

SURVEY FINDS TECHNOLOGY USE ON THE RISE IN PHASE I INDUSTRY

This past summer, Environmental Data Resources, Inc. (EDR) conducted its annual Benchmarking Survey of Environmental Professionals: Technology Track to develop benchmarks on the use of various technologies in the Phase I industry. This month's feature story sheds light on why consultants are embracing certain technologies, and why others are not taking root. This type of information should be valuable to any consultant who is considering new technologies as a way to shave time off Phase I ESA turnaround time.

~ Dianne P. Crocker, Editor

Earlier this summer, EDR mailed a market research survey to more than 3,000 environmental consultants to gauge how widespread technology use is in today's Phase I market. Nine percent (260 environmental professionals at 220 unique companies) participated. The respondents represent approximately 40% of the total number of Phase Is done nationally. Highlights of the 2003 survey include:

- The average Phase I turnaround time has been decreasing over the past several years, and is now on the order of 20 hours (excluding travel);
- Thirty-six percent of consultants today are delivering at least some of their Phase I reports electronically;
- Nearly one in ten consultants has adopted the use of handheld devices during site reconnaissance; and
- More than half of consultants view technology in general as "very important" for enhancing their Phase I efficiency in the future.

Pressure's On to Reduce Turnaround Time

Earlier this year, CB Richard Ellis estimated that the typical commercial real estate transaction shrank from an average of 6.2 months in 2001 down to only 5.4 months in 2003. As the timeframe for completing a real estate deal compresses, the pressure on consultants to deliver Phase I reports quickly is more intense than ever.



The results of the 2003 survey bear this out (see Figure 1 on p. 4). The average time to complete a basic CERCLA-driven ASTM E 1527-00 Phase I (excluding travel) is now in the 15 to 20-hour range (29% of respondents). A comparison between EDR's 2002 and 2003 survey results at the short end of the graph shown in Figure 1 reveals an even more interesting result. In just one year, the percentage of consultants completing their Phase I reports in less than 15 hours nearly doubled from 14% in 2002 to 27% in 2003.

Technologies Take Hold

In response to clients' demand and the need to be as efficient and accurate as pos-

sible, consultants are climbing the technological learning curve as a way to streamline internal operations. Advanced technologies, such as the use of electronic report delivery, handheld devices [e.g., Personal Digital Assistants (PDAs)] or Phase I report writing platforms, are slowly becoming more prevalent in consultants' quest for efficiency.

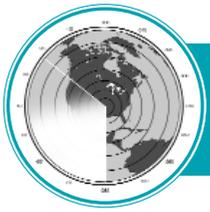
Electronic Report Delivery

Thirty-six percent of the survey respondents currently deliver at least some of their Phase I reports electronically (see Figure 2 on p. 4). The Phase I industry is obviously client-driven, so it should come as no surprise that the deciding factor behind whether to deliver electronic reports hinges largely on what the client wants.

Although a growing number of clients are forcing consultants to become more technologically savvy by demanding electronic delivery of their Phase I reports, the survey results indicate that the majority of clients are still not requesting it. Of the consultants who are delivering at least some of their Phase I reports electronically, 82% reported that fewer than 10% of their clients request paperless delivery and only 5% indicated that more than half of

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By the end of the second quarter of 2003, commercial real estate fundamentals showed minor signs of improvement, although still generally weak. With the first indications of economic recovery surfacing, analysts are speculating about the projected pace of recovery. Estimates vary considerably. Even if economic momentum is truly building, real estate fundamentals might not fully rebound for at least several quarters due to the traditional lag factor between real estate and the general economy. Despite the uncertainty about recovery in the general economic and commercial real estate fundamentals, however, the second quarter of 2003 was characterized by a rise in banks' commercial lending which could be a sign that capital sitting on the sidelines is starting to move back into play.

Commercial Lending Up

A number of factors contributed to an uptick in commercial loan volume for the past quarter. The low interest rate environment is playing a major role in fueling the real estate market. Banks are actively lending on commercial real estate and maintaining or expanding their commercial real estate loan portfolios. One recent survey of bankers conducted by the Mortgage Bankers Association (MBA) provided concrete evidence of healthy lending for the quarter. Loans for commercial buildings, according to the MBA's findings, increased by 56%, totaling nearly \$30 billion in the second quarter, compared to only \$19 billion in the first quarter of 2003.

