining water to eliminate contaminants before they reach nearby wells, lakes and streams.

Conventional Septic Systems

A conventional septic system consists of one or more tanks connected to a home on one side and a leaching system on the other. A sewer line conveys wastewater from the house into the septic tank, where bacteria break down biodegradable solid matter, leaving a sludge of indigestible solids at the bottom of the tank.

Lighter, nonbiodegradable solids, such as grease, generally form a scum on the surface of the wastewater in the tank. The wastewater then flows into a drain field that diffuses the wastewater into the soil. The soil in the drain field filters the effluent, removing contaminants remaining in the water.

The system normally contains baffles designed to control the flow through and out of the tank and to allow bacteria time to complete their task. The baffles trap solid waste in the septic tank, allowing only liquid effluent to pass into the drain field where final filtering occurs.

Although there are many types of drain fields, most consist of a system of perforated sewer pipes placed in a bed of gravel covered with soil. The soil must allow for passage of air and water to ensure removal of contaminants from the effluent.

To keep septic systems functioning properly, experts recommend having the tank pumped periodically to remove the sludge at the bottom of the tank. Pumping a 500-gallon tank typically costs from \$150 to \$200.

Septic systems fail when conditions prohibit efficient functioning of the tank or drain field. Too much wastewater can cause the septic tank to overflow, discharging undigested solids into the drain field. A large volume of solids can overtax a system as well. Poor soil conditions can decrease the effectiveness of the drain field. For example, tightly packed clay soils lack the leaching characteristics needed, and extremely rocky soils drain too quickly. Rainy weather that keeps the soil saturated for long periods also negatively affects drain field operation. These conditions frequently allow contaminants to escape into the water table.

System failures produce a variety of symptoms. Homeowners may notice slow-draining plumbing. Drain problems that continue after removing clogs signal septic system failure. In some cases, system failure may even result in sewage backing up into the drains.

A second indicator of failure is backup or overflow of sewage above the drain field during large-volume discharges, like those generated by washing machines. When a system has failed, nearby community storm drains may emit foul odors. Homeowners, homebuyers, licensees and inspectors should be alert for these symptoms. A failed system generally requires extensive repairs; in some cases, the entire system must be replaced.

Aerobic Septic Systems

Rural homeowners can install aerobic systems in situations not conducive to conventional septic systems. Aerobic septic systems require less space. They also produce much cleaner effluent, frequently eliminating the need for a drain field.

Aerobic systems provide a highly oxygenated environment for bacteria by stirring or aerating wastewater. Many systems do this by bubbling compressed air into the tank. This infusion promotes rapid and complete decomposition of organic matter. Some aerobic systems use chlorine to disinfect effluent, which is then sprayed or dripped onto the lawn.

Aerobic septic systems are more complicated than conventional systems and consequently require more maintenance. To keep these systems operating properly, the Texas Natural Resources Conservation Commission (TNRCC) requires system owners to maintain and test systems and report results periodically. In most counties, homeowners are required to sign a maintenance contract with a TNRCC-designated service representative. In counties with fewer than 40,000 residents, homeowners can choose to perform these functions themselves if they undergo approved training. Most opt for the maintenance contract.

The increased complexity and intensive maintenance of aerobic systems make them more expensive to operate than conventional systems. Maintenance contracts typically range between \$150 and \$200 per year. However, special circumstances can elevate the cost substantially.

Permits and Installation

Since 1989, installers of most septic systems are required to obtain a permit from TNRCC or a local TNRCC-authorized agent. Authorized agents are normally counties, but can be cities, river authorities or other agencies. TNRCC can identify which authority issues permits for a specific location. Real estate professionals should make an effort to get to know the local permitting authorities and what regulations apply in their area. The county health department may be another source of information on septic system regulation.

Septic systems installed before 1989 normally do not have state-issued permits. A septic system for one single-family home situated on more than ten acres can qualify for an exemption from the permitting process if the installation meets certain requirements. Locating two or more homes on a single tract eliminates the exemption for all homes.

When septic systems fail, TNRCC or authorized agents ask the homeowner to fix the problem. Remedies can range from waiting for cessation of heavy rains, to installing more field lines, to having the tank pumped or installing a new system. If the homeowner does not respond, the matter normally proceeds to a justice of the peace court or can be referred to TNRCC for administrative action.



A PRETREATMENT TANK is lowered during installation of an aerobic septic system. The main treatment tank is at right.

Educating Buyers

Licensees selling homes with septic systems may benefit from educating prospective buyers on three fronts.

First, city dwellers frequently do not understand the differences between city sewer systems and rural septic systems. Unlike city sewer systems, which do not restrict the amount of wastewater a household produces, rural septic systems are designed to accommodate the specific volume of wastewater a home is expected to generate. Rural residents generally learn to

adjust their activities to limit the amount of wastewater flowing into the septic tank to avoid causing the system to overflow.

City dwellers who move to the country, however, often continue to use the same volume of water they used in the city. An increase in the number of residents living in the home is similarly hard on the system,

Comparison of Aerobic and Conventional Septic Systems

System Type	Advantages	Disadvantages
Aerobic	Initially less costly in heavy clay soils Handles wastewater more efficiently Works well in all soils	Continual, costly maintenance contract Requires chlorine chips Constantly uses power
Conventional	Little maintenance No chlorine required Does not use power	Initially more expensive in heavy clay soils Often "sluggish" in wet weather Functions poorly in compact soils



A **LASER LEVEL** is used to ensure the excavation is level before installing tanks.

as is introduction of certain materials into the wastewater stream (ground solids from a garbage disposal, hair, coffee grounds, dental floss, disposable diapers, kitty litter, paper towels, fats or oils, chemicals or unnecessary solids). Such overuse or misuse of the system can cause it to fail.

To keep a septic system functioning at maximum efficiency, users also should:

- refrain from driving cars and other heavy vehicles over absorption fields,
- not plant trees or shrubs in or near the absorption field,
- not cover the absorption field with pavement or concrete,
- divert surface drainage away from the absorption field and
- drain laundry wastewater directly on the soil. Unless local regulations prohibit it, state laws permit owners to drain laundry water outside the septic system as long as the wash does not contain fecal matter, as it would if diapers are laundered.

For More Information

On-Site Wastewater Treatment Systems: Selecting and Permitting
<http://agpublications.tamu.edu/pubs/eng/b6077.pdf>

TNRCC On-Site Sewage Facility Program
<http://www.tnrcc.state.tx.us/enforcement/csd/ics/index.html#sewage>

Your Home Septic System
http://edis.ifas.ufl.edu/BODY_SS115

The Home Buyer's Guide to Septic Systems
<http://www.inspect-ny.com/septic/buyguide.htm>

Second, buyers are not accustomed to, and therefore do not expect, the typical expenses associated with operation or repair of septic systems. System installation, operation and repair costs vary widely depending on local conditions, ranging to as much as several thousand dollars. These costs, particularly if they come on top of closing and moving costs, can wreak havoc on a homeowner's budget. Encountering these unanticipated expenses can transform happy clients into irate ones. Licensees may find themselves in the line of fire if they fail to warn homebuyers of potential problems.

Finally, buyers often do not understand the difference between a permit inspection done when a septic system is installed and the property inspection done during the course of a real estate sale. A TNRCC-designated representative inspects septic systems during installation to ensure that they are installed according to state standards, as required by Chapter 336 of the Texas Health and Safety Code.

By contrast, the inspection conducted during a pending sale is not required by TNRCC or any governmental agency, but is required by lenders.

This inspection consists of an evaluation of all aspects of the home being purchased. An inspector typically verifies that plumbing drains properly and that the drain field shows no visible overflow. As previously discussed, however, in homes vacant for an extended period, the system might appear to function normally when in fact it is failing. Because of this, inspections for a real estate sale are essentially valid only on the day on which they are performed. Buyers should understand that a system passing inspection today may not be sound tomorrow.

Buyer Protection

While there are no guarantees, buyers can at least ask sellers some pointed questions to gather the information needed to make a sound buying decision. For conventional systems, ask:

- When was the tank pumped out last? As a rule, tanks should be pumped every three to five years for optimal functioning.
- Was the system issued a permit? Systems installed before 1989 do not have permits.
- Where is the system located? If the owner does not know where the tank is located, the buyer can assume that it has not been pumped out for some time.

If the tank has not been pumped recently, requiring the seller to have it pumped as a condition of sale could save headaches and cash in the future.

For aerobic systems, prospective buyers should ask:

- How have the state's maintenance requirements been met (through a maintenance contract or owner-performed maintenance)?
- If the system is under a maintenance contract, is that contract transferable?
- If the system is under the mandatory two-year warranty, is the warranty transferable?

For both conventional and aerobic systems, buyers should ask about the system's designed capacity. If the seller does not know, the permitting authority may have helpful records.

These steps may not eliminate future problems, but they should help sales agents, buyers and sellers minimize potential conflicts. ➔

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By Mark G. Dotzour and Jeffrey M. Uryniak

from BROWNFIELDS to GREENBACKS

Brownfields. Every city has them. They are abandoned gas stations, idled manufacturing plants, vacated dry cleaners and other contaminated sites that mar the visual landscape and create health and safety hazards.

In the past, real estate developers and investors steered clear of such properties because government regulations, liability problems and difficulty securing financing made them far more trouble than they were worth to redevelop. But changes in government regulations, technology and market demand are making private developers take a second look at brownfields, which advocates promote as the best opportunities for private developers today.

An estimated 450,000 brownfields exist nationwide, ranging in size from less than an acre to several thousand acres. The sites have a variety of environmental problems, including deteriorating buildings, asbestos, leaking petroleum storage tanks and low-to-moderate levels of other hazardous substances. There may be soil and groundwater contamination caused by discharges or dumping of organic

and inorganic chemicals such as petrochemicals, solvents and metals. Interestingly, some brownfields suffer from the mistaken perception that they are contaminated when in fact they just need to be cleared of debris.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), passed in 1980, was designed to hold industry owners and operators responsible for pollution cleanup. This legislation did not limit responsibility for pollution to those who caused the contamination and did not limit the degree of responsibility of any party involved with the site. Consequently, property owners, developers, lenders and public officials were skeptical of brownfields redevelopment projects because of the substantial risks involved. The subsequent Superfund Amendments and Reauthorization Act of 1986 expanded cleanup requirements but did little to encourage brownfields redevelopment.

Risks of Redevelopment

Developers know that any project includes an element of risk. But brownfields redevelopment historically has carried exceptional risk for all parties involved, primarily because many costs cannot be pinned down until a project is well under way. Initially, project managers face the expense of identifying the types and levels of contamination present at the site. Cleanup costs can vary widely depending on whether problems such as previously undetected contaminants arise during the process. Legal fees and various consultant fees incurred to ensure regulatory compliance can be considerable.

Liability issues compound the uncertainty surrounding brownfields projects. Personal injury lawsuits prompted by site contamination, both on the site and on adjoining properties, are a possibility, as are suits filed by regulators or other third parties. In some cases, neighboring property owners must be compensated for the nuisance related to property contamination or the remediation process.

Lenders traditionally shied away from brownfields redevelopment projects in part because of uncertain property values both before and after cleanup. If borrowers defaulted before cleanup was completed, lenders were left with diminished collateral, making it difficult or impossible to recoup their investment.

Changes Spur Brownfields Redevelopment

Recent social, legislative, economic and technological changes have made brownfields redevelopment projects less intimidating to developers and investors. Just as recycling efforts of all types have increased in popularity, brownfields redevelopment has taken on a more positive

SAN ANTONIO BROWNFIELDS. The Whole Earth Provision Company in the Alamo Quarry Market (below) showcases the smokestacks from the old Alamo Quarry, a brownfield that was cleaned up and redeveloped. The former Longhorn Quarry site (next page, top) is being turned into a golf course. A warning sign posted at the former Aztec Ceramics site (next page, bottom) identifies the property as a brownfield.



image. The public sector has realized the physical and economic benefits associated with redevelopment and has taken steps to encourage it.

Many brownfields are in downtown areas where real estate is at a premium. Redevelopment of these properties dovetails with the current trend toward infill development to limit urban sprawl. High resale prices serve as incentives for developers to take on the projects.

Changes in federal legislation have reduced some of the red tape associated with brownfields remediation. Risk-based cleanup standards are now in place, meaning that the extent of cleanup required is based on what the site will be used for. Residential uses require the highest cleanup standards, while less-than-pristine standards are acceptable for industrial sites as long as residual contaminants are minimized.

Technological advances have improved the reliability of contamination assessments and have significantly lowered cleanup costs.

Lender confidence in brownfields projects has been boosted in part by improvements in environmental site assessments. The American Society for Testing and Materials now provides lenders with a standardized format for evaluating contamination. Less uncertainty in assessment makes it easier for banks to quantify risk.

Financial institutions are consequently more willing to lend funds for brownfields projects, although such loans still have tougher-than-average underwriting standards. Developers can expect low loan-to-value ratios to hedge against hidden contamination and liability. A cleanup contingency fund to cover unexpected cost overruns may be required. Some lenders require borrowers to take out environmental insurance policies, which cover the costs of cleaning up any undetected contamination.

Federal, state and local incentives in the form of loan subsidies, low-interest loans and loan guarantees are now available to reduce brownfields capital costs. In addition, public contributions, tax abatement and tax credits are making redevelopment efforts more feasible. Assistance programs such as tax increment financing may be applied to projects in economically depressed areas. The Texas Natural Resource Conservation Commission (TNRCC) has more information on incentive programs on its website (<http://www.tnrcc.state.tx.us/permitting/remed/vcp/brownfields.html>).

Developers with little experience in brownfields remediation may benefit from the consulting services of an environmental redevelopment firm. These firms are experienced and well capitalized and specialize in remediation of contaminated properties. In addition to consulting services, they buy and clean up contaminated properties, then sell them to developers or end users who are thus spared the potential liability of holding title to polluted property.

An environmental redevelopment firm negotiates a cleanup agreement for a brownfield site with government regulators, takes title to the polluted property and conducts the cleanup. Once the site is clean and all parties have been insured against environmental liability, it sells the ready-to-develop property.

Other strategies exist to help developers hedge the risk in redeveloping brownfield properties, including indemnification agreements, negotiating a buying price that takes variable cleanup costs into consideration, self-insurance and third-party environmental insurance. Environmental insurance policies can be designed to meet the demands of both developers and lenders. Lenders can purchase policies to protect against losses resulting from defaulting brownfields developers.

Government Programs

The Environmental Protection Agency (EPA) made brownfields redevelopment a priority in 1993 through the Brownfields Initiative, which provides grants for environmental assessments of contaminated property. In 1997, the Taxpayer Relief Act included an income tax incentive to encourage cleanup and

redevelopment of brownfields in distressed areas. With the new tax incentive, cleanup costs in certain areas are fully deductible in the year incurred.

In 1999, the EPA announced availability of more than \$30 million to help communities redevelop brownfields through revolving loan funds, which provide low-interest loans to restore abandoned properties to productive use. Brownfields Initiative strategies also include funding pilot programs and other research efforts, clarifying liability issues, entering into partnerships, conducting outreach activities, developing job training programs and addressing environmental justice concerns.

Grants of as much as \$200,000 are awarded to pilot cities through the EPA's Brownfields Economic Redevelopment Initiative to identify and evaluate sites and devise solutions. Grants have been awarded to the Rio Grande Council of Governments in Texas and New Mexico and to seven Texas cities: Dallas, Houston, Austin, Galveston, Laredo, Grand Prairie and Brownsville.

Pilot programs help local governments create the favorable environment needed to encourage developers to pursue brownfields projects. Brownsville's grant will be used to conduct site assessments and develop cost estimates for cleanup and redevelopment of a distressed neighborhood. In Dallas, an EPA brownfields pilot grant was used to evaluate downtown sites for potential reuse. This in turn attracted nearly \$53 million in private investment to clean and redevelop several properties.

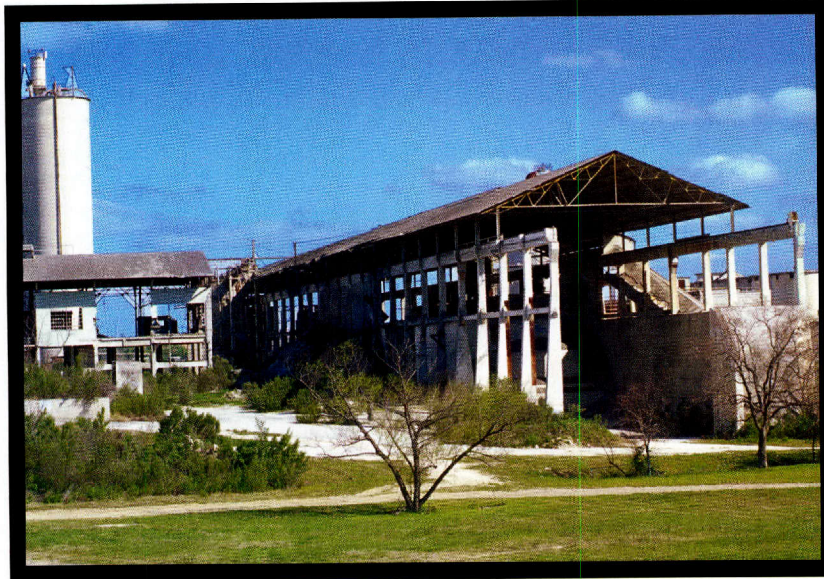
Texas' Voluntary Cleanup Program

Texas took a big step toward accelerating brownfields remediation with the creation of a Voluntary Cleanup Program (VCP) in September 1995. VCPs encourage cleanup of contaminated properties by ensuring that future landowners and lenders have no liability to the state because of existing contamination.

Property owners or project developers must apply and be accepted by the VCP. Once a property is successfully remediated, the TNRCC issues a certificate of completion that is recorded at the county courthouse as part of the deed record. The certificate releases lenders and future owners from liability, thus making it easier to sell or transfer the remediated property.

VCPs benefit sellers because the value of the property is increased. Buyers and lenders benefit as well, as they are protected from future state claims against them as a result of existing contamination. They are protected if more stringent regulations are enacted which, without the VCP certificate, may have required additional cleanup.

The TNRCC has received hundreds of applications for the VCP from representatives of dry cleaners, manufacturing facili-



ties, shopping centers, warehouses, auto-related businesses and other commercial and industrial enterprises. One high-profile VCP success story stars the American Airlines Center, which will be the new home of the Dallas Stars and Dallas Mavericks. The arena, set to open in the fall of 2001, is located on the site of a former brownfield in downtown Dallas.

Identifying Redevelopment Opportunities

The EPA places contaminated properties on one of three lists based on level of contamination.

These lists include many state hazardous waste sites and solid waste facilities where redevelopment is not feasible.

National Priorities list sites suffer from extreme levels of contamination and rarely offer cost-effective redevelopment opportunities. The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database consists of sites with high levels of contamination that could potentially be put on the National Priorities List. These typically have been of little interest to developers. However, during the past few years, the EPA has removed more than 30,000 sites from the CERCLIS list, increasing the likelihood for redevelopment. The third list includes sites where no further EPA remedial action is planned. These sites may hold some development potential.

Because the majority of brownfield sites are not on the EPA's lists, interested developers must scout out redevelopment opportunities.

Some local governments have unofficial lists of the brownfields in their communities. Abandoned commercial properties other than gas stations, auto service shops, dry cleaners and others involving chemicals may offer redevelopment opportunities. In some cases, these properties suffer from the perception that they are contaminated, when in fact no contamination exists.

Future of Brownfields

Brownfields redevelopment benefits communities through urban regeneration, reduced sprawl, an increase in tax revenues and jobs and an improved living environment. The federal government's commitment to remediation of these properties over the past few years, along with numerous state and locally sponsored programs, is encouraging private developers to take on these projects.

Working together, the public and private sectors may be able to engineer a win-win scenario in which developers willing to undertake the elevated risks of brownfields remediation receive appropriate returns for their trouble. ♣

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The Road Ahead

By Harold D. Hunt

Deep in the heart of Texas, congested traffic arteries are straining to keep pace with the ever-growing flow of goods stimulated by the North American Free Trade Agreement (NAFTA). The number of big trucks traveling to and from Mexico has increased dramatically since NAFTA was signed in 1994. City leaders along the existing highways hope bypass surgery in the form of a proposed new interstate highway will keep the traffic flowing.

The so-called NAFTA highway — Interstate 69 — may prove to be the solution. When completed, I-69 will cross eight states and connect Mexico to Canada. But relief will not come quickly. While some sections across the nation are under construction, a fully completed I-69 is 20 to 40 years down the road.

Currently, I-69 stretches for about 360 miles, connecting Port Huron, Michigan, to Indianapolis, Indiana. The planned extension of I-69 from Indianapolis to the south Texas border will add 1,600 miles to the interstate highway system, with more than 1,000 of those miles in Texas. Each state is developing plans for the extension.

In Texas, I-69 is projected to stretch from Texarkana to Laredo, from I-37 to McAllen and from Victoria to Brownsville. A new crossover to Shreveport also is planned between U.S. 79 and U.S. 84.

Consulting firms hired by the Arkansas State Highway and Transportation Department, lead coordination agency for the eight states, divided the I-69 corridor into sections of "independent utility" (Map 1). The Federal Highway Administration has approved these sections, which represent pieces of the route that can be constructed and used independently, even if the total I-

69 project is never completed. The actual location of the proposed facility within these designated sections has yet to be determined.