A similar study conducted by Bridger Commercial Funding LLC found that although banks expect to be actively lending at least through the end of the year, they are being disciplined about the loan applications they approve. Particularly noteworthy is that 15% of the bankers contacted in the survey anticipate higher loan volume in the second half of 2003 over the first half of the year. Fifty-five percent of the respondents indicated that their institution's underwriting standards tightened to

some extent during the first half of the year. The results of the survey led researchers to conclude that commercial loan growth is materializing despite stricter underwriting standards.

Real Estate Still the Place for Investors

Despite weak fundamentals, investors are behaving under the general perception that real estate is still the best place to be. Part of the reason is that real estate continues to deliver attractive returns. Commercial property-owning equity REITs posted returns of 18.2% this year compared to 5% last year, according to the National Association of Real Estate Investment Trusts. Looking ahead, many investors are beginning to speculate that commercial property markets are nearing the bottom of the cycle, and could begin to recover in 2004. In some markets, institutional investors believe rents will catch up with prices, contributing to a long-term confidence in commercial real estate over other investment alternatives. As a result, there is still significant capital shopping around for good real estate deals. A new study by *National Real Estate Investor* magazine estimates that seven in ten investors surveyed plan to boost their investments in commercial real estate over the next 12 months - some by as much as 25%.

Real Estate Demand Weak, Divestitures Up in Corporate Sector

Corporations are still somewhat reluctant to invest capital in commercial real estate, and with the lack of substantive economic growth, the prospects for a resurgence of demand for either office or industrial properties is still uncertain. If economic growth gains traction, corporate spending is poised to increase as companies begin planning plant expansions and even acquisitions. Until then, companies are continuing to sell assets in order to free up much-needed capital tied up in real estate.

CMBS On Track for 2003 Increase

Overall performance in the commercial mortgage backed securities (CMBS) sector continues to be robust, with analysts forecasting a strong year-end total. Some estimates project CMBS issuance of nearly \$70 billion in 2003, an increase compared to \$60 billion in 2002, and approaching 2001's near-record \$74 billion. Even if interest rates edge up moderately over the next few quarters, total issuance is expected to remain high. An estimated \$8 billion to \$9 billion in domestic issues is already in the pipeline, which would make the third quarter of 2003 the most active quarter ever in the CMBS market. One of the largest deals expected to hit the market before the end of 2003 is a \$1 billion offering with collateral put up by Bear Stearns, Wells Fargo and Prudential. The deal consists of some 100 loans, the largest of which is a \$100 million mortgage on 3 Times Square in Manhattan.

Federal Reserve Market Intelligence

Summary

Eleven of the twelve Federal Reserve districts report that the economy continued to improve in the second quarter of 2003. Most districts report a modest pickup in business lending amidst lackluster commercial real estate markets, although there are scattered signs of improvement in certain regions. Small and mid-sized businesses account for most of the increase in commercial loan activity, partly due to the prospect of interest rate increases on the horizon.

First District - Boston

New England's commercial real estate markets are said to be holding steady, with neither significant improvement, nor any notable deterioration. Many contacts are cautious in their predictions for the coming quarter, although there is greater

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MARKET RADAR CONT'D

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optimism about the future of the economy than earlier in 2003. High vacancy rates are expected to persist, at least until substantial employment growth takes hold.

Second District - New York

The Second District's economy has given mostly positive signals since the last Federal Reserve report in June 2003. Bankers report stable loan demand, with little change in credit standards. The office market in New York City is showing continued improvement. Small to medium-sized Second District banks report relatively stable loan demand in the latest survey, and more than half of the banks contacted report an increase in rates for commercial mortgages.

Third District - Philadelphia

Commercial real estate markets in the Third District remain soft. Business loan volume has been flat, largely because most commercial and industrial borrowers have not had the increases in business that necessitate expansion. Bankers expect slow growth in lending as the pace of economic activity in the region gradually rises.

Fourth District - Cleveland

Most Fourth District contacts reported increased demand for commercial loans. Commercial building continues to be slow, though parts of the District show signs of improvement.

Fifth District - Richmond

Demand for commercial loans in the Fifth District remained weak and most commercial lenders are pessimistic about a pickup in the near future due to the continued slowdown in business activity. Demand for industrial and warehouse space remained weak across most of the District and construction activity was generally flat.

Sixth District - Atlanta

Commercial construction in the Sixth District is still limited by weak demand for new space in most markets. Overall business loan activity for the past quarter remained "lackluster."

Seventh District - Chicago

Commercial real estate markets in the Seventh District remained weak in the second quarter, with soft demand for office space. Overall commercial lending activity slowed, although business loan volumes are expected to rise in the third and fourth quarters.

Eighth District - St. Louis

Economic conditions in the Eighth District, particularly in manufacturing, have improved moderately with reports of job creation and plant openings. Commercial real estate markets are still lagging, and vacancy rates at office and industrial properties are increasing. Contacts reported weaker demand for commercial loans, citing a decrease in merger and acquisition financing needs.

Ninth District - Minneapolis

Overall commercial building in the Ninth District was sluggish for the second quarter, with some areas of improvement noted. During the first half of 2003, commercial construction activity in the Minneapolis-St. Paul area office and industrial markets was at its slowest level in almost 10 years.

Tenth District - Kansas City

The Tenth District economy continued to improve in the second quarter, although commercial real estate activity weakened slightly after showing signs of stabilizing in recent months. Sales of office properties eased in most metro areas, while vacancy rates edged higher. Demand for commercial real estate loans increased and lending standards were unchanged.

Realtors expect commercial real estate activity to remain sluggish for at least the remainder of the year, although they generally do not anticipate further deterioration in conditions.

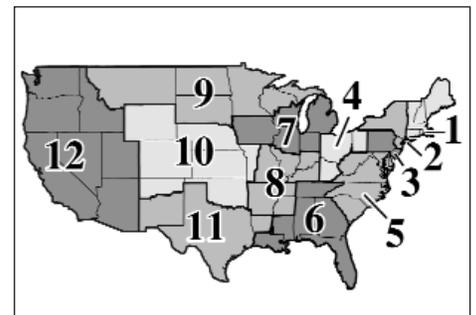
Eleventh District - Dallas

Construction and real estate markets in the Eleventh District were slightly improved for the second quarter. With little office construction underway, contacts are hoping for improvement later in the year, although it is unlikely that a noticeable turnaround will occur until 2004. Retail markets in the Eleventh District remain the best performing of the commercial sectors.

Twelfth District - San Francisco

Banking contacts in the Twelfth District report some signs of improvement in the demand for commercial loans, particularly among small businesses. Respondents noted that some of the pickup in commercial loan demand likely owes to anxiety over possible future increases in interest rates. High vacancy rates continue to characterize many District markets, including the San Francisco Bay Area and Las Vegas. Outside of Hawaii and Southern California, contacts report very little commercial construction activity. ■

FEDERAL RESERVE DISTRICTS



FEATURE STORY CONT'D

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their clients want electronic Phase I reports. As a result, a growing number of consultants are offering electronic report delivery "on demand." In some cases, consultants are delivering the body of the Phase I report electronically with the appendices and supporting documentation provided only in hard copy, due largely to the difficulty associated with scanning large volumes of attachments.