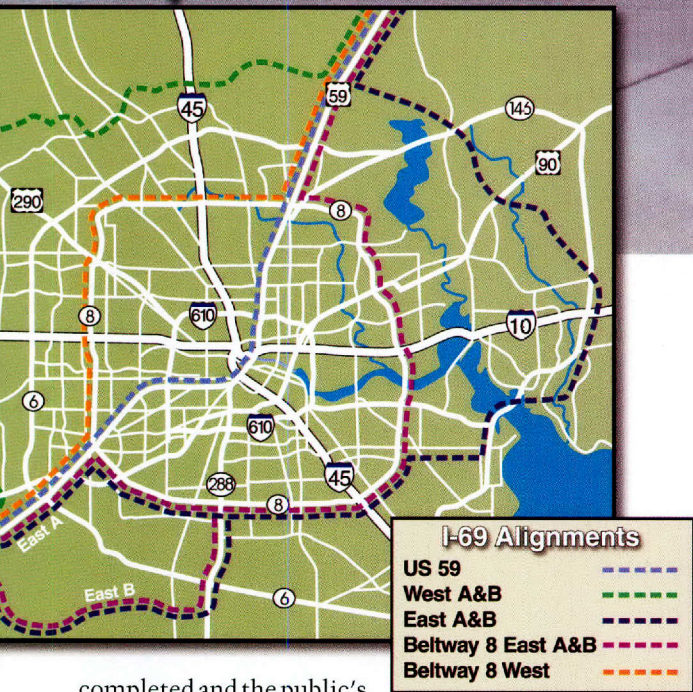
The Texas Department of Transportation (TxDOT) recently selected 11 consulting firms to conduct the environmental analysis and the route location studies for the Texas sections of independent utility. The studies consider the impact proposed routes could have on the natural and social environments along the corridor and will result in the locally preferred alternative. After site selection studies are completed, right-of-way maps of the proposed routes will be drawn. Until the environmental studies have been completed, no potential route within the corridor will be ruled out.

Route location and environmental studies are being funded with both state and federal dollars. Thus far, TxDOT has received about \$19 million from the federal government's Border and Corridor Program to study all potential Texas I-69 right-of-way routes. The cost of route location and environmental impact studies alone is projected to exceed \$60 to \$70 million, with total project cost estimated at more than \$10 million per highway mile in today's dollars.

Forecasts for completing the environmental studies within each section vary, ranging from 18 months to more than five years. During this time, TxDOT will provide ample opportunity for citizens along the I-69 corridor to participate in the decision-making process. Affected citizens will be informed in advance about the impact routes under consideration would have on their areas. After the environmental analysis has been



Map 2. Houston Alternatives



When completed, I-69 will cross eight states and connect Mexico to Canada.

completed and the public's concerns have been addressed, TxDOT will begin the final design for the preferred alternative and begin purchasing right-of-way.

No funds have been appropriated beyond the cost of the environmental studies, route location and schematic drawings. If appropriated, approximately 90 percent of the funds for right-of-way purchase and construction will come from the federal government, with the remainder coming from state and local sources. Texas officials are counting on federal highway legislation in 2003 to provide funding for the project.

The bulk of federal funding will come from either National Highway System (NHS) funds or demonstration funds. The NHS program provides money for improvements to rural and urban roads within the system, including the interstate system and designated connections to major terminals with both rail and air

access. Congress appropriates federal demonstration funds based on the eligibility and urgency of each project.

The I-69 project will be constructed in stages, with plans currently calling for the entire route to be built to interstate standards, meaning a divided, controlled access highway with inside and outside shoulders. Look for many of the sections of I-69 through rural areas to be constructed without frontage (or access) roads. The decision to build a frontage road or not will depend on the outcome of a complex cost-benefit formula developed by TxDOT.

The proposed Texas route for I-69 will pass through eight of TxDOT's 25 districts. Although many of these districts have adopted wait-and-see attitudes toward the I-69 project, a few are planning projects with I-69 in mind. The Lufkin district has developed a website (www.59masterplan.com) detailing a corridor master plan for upgrading the section of U.S. 59 passing through Angelina and Nacogdoches Counties. The plan can easily be incorporated into the I-69 project.

The Pharr and Corpus Christi districts have secured \$65 million to construct two roadways that will link I-69 with other vital routes. The projects will be constructed simultaneously, with construction beginning within two years. Although their exact location has not been determined, one segment will connect U.S. 77 to I-37 while the other will connect U.S. 281 to U.S. 77.

No district has been more proactive than the Houston district, which represents the largest major population center along the I-69 route. Planning for transportation improvements related to NAFTA has become a high priority. A team of consultants, with input from a local steering committee, has completed the district's I-69 feasibility study.

Freeways, rural roadways, planned new construction and totally new roads were combined in a variety of schemes to develop 31 potential route alternatives through the Houston district. Results of the study, which will be included in the environmental study, narrowed the field of possible routes from 31 to five. According to testimony given before the Texas Senate State Affairs Committee by James Dannenbaum of Dannenbaum Engineering, some of the routes being considered could produce user benefits in the Houston area as high as \$3.80 for every dollar invested. As many as 5,200 new jobs could be created in the region as a direct result of I-69.

Dannenbaum's testimony outlined the five route alternatives through the Houston area (Map 2).

The first alternative mirrors the current U.S. 59 right-of-way. The *West* alternative would follow the west and north portions of the proposed S.H. 99 from the Richmond-Rosenberg area to its proposed interchange with U.S.

59 north of Houston in Montgomery County. The *Beltway 8 West* alternative follows Beltway 8 west and north from the existing U.S. 59 interchange in southwest Houston to the existing interchange with U.S. 59 in northeast Houston. The *Beltway 8 East* alternative follows Beltway 8 south and east from the existing U.S. 59 interchange in southwest Houston to the existing interchange with U.S. 59 in northeast Houston.

Two options for the *East* alternative have been proposed. This alternative would generally follow the proposed S.H. 99

path along the south and east sides of Houston. However, the first option would follow Beltway 8 south and east from the existing interchange with U.S. 59 in southwest Houston to Fairmont Parkway in southeast Houston, S.H. 146 in Baytown, and Grand Parkway-S.H. 99 in east Houston, to the proposed northern interchange with U.S. 59 in Montgomery County. The second option separates from U.S. 59 south of Sugarland and follows the proposed Grand Parkway-S.H. 99 on the south side of Houston to S.H. 288, then to Beltway 8 South, where it parallels the first option.

Every time an interstate highway or freeway is built, new opportunities for retail and industrial development arise. Plans now being drawn for the I-69 highway offer the promise of future development along the 1,000-plus miles of proposed interstate.

I-69 has not been without its critics. Opponents argue that serious environmental concerns will result from such a large construction project. Others contend that a project of this scope is simply not needed. The most vocal opposition has been largely restricted to opposition groups in southwestern Indiana. It appears the biggest challenges to the project's success are securing the necessary funding, the political debate over the highway's location and concerns of environmental advocates. ♦

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The annual average daily traffic count along the proposed I-69 route increased about 19 percent from 1995 to 1999.
Source: Texas Department of Transportation

Northbound truck traffic from all Laredo border crossings increased 247 percent from 1995 to 1999. Northbound truck traffic from all Brownsville border crossings increased 129 percent during those years.
Source: Texas Center for Border Economic and Enterprise Development

Almost 70 percent of truck-borne trade between Mexico and the northeast and southeast United States uses the I-69 corridor, its border-crossing ports or both.
Source: Greater Houston Partnership

Websites providing more information on I-69 include:
www.I69texas.org
www.dot.state.tx.us

I-69 Facts

PENSION FUNDS

Get Real (Estate)

Pension funds are once again exerting their dominance as players in the commercial real estate markets.

By Jennifer S. Cowley and Trisha D. Spillman

Over the past decade, real estate investment trusts (REITs) had been bidding up the costs of real estate, pushing pension funds out of the market. Currently, REITs are facing a shortage of capital, allowing pension funds to purchase more real estate equities.

Pension funds have traditionally invested in real estate to diversify their portfolios. Today, investors are increasingly yield driven. Pension funds look to real estate to provide stable cash flows. The cash flows are used to pay off the fund's current liabilities, including benefits paid to retired employees. According to Institutional Real Estate Inc., the first goal of pension fund managers is to minimize risk; the second is to maximize returns.

Few pension funds have employees whose specific role is to invest or to oversee real estate investments. Even if a fund does have specific real estate staffers, third-party advisors or managers are usually hired to buy, sell and manage real estate assets. For example, RREEF Funds manage \$9.8 billion in real estate for more than 160 domestic and international pension funds.

The investment advisor industry is highly concentrated and will probably consolidate more in the future. Institutional Real Estate Inc. states that the largest ten advisors handle 48 percent of the business, and the largest 86 advisors control 98 percent of the business. Developers or brokers wishing to access pension fund capital should focus their efforts on building relationships with individuals working for these investment advisory firms, as opposed to the actual pension fund employees.

Pension funds also use third parties to obtain investment advice. Consultants are often used to identify strategies, select advisors and monitor

the performance of the chosen advisors. It is not uncommon for a fund to fire underperforming advisors and hire a different firm in hope of increasing returns.

According to Institutional Real Estate Inc., several trends can be found and forecasted among pension plans. Pension funds are expected to continue to diversify by property type and investment structure to invest without driving up prices through competition.

Investors usually have clear exit strategies in place before investing in a new piece of real estate. This allows for more accurate holding period projections and can affect the return of the investment. Pension funds are most attracted to deals involving properties that could potentially be securitized. These properties are of higher quality and increase the exit strategy alternatives for the fund. Pension funds are also

Largest Pension Funds in the United States

Invests in Real Estate

California Public Employees' Retirement System	X
New York State Common Retirement Fund	X
California State Teachers' Retirement System	X
Florida State Board of Administration	X
General Motors Investment Management Corporation	
Federal Retirement Thrift Investment Board	
New York State Teachers' Retirement System	X
Texas Teacher Retirement System	
New Jersey Division of the Investment	
General Electric Company	X

Source: Pensions & Investments

investing in more REITs and investment funds managed by other institutional investors.

The Pension Real Estate Association (PREA), National Association of Real Estate Investment Managers (NAREIM) and the National Council of Real Estate Investment Fiduciaries (NCREIF) have joined to write real estate information standards for reporting real estate investments. This is an effort to increase the uniformity and accountability of records, as well as to reduce risk in the industry and increase investor participation in the market.

According to the January 1999 issue of *Pensions & Investments 1000*, the largest 200 defined benefit pension plans have assets totaling more than \$3.2 trillion. Of this, 2.4 percent, or nearly \$77 billion, is invested in real estate equities. Institutional Real Estate's *Investment Property Report* reports that during the 18 months between January 1998 and June 1999, advisors spent an average of more than \$1 billion each month to acquire new properties for pension funds.

Pension funds are based in one specific state, but there are no geographical limitations as to where their funds may be invested. For example, an Ohio-based teacher pension fund bought the 508,500-square-foot Mattel Distribution Center just south of Dallas-Fort Worth. Randy Baird of Cushman & Wakefield said, "This offering was pursued by nearly every active institutional investment group in the United States."

Another example is the Alamo Quarry Market in San Antonio (see photo page 12), purchased by the California State Teachers

portfolios in real estate, much less than the national average of 2.4 percent. SBC Communications Inc. is the Texas pension fund with the most invested in real estate, \$487 million. JCPenney Co. Inc. invests the largest percentage of its portfolio in real estate equities, 5 percent.