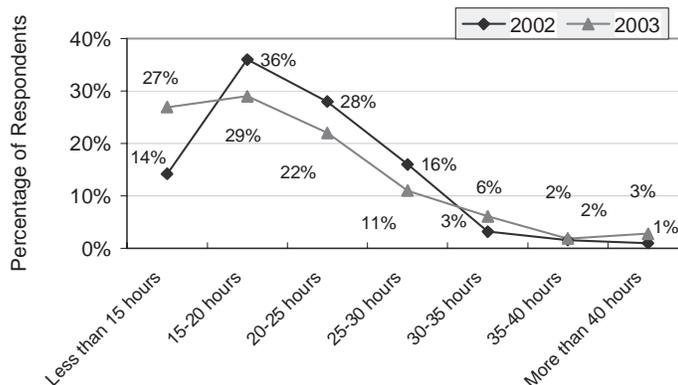
The most common reason given by the 64% of respondents who are not delivering their Phase I reports electronically (see Figure 2) was that clients either prefer hard copy or are not yet requesting paperless delivery. To a lesser extent, the reasons included a lack of technical expertise (both on the side of the consultant and the client) necessary for electronic report delivery. A number of respondents also noted concerns that electronic delivery would allow for potential data manipulation after report delivery, leading to a loss of control in a report's content after it leaves the consultant's office. Other respondents attributed their reluctance in using electronic report delivery to the perceived high cost associated with switching to an electronic format.

The resistance to electronic report delivery could turn around rather quickly, however. Two years from now, one in four consultants predicts that clients will require *all* Phase I reports to be delivered electronically.

PDAs for Site Reconnaissance

Another technology that appears to be gaining acceptance in the Phase I market is pairing a handheld computer with an off-the-shelf (or customized) software checklist for use during field visits. According to the results of the survey, only 8% of consultants today are using handheld devices for the onsite input of field observation data. Among this 8% of respondents, the top three benefits associated with using handhelds during site visits are: the collection of more thorough documentation from the visual inspection

Figure 1. National Average Phase I Turnaround Time, 2002 vs. 2003



of the property, more seamless data transfer from the field into the report, and more consistent data collection across the company for Phase I providers with multiple offices. Another key benefit cited by respondents was that of time savings. Nearly half of consultants who currently use handheld devices during site reconnaissance estimate that 1 to 3 hours can be saved in the field. Hours saved can obviously translate into lower Phase I costs, and potentially higher profit margins.

As with electronic report delivery, however, there is some resistance to change associated with adopting the use of handhelds in the field. One respondent cited difficulties in adapting the data entry programs on handheld computers to different types of properties. Another felt that the use of handhelds in the field detracted from the overall quality of the Phase I site data.

Report Writing Platforms

Many consultants today use internal templates for Phase I report generation. Another more advanced technology for improving the efficiency of Phase I report preparation is the use of a report writing platform to automate the process. These systems differ from a template, and are generally web-based systems that are either internally developed, off-the-shelf purchases or customized platforms.

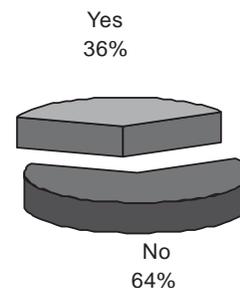
As with handhelds, there is some resistance among respondents to the automation of their current system. Such resist-

ance generally stems either from respondents' unsatisfactory experience with automated report writing tools in the past or perceptions about the difficulty of changing their internal operations. By far, the leading reason for not using such systems is cost. Respondents who already conduct Phase Is on narrow profit margins expressed concerns about how to justify the upfront cost of switching to a report writing platform. Others do not conduct a sufficient level of Phase Is to warrant the necessary investment in start-up, maintenance and training costs.

A second objection commonly given by respondents was that the adoption of such systems would sacrifice the ability to tailor reports to the needs of individual clients. Many respondents believe that such systems would limit the flexibility of customizing reports to individual situations and clients. Others perceive such systems as "too cookie cutter" or "too boiler plate," and a move away from creating "highly specialized Phase I reports with many non-scope issues." Several respondents also noted concerns that

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Figure 2. Prevalence of Electronic Phase I Report Delivery



ESA ACTIVITY INDEX: PROPERTY WATCH

The distribution of Phase I activity by property type was relatively stable between May and August 2003 (as shown in the accompanying graphs). The reason for the stability is that not much has changed in the commercial real estate market since the beginning of the year. The leading property types in terms of Phase Is conducted for August were office properties (34% of total Phase Is), followed by undeveloped properties (18%) and industrial properties (16%).

National Trends

Although many commercial real estate markets across the U.S. are suffering from weak fundamentals (e.g., high vacancy rates and low rents), commercial lending during the second quarter of 2003 was up over the same quarter of 2002, a trend that boded well for the Phase I ESA marketplace. Analysts expect 2003 to close out with the majority of activity at property types that now have the best prospects for recovery; namely, the apartment, retail and industrial sectors.