Nationwide, nine of the top ten pension funds investing in real estate are public funds. In Texas, the four largest pension funds investing in real estate equities are privately owned and managed. Public pension funds in Texas do not ordinarily invest heavily in real estate equities. The Teacher Retirement System of Texas decreased their real estate asset allocation from 5.5 percent in 1993 to 1.5 percent in 1998 to 0 percent in 2000.

The California Public Employees' Retirement System (CalPERS) has \$9.8 billion, representing 5.8 percent of its assets, in real estate. Fund officials

report they would like to increase the funds' real estate investment to 6 percent. Currently, only 11 percent of the fund's assets are located in the State of California. CalPERS, in a venture with Burnham Pacific Properties, a REIT, has purchased two portfolios and plans to purchase a third. Five Houston retail centers, all anchored by Randall's, are included in the portfolios. CalPERS also owns four apartment complexes in major Texas cities, valued at \$45.8 million by the appraisal districts.

Henderson Investors, a division of Sydney, Australia's AMP Co., invested \$205 million in an 11-apartment-complex portfolio in June. Three of the complexes are in Dallas, two in Austin and one in Houston. This purchase demonstrates the confidence pension fund advisors have in the market, because the properties are not new and were purchased by an international firm.

The Pennsylvania Public School Employees Retirement System put a large portfolio of retail properties in Austin and Temple up for sale this year, after owning the properties for 15 years, so it could make other investments. The nine centers had an estimated value of \$110 million. RREEF has purchased three retail shopping centers in the Dallas-Fort Worth metroplex, including the Inwood Village Shopping Center. RREEF also has been active in purchasing industrial property in the metroplex.

In Houston, the 777 Post Oak office building was purchased by Lend Lease for one of its pension fund clients. A March 22, 1999, article stated Lend Lease had completed \$2 billion in equity transactions, approximately \$225 million of which were for Texas properties. Pension funds and their advisors are important players in the current real estate cycle, especially in Texas. ♦

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The largest 200 defined benefit plans have assets totaling more than \$3.2 trillion, \$77 billion of which is invested in real estate equities.

Largest Texas Pension Funds	Invests in Real Estate
Texas Teacher Retirement System	
SBC Communications Inc.	X
Texas Employees Retirement System	
Shell Pension Trust	
Exxon Corporation	
American Airlines, Inc.	
Texas County & District Retirement System	
Southern Baptist Convention Annuity Board	X
JCPenney Company Inc.	X
Texas Municipal Retirement System	

Source: *Pensions & Investments*

Retirement System. The 520,000-square-foot retail power center includes tenants such as Pottery Barn, Whole Earth Provision Co., Regal Cinemas, Whole Foods, Bed, Bath & Beyond and Victoria's Secret.

Texas is home to 13 of the largest 200 U.S. pension funds with a combined asset total of \$244 billion. Four of these funds hold real estate equities amounting to \$953 million. These four Texas funds invest an average 1 percent of their

Pension Funds Investing the Largest Amount of Money in Real Estate	
U.S. Pension Funds	Texas Pension Funds
California Public Employees' Retirement System	SBC Communications Inc.
Michigan (State of) Department of Treasury Bureau of Investments	JCPenney Co. Inc.
Florida State Board of Administration	Kimberly-Clark Corporation
Pennsylvania Public School Employees' Retirement	Southern Baptist Convention Annuity Board
Lucent Technologies Inc.	
New York State Common Retirement Fund	
Illinois (State of) Teachers' Retirement System	
Los Angeles County Employees Retirement Association	

Source: *Pensions & Investments*

Pension Funds Defined

There are several different types of pension funds. **Defined benefit plans** are those in which members know from the outset how much money they will receive. **Defined contribution plans** are those such as 401(k)s or profit-sharing plans in which the amount of money an employee receives from a fund is determined by the amount the employee puts into the plan. Since 1990, defined contribution plans have experienced greater growth in participants than other types of plans.

More than 300 companies have converted to **cash-balance pension plans**, which reduce costs by decreasing benefits to older workers but offer employees a larger payout if they leave the company before retiring. This plan is beneficial to the mobile workforce but may violate age discrimination laws if it mandates that all employees switch away from their former plan.

The trend away from the more traditional defined benefit pension plans steers pension fund investors away from direct property ownership. This, according to Sydney Donnell of European Investors, is because "pension plans need liquidity" and must have *fungibility*, the ability of the fund's beneficiaries to take their benefits with them to a new retirement account should they change jobs.

A 1998 study by Hewitt Associates found that "57 percent of participants in 401(k) retirement-savings plans took cash payments when they changed jobs," in spite of negative tax consequences. More advantageous options are to roll the money over into an IRA, roll balances into the fund of the new employer's plan or leave the money in the old plan (if the balance is greater than \$5,000).

Employees cannot easily move or convert their retirement accounts if their assets are intertwined with long-term illiquid assets such as real estate. This fungibility requirement may make REITs and real estate debt increasingly common investment vehicles for pension funds in the future. REITs also make it easier for smaller pension funds to invest in real estate if they do not have the capital to purchase institutional real estate directly. Large defined benefit pension funds continue to participate in the direct ownership of real estate. ♦



Managers' Perspectives

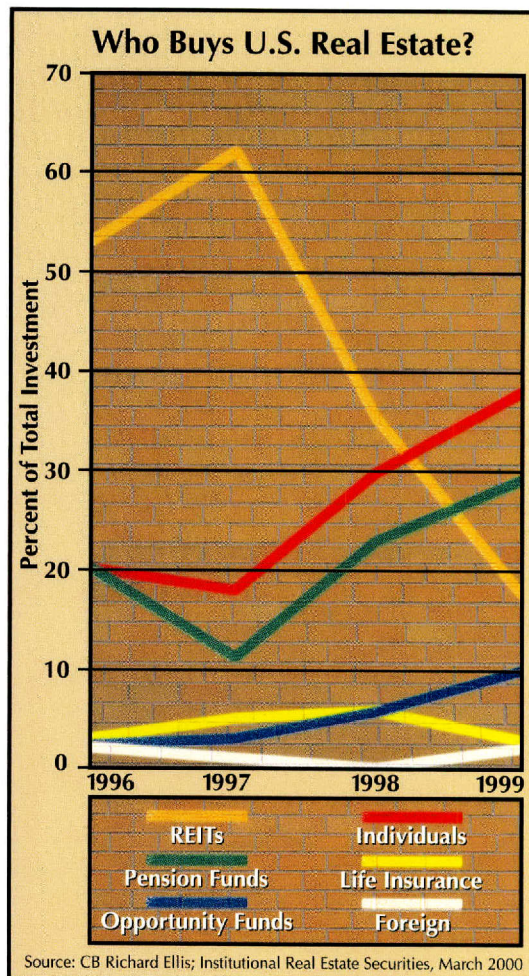
By Mark G. Dotzour

While real estate investment trusts (REITs) have been out of favor with the investment community for the past two years, pension funds have remained dominant buyers in the market. Of more than 48,000 pension funds, 200 control more than 70 percent of total assets.

Pension funds invest employee contributions and matching employer contributions in a portfolio of stocks, bonds and real estate to provide retirement funds for retiring employees. While the bulk of pension fund investments are in stocks and bonds, 3 to 10 percent of their assets are commonly invested in real estate. Pension fund managers like real estate investments for several reasons.

- Returns are not correlated with the stock market and, therefore, help reduce volatility in an investment portfolio that includes stocks and bonds.
- They can provide cash-flow return every year from rental income. Many commercial properties produce an 8 to 10 percent return when purchased for all cash.
- They can provide an attractive total rate of return on investment, including possible price appreciation.

In 1996 and 1997, pension fund managers were selling investment-grade commercial properties and using the cash to purchase shares of REITs. The perception at that time was that it was easier to sell shares of stock than buildings to raise cash. But in the past three years, that perception has changed substantially.



Fund managers now find it easier to sell commercial properties than to sell large blocks of REIT stock. Consequently, pension fund managers are big fans of direct ownership of properties.

Comments made by participants at a New York University Symposium on pension fund real estate investment provide insight into the psychology of pension fund real estate investors.

According to Peter Lewis, director of real estate at Massachusetts Institute of Technology (MIT), which has a \$9 billion endowment fund, the fund is 10 percent invested in real estate. MIT's time frame for investment is 150 to 200 years, so Lewis explains that he buys even if prices are high.

Lewis includes real estate in his portfolio to provide balance. He believes that when financial assets are down, real estate is up, or that they are negatively correlated. Not all share Lewis' thinking. Another symposium participant estimates that return on individual properties has a low correlation (.2-.4) with the stock market, while REITs have a higher correlation (.6-.7) with the stock market.

In Lewis' experience, direct investment in real estate has outperformed comingled fund investments. He is indifferent to liquidity because he does not need to sell the properties. He views REIT stocks as fixed-income investments, not as growth stocks, and is skeptical about accepting the stated net asset value of a REIT as an accurate measure of the underlying value of its real estate.

Marjorie Tsang of the New York State Common Retirement Fund reports that this fund is not a major investor in REITs and is more likely to partner with a REIT in direct investment in a large property. Tsang is more interested in purchasing the assets of REITs than purchasing their shares.

According to Tsang, the fund has two investment categories for real estate: core portfolio with after-leverage returns of 10 to 13 percent and enhanced portfolio with after-leverage returns of 13 percent to percentages in the "upper teens."

According to John Seckman, real estate manager for Delta Airlines, real estate is attractive for the fixed-income portion of their portfolio because of its low correlation to the stock market. He believes the real estate market is inefficient, so that active management pays off.

The target return for Delta's separate accounts is 15 to 18 percent, with 50 percent leverage. The target return for their opportunity funds is 20 to 25 percent, with 50 percent leverage. Seckman says few U.S. real estate investment niches remain untapped.

"We are an opportunistic investor looking for inefficiencies in the market," says Russell Appel, president of Praedium Group. "We look for something broken that we can fix."

"Our goal is to earn a 20 percent return," says Appel. "We believe that real estate long-term is about a 10 to 12 percent investment." Appel says his firm likes to have a local partner while maintaining control of the investment.

Whitehall Funds is the real estate investment fund for Goldman Sachs and Company. Goldman Sachs has an average equity investment of 19 percent in their own funds, according to Managing Director Ralph Rosenberg, who seeks 15 to 20 percent on most real estate deals. His firm is big on mezzanine financing deals, which provide capital for highly leveraged real estate purchases.

Pension funds are significant buyers of Texas commercial real estate properties. While they often purchase trophy properties — the nicest properties in the local market — some look for properties that need renovation or are suffering from neglect. These turnaround investments offer a higher rate of return than trophy properties.

For more information about this segment of the real estate market, visit the Pension Real Estate Association (PREA) website at <http://www.prea.org/>.

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Appraising Appraisal

By Charles E. Gilliland

The Valuation 2000 Conference brought the three major national appraisal organizations together in an educational forum for the first time. The American Society of Appraisers, American Society of Farm Managers and Rural Appraisers and Appraisal Institute cooperated in organizing the event, which attracted more than 1,400 participants. The conference included presentations and published proceedings addressing appraisal industry topics. Highlights of papers on real estate appraisal topics are described here.