Office. Continuing the pattern of recent quarters, Phase Is at commercial/office properties accounted for approximately one-third of Phase Is conducted nationally. The office property sector is still characterized by high vacancy rates that hover around 17% nationally. Despite the high vacancies, lending on office buildings was up nearly 40% for the second quarter of 2003 as buyers seek out good deals on properties positioned for valuable pay-offs when this sector recovers. Not that surprisingly, transaction activity for office properties is much more active in central

business districts than in the suburban markets. In general, demand for office space is down due to the sluggish economic recovery. Analysts agree that the office sector will continue to struggle, at least until profit gains in corporate America lead to job growth and more demand for office space.

Undeveloped. Phase Is at undeveloped properties accounted for a steady 18% of total Phase I activity since May 2003, compared to a 20% high in March 2003. Tax incentives in cities across the U.S. are spurring a number of projects, particularly on new housing development.

Retail. Phase I activity in the retail sector over the past four months stayed in the 10-12% range. The retail sector experienced a brisk pace of property sales that were up 25% in the second quarter of 2003, and loans for retail shopping center properties were up 44% from a year earlier. Retail properties are particularly popular among capital investors due to the stability of returns, even during the economic recession. Analysts are predicting a stable outlook for retail properties for the remainder of 2003.

Hotel. Phase Is at hotel properties have been holding a steady 2% of total Phase I activity since *ESA Report* added this property type to the ESA Activity Index in December 2002. Real estate analysts predict that recovery in the hotel sector is underway, with a pick-up in activity expected sometime in late 2004/early 2005.

Industrial. Phase I activity at industrial properties continues to hold at a steady 16%. Real estate activity in the industrial

sector was fairly soft in the second quarter due in large part to the rising vacancy rates. Vacancy rates at industrial properties are now approaching 11% nationally, with analysts calling for further increases. New construction on industrial properties has all but shut down. The reason is that many industrial tenants are consolidating operations and using less space. As with the office sector, recovery in the industrial sector is dependent on new demand, with the warehouse segment expected to be the first to recover.

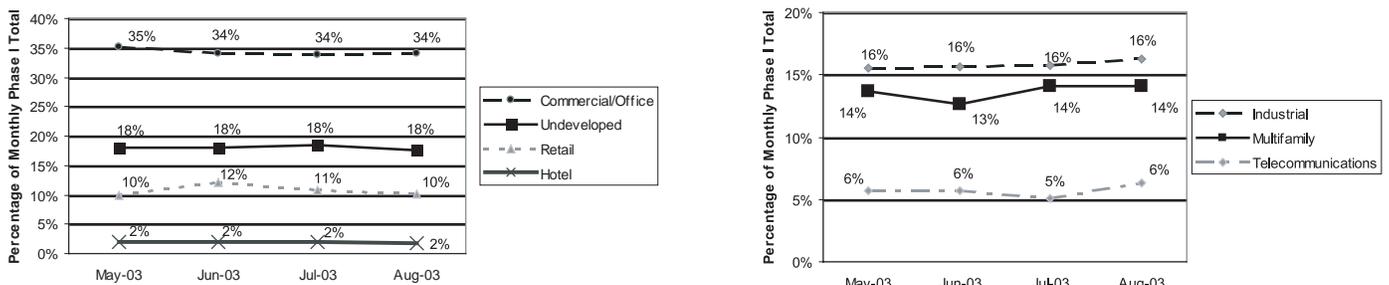
Multifamily. The multifamily sector accounted for 14% of all Phase Is conducted in July and August. This could change by the end of 2004, however. Among real estate investors, multifamily properties, along with warehouses, are among the most popular property types. Lending on multifamily properties was up by 20% for the second quarter, according to a survey conducted by the Mortgage Bankers Association (MBA). Investors are being lured to the apartment sector by real estate reports predicting that apartment properties will experience the biggest rent growth across all property types in 2004.

Regional Focus

Commercial real estate markets, and therefore Phase I activity, can vary significantly by property type and U.S. region. The map (on p. 6) shows the distribution of Phase I activity by property type on a regional basis for the second quarter of 2003.

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ESA Activity Index: Percentage of Total ESA Activity by Property Type (May to August 2003)



PROPERTY WATCH CONT'D

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Northeast U.S.

The Northeastern U.S. encompasses three of the leading commercial real estate markets in the country; namely, New York, NY; northern New Jersey; and Philadelphia, PA. In the office sector, new construction activity remains slow, with a minimal number of new projects across the region. One hot spot of new office construction can be found in New York City, where approximately 5.5 million square feet of new office construction are in the pipeline.

The industrial sector in the Northeast, as in the rest of the U.S., continues to suffer from high vacancies, although there are early signs that vacancies are letting up from their peak levels as demand improves. National and regional retailers, such as TJX and Wal-Mart, have been showing interest in buying industrial properties throughout New England as sites for warehouse and distribution centers.

Permits for new construction on multifamily developments are up in some areas, including the New York metropolitan area and the greater Boston region. Tax incentives in the Philadelphia area have reportedly prompted a great deal of new multi-

family construction in some areas, although an overall slowdown in expected to take root. In the Hartford area, publicly backed mixed-use developments aimed at attracting tenants back to the city's central business district are expected to contribute to future higher levels of construction over the near-term.

Big box retailers like Wal-Mart, Publix, Kohl's, Lowe's, Target, Home Depot and Best Buy, continue to aggressively acquire new properties either for new construction or to assume ownership of bankrupt retailers like Ames and Kmart, particularly in the greater Boston and northern New Jersey areas. Although new hotel construction is slowing down in most of the Northeastern region, permits for new hotel properties are predicted to remain steady in the Boston area over the near term.

Southeastern U.S.

In general, new construction for all property types is down in the Southeastern U.S. Speculative construction on office properties in Tampa has reportedly shut down altogether. The pace of new office projects is also slowing in Charlotte

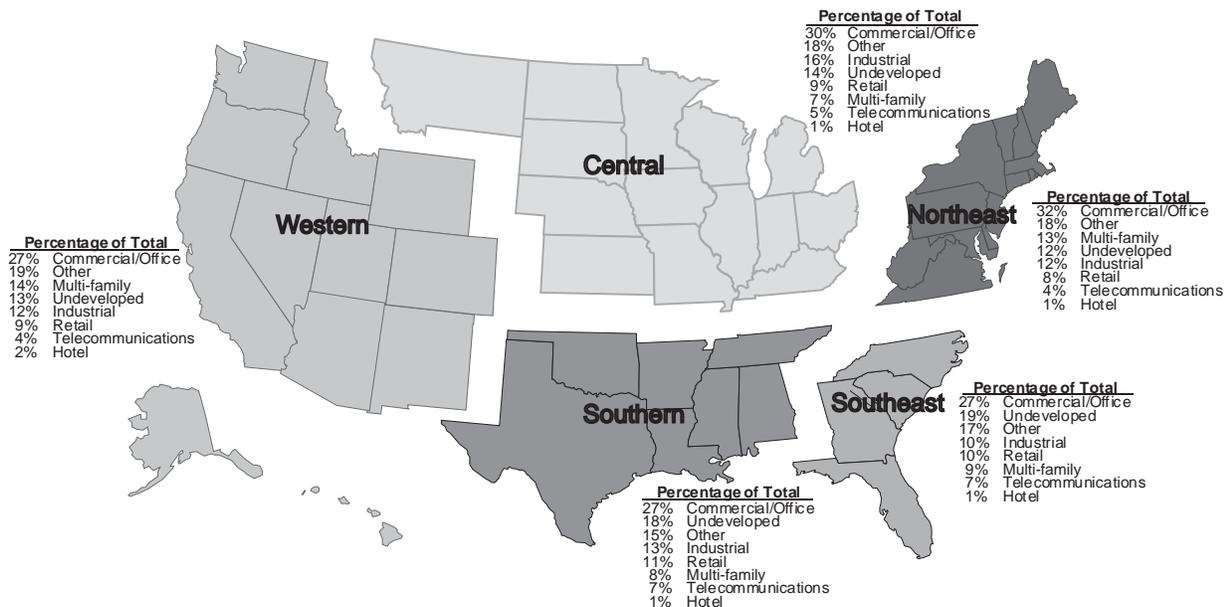
where projects in the pipeline for completion this year will be about half of their 2002 level. Real estate activity in Raleigh is largely focused on the city's central business district. In Atlanta, construction activity has plunged markedly, but development is not expected to drop off completely. Activity on industrial properties is down in some areas, particularly in Charlotte and Raleigh, in contrast to Atlanta where strong local growth and strategic location are strengthening demand for regional distribution facilities.