One heavily attended session at the conference presented a panel discussion of the continuing controversy regarding public interest value (PIV). Proponents continue to view PIV as a progressive step forward in appraisal practice. Opponents view PIV as a dangerous manipulation of the market value concept and a threat to the fiscal discipline built into government real estate acquisitions. To learn more about the PIV controversy, download Real Estate Center publication No. 1189: "In Defense of Market Value" at <http://recenter.tamu.edu/pubs/catappr.html>.

Published papers from the Valuation 2000 Conference can be obtained by calling 847-303-5122 and requesting stock number #0675M, *Valuation 2000 Papers & Proceedings*.

The Effects of Previous Environmental Contamination on Industrial Real Estate Prices

Thomas O. Jackson, MAI, CRE, Entrix, Inc.

Appraisers have suggested that the decline in the value of industrial properties with environmental contamination abates after the contamination is cleaned up. Jackson examined 122 industrial property sales to determine whether there was a stigma-related price effect on remediated sites. The sample included 13 formerly contaminated sites.

Employing statistical models to analyze the sales, Jackson did not find a statistically significant stigma associated with the cleaned-up sites. Study results suggest that property values of uncontaminated sites and previously contaminated sites that have been cleaned up are no different.

The Effects of Wetlands and Other Factors on Real Estate Prices

Dr. John E. Reynolds, University of Florida, and Alex Regalado, Office of Program Policy Analysis & Government Accountability

The researchers studied 212 rural land sales in southwest Florida to identify how the presence of wetlands affected property prices. Swamps, marshes, bogs, fens and prairies composed more than 99 percent of the wetlands in the study, which also examined river and lake wetlands systems. On the positive side, wetlands provide breeding areas for wildlife. Agricultural operators, however, view wetlands as useless areas adversely affecting their income potential from the land.

Using a statistical model, the researchers determined that the presence of wetlands has a negative impact on value. A 10 percent increase in wetlands reduces land prices by 0.2 percent. For example, a property made up of 50 percent wetland would sell for 1 percent less than a similar tract without any wetland. The study suggests that the presumably positive social attributes of wetlands do not result in higher market prices.

Land Values at the Rural-Urban Fringe: A Spatial Econometric Analysis

Drs. Lonnie R. Vandever, Stephen A. Henning, Huizhen Niu and Gary A. Kennedy, Louisiana Tech University

The researchers examined 500 sales, using geographic information systems (GIS) technology to evaluate rural land values in urban fringe areas in southwestern and southeastern Louisiana. Results showed rural land prices in southeastern Louisiana depend on size of the tract, estimated value of buildings, time of sale, location in New Orleans Metropolitan Statistical Area (MSA), distance to the nearest city, location on a paved road and whether the land was purchased for commercial or recreational use.

Properties located in the four parishes surrounding New Orleans sold for 61 percent more per acre than comparable properties outside that MSA. Each additional acre in size reduced sale price by 2.4 percent per acre. Each additional ten miles from the city reduced sale price by an average of 1.5 percent per acre.

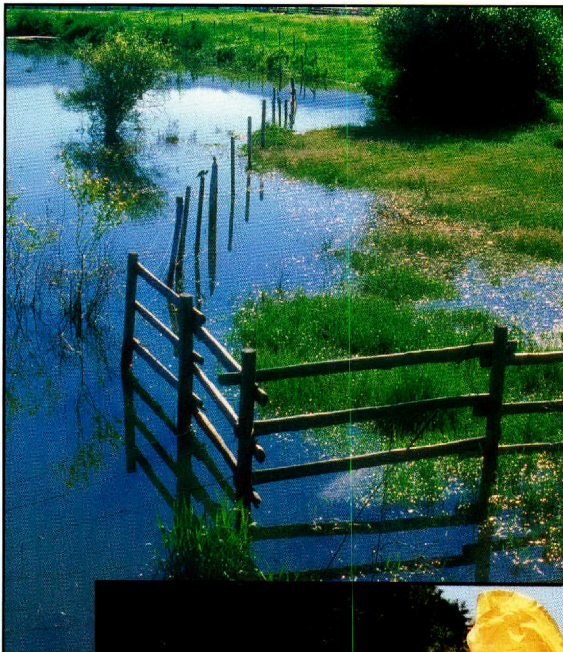
Land purchased for commercial use fetched 44 percent more per acre than sales for agricultural use. However, purchase for recreational use generally resulted in a 21 percent reduction in price per acre. Sites on paved roads produced premiums of 20 percent per acre.

Rural land prices in southwestern Louisiana were a function of size of tract, estimated value of buildings, time of sale, location in Lafayette MSA, distance to the nearest city or town, whether

the land was purchased for commercial use, amount of government program base acres and soil type.

Prices for commercial land were 94 percent higher than prices for agricultural land. Each 10 percent increase in the amount of Southern Mississippi Valley silty upland soil increased per-acre price by 4.7 percent. Each 100 percent increase in the amount of government program base acres added 0.1 percent to the per-acre price.

Properties located in the Lafayette MSA sold for 16 percent more per acre than comparable properties outside that MSA.



RESEARCHERS FOUND that the presence of wetlands had a negative effect on property prices. Prices for previously contaminated property that had been cleaned up were no different than those of uncontaminated sites.



Each additional ten acres in size reduced per-acre sale prices by 1.8 percent. Each 10 percent increase in distance from Lafayette reduced sale prices by an average of 0.3 percent, while a 10 percent increase in distance from the nearest town further reduced per acre prices by 0.2 percent.

Verifying Damaged Property Transactions

Barry J. Alperin, MAI, ASA

A thorough and defensible verification is critical in valuing damaged real estate. The author argues that, despite virtually universal insistence that sales be confirmed and verified, no standard of verification exists in appraisal theory or legal precedent. Alperin suggests the following definition of verification:

A personal investigatory process with 14 steps involving confirmation, validation, authentication, and/or learning of information necessary to all steps in the appraisal process and leading to accurate, reliable and factual

information and/or supportable opinions.

The investigatory process consists of the following steps:

1. Identify categories of needed information.
2. Identify the people to be interviewed.
3. Prepare a list of questions for each information category.
4. Prioritize the need for information.
5. Prepare alternative question formats.
6. Review the question format.
7. Prepare introductory and closing statements.
8. Prepare to deal with objections.
9. Make an appointment for the verification interview.
10. Commence the interview.
11. Ask follow-up questions and reconfirm essential points.
12. Close the interview.
13. Review recorded answers.
14. Review the interview procedure.

Alperin sees this checklist as a process akin to the appraisal process that blends art and science through effective communication to produce a supportable estimate of market value.

Appraising Large-Scale, Technically Unique Industrial Facilities: An Application of Monte Carlo Techniques

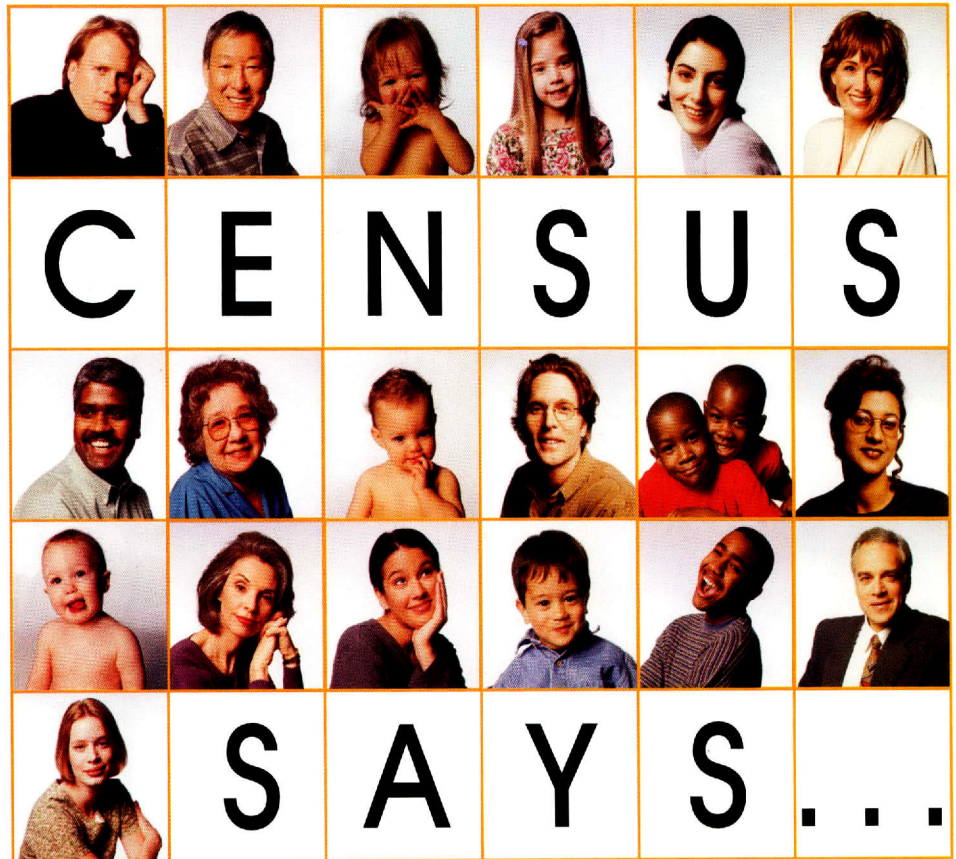
Steve Dean, P.E., ASA, DAI Management Consultants and Dr. Paul Fishbeck, Carnegie Mellon University

Complex properties designed for highly sophisticated technical processes, such as refineries, power plants or manufacturing plants, present appraisers with difficulties. How can an estimate of market value account for and weigh the various sources of risk inherent in the current and future operations of such facilities?

The researchers tackle the problem by identifying sources of risk, modeling the income streams achieved under various combinations of risk and applying a Monte Carlo simulation to arrive at a value estimate. They submit a nuclear power plant with potentially crippling maintenance requirements to this analysis. For comparison purposes, they also derive a value estimate for the plant using the less sophisticated, standard discounted cash-flow model.

The results demonstrate that systematically including risk in the Monte Carlo framework can substantially alter estimates of value, in this case reducing the value from \$240.8 million to \$205.8 million. The authors conclude that failing to account for areas of uncertainty in an appraisal of complex properties may result in grossly overestimated values. ♣

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By Steve H. Murdock

Texas is growing faster than experts predicted. The 2000 Census counted more than 20.8 million Texans, a ten-year increase of 22.8 percent. There are 500,000 more state residents than the U.S. Census Bureau thought there would be.

There were other Census surprises as well. The nation's 281.4 million population is seven million higher than anticipated. From 1990 to 2000, the United States grew 13.2 percent. In fact, resident population counts showed that nearly all states had somewhat higher growth than had been estimated. Only the District of Columbia lost population, about 35,000.