Strong hubs of activity at retail properties can be found throughout the Southeastern U.S., particularly in Atlanta where strong demographic trends are expected to spur hearty growth. Malls are being torn down in Tampa and Raleigh, and are being replaced by big power centers, which will now be occupied by major market retailers such as Target, Sam's Club, Costco, JC Penney, Lowe's, Borders, Linens 'N Things, Michael's and PetSmart.

Activity on multifamily projects is sporadic in the Southeastern states. For instance, in North Carolina, Durham and Charlotte have been strong pockets of

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Figure 1. Phase I Activity by Property Type and Region
2nd Quarter 2003



NOTE: Percentages indicate the distribution of Phase I activity by property type in each region.

PROPERTY WATCH CONT'D

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new construction activity. Charlotte's apartment inventory has expanded by more than 20% over the last five years, and in urban areas of Florida, such as Fort Lauderdale and Tampa, new apartment projects have come on-line, although overall construction has been slowing. Hotel construction across the region is extremely slow, particularly in Florida, where a drastic slowdown in new projects took hold after a three-year period of robust construction.

Southern U.S.

Throughout the Southern region, activity in certain property sectors is ebbing while others are picking up. In terms of office construction, metro areas like Houston, Nashville and Oklahoma City, are experiencing sharply reduced activity, although office construction is still characterized as "modest" in the Dallas area. Projects on industrial properties seem to be picking up in Austin and Houston, after a lull in construction activity.

As in other regions of the country, the big box retailers are building aggressively throughout the South, particularly Wal-Mart and Target. Spaces abandoned by other retailers are quickly being acquired by retailers with healthier balance sheets. Construction activity on multifamily projects is reportedly ramping up in Houston, particularly in West Houston where more than 3,000 units are underway. The central business districts of Dallas and Fort Worth are also experiencing healthy multifamily development. Areas like Oklahoma City and Nashville, however, are plagued by poor demographic trends that discourage significant new development. There is little momentum for new hotel construction in the Southern region due largely to weak levels of business and leisure travel.

Central U.S.

Throughout the Central U.S. region, news of new office projects is minimal, with some activity reported in the central area of Chicago and Indianapolis. The industri-

al sector is suffering in many major cities of the Central U.S., such as Milwaukee, Cleveland and Detroit, that had a high concentration of manufacturing related jobs hard hit by the recession. Several large-scale tentative industrial projects have recently been announced in Chicago, which could keep construction levels relatively steady over the next year.



In the retail sector, there are pockets of activity. For instance, in Missouri, high population growth in St. Charles County is resulting in high levels of new retail development. Detroit and the northern suburbs of Chicago are also experiencing a large amount of construction activity with big-box retailers, such as Wal-Mart, Costco, Lowe's, Winn Dixie, Target and Home Depot. The downturn in economic growth in Chicago, however, has caused many developers to scale back on development, and new construction totals in the retail sector are expected to drop through the rest of 2003. In Detroit, the addition of two new sports stadiums and three temporary casinos is expected to further attract retail development to the area.

There is some activity on new multifamily projects in the Detroit area, albeit far from robust. Development is also down in Chicago with new apartment projects estimated to be 25% lower than 2002 levels this year. In contrast, multifamily construction in St. Louis is expected to continue in the near term with current development focused on conversion projects spurred in part by tax incentives. In the hotel sector, there are several smaller projects in the works throughout the metro Chicago area, but no large-scale construction is in the pipeline. Economic conditions and the recent wave of hotel construction have pushed occupancy rates well below 60% in Detroit. New hotel

construction is expected to remain muted in Indianapolis and a number of renovations are reported in the central district of St. Louis.