The 3.8 million Texas increase was the largest of any decade in Texas history. The population growth rate was the highest since the 1970s.

One of every eight persons added to the U.S. population during the decade was a Texan. Enough new Texans were added to duplicate the 1990 populations of Houston, Dallas and San Antonio.

Twenty-four states have 2000 population totals less than the number of new Texans. Only California's 4.1 million increase was more. The new California total is nearly 33.9 million.

According to the new Census, other states with more than eight million inhabitants are New York, with nearly 19 million; Florida, 16 million; Illinois, 12.4 million; Pennsylvania, 12.3 million; Ohio, 11.4 million; Michigan, 9.9 million; New

Jersey, 8.4 million; Georgia, 8.2 million; and North Carolina, 8 million.

The Texas growth rate was eighth fastest nationwide. Nevada's 66.3 percent increase was the fastest. Arizona followed with 40 percent; Colorado had a ten-year growth of 30.6 percent.

Wyoming continues to have the fewest people — roughly 494,000. Vermont's 609,000 and Alaska's 627,000 follow. North Dakota and West Virginia grew the slowest. The former added only 3,400 people and the latter fewer than 15,000 or 0.5 and 0.8 percent, respectively.

Overall, the ten largest states contained 54 percent of the nation's population in 2000 and accounted for 52 percent of the 1990-2000 growth.

Census 2000 affirms Texas' position as a major growth center and that the United States is growing more rapidly than most developed countries. Data yet to come will show which Texas regions are growing most rapidly and where real estate markets offer the greatest promise for expansion.

Editor's note: First statewide Census 2000 results were released in December. County, city and smaller area data were not available at press time. ♣

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While oil and water do not mix, they share a common trait. Both are subject to the Texas rule of capture (see "Who Owns Groundwater?," Center reprint 1377). Because of this, oil and gas controversies resolved by Texas courts may set precedents for similar cases involving water. One pertinent issue involves ownership of water stored underground.

San Antonio plans to purchase, transport and store water in an aquifer south of the city. The stored water will be tapped when needed. Pipeline companies do something similar with natural gas supplies. They transport and store the gas near large cities in underground cavities such as salt domes and depleted gas fields to meet peak demands during the winter.

But what happens if a landowner taps the water or gas reserve before the city or pipeline companies reclaim it? Does the rule of capture give ownership to the landowner?

The rule of capture originated in the common law of England. The courts compared underground liquids and gas to wild animals that roam across the surface. Wild birds and animals belong to no one until killed or captured, according to the rules of the state. This concept is sometimes referred to as *ferae naturae* or free in nature.

But what happens if the captured wild bird or animal escapes or is released? Does it again become free in nature and subject to the rule of capture? The defendant applied this argument in *Lone Star Co. v. Murchison*, 353 S.W. 2d 870.

In this case, Lone Star Gas used the Tri-City Bacon Lime Field in Henderson County, an exhausted gas field, to store gas for the winter peak demand period. Lone Star purchased all the wells in the field to gain sole

control of the injection and extraction of the gas.

A small portion of the field extended beneath land owned by the Jacksons. The Jackson tract was not under lease and contained no oil and gas wells.

In 1958, Murchison leased the Jackson tract for oil and gas exploration and production. Subsequently, Murchison drilled a well that tapped Lone Star's gas reserve. Murchison produced and sold the gas until Lone Star discovered the plunder. It sued Murchison for \$37,000, the value of the lost gas, and sought an injunction to end the drainage.

At trial, Murchison successfully argued the rule of capture bestowed ownership on him by citing a similar 1934 Kentucky case, *Hammonds v. Central Kentucky Natural Gas Co.*, 75 S.W. 2d 204. The Kentucky court ruled that when produced gas is restored to its natural habitat by injection into a subterranean chamber it regains its status as free in nature and is again subject to the rule of capture.

On appeal, the Dallas Court of Appeals disagreed by quoting several distinguished authors on the subject. Basically, the court held that the comparison of oil and gas to wild birds and animals is not scientifically sound. Although it did not overturn the rule of capture, the court

If a horse strays onto a neighbor's land, the neighbor may be entitled to damages but does not acquire title to the horse.

limited the doctrine to the *first or original capture*. It ruled that title to natural gas, once produced, becomes personal property and is not lost by subsequent injection into a natural underground reservoir.

Quoting from another case, the court concluded that the "free in nature" concept applies on first capture because the gas can be compared to a free-roaming wild animal. After first capture, however, the gas is more accurately likened to a domestic animal. If a horse strays onto a neighbor's land, the neighbor may be entitled to damages but does not by virtue of the trespass acquire title to the horse.

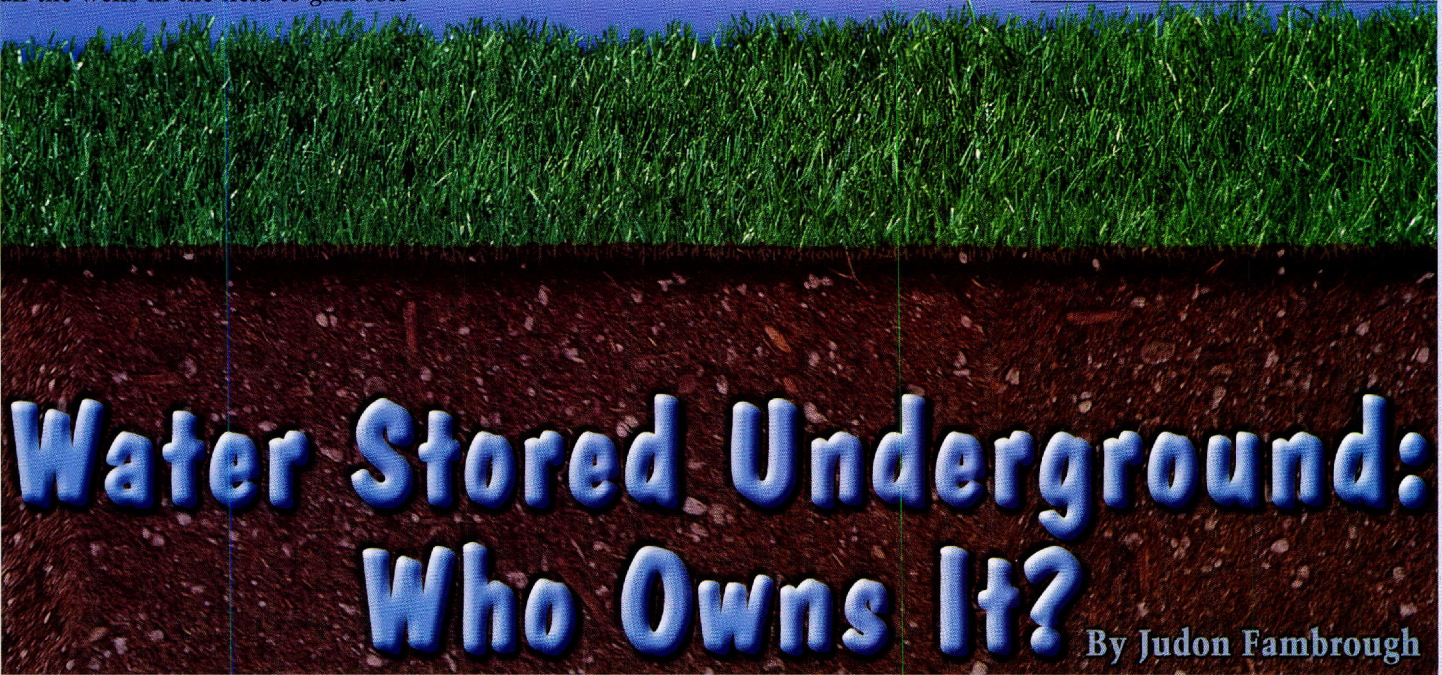
Thus, if San Antonio stores the water in an underground aquifer for future use, the water belongs to San Antonio even if an adjoining landowner taps it.

The *Murchison* case left some questions unanswered. The storage field chosen by Lone Star was completely devoid of natural gas. How would the courts have ruled had the reservoir contained both unproduced and injected gas? Would the courts have apportioned the production according to the amount of each in the formation at the time of production or followed the last-in-first-out method?

Oil companies often stimulate production by pumping massive amounts of crude oil under pressure into the ground. In these cases, oil companies reclaim their original oil and pay royalties only after all their oil is recovered. No case precedents support this practice.

The courts may answer the question of allocation if confronted with the issue of ownership of water stored underground in the future. ♣

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**Water Stored Underground:
Who Owns It?**

By Judon Fambrough



By Judon Fambrough

Real estate professionals constantly have the responsibility of and liability for making proper disclosures when showing property. For the most part, disclosures relate to the condition of the property. But does the law require disclosures beyond the condition of the property, such as registered sex offenders living in the neighborhood or murders occurring on the premises? Review of statutes and case law yields some interesting conclusions.

Much, but not all, of the burden for making disclosures to sellers results from the addition of Section 5.008 to the Texas Property Code in 1994. The statute mandates that sellers complete the Seller's Disclosure Form or one similar to it with each sale. No such form exists for real estate professionals.

Does this statute require disclosures beyond the physical characteristics of the property? The language in Section 5.008 indicates that the answer is *no*. At the beginning of the form, the wording limits disclosures to "the seller's knowledge of the condition of the property as of the date signed by the seller." At the end of the form, the seller is asked to disclose "any conditions of the property that materially affect the physical health or safety of an individual." The form does not require the seller to disclose information beyond this.

In the late 1980s and early 1990s, a controversy surfaced regarding the seller's and licensee's duty to disclose whether the previous or current occupants of a property had AIDS or if a murder or suicide

occurred on the premises. Obviously, such facts went beyond the physical condition of the property.

The matter was settled, in part, in 1993 when Texas legislators amended Section 15E of the Texas Real Estate Licensing Act. The change mandates that a licensee has no duty to inquire, disclose or release information regarding:

- previous or current occupants having AIDS, HIV-related illness or HIV infection as defined by the Center for Disease Control of the U.S. Public Health Service or
- deaths that occurred on the property by natural causes, suicides or accidents unrelated to the condition of the property.

Although murders are not mentioned, the amendment appears to limit disclosures of deaths to those caused by the condition of the property. This parallels the requirements outlined in Section 5.008.

But how does the Texas Deceptive Trade Practices Act (DTPA) deal with the issue? Failure to disclose known information is a false, misleading or deceptive act if doing so is intended to induce the consumer into a transaction the consumer would not have entered had the information been disclosed (Texas Business and Commerce Code, Section 17.46 [23]). The DTPA does not limit the information to the condition of the property.

Does this broaden the duty to disclose to include information beyond physical characteristics of the property? Must sellers and brokers disclose murders that have occurred on the premises, property

stigmatizations such as hauntings or the presence of registered sex offenders residing in the neighborhood or in the apartment complex?

According to the National Association of Realtors, a property is stigmatized when it "has been psychologically impacted by an event, which occurred or was suspected to have occurred on the property, such event being one that has no physical impact of any kind." Stories of murders occurring on the property or rumors of a house being haunted fall into this category.

No Texas appellate cases decided at that time had addressed the issue. If such a case had arisen, the plaintiff may have encountered difficulty in recovering monetary damages.

To recover damages under the DTPA, the plaintiff must prove an economic loss, such as reduction in the property value, caused by the stigmatization. It may be difficult for an appraiser to ascertain the difference in property values with and without a stigma.

If no economic loss can be proven, the plaintiff may attempt recovery for mental pain and anguish. Texas case law currently does not allow recovery for mental pain and anguish unless it is:

- accompanied by a physical injury or
- inflicted knowingly or intentionally.

In a 1994 El Paso Court of Civil Appeals case, the buyers (plaintiffs) made an offer on a vacant house owned by the Veterans Administration (*Sanchez v. Guerrero*, 885 S.W. 2d 487). The offer was made through a real estate broker, Sanchez, and the deal closed on March 23, 1988.

The evening after the closing, the buyers watched a TV news program discussing a case of an individual charged with molesting several children. The alleged molestations occurred in the house the plaintiffs had just purchased.

Even though the person charged with the crime was acquitted, the plaintiffs sought to cancel the transaction. Eventually, they sued the broker under the DTPA for failing to disclose the alleged molestations in the house. They claimed they would not have purchased the house had the information been disclosed.

At trial, the evidence showed that the buyers asked Sanchez several times about the previous owners. Each time, Sanchez responded that he did not know, but he would find out. After the broadcast, Sanchez admitted that he knew of the alleged molestations occurring in the house.

The jury found that Sanchez violated the DTPA for failing to disclose the information. Furthermore, because it had been a deliberate act, the jury awarded a recovery for mental pain and anguish. The award was upheld on appeal. The case never reached the Texas Supreme Court.

A recent federal law requires sex offenders to register with local police in the

communities where they reside. Sellers and brokers wonder if they must disclose this fact when selling or renting property in that neighborhood.

One argument that could be made against having to make the disclosure is that the information is public record. It can be found on the Internet at http://www.openrecords.org/records/sexual_offenders/texas/. However, this argument was unsuccessfully raised in a 1988 case (*Ojeda de Toca v. Wise and Wise Dev., Inc.*, 748 S.W. 2d 449 [Tex 1988]).

In the case, the defendant sold a house to the plaintiff without telling her the house had been posted for demolition. Wise argued that because the notice was recorded in the deed records, it was not necessary to repeat the information to the buyer. The Texas Supreme Court disagreed and held Wise liable.

Where does this leave sellers and brokers? The answer will remain in doubt until Texas legislators resolve the issue.

Section 5.008 of the Texas Property Code and the Real Estate Licensing Act appear to limit disclosures to the condition of the property. However, the disclosures mandated by the DTPA are more expansive, as indicated by the *Sanchez* decision.

To avoid any controversy, the prudent course of action is to disclose the presence of a registered sex offender in the neighborhood. If the fact is not disclosed and litigation results, the buyers would have to prove that the seller or broker knew of this fact and deliberately withheld it to lure the buyer into the transaction. In this scenario, the plaintiff could recover mental pain and anguish. If the information was not deliberately withheld, the plaintiff's recovery would be limited to the amount of reduction in property value. ♣

Fambrough is a member of the State Bar of Texas and an attorney with the Real Estate Center at Texas A&M University. His e-mail address is judon@recenter.tamu.edu.

Potholes Not Protected



The U.S. Supreme Court recently ruled that isolated potholes — wetlands not connected to a navigable body of water — are not protected by the Federal Wetlands Act. Landowners, therefore, no longer need a permit to fill potholes on their land.

The U.S. Corps of Engineers, the agency charged with enforcing the Wetlands Act, had been enforcing the "Migratory Bird Rule," which extended the act's jurisdiction to any body of water large enough for migratory waterfowl to land on. Section 404(a) of the act required landowners to obtain a permit from the Corps to fill in a wetland.

Prior to the Supreme Court ruling, decisions rendered by circuit courts were split along two lines of thought. Courts finding in favor of protecting potholes ruled that because birds cross state lines, the potholes they land on affect interstate commerce and can be regulated under the Commerce Clause of the U.S. Constitution.

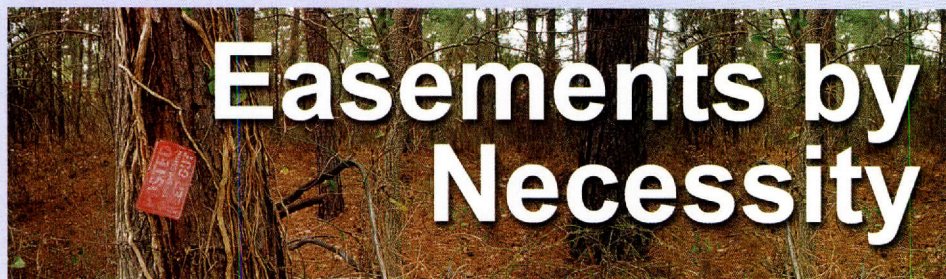
Those circuit courts ruling against protecting the isolated potholes argued that the Wetlands Act is part of the Clean Water Act, which regulates "navigable waters" of the United States. To be navigable, a body of water must connect to a stream that flows to the ocean. The courts decided that Congress did not intend the Clean Water Act to extend to nonnavigable waters.

The Supreme Court agreed with the second rationale and took a states' rights position, writing "The grant of authority to Congress under the Commerce Clause, though broad, is not unlimited. . . there is nothing approaching a clear statement from Congress that it intended Section 404(a) to reach an abandoned sand and gravel pit. . ."

The court stated further that allowing the Corps of Engineers "to claim federal jurisdiction over ponds and mudflats falling within the Migratory Bird Rule would also result in a significant impingement of the states' traditional primary power over land and water use" (*Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, No. 99-1178).

For more information on the Wetlands Act, see Center publication 964, *Impact of the Federal Wetlands Act on Real Estate*. ♣

By Judon Fambrough



Easements by Necessity

Contrary to what some believe, it is possible to own landlocked property — property having no public or private access — in Texas. Depending on the circumstances, individuals in this predicament may petition the courts for an *implied easement by necessity* to obtain access across neighboring land. Assuming the neighboring tract fronts on a public road, the easement by necessity will be granted if three conditions can be met:

- the landlocked tract has no other means of access,
- the landlocked property and the neighboring tract blocking access at one time had the same owner and
- when the ownership was split from the neighbor's land, the tract became landlocked.

But what if the neighboring tract is also landlocked? Will the court still grant an easement by necessity across the neighbor's land if a third tract lies between it and the public road?

According to *Parshall v. Crabtree*, 516 S.W.2d 216 (San Antonio, 1974) the answer is yes if a fourth condition can be satisfied.

In this case, Crabtree was landlocked by Parshall's tract. Parshall, in turn, was blocked from the public roadway by the

third tract owned by Youngblood. Crabtree had to cross both Parshall and Youngblood for access. Crabtree could meet the conditions for an easement by necessity to cross Parshall but not Youngblood.

The court granted Crabtree an easement by necessity to cross Parshall because, in this instance, Crabtree had previously negotiated with Youngblood and obtained permission to cross his land. Parshall protested because of the temporary nature of the agreement. The appellate court ruled that they would address that question ". . . when, if ever, such permission is withdrawn."

The *Parshall* case expands the circumstances when an easement by necessity may be granted. The three conditions for the easement must be satisfied when the neighboring tract fronts on a public roadway. The courts will also grant the easement when the landlocked owner has permission to cross other tracts lying between the neighboring land and the roadway.

For more information on landlocked property in Texas, see Center publication 947, "Landlocked Property;" publication 1130, "Don't Fence Me In;" and publication 422, "Texas Easements." ♣

By Judon Fambrough

Strips and Gores

Sometimes during a routine title search before a sale, sellers may discover that they do not have clear title to all the land they think they own. If the omission is of a small, adjacent tract of land abutting the main tract, knowledge of the doctrine of strips and gores may prove invaluable. It may mean the difference between getting an easement or claiming title to the property.

To illustrate, in the 1980s, a Hill Country subdivision failed, and title passed through several individuals before reaching the present owner. The present owner has several lots under contract but cannot close because of a title problem.

The problem began when the original developer sold the property in the 1980s. The surveyor left out a strip of land ten feet wide and 300 feet long. The strip lies between the subdivision and the public access road. The title company refuses to issue a policy because the subdivision lacks access across the omitted strip. The owner cannot find the original developer to secure a deed correction.

The owner could argue access across the strip by way of necessity or by an implied easement. However, by arguing the doctrine of strips and gores, the owner may claim title to the tract.

According to *Black's Law Dictionary*, a gore is "a small triangular piece of land

such as may be left between surveys which do not close."

In the early 1940s, Texas courts ruled that it is against public policy for the seller to leave or retain title to a long narrow strip or gore of land when conveying a larger tract adjoining or surrounding it. In these circumstances, the court assumes the grantor intended to convey the strip or gore with the larger tract.

The case of *Alkas v. United Savings Assn. of Texas*, 672 S.W.2d 852 (Corpus Christi, 1984) outlined four requirements for the application of the doctrine. The omitted strip or gore is included with the conveyance of the adjacent tract when the strip or gore is:

- small in comparison with the tract being conveyed,
- adjacent to or surrounded by the larger tract,
- owned by the grantor (seller) at the time of conveyance and
- no longer of benefit or importance to the grantor.

If the present owner of the Hill Country subdivision can satisfy these requirements, the title company may issue title without going to court. An affidavit by a knowledgeable person, such as the surveyor, filed in the deed records should be sufficient to clear title. Otherwise, judicial action may be necessary.

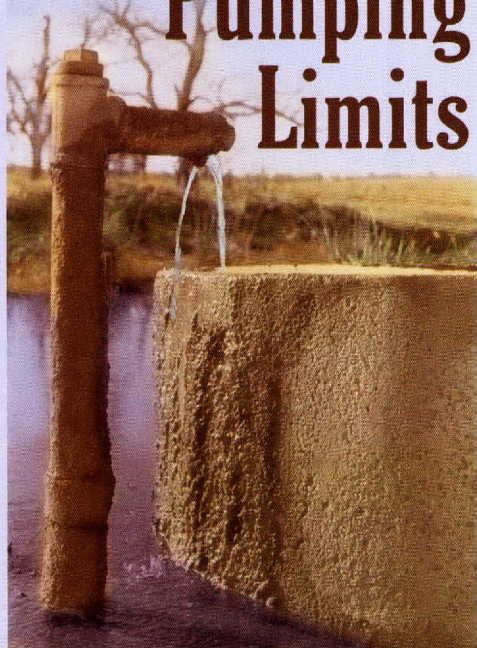
The Texas Real Estate Forms Manual recommends buyers insert the following language in the legal description of a deed to ensure that no strips and gores are omitted. "Grantor, for the same consideration, grants, sells, and conveys to the Grantee, without express or implied warranty, the strips and gores, if any, between the property and abutting properties and the land lying in or under any public thoroughfare, opened or proposed, abutting to the property"

The suggested language refers to public thoroughfares because the doctrine applies to strips alongside public roadways. Two cases in Texas held that a conveyance of land bounded by a public highway carries with it title to the center of the road even though the legal description ends at the edge of the highway (*State v. Williams*, 335 S.W. 2d 834 [Tex. 1960] and *Krenek v. Texstar North American Inc.*, 787 S.W. 2d 566 [Corpus Christi, 1990]).