Western U.S.

The majority of commercial real estate activity in the Western U.S. is concentrated in the cities of Los Angeles, Riverside, Oakland and Orange County, all of which are ranked among the top commercial real estate markets in the country today. In the office sector, although the rate of new starts are down in 2003 compared to last year, projects are still underway in Los Angeles, Phoenix, the central business district of Seattle, Salt Lake City, and San Diego. In Orange County, for the first time since 1987, the level of office construction fell below one million square feet with just 850,000 square feet currently in progress.

In the industrial sector, warehouse projects near the ports of Los Angeles are moving forward despite the economic slowdown. Phoenix and Las Vegas also have some industrial development underway, although limited new industrial construction is reported in Salt Lake City and Seattle. Driven primarily by conversion projects, more than 3,000 units on multifamily projects are currently under construction in downtown Los Angeles. Apartment projects in the western region are largely focused on Central Phoenix, downtown Seattle and the western portion of Salt Lake County. Strong population growth is driving strong levels of multifamily activity in Phoenix where household growth is expected to double the national rate within the next five years. Big retailers, such as Wal-Mart, Target, Kohl's, Costco, Shopko, Sam's Club, Home Depot and Lowe's, dominate news of new retail projects throughout the western U.S. In the hotel sector, a slowdown in new construction is reported in Phoenix where many new projects have been cancelled or deferred. In Las Vegas, however, hotels and casinos remain the backbone of the local economy, and new projects have reportedly started back up again. ■

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FEATURE STORY CONT'D

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automated reports might be perceived by clients as poor quality, or that certain environmental conditions might be more easily missed if the report writing process were to become "too automated". To a lesser extent, other respondents are not using this type of technology because they simply are not aware of what options are available, or feel they lack the internal technical expertise to explore such options.

The survey results demonstrate that at least some consultants are choosing to adopt report writing platforms as they become more comfortable with their use and as the available options improve. In fact, despite the objections expressed by some respondents about the perceived high cost and inflexibility of report writing platforms, it is particularly noteworthy that respondents who are using some type of automated Phase I report writing system identified "cost savings" and "improved responsiveness to client demands" among the leading benefits of this technology (see Table 1). As with the use of handhelds in the field, there is a potential time and cost savings associated with report writing platforms. The majority of respondents who are using this type of report writing automation estimate time savings of between 1 and 4 hours on every Phase I.

Other Phase I Technologies

Asked to identify what other technologies besides handheld computers in the field and report writing platforms they have

experimented with to improve the efficiency of the Phase I process, consultants cited the following: global positioning systems (GPS) to assist in site plotting; report templates for individual clients; video cameras for site walk through, particularly for non-scope assessments of asbestos and mold; client access to Phase I reports via Internet; and online research.

Technology and Efficiency

If the results of the 2003 survey are any indication, a growing number of consultants are adopting a variety of technolo-

gies. For consultants who are not familiar with emerging technologies, it might well be time to come up to speed. Several of the survey results provide compelling reasons for doing so.

- First, more than half of respondents (or 54%) view technology as "very important" to enhancing the efficiency of conducting Phase I ESAs (see Figure 3).
- Second, 46% of respondents are currently investigating ways to further automate their report preparation/assembly process.
- Third, one-quarter of respondents expect to be using new technologies in areas of the Phase I process other than the site visit and report writing stages over the next two years.

When digital photography was first introduced, it took years for consultants to sit up and take notice. Now, digital photography is commonplace. Handhelds in the field or report writing platforms or some other technology could well be next. ■

Table 1. Benefits of Phase I Report Writing Platforms

1. Reduced turnaround time
2. Overall efficiency
3. Cost savings
4. Accuracy; higher quality reports
5. Improved responsiveness to clients demands

Source: EDR's Benchmark Survey of Environmental Professionals; Technology Track, Summer 2003

Figure 3. Importance of Technology to Phase I Efficiency