Texas courts recognize exceptions, though. The doctrine does not apply if the seller owns property on both sides of the strip (*Rio Bravo Oil Co. v. Weed*, 50 S.W.2d 1080 [Tex. 1932]) or if the strip is more valuable than the tract conveyed (*Angel v. Biscamp*, 441 S.W. 2d 524 [Tex. 1969]). Finally, the doctrine does not apply if the seller explicitly reserves the strip in the conveyance. ♠

By Judon Fambrough

Water Pumping Limits



Water conservation districts commonly establish pumping limits based on the size of the tract of land owned. This may soon change. The Court of Appeals in Amarillo ruled in January that conservation districts may not adopt rules that contradict the common law rule of capture in *South Plains Railroad Ltd. v. High Plains Underground Water District No. 1*, No. 07-00-0089-CV.

The case follows on the heels of the Texas Supreme Court decision in *Sipriano v. Great Spring Waters of America*, 1 S.W.3d 75, better known as the Ozarka case. In that opinion, the court firmly established two rules of law. First, the rule of capture as it applies to water is an absolute right and not subject to the reasonable use rule adopted by other states. Second, groundwater conservation districts are the preferred method of groundwater management in this state.

The South Plains Railroad asked the conservation district for a permit to drill, equip and produce a water well. The permit was granted, but later revoked, when adjoining landowners complained. The landowners felt the permit allowed the railroad to take a disproportionate

share of water because the railroad's tract was relatively small.

The railroad eventually sued the underground water district for revoking the permit. The trial court ruled in favor of the water conservation district, and the railroad appealed. In reversing the summary judgment, the appellate court said preventing the pumping of a disproportionate amount of water relative to tract size is contrary to the rule of capture and Texas statutory law, specifically Section 36.002 of the Texas Water Code. This section states the code shall not deprive or divest landowners' ownership or rights to groundwater.

The appellate court also noted that Section 36.116 of the code authorizes districts to regulate the spacing and production of water wells for four reasons: to minimize the drawdown of the water table, to minimize the reduction of artesian pressure, to control subsidence and to prevent waste. Nothing in the code addresses the disproportionate use of groundwater based on the tract size.

For more information on the rule of capture and ownership of groundwater in Texas, visit <http://recenter.tamu.edu> and type "groundwater" in the search box. ♠

By Judon Fambrough

Texas A&M Students Win Design Competition

Two teams of Texas A&M University architecture graduate students took top honors in a national student design competition focusing on seniors housing.

"These students rose above their peers in understanding and addressing the needs of today's aging population through innovative residential design," said Liza Bowles, president of the National Association of Home Builders (NAHB) Research Center, which sponsored the competition in cooperation with the Administration on Aging.

Thane Eddington of San Diego, California, and Bhargav Goswami of Guwahati, India, won first place in the competition's multifamily design category, while Wayne Baker of College Station, Texas, and Aditya Dafre of Pune, India, captured runner-up honors.

Competitors were asked to design a home for members of the hypothetical Mae T. Rose Community Orchestra, a nonprofit group of retired professional musicians ranging in age from 62 to 94. The "site" was five acres adjacent to a city park and bounded by a lake and a busy thoroughfare in a predominately residential area of a city with a population of 125,000.

Students were required to include 20 individual apartments — ten for singles and ten for couples, with a maximum of 1,100 square feet per unit — a common room large enough to accommodate a 25-person orchestra and 200 listeners, walking paths and outdoor activity areas.

According to National Center for Seniors' Housing Research statistics, the first wave of 3.2 million baby boomers will turn 55 in 2001. During the next five years, the number of Americans age 55



and older will climb to approximately 17 million. Because many older Americans want to continue living in their own homes as they age, there is an increasing need for innovative ways to accommodate the special needs of seniors.

"We believe that students' creative and inventive design approaches to seniors' housing will help residential home building professionals to better address the needs of future generations of homeowners," Bowles said. "Additionally, we intend to repeat this competition annually to get smart-aging residential design incorporated into academic curriculums so that future generations of builders, remodelers, architects and

designers are prepared to meet the needs of America's aging population."

Some of the creative features included in the 100-plus student entries were foam bathtubs, carts for everything from trash to flowers, safe rooms and toilets on tracks. Entries were judged on the basis of creativity, buildability, livability and affordability.

Eddington's and Goswami's winning design will be transformed into a virtual home and displayed on the NAHB Research Center website at www.nahbr.com. The architects have been invited to present their design at the Seniors' Housing Symposium, scheduled for April 26-27 in Phoenix, Arizona.

Shopping for Software

Just log on the Internet, and go to <http://recenter.tamu.edu/ed/soft/> to find software that designs advertising, evaluates budgets, manages contacts, generates legal forms, helps with loans and creates web pages.

There are programs for analyzing costs of single-family homes and for managing apartments, hotels and shopping centers. Others calculate loan payments, design and landscape properties and create maps. Still other software helps with office functions, such as accounting and payroll.

A printed version is available for \$19. See page 28 for ordering information.

It is now possible to shop for real estate software without leaving the office. Best of all, it costs nothing to look.

The Real Estate Center's completely updated *2001 Software Directory* features 452 programs from 262 vendors.

Rural Land Conference

The 11th Annual Outlook for Texas Rural Land Markets will be held May 4 at the George Bush Presidential Conference Center on the campus of Texas A&M University.

Registration is \$120 on or before April 27 and \$140 after that date. For more information, call Margaret Benedict at 979-845-9691. The seminar brochure is on the Real Estate Center website at <http://recenter.tamu.edu>.

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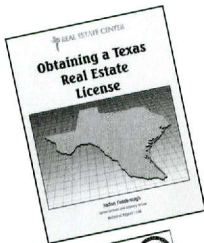
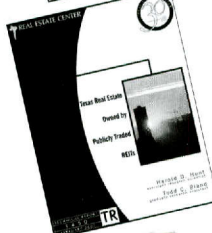
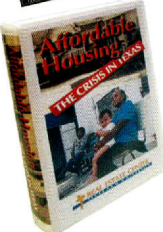
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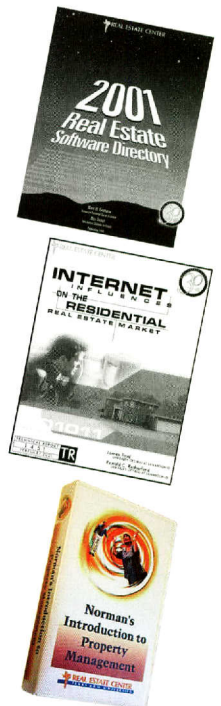
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The Great Texas Photo Shoot-Out

Tierra Grande editors are reviving one of their favorite events, the annual Texas photography contest.

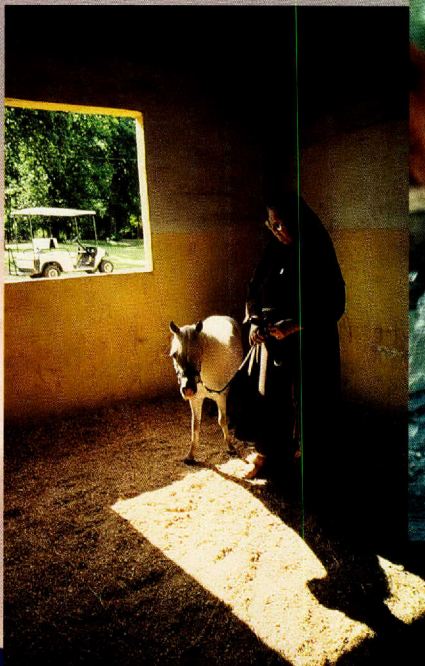
Official rules. Anyone may enter. No more than **ten photos** per person may be entered. Prints, slides or digital (minimum size 3.2 megapixels or 1600 x 2000 ppi) pictures are eligible. All photos must have been taken in Texas within the last two years. **Deadline** for receipt (not postmark) of entries is 5 p.m. Aug. 3, 2001. Only entries with a self-addressed envelope included will be returned. Digital photos will not be returned. Each photo must be clearly marked with the photographer's name, category being entered and brief description, including location.

If mailing photos, send them to: Real Estate Center, Texas A&M University, 2115 TAMU, College Station, TX 77843-2115. If shipping via courier, send photos to the Center, 313 E. L. Wehner Building at the mailing address. Digital photos may be sent as an e-mail attachment to info@recenter.tamu.edu but official entry forms (p. 28) must still be mailed or faxed (979-845-0460.)

Winning entries. Photographers with the best shots in each category will receive an assortment of the Center's best-selling publications and videos. The 12 best photos overall will be published in the *2002 Great Texas Photo Shoot-Out Calendar*. Winners will be announced in the October issue of *Tierra Grande*.

Categories

1. **Architectural oddities.** Show us the most unusual structure in your community.
2. **Signs of the times.** They don't have spell checker (or good taste checker) for signs. Send examples to prove it.
3. **Texas bloomers.** This is the category for your bluebonnets, Indian paintbrush and other flowering flora.
4. **Don't fence me in.** Send the shot of that great Texas landscape.
5. **Older than dirt.** Texas abounds in historical landmarks. If it has earned a place in the history books, enter a photograph of it.
6. **At work and play.** People may not always be photogenic, but they make photos interesting.



Photographs courtesy of TxDOT.

7. **Alabaster cities gleam.**

Capture the character of modern Texas cities in your photos.

8. **Green acres.** Texans are moving back to the country in search of tranquility. This category is for photos that depict the rural lifestyle.

9. **Still life.** If it's not moving, shoot it (with a camera, of course)

10. **Home sweet home.** Show us why home is where the heart is.

11. **Fauna deerest.** From armadillos to mountain lions, the variety of Texas wildlife offers untold opportunities for the nature photographer.

12. **Water world.** Drought and a burgeoning population are shrinking the state's water supplies. Send your best water shots while you can.

13. **Newsmakers.** Real estate in (or almost in) the news. We couldn't think of examples, but we'll know a winner when we see it.

14. **Transportation Whoas.** If you travel the state's highways, byways, dirt roads and trails, you may have just the shot we're looking for.

15. **Tropical punch.** Send us your best scenes from the coast.

16. **Weather or not.** Shots related to Texas weather or seasons go here: lightning, snow, tornadoes or raindrops on the window.

17. **Industrious Texans.** Capture the sunset behind your oil well or shoot the moon over the chemical plant next door.

18. **Faux Photo.** Photos doctored in any way on a computer should be entered in this category. Be sure to describe what digital enhancements you made.



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- Pension Funds
- Septic Systems
- Brownfields
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- Flower Mound
- Appraisal
- Homebuyer Survey
- Census Surprises
- Interstate 69

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